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Folder ID:	1762072
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Dates:	10/25/1982 - 09/27/1983
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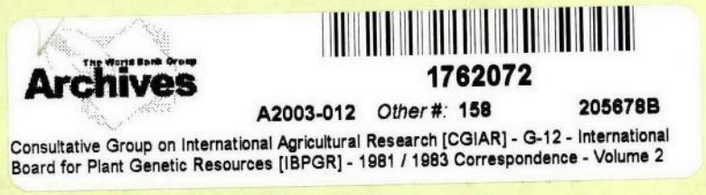

FORM NO. 635
(6–77)

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For further correspondence, please see Vol. III.

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FORM NO. 27 - OCR
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PAGE 1 OF 1

EXTENSION 75349

MESSAGE NUMBER

TEST NUMBER (FOR CASHIER'S USE ONLY)

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TO: TREVOR WILLIAMS, IBPGR, FOODAGRI

ROME, ITALY

MANY THANKS YOUR TELEX OF SEPTEMBER 9. FIRST. WILL REQUEST THE GROUP TO APPROVE THE PROPOSAL THAT DRS. BISHOP, COOPER, JAIN AND SCARASCIA-MUGNOZZA BE REAPPOINTED FOR A SECOND THREE-YEAR TERM BEGINNING JANUARY 1, 1984. SECOND. IF IBPGR HAS DETERMINED THAT CHOMCHALOW REPLACEMENT SHOULD BE DR. RAMON VALMAYOR, WE SHALL REQUEST GROUP TO APPROVE HIM FOR THREE-YEAR TERM BEGINNING JANUARY 1, 1984. PLEASE, HOWEVER, OBTAIN FOR US CURRENT CV (SINCE LATEST IN OUR FILES OUTDATED) WHICH NEEDED FOR GROUP CIRCULAR, AND ALSO ADVISE WHETHER DR. VALMAYOR'S WILLINGNESS TO SERVE HAS BEEN DETERMINED. GRATEFUL, TO AVOID POSSIBILITY OF ERRORS MAINLY VIS A VIS NON CGIAR BOARD MEMBERS, YOU SEND COMPLETE LIST OF CURRENT BOARD MEMBERS. THANKS AND REGARDS, PETER GREENING

END OF TEXT

NOT TO BE TRANSMITTED

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SUBJECT: File:G-12

DRAFTED BY: DECalvo:ndm

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AUTHORIZED BY (Name and Signature): Peter Greening

DEPARTMENT: CGIAR Secretariat

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F.338 G-11
G-12

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TO:

BOOK OF THREE

1. TREVOR WILLIAMS, FOODAGRI
ROME, ITALY

Telex 843-610181/610127 FAO I

2. GRAY, ILRAD
NAIROBI, KENYA

Telex 22040
963

3. COULIBALY, WARDA
MONROVIA, LIBERIA

Telex 937-4333

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TWO COPIES OF CENTER COMMENTARIES WERE SENT YESTERDAY BY DHL COURIER. WOULD APPRECIATE RECEIVING REACTIONS/COMMENTS BY RETURN TELEX. REGARDS, FARRAR

END OF TEXT

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CONSULTATIVE GROUP ON INTERNATIONAL AGRICULTURAL RESEARCH

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

ICW/83/13
September 21, 1983

FROM: The Secretariat

INTERNATIONAL BOARD FOR PLANT GENETIC RESOURCES (IBPGR)

1983/1984 Program and Budget

Mid-term Report

Secretariat Observations

Distribution:

CG Members
TAC Chairman
TAC Members
TAC Secretariat
Center Board Chairmen
Center Directors

INTERNATIONAL BOARD FOR PLANT GENETIC RESOURCES (IBPGR)

1983/1984 Program and Budget

Mid-term Report

Secretariat Observations

Introduction

1. The International Board for Plant Genetic Resources (IBPGR) presented a budget for the 1983/84 biennium. This commentary should be read in conjunction with the Board's "Programme and Budget Proposals for 1983-84" dated July 1982, and the "Mid-term Report on the Program and Budget" dated July 1983.

Mandate, Objectives, Organization

2. Mandate. The Board was established to stimulate and coordinate efforts worldwide to collect, conserve, evaluate, document, and use genetic material of economically important crops. The threat of irreplaceable loss of crop genetic resources in many parts of the world spurred the creation of the CGIAR-funded center in 1974.

3. Organization. The Board's functions and organization are different from the other international research centers funded by the CGIAR. The IBPGR maintains very close collaboration with those centers dealing with crops, and plays a vital role in working towards the CGIAR's general objectives. The Board, with a Chairman and 13 elected members which serve in their individual capacities represents the international scientific community and includes members from both developing and developed countries. In addition, FAO and UNEP each designate an ex officio member. The Board's Executive Secretariat is located in the Plant Production and Protection Division of FAO in Rome, and is headed by an Executive Secretary who is ex officio a member of the Board and who also acts as Chief of the FAO Crop Genetic Resources Centre. The Board works through expert committees on major food crops (cosponsored by the IARCs) and ad hoc working groups on other economic crops and on technical aspects such as conservation. The Executive Secretary coordinates these and acts as the main scientific adviser to the Board.

4. The work of the Board falls into four main categories. First, are those activities to ensure that the genetic diversity of specific crops will be collected, maintained and evaluated for use in future breeding programs. Second, are efforts to stimulate the genetic resources programs in particular countries in regions of genetic diversity. Third, are information and documentation activities without which the collections cannot be widely exchanged or used. Finally, the Board takes responsibility for various training programs in genetic resource activities.

5. Priorities for action are guided by two principal considerations. First, Advisory Committees or Working Groups mobilize the best possible scientific advice in order to develop a strategy which the Board implements, and secondly, a geographic approach is adopted to collect samples in areas where genetic erosion is severe. Many collecting missions are undertaken by the secretariat, others are carried out by contracting centers, but in all cases cooperation with national, regional or international centers is sought.

6. The Board attempts to ensure at least one center in the world operates a base (i.e. long-term) storage collection for a crop or a crop group. The research centers funded by the CGIAR play an important role in this regard since they are principally responsible for germplasm conservation of many staple crops.

Development of IBPGR

7. While the fundamental objectives of the Board remain unchanged, some changes have recently occurred in the balance among its programs, and in the means employed. Information services are now concentrated in the secretariat. Also, the Board is supporting a modest continuing program to preserve tree genetic resources, particularly as they relate to rural development and environmental stabilization. The secretariat has added staff to serve in certain regions, but much still remains to be done. Many crops and plant groups are poorly collected, and characterization of germplasm still lags in many collections. But the work is done through governments and institutions which are sometimes unwilling to further IBPGR objectives. The development of tissue culture of clonally propagated crops is a major new thrust in long-term conservation.

External Reviews

8. The first IBPGR Quinquennial Review was held in 1979. The panel concluded that the IBPGR had done well in generating interest and awareness in genetic resource conservation, fostering meetings and publications, and supporting collecting and conservation activities in many crops, especially the major cereals. The review affirmed the role of the Board in catalyzing, rather than in sustaining, the development of a genetic resource conservation network.

9. The panel felt that the major objective of the Board, as given in its mandate, should continue to be the development of a worldwide genetic resource conservation network devoted to the needs of world agriculture both now and for posterity.

10. The Second Review of the CGIAR endorsed this objective, concluding that the program was truly international and also that it must continue to work to some degree on non-food crops.

11. An external program review and a management review are planned for 1985.

Future Plans

12. The Board issued a long-range plan, "The IBPGR in the Eighties: A Strategy and Planning Report."

13. In its own words: "the Board interprets its mandate as requiring it to encourage, promote and support (1) collecting; (2) conservation; (3) characterization and preliminary evaluation; (4) documentation; and (5) utilization..." of germplasm of each species within its program. The program of action is tailored for each crop according to needs.

14. The plan of action for the next five years envisages completing most of the collection work for the major crops, continuing to collect crops which have been neglected, and to begin collections for new crops for which planning is in various stages. The Board will continue to work through a network of conservation centers that will multiply, regenerate, evaluate and exchange materials.

15. A major planning exercise was started by the Board in March 1983. By the time of its 10th Anniversary in 1984, the Board will have charted its course for the 1990s.

Recent Progress

16. Through its Crop Committees and Working Groups, the IBPGR has mobilized crop experts all over the world to provide up-to-date information. This is a continuing task that has generated much goodwill and cooperation.

17. The Board revised its priorities in 1981. Over 120 species are now included in the Board's program, although only a limited number will receive high priority attention. Top priority crops include food crops and other plants of global or regional importance, including some non-food crops. A percentage allocation of resources to the different crop groups is included in the Mid-term Report 1983.

18. The Board has supported and organized an intensive series of collections in its priority regions, especially in the Mediterranean, southern and central Asia, West and East Africa, Central America, Andean Zone, Southern cone of South America and Brazil. The Board has expanded the concept of a Regional Officer and included a practical category termed "Collector".

19. Special collecting efforts have been mounted for sorghum and millets in the Sahel; rice, roots and tubers, and legumes in parts of Africa; rice and tropical fruits in Asia; forage legumes, groundnuts and maize in Latin America; and potatoes in Colombia. Collecting missions have been undertaken in many different parts of the world and for a whole range of different crops, including tropical vegetables.

20. The Board has designated 38 institutions responsible for maintaining the world's major base collections of seeds of the principal food crops. These include six IARCs and 18 developing country

institutions, which are part of the Board's global network involving more than 80 national, regional and international institutions.

21. Recommended standards for the design of long-term seed storage facilities were revised and published in 1982. Committees on Tissue Culture continue to advise the Board. The Board has also started to designate centers to hold collections of some vegetatively propagated crops.

22. Assistance has been given to the development and installation of appropriate documentation systems to store and retrieve information concerning major genetic resources collections in several countries.

23. Training, through short technical courses and fellowships, has been expanded to provide developing countries with more personnel trained in genetic resources work. Research and training in seed conservation technology were supported. An intern scheme was initiated at the pre- and postdoctoral level in 1983.

1982 Budget Results

24. For 1982, the Group originally approved a program and budget amounting to $3,795,000 gross or $3,570,000 in net requirements. In March 1982 net requirements were slightly reduced to $3,561,000. This took into account revised estimates of earnings and the absorption of a deficit incurred in 1981. Actual costs of operations in 1982 were well below budget, although funding from the CGIAR exceeded the amended level. Hence, at year-end there was a substantial balance carried over to 1983. Table 1 in the Annex summarizes the actual outcome in comparison with budget projections.

25. Expenditures on all categories of activities were well below budget and operations were, in current terms, 13.5% below the level of 1981. Part of the explanation for this was that cost increases in 1982 were lower than budgeted. There were two other factors responsible. One was the uncertainty, until late in the year, about actual funding, and the fact that some donors disbursed their funds at the very end of the year. Another factor was that certain large projects which had been negotiated (in India and Nigeria) could not be implemented in 1982. The IBPGR does not always directly control its own operations, some of which depend on the actions of others (national institutions) who themselves experience a range of constraints.

26. In early 1982 committed funding to IBPGR was estimated at $2.536 million. On this, exchange losses amounted to $54,000, or 2%. Contributions not anticipated at the beginning of the year amounted to $1,246,000, no less than half of the funding estimated at the beginning of the year. This brought total funding by the Group for 1982 to $3,728,000. In addition to funding by the Group, the IBPGR benefited, as is customary, from support from the FAO which paid for some of the staff and provided office and support services.

1983 Budget Expectations

27. For 1983 the Group approved a program and budget within a bracket of gross expenditures ranging from $3,891,000 to $4,117,000, requiring net funding ranging from $3,661,000 to $3,887,000. In view of funding prospects in 1983, and the substantial carry-over from 1982, the IBPGR is presently projecting its level of operations at the higher level of the approved bracket. This will still leave a substantial balance to be carried forward to 1984. Table 2 in the Annex provides a summary of current expectations.

28. In terms of 1982 dollars, operations are projected to increase by 20% over 1982, and will affect all categories of activities, more particularly Training. This should allow the IBPGR to restore its level of operations to the level actually achieved in 1981. Though funding to support this level of operations is assured, it is not certain that the IBPGR will find sufficient support from its counterpart national institutions to realize these objectives.

1984 Budget Proposal

29. For 1984 the IBPGR submits, in accordance with TAC's recommendation, a program and budget proposal within a bracket, the top of which amounts to $4,655,000 gross or $3,991,000 net, and the bottom of which amounts to $4,319,000 gross or $3,655,000 net. The details of the proposal are shown in Table 3 in the Annex.

30. If the IBPGR is funded at the bottom of the bracket, it will require a reduction, in constant terms, in operational expenditures by 5.5% below the expenditures currently projected for 1983. Such reductions will significantly reduce Collection and Conservation activities, as well as Training activities.

31. If the IBPGR is funded at the top of the bracket, this will enable the Board to virtually maintain its level of operation at 1983 levels as presently projected. However, as already mentioned, the IBPGR's level of operations is often strongly influenced by the actions or inactions of others, and factors other than levels of funding will probably again determine the level of expenditures in 1984.

1985 and Beyond

32. Longer-term projections are provided in the IBPGR's 1983-84 program and budget document. These projections are summarized in Table 4 in the Annex. The figures indicate that the Board would like operational expenditures to increase, in constant terms, by about 3.5% per year through 1987. Such growth would be evenly distributed among the different categories of activities. Funding requirements, in current terms, are projected to increase in 1985 by 28%, largely due to the expected disappearance of carry-overs. In 1986 and 1987 funding requirements are projected to increase by 16% and 13% per annum respectively. At this stage these figures can only be provisional.

Observations and Issues

33. Long-term Strategy. In the framework of the preparation of its 10th anniversary, the IBPGR is reviewing the long-term plan which it published in 1981 under the title "The IBPGR in the Eighties". It is hoped that wide circulation will be given to the revised document which would allow the CGIAR and more particularly TAC to formulate a system-wide policy on germplasm activities of the IBPGR and other IARCs in the perspective of other initiatives. The external program review planned for 1985 should help address these questions.

34. Basis for Budgeting. Unlike the other IARCs the IBPGR does not control most of the activities it supports. It depends on action by others. This explains the irregular pattern of expenditure in IBPGR's operations due to acceleration or delays in initiation of activities by national programs. Therefore, the IBPGR's budget is largely a provision allowing the Board to respond to others' initiatives. The question is how to assess the adequate level of such provision, and to what extent funds surplus in any one year could be used to support additional activities or investments of other IARCs in the area of germplasm conservation.

35. IBPGR's Accommodation and Administrative Matters. The IBPGR is located at FAO headquarters and integrates its work with that of FAO. The IBPGR suffers from a shortage of office space, and has outposted two of its staff members in Washington because of space limitations. FAO also provides administrative support for the IBPGR. The IBPGR has now reached a level of operations and funding that would fully justify some added administrative support.

Annex

Table 1

IBPGR's Actual Expenditures in 1982 in Comparison with Budget Estimates

	Conditionally Approved by CGIAR (November 1981) ($'000)	As Amended by TAC (March 1982) ($'000)	Actual Expenditures ($'000)	Difference Between Actual and Conditionally Approved Amount ($'000)	Conditionally Approved %	Amended Amount ($'000)	Amended %
Core Operations	3,795	3,662	3,090	(705)	(18.5)	(572)	(15.5)
Collection & Conservation	2,442	2,309	1,970	(472)	(19.5)	(339)	(14.5)
Training & Conferences	512	512	371	(141)	(27.5)	(141)	(27.5)
General Administration	841	841	749	(92)	(11.0)	(92)	(11.0)
Core Capital	-	-	-	-	-	-	-
Total Core Requirements	3,795	3,662	3,090	(705)	(18.5)	(572)	(15.5)
Less: Earned Income	50	195	187	137	274.0	(8)	(4.0)
Funds Brought Forward	175	(94)	(94)	(269)	-	-	-
Net Requirement from CGIAR	3,570	3,561	2,997	(573)	(16.0)	(564)	(15.8)
Funds Received from CGIAR			3,728				
Balance			731				

Annex

Table 2

IBPGR's Estimated Expenditures in 1983

	Bracket Approved by CGIAR (November 1982) ($'000)		IBPGR's Current Estimate ($'000)
	Top	Bottom	
Core Operations	4,117	3,891	4,117
Collection & Conservation	2,514	2,364	2,514
Training & Conferences	655	633	655
General Administration	948	894	948
Core Capital	-	-	-
Total Core Requirements	4,117	3,891	4,117
Less: Earned Income	230	230	200
Funds Brought Forward	-	-	731
Net Requirement from CGIAR	3,887	3,661	3,186
Estimated Funding by CGIAR			3,600
Projected Balance			414

Annex

Table 3

IBPGR's 1984 Budget Proposal

	IBPGR's Current 1983 Estimate ($'000)	1984 Top ($'000)	Increase or (Decrease) over Previous Year Amount ($'000)	%	1984 Bottom ($'000)	Increase or (Decrease) over Previous Year Amount ($'000)	%
Core Operations	4,117	4,655	538	13.1	4,319	202	4.9
Collection & Conservation	2,507	2,551	44	1.8	2,351	(156)	(6.2)
Training & Conferences	655	666	11	1.7	615	(40)	(6.1)
General Administration	955	977	22	2.3	925	(30)	(3.1)
Price Provision	-	461	461	-	428	428	-
Core Capital	-	-	-	-	-	-	-
Total Core Requirements	4,117	4,655	538	13.1	4,319	202	4.9
Less: Earned Income	200	250	50	25.0	250	50	25.0
Funds Brought Forward	731	414	(317)	(56.6)	414	(317)	(56.6)
Net Requirement from CGIAR	3,186	3,991	805	25.3	3,655	469	14.7

Annex

Table 4

IBPGR's 1985–1987 Budget Projections

	1985 ($'000)	1986 ($'000)	1987 ($'000)
Core Operations	5,365	6,216	7,016
Collection & Conservation	2,613	2,718	2,768
Training & Conferences	688	727	732
General Administration	1,054	1,102	1,125
Price Provision	1,010	1,669	2,391
Core Capital	–	–	–
Total Core Requirements	5,365	6,126	7,016
Less: Earned Income	270	290	310
Funds Brought Forward	–	–	–
Net Requirement from CGIAR	5,095	5,926	6,706

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TO: WILLIAMS FOODAGRI

G-12

ROME, ITALY

THANKS YOUR TELEX ACCEPTING WORKING LUNCH OCTOBER 24. PLEASE LET ME KNOW EXACTLY HOW MANY PARTICIPANTS REPRESENTING EXECUTIVE COMMITTEE SO THAT I CAN BOOK APPROPRIATE SPACE IN DINING ROOM.

MANY THANKS, VIOLET, CGIAR

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DEPARTMENT: CGIAR Secretariat

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FAO/TX/AGP/101327/9/09/1983

GREENING RE IBPGR MEMBERSHIP STOP IBPGR BOARD E RECOMMENDS TO THE GROUP THE REELECTION OF BISHOP, COOPER, JAIN AND SCARASCIA MUGNOZZA STOP CHOMCHALOW REPLACEMENT SHOULD BE A PERSON FRO FROM SOUTHEAST ASIA INTERNATIONALLY KNOWN FOR WORK ON CROP GENETIC RESOURCES INVIEW IBPGR'S MAJOR PROGRAMME THERE STOP ALL APPOINTMENTS WILL BE FOR THREE YEARS BEGINNING 1 JANUARY 1984 STOP WE DID ASK YOU MUCH EARLIER TO REQUEST NOMINATIONS AND IN THE MEANTIME THE IBPGR HAS AGREED TAHT WE WHEN THE EXERCISE IS COMPLETED IT WILL RECOMMEND DR RAMON VALMAYOR OF THE PHILIPPINES

(WILLIAMS IBPGR FOODAGRI ROME)

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TO: TREVOR WILLIAMS, FOODAGRI

ROME, ITALY

FOLLOWING IS COMMON PORTION OF TELEX SENT TO CIAT, ICARDA, ICRISAT, IITA, ILCA AND IRRI. QUOTE AAA ASIDE FROM BALANCE OF WORLD BANK'S 1983 CONTRIBUTION, VIRTUALLY ALL THE FUNDS WE EXPECT TO RECEIVE IN 1983 HAVE BEEN ALLOCATED TO CENTERS. BBB TO PROVIDE RELIABLE BASIS FOR FINANCIAL PLANNING, WE PROPOSE TO ALLOCATE AND DISBURSE A THIRD W.B. TRANCHE SOONEST. FROM REMAINING FUNDS WE WILL SET ASIDE A RESERVE OF DOLLARS 2.5 MILLION WHICH WOULD BE AVAILABLE UNDER THE DONOR OF LAST RESORT CONCEPT TO ASSIST CENTERS IN EMERGENCY CASES AS THEY MAY OCCUR LATER IN THE YEAR. WE CANNOT OF COURSE BE CERTAIN THAT EMERGENCY NEEDS WILL REQUIRE THIS TOTAL AMOUNT BUT IF NOT REMAINDER WOULD BE AVAILABLE FOR TRANSFER TO STABILIZATION MECHANISM ASSUMING GROUP DECIDES TO IMPLEMENT IT IN 1984. CCC AFTER PROVIDING FOR THIS RESERVE, DOLLARS 3.76 MILLION WILL BE AVAILABLE FOR THE THIRD TRANCHE. IT WILL BE ALLOCATED AMONG THOSE CENTERS THE FUNDING OF WHICH IS PRESENTLY BELOW REQUIREMENTS AT APPROVED BOTTOM OF BRACKET, INCLUSIVE OF ANY ADJUSTMENTS E.G. FOR 1982 YEAR END OUTCOME. ON BASIS OF INFORMATION AVAILABLE TO SECRETARIAT ALLOCATION OF THAT AMOUNT AMONG CENTERS WOULD RAISE

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AUTHORIZED BY (Name and Signature): JEAN-PIERRE JACQMOTTE

DEPARTMENT: CGIAR SECRETARIAT

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COMMITTED FUNDING TO 99 PERCENT OF REQUIREMENTS. THERE ARE THREE KINDS OF EXCEPTIONS. (1) CENTERS WHOSE FUNDING PROSPECTS PRESENTLY EXCEED REQUIREMENTS AT BOTTOM OF BRACKET, WHICH HAVE NOT AND WILL NOT RECEIVE W.B. FUNDS, (2) THOSE THREE CENTERS WHICH HAVE INFORMED THIS SECRETARIAT OF REDUCED REQUIREMENTS, WHICH WILL BE FULLY FUNDED TO THE REDUCED LEVEL AND (3) CENTERS FOR WHICH THE CONTRIBUTION WILL BE LIMITED BY THE CEILING ON TOTAL WORLD BANK CONTRIBUTION TO AN INDIVIDUAL CENTER. IN VIEW OF LIMITED AMOUNT KEPT IN RESERVE, IT WOULD BE UNWISE FOR ANY CENTER TO COUNT NOW ON RECEIVING W.B. FUNDS IN ADDITION TO THIS THIRD TRANCHE. WE HAVE IMPRESSION THAT GIVEN LATE DATE OF THIS TRANCHE 99 PERCENT FUNDING MAYBE ADEQUATE WHEN TAKING INTO ACCOUNT LOWER THAN EXPECTED LEVELS OF INFLATION AND HIGHER RATES LOCAL CURRENCY DEPRECIATION, REDUCING DOLLAR REQUIREMENTS OF APPROVED PROGRAM AT BOTTOM OF BRACKET. UNQUOTE. ACCORDING TO PRESENT PROJECTIONS 1983 FUNDING WILL EXCEED IBPGR'S REQUIREMENTS OF DOLLARS 3.12 MILLION. AS DISCUSSED AT TUNIS IBPGR WOULD CONSEQUENTLY NOT DRAW ON WORLD BANK'S THIRD TRANCHE. REGARDS, FARRAR

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TO WILLIAMS FOODAGRI

ROME, ITALY

ON BEHALF OF TAC CHAIRMAN AND MYSELF REQUEST AN OPPORTUNITY FOR BOTH OF US WITH SOME STAFF TO MEET WITH IBPGR EXECUTIVE COMMITTEE DURING YOUR WASHINGTON MEETING IN OCTOBER TO DISCUSS PREPARATIONS FOR EXTERNAL PROGRAM AND MANAGEMENT REVIEWS AND RELATED QUESTIONS. SINCE TAC IN SESSION ON THE SAME DAYS, SUGGEST A WORKING LUNCH FOR SAY TWO HOURS, OCTOBER 24, 25 OR 26, EARLIER THE BETTER. WOULD BE GLAD TO ARRANGE FOR MEETING ROOM AND LUNCH. REGARDS, FARRAR

END OF TEXT

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CLASS OF SERVICE: TELEX

TELEX NO. 843-610181/610127 FAO I

DATE: 09/07/83

SUBJECT: FILE G-12

DRAFTED BY: CURTISFARRAR:VBM

CLEARANCES AND COPY DISTRIBUTION:
cc: Messrs. Ozgediz, Greening, Plucknett, Mrs. Calvo, Mrs. Stillwell (o/r)

AUTHORIZED BY (Name and Signature): Curtis Farrar

DEPARTMENT: CGIAR Secretariat

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(3/82)

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PAGE OF

EXTENSION

MESSAGE NUMBER

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TO:

Book of Two

1. KAHRE, SWEDISH SEED TESTING AND CERTIFICATION INSTITUTE
S-17173 SOLNA, SWEDEN

FR/WUT

CABLE

LC ~~2.~~ TREVOR WILLIAMS, FOODAGRI
ROME, ITALY

43

TELEX NO. 843-610181/610127 FAO I

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CLASS OF SERVICE: TELEX NO.: DATE: 8/23

SUBJECT:

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PAGE 1 OF 1

EXTENSION 75349

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FOR KAHRE, COPY WILLIAMS. REF. IBPGR BOARD. PLEASE ADVISE WHETHER BOARD WISHES TO RENOMINATE THE FOLLOWING CGIAR APPOINTED BOARD MEMBERS WHOSE TERMS EXPIRE IN DECEMBER 1983 COLON DRS. BISHOP, COOPER, JAIN AND SCARASCIA-MUGNOZZA. PLEASE ALSO SEND THIS SECRETARIAT A DESCRIPTION OF THE CHARACTERISTICS YOU REQUIRE IN THE REPLACEMENT FOR DR. CHOMCHALOW WHO, WE UNDERSTAND, IS NOT ELIGIBLE FOR REELECTION. IF, FOR ANY REASON, ANY OF THE ABOVE CG-BOARD MEMBERS IS NOT TO BE RENOMINATED PLEASE ALSO SEND CHARACTERISTICS REQUIRED IN PERSON TO FILL VACANCY. PLEASE CONFIRM THAT ALL APPOINTMENTS WILL BE FOR THREE YEARS BEGINNING JANUARY 1, 1984. WHEN WE HEAR FROM YOU WE SHALL ISSUE A CIRCULAR TO THE GROUP ASKING FOR APPROVAL FOR ANY RENOMINATIONS AND FOR THE NAMES OF CANDIDATES TO FILL ANY VACANCIES. WE NORMALLY ALLOW THE GROUP SIX WEEKS IN WHICH TO SEND IN NOMINATIONS SEMICOLON THEN THE BOARD SELECTS FROM THESE NAMES AND SENDS THIS SECRETARIAT A SHORT LIST IN ORDER OF PRIORITY SEMICOLON AFTER WHICH WE ALLOW A FURTHER SIX WEEKS FOR THE GROUP TO APPROVE THE CANDIDATE SELECTED. THE WHOLE PROCESS TAKES OVER THREE MONTHS. WE WISH, THEREFORE, TO ISSUE A REQUEST FOR NOMINATIONS FROM THE GROUP AS SOON AS POSSIBLE. I AM SENDING A COPY OF THIS TELEX TO DR. TREVOR WILLIAMS. BEST REGARDS, PETER GREENING.

END OF TEXT

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CLASS OF SERVICE: TELEX NO.: DATE: 08/23/83

SUBJECT: File G-12/IBPGR Board Book

DRAFTED BY: Doreen E. Calvo:lar

CLEARANCES AND COPY DISTRIBUTION: cw Mr P. Greening

AUTHORIZED BY (Name and Signature): Doreen E. Calvo

DEPARTMENT: CGIAR Secretariat

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PAGE 1 OF 1

EXTENSION 75363

MESSAGE NUMBER

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TO: TREVOR WILLIAMS, FOODAGRI

ROME, ITALY

WE HAVE BEEN INFORMED BY WORLD BANK CASHIER'S DEPARTMENT THAT 1983 FRENCH CONTRIBUTION TO CGIAR HAS NOW BEEN RECEIVED. CONSISTENT WITH ALLOCATION AMONG CENTERS AS INDICATED TO US BY FRENCH AUTHORITIES IN MAY 1983, WE HAVE REQUESTED WORLD BANK'S CASHIER'S DEPARTMENT TO DEPOSIT THE EQUIVALENT OF FRENCH FRANCS 470,000 IN IBPGR'S ACCOUNT. THIS CONTRIBUTION OF EQUIVALENT USDOLLARS 61,039 IS A CORE CONTRIBUTION RESTRICTED TO COLLECTING AND EVALUATING OF GENETIC MATERIALS. REGARDS, HENNIE DEBOECK

END OF TEXT

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CLASS OF SERVICE: TELEX

TELEX NO.: 843-610181/610127 FAO I

DATE: 7/28/83

SUBJECT: FILE G12/DISK 13

DRAFTED BY: HDEBOECK/JPJACQMOTTE:EVL

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AUTHORIZED BY (Typed Name and Signature): JEAN-PIERRE JACQMOTTE

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G-1
cc G-12

July 27, 1983

Dr. J. Trevor Williams
Executive Secretary, IBPGR
Crop Ecology and Genetic
Resources Unit
Plant Production and Protection Division
Food and Agriculture
Organization of the UN
Via delle Terme di Caracalla
Rome 00100, Italy

Dear Dr. Williams:

In order to provide information for the TAC's consideration of strategic issues, the Secretariat was requested to update the study it made several years ago which allocated the Centers' budgets among commodities. Copies of the tables likely to be of most interest to you are enclosed. The present exercise has been carried out following similar procedures to those used for the first analysis.

Before the report is finalized you may wish to review the numbers. You should find tables enclosed with this letter that relate to the whole system, and a number that relate only to your Center. The latter may be of most interest to you.

Our exercise basically involved taking budgeted expenditures for "research and research support" and for certain other activities and allocating them to commodities. The allocation was usually made in proportion to the research expenditures on each commodity and is reflected on the copy of the work sheet which is enclosed. The Program and Budget documents were the source of the basic data.

The system-wide results are reflected in Tables 24, 25 & 26, in current $US. Those tables show how much of the expenditure of each Center was allocated to each commodity, farming systems, policy, genetic resources, and national research system support. You will, no doubt, see that a number of arbitrary decision were made. For example, we have not broken out genetic resource conservation work on each commodity from the balance of research on that commodity, so "genetic resources" reflects only the work of IBPGR (see p.5 of Table 24). As you can understand, that was something of an arbitrary decision, but there are drawbacks to any way one decides to present the information.

Please especially review Tables 15 and 15A. Of course, all of [illegible] activities relate to Genetic Resources so the allocation was easy. If you detect any errors, please let me know.

The report will use these tables plus a companion set showing the data in constant prices. We may revise the presentation of certain tables to make them clearer in the final publication. If you have suggestions along these lines, please let me have them. I will assume that the tables are alright unless I hear from you to the contrary.

Thank you for your assistance.

Sincerely yours,

Robert W. Herdt
Scientific Adviser

Enclosures

RH/mlj
File G-1 & G-10
Disk 40

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(3/82)

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PAGE 1 OF 1

EXTENSION 75351

MESSAGE NUMBER

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TO: TREVOR WILLIAMS, FOODAGRI

ROME, ITALY

RE OUR PHONE CONVERSATION JULY 20. THE WAY DETAILS OF IBPGR'S BRACKET FOR 1984 WAS ARRIVED AT IS AS FOLLOWS.

	1984 PROPOSED BASELINE (A)	1984 CEILING (B)	DIFFERENCE IN DOLLARS THOUSANDS 1982 VALUES	1983 VALUES(C)	1984 VALUES(C)
COLLECTING	670	820	150	166	184
CONSERVATION	500	530	30	33	37
CHAR AND DOC	220	250	30	33	37
TRAINING	554	600	46	51	57
REG COORD	483	500	17	19	21

(A) TABLE ONE PAGE 9 COLUMN 5, DOCUMENT IBPGR MIDTERM REPORT MARCH 1983 SECOND DRAFT. (B) TABLE ONE PAGE 19 COLUMN 2, DOCUMENT IBPGR P AND B 1983-84 DATED JULY 1982. (C) AT ELEVEN PERCENT INFLATION RATE PER ANNUM. BEST REGARDS, JACQMOTTE

END OF TEXT

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FAO/TX/AGP/80156/19 07 1983
C. FARRAR CGIAR STOP ATTACHMENT MXXXXXXXXXX MISSING TO YOUR
MEMO OF 21 JUNE FOR DISTRIBUTION OF DOCUMENTS FOR 1983
ICW STOP PLEASE SEND ASAP (WILLIAMS EXECSEC IBPGR
FOODAGRI ROME)

✠
WORLDBNK440098✠
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REPLY VIA ITT

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TO:

G-8
G-11
G-12
G-13

BOOK OF FOUR

1. GRAY, ILRAD
NAIROBI, KENYA
Telex 22040

963-

2. COULIBALY, WARDA
MONROVIA, LIBERIA
Telex ~~4333~~ ~~4222~~ 4333

LT (WU)

937-

3. TREVOR WILLIAMS, FOODAGRI
ROME, ITALY
Telex 843-610181/610127 FAO I

4. GAMBLE, ISNAR
THE HAGUE, NETHERLANDS
Telex 33746

844-

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SUBJECT: FILES G8, G11, G12, G13

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AUTHORIZED: JEAN-PIERRE JACQMOTTE

DEPARTMENT: CGIAR SECRETARIAT

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PAGE 1 OF 2 | EXTENSION 75351 | MESSAGE NUMBER | TEST NUMBER (FOR CASHIER'S USE ONLY)

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YOU WILL HAVE RECEIVED BY NOW OUR TELEX OF JULY 12 INFORMING YOU OF TAC'S BUDGET RECOMMENDATIONS TO THE GROUP. THE PRESENT TELEX DEALS WITH FORMAT AND PRESENTATION OF FINAL 1984 OR 1984/85 P AND B DOCUMENTS TO DONORS. AAA TAC'S RECOMMENDATIONS FOR 1984 ARE EXPRESSED, FOR SYSTEM AS WELL AS FOR INDIVIDUAL CENTERS, IN FORM OF A BRACKET. THE TOP REPRESENTS TAC'S FORMAL RECOMMENDATION, WHILE THE BOTTOM OF THE BRACKET REPRESENTS AN ALTERNATIVE PLAN IN CASE 1984 FUNDING DOES NOT MEET REQUIREMENTS AT TOP. THE FORMAL BUDGET SUBMISSION TO THE GROUP IN CENTERS' P AND B DOCUMENTS, IN THE CENTER COMMENTARIES PREPARED BY THE SECRETARIATS AND IN THE 1983 INTEGRATIVE REPORT WILL BE PITCHED AT THE TOP OF THE BRACKET. BBB ALL CENTERS ARE ASKED TO RECAST THEIR 1984 P AND B DOCUMENT CONSISTENT WITH THIS APPROACH. STRUCTURES SUCH AS FALLBACK LIST, FORWARD LIST AND BASE BUDGET WHICH WERE USED IN THE PREPARATORY PROCESS WILL DISAPPEAR AND BE REPLACED BY THE BRACKET WITH A TOP AND A BOTTOM. CCC CONSISTENT WITH THE NATURE OF TAC'S RECOMMENDATIONS, CENTERS SHOULD PITCH THEIR PROPOSAL FOR 1984 AT THE TOP OF THE BRACKET. THE NARRATIVE SHOULD COMMENT EXPLICITLY ON IMPLICATIONS OF HAVING TO GO TO THE BOTTOM OF BRACKET. CENTERS MAY INCLUDE A SUPPLEMENTARY BUDGET REQUEST, ABOVE THE TOP OF BRACKET, FOR ITEMS WHICH HAVE BEEN PRESENTED TO

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PAGE 2 OF 2 | EXTENSION 75351 | MESSAGE NUMBER | TEST NUMBER (FOR CASHIER'S USE ONLY)

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TAC BUT NOT INCLUDED IN THE RECOMMENDED BRACKET. CENTERS MAY ALSO INCLUDE THE 1984 PROPOSAL AT THE BOTTOM OF THE BRACKET IN ANNEX TABLES TO P AND B DOCUMENT. CENTERS ENTERING A NEW BIENNIUM IN 1984 SHOULD FORMULATE THEIR 1985 PROPOSAL TAKING 1984 TOP OF BRACKET AS STARTING POINT. EEE IN ORDER FOR THIS SECRETARIAT TO PRESENT 1984 RECOMMENDATIONS TO THE GROUP CONSISTENT WITH CONTENT OF CENTERS P AND B DOCUMENT, WE NEED REVISED DATA AS SOON AS POSSIBLE AND NO LATER THAN MID-AUGUST. DO NOT NEED PRINTED BUDGET THEN. COPY OF FINAL DRAFT WILL DO NICELY. REVISED COMMENTARY WILL BE SUBMITTED TO YOU FOR COMMENT BEFORE ISSUANCE TO DONORS BY MID-SEPTEMBER. BEST REGARDS, FARRAR

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G-12

July 18, 1983

Dr. J. Trevor Williams
Executive Secretary, IBPGR
Crop Ecology and Genetic
Resources Unit
Plant Production and Protection
Division
Food and Agriculture Organization
of the United Nations
Via delle Terme di Caracalla
Rome 00100, Italy

Dear Trevor:

Enclosed is a table which illustrates, hopefully in a more detailed and clearer way than we could put in our July 12 telex, the way TAC's recommendations on the bracket of funding for your center were arrived at during the 31st Meeting in Tunis.

I think the table is self explanatory, but if you have any questions, please do not hesitate to call on me.

With best regards,

Sincerely yours,

Jean-Pierre Jacqmotte
Senior Program Officer

Enclosure

JPJacqmotte:evl/File G12/Disk 13

1984 Budget Recommendations

- IBPGR -

	Operations				Capital ($'000)			Total Requirements ($'000)		Comments and Observations
	Sr.MY	83$000	PP	84$000	W.C.A.	Cap.Exp.	Total	Gross	Net	
1. Base Budget	9.0	3,891	428	4,319	-	-	-	4,319	3,655	Operations over 1983 Bottom: 0.0%
										1983 Estimate: (5.4%)
2. Bottom of Bracket	9.0	3,891	428	4,319	-	-	-	4,319	3,655	
3. Top of Bracket										
Add 1	-	166	18	184	-	-	-	184		Collecting
2	-	33	4	37	-	-	-	37		Conservation
3	-	33	4	37	-	-	-	37		Characterization & Documentation
4	-	51	6	57	-	-	-	57		Training
5	-	19	2	21	-	-	-	21		Regional Coordination
Subtotal	-	302	34	336	-	-	-	336		
Total	9.0	4,193	462	4,655	-	-	-	4,655	3,991	Operations over 1983 Bottom: 7.8%
										1983 Estimate 2.0%
										Total Requirement vs Base: 7.8%
	0.0%			7.8%		-		7.8%		% Difference Top-Bottom

G.12

Peter ?
→ D+Z

0844 EDT

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AGR / Ile.

FAO/TX/AGP/102264 13 09 83

PLEASE INFORM AID CONCERNING CENTER DIRECTORS
SEMINAR THAT IBPGR EXECUTIVE MEETING 24.25 AND 26
AND EYE ALREADY HAVE ANOTHER MEETINGON 25 HENCE
UNLIEKELY EYE CAN PARTICIPATE STOP EYE PROPOSE
ONE OF MY STAFF MEMBERS IR D VAN SLOTEN REPRESENTS
ME AT AID (WILLIAMS IBPGR FOODAGRI ROME)

Rec'd 9/13/83

Larry Dame & gave message.

9/13.

WORLDBNK440099

616022 FAO I.....

REPLY VIA ITT

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TO:

G-12

BOOK OF TWO

1. TREVOR WILLIAMS, FOODAGRI

   ROME, ITALY

   TELEX 843-610181/610127 FAO I

2. LENNART KAHRE, SWEDISH SEED TESTING AND CERTIFICATION INSTITUTE, S-17173 SOLNA, SWEDEN

   CABLE

FR/WHT

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SUBJECT: FILE G12/DISK 26

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DEPARTMENT: CGIAR SECRETARIAT

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PAGE 1 OF 3

EXTENSION 75351

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ADDRESSED WILLIAMS INFORMATION KAHRE. THIS TO INFORM YOU OF THE OUTCOME OF TAC'S DELIBERATIONS AT ITS 31ST MEETING ON 1984 PROGRAM AND BUDGET PROPOSALS. TAC'S RECOMMENDATION TO THE CGIAR IS EXPRESSED IN A BRACKET OF FUNDING, THE TOP OF WHICH AMOUNTS TO DOLLARS 181 MILLION AND THE BOTTOM TO DOLLARS 167.8 MILLION, CALLING FOR GROSS EXPENDITURES OF RESPECTIVELY DOLLARS 184.5 MILLION AND DOLLARS 171.3 MILLION. THESE AMOUNTS IMPLY THAT A STABILIZATION FUND OF DOLLARS 5.5 MILLION WILL BE SET ASIDE FROM AVAILABLE FUNDS. THESE RECOMMENDATIONS DO NOT INCLUDE EXPENDITURE RELATED TO THOSE PROJECTS THE TRANSFER OF WHICH INTO RESTRICTED CORE WAS APPROVED BY THE GROUP AT ITS MAY 1983 MEETING. AAA WITH REGARD TO IBPGR TAC RECOMMENDS A LEVEL OF FUNDING OF DOLLARS 3.991 MILLION CALLING FOR GROSS EXPENDITURE OF DOLLARS 4.655 MILLION. WERE THE SYSTEM FUNDING NOT TO BE SUFFICIENT TO SUSTAIN IBPGR'S PROGRAM AND BUDGET AT THE LEVEL OF DOLLARS 4.655 MILLION, TAC RECOMMENDS THAT IBPGR'S FUNDING SHOULD NOT BE LESS THAN DOLLARS 3.655 MILLION, CALLING FOR GROSS EXPENDITURES OF DOLLARS 4.319 MILLION. THE HIGHER AMOUNT WOULD ALLOW IBPGR TO ENHANCE ITS ROLE IN STRENGTHENING NATIONAL EFFORTS AS WELL AS EFFORTS BY OTHER IARCS IN COLLECTING AND PRESERVING PLANT GENETIC RESOURCES. BBB THESE AMOUNTS WERE ARRIVED AT AS

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FOLLOWS COLON TAC RECOMMENDS A BOTTOM BRACKET WHICH IS EQUAL TO IBPGR'S BASE BUDGET TOTALLING DOLLARS 4.319 MILLION, ALL FOR OPERATIONS AND CALLING FOR 9 SR MY. THIS BASE WAS INCREASED TO REACH THE TOP OF THE BRACKET BY THE DIFFERENCE BETWEEN IBPGR BASE AS PRESENTED IN ITS MARCH 1983 DRAFT DOCUMENT AND THE PROJECTION FOR 1984 PROVIDED BY IBPGR IN ITS 1983/84 PROGRAM AND BUDGET DOCUMENT DATED JULY 1983. THESE DIFFERENCES ARE AS FOLLOWS IN CURRENT 1984 DOLLARS COLON COLLECTING DOLLARS 184,000 SEMICOLON CONSERVATION DOLLARS 37,000 SEMICOLON CHARACTERIZATION AND DOCUMENTATION DOLLARS 37,000 SEMICOLON TRAINING DOLLARS 57,000 SEMICOLON REGIONAL COORDINATION DOLLARS 21,000. THIS RESULTS IN TOP OF BRACKET OF DOLLARS TOTALLING DOLLARS 4.655 MILLION, ALL FOR OPERATIONS AND CALLING FOR 9 SR MY. CCC IN A SEPARATE TELEX WE WILL EXPAND ON THE FORMAT OF THE FINAL 1984 PROGRAM AND BUDGET DOCUMENT. DDD AS DISCUSSED WITH CENTER DIRECTORS IN TUNIS, TAC EXPECTS CENTER DIRECTORS TO BE PREPARED TO DISCUSS IN OCTOBER A CONTINGENCY PLAN WERE IT THEN TO APPEAR THAT FUNDING FOR 1984 WOULD BE UP TO 5 PERCENT BELOW THE RECOMMENDED BOTTOM OF THE BRACKET. WE WILL PROVIDE INTERIM REPORTS BETWEEN NOW AND OCTOBER ON LIKELIHOOD OF NEED FOR CONTINGENCY PLAN. EEE THIS TELEX WAS CLEARED WITH TAC CHAIRMAN AND SECRETARIAT. FFF PLEASE

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PAGE 3 OF 3

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ACKNOWLEDGE THIS TELEX AND ADVISE IF ABOVE IS UNCLEAR IN ANY WAY

OR IF THERE ARE ANY PROBLEMS. BEST REGARDS, FARRAR

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Central File MG-12 Rel 7/6

1) DP
2) file

Consultative Group on International Agricultural Research

International Board for Plant Genetic Resources

Executive Secretariat
Crop Genetic Resources Centre (AGPG)
Plant Production and Protection Division
Food and Agriculture Organization of the United Nations
Via delle Terme di Caracalla 00100 Rome Italy
Cables: Foodagri Rome Telex: 610181 FAO I Telephone: 57971

Information cc: Dr. Curtis Farrar, USA

AGP - PR 3/11 IBPGR Rubber

JUN. 28 1983

If you do not quote our code and date in your reply, the delivery of your correspondence may be delayed.

Dear

The IBPGR was established in 1974 as a centre of the Consultative Group on International Agricultural Research to establish a world network of crop genetic resources activities. In the early years attention was directed largely to food crops but in more recent years attention has been focused on a number of industrial crops. The priorities are explained in the booklet enclosed and another booklet entitled "Facts about the IBPGR" also provides, in summary form, the achievements of the IBPGR to date.

At its plenary meeting in February 1983 the Board agreed to convene an expert international Working Group on the genetic resources of Hevea in collaboration with IRRDB.

The IRRDB has agreed to co-sponsor a meeting 22-23 September 1983 and for this to be held at the MRRRA's meeting room in Brickendonbury, Herts, UK.

Although it is early to finalize the details, I enclose a list of approved participants endorsed by the IBPGR or the IIRDB and request you to let me know if you can participate at this meeting. The IBPGR will meet travel expenses and subsistence and if you accept this invitation a prepaid ticket will be provided near the date of travel.

...|

Same letter sent to: Dr. Abdul Madjid, Indonesia
Dr. Ani bin Arope, Malaysia
M. R. de Padirac, France

The purpose of the Working Group meeting is to assess the range of variability in existing germplasm collections, the erosion of the gene-pool and collecting needs prioritized for breeding and conservation, development of descriptors for computerized documentation and the outlines of a workable plan for action.

Yours sincerely,

J.T. Williams
Executive Secretary

PARTICIPANTS INVITED TO BE MEMBERS OF THE HEVEA WORKING GROUP

Representing the IBPGR

Dr. D.C. Giacometti
Chief, CENARGEN
EMBRAPA
Avenida W-5 Norte Parque Rural
C.P. 10.2372
CEP 70,000 Brasilia, DF
BRAZIL

Dr. J.T. Williams
Executive Secretary, IBPGR
Plant Production and Protection Division
FAO
Via delle Terme di Caracalla
Rome
ITALY

Members of the Hevea Working Group

Dr. Abdul Madjid
Director
Balai Penelitian Perkebunan Sungei Putih
Sungei Putih
P.O. Box 416
Medan
INDONESIA

Dr. E. Imle
USDA/SEA
6505 Belcrest Road
Hyattsville
Maryland 20782
USA

Dr. Eduardo Lleras
CENARGEN/EMBRAPA
Avenida W-5 Norte Parque Rural
C.P. 10.2372
CEP 70,000 Brasilia, DF
BRAZIL

Dr. K.S. Dodds
17 Temple Street
Brighton
Sussex
UK

Dr. Ani bin Arope
Director
Rubber Research Institute of Malaysia
P.O. Box 150
Kuala Lumpur
MALAYSIA

Mr. R. de Padirac
President
Institut de Recherches sur le Caoutchouc
40 rue Scheffer
75016 Paris
FRANCE

Recd July 6/83
Central Files
G-12

Consultative Group on International Agricultural Research

International Board for Plant Genetic Resources

Executive Secretariat
Crop Genetic Resources Centre (AGPG)
Plant Production and Protection Division
Food and Agriculture Organization of the United Nations
Via delle Terme di Caracalla 00100 Rome Italy
Cables: Foodagri Rome Telex: 610181 FAO I Telephone: 57971

Information cc: Dr. D.L. Plucknett, USA

JUN 28 1983

AGP - PR 3/11 IBPGR Rubber

Dear

The IBPGR was established in 1974 as a centre of the Consultative Group on International Agricultural Research to establish a world network of crop genetic resources activities. In the early years attention was directed largely to food crops but in more recent years attention has been focused on a number of industrial crops. The priorities are explained in the booklet enclosed and another booklet entitled "Facts about the IBPGR" also provides, in summary form, the achievements of the IBPGR to date.

At its plenary meeting in February 1983 the Board agreed to convene an expert international Working Group on the genetic resources of Hevea in collaboration with IRRDB.

The IRRDB has agreed to co-sponsor a meeting 22-23 September 1983 and for this to be held at the MRRRA's meeting room in Brickendonbury, Herts, UK.

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Dr. Ani bin Arope, Malaysia
M. R. de Padirac, France

International Board for Plant Genetic Resources

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Yours sincerely,

J.T. Williams
Executive Secretary

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Executive Secretary, IBPGR
Plant Production and Protection Division
FAO
Via delle Terme di Caracalla
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MALAYSIA

Mr. R. de Padirac
President
Institut de Recherches sur le Caoutchouc
40 rue Scheffer
75016 Paris
FRANCE

G-4

MET

RCA JUN 27 1014✠

248423 WORLDBANK

25672PE CIPAPA

MT 1003 6/27/83

OLIVIA VENT/CALVO

REURTELEX 21 JUNE. WILL MAINTAIN ORIGINAL ARRANGEMENTS. PLEASE MAKE HOTEL RES. FOR 2 FROM P.M. 22 JULY-26 JULY. WE LEAVE FOR NY P.M. 26 JULY. THANKS. L. PETERSON.

25672PE CIPAPA✠

248423 WORLDBANKGGG

FORM NO. 27 - OCR
(3/82)

WORLD BANK OUTGOING MESSAGE FORM Telegram, Cable, Telex

ORTANT—PLEASE READ INSTRUCTIONS BELOW BEF TYPING FORM

LC

9.12.

Typewritten Character Must Fall Completely in Box!

PAGE 1 OF 1

EXTENSION 75343

MESSAGE NUMBER

TEST NUMBER (FOR CASHIER'S USE ONLY)

START HERE

TO: TREVOR WILLIAMS, IBPGR, FOODAGRI

ROME, ITALY

REUR LETTER TO FARRAR. CONFIRM RESERVATION OF CONFERENCE ROOM D1056 FOR IBPGR EXECUTIVE COMMITTEE MEETING OCTOBER 24 TO 26.

REGARDS MONICA STILLWELL, CG SECRETARIAT

END OF TEXT

NOT TO BE TRANSMITTED

43

CLASS OF SERVICE: Telex

TELEX NO.: 843-610181/610127 FAO I

DATE: 6/24/83

SUBJECT: File G12

DRAFTED BY: MonicaMStillwell/ms

CLEARANCES AND COPY DISTRIBUTION:

AUTHORIZED BY: Name and Signature
Doreen Calvo

DEPARTMENT: CGIAR Secretariat

SECTION BELOW FOR USE OF CABLE SECTION

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FORM NO. 27 - OCR
(3/82)

WORLD BANK OUTGOING MESSAGE FORM Telegram, Cable, Telex

ORTANT—PLEASE READ INSTRUCTIONS BELOW BEF TYPING FORM

LC

eg-12.

Typewritten Character Must Fall Completely in Box!

PAGE 1 OF 1

EXTENSION 75348

MESSAGE NUMBER

TEST NUMBER (FOR CASHIER'S USE ONLY)

START HERE

TO: TREVOR WILLIAMS, FOODAGRI

ROME, ITALY

WOULD BE GRATEFUL IF YOU COULD FORWARD ADDITIONAL COPY LATEST VERSION IBPGR BUDGET TO CGIAR SECRETARIAT. REGARDS, GREENING

END OF TEXT

NOT TO BE TRANSMITTED

CLASS OF SERVICE: Telex

TELEX NO.: 843-610181/610127 FAO I

DATE: 6/22/83

SUBJECT: File G12

DRAFTED BY: WJMacNally:evl

CLEARANCES AND COPY DISTRIBUTION:

AUTHORIZED BY (Name and Signature): Peter Greening

DEPARTMENT: CGIAR Secretariat

SECTION BELOW FOR USE OF CABLE SECTION

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2003 JUN 23 AM 9:20
COMMUNICATIONS DIVISION

Pal 6/24
Doreen G-12
G 17

Consultative Group on International Agricultural Research

International Board for Plant Genetic Resources

Executive Secretariat
Crop Genetic Resources Centre (AGPG)
Plant Production and Protection Division
Food and Agriculture Organization of the United Nations
Via delle Terme di Caracalla 00100 Rome Italy
Cables: Foodagri Rome Telex: 610181 FAO I Telephone: 57971

INFORMATION COPY

Dr. Curtis Farrar

PR 3/11 IBPGR-Center Directors

To: All Center Directors

Date: 15 June 1983

From: J.T. Williams
Executive Secretary, IBPGR

Item for discussion in Tunis

Earlier I asked Mohamed Nour to put on the Agenda for our meeting the FAO discussions on plant genetic resources.

Since then Bob Havener has circulated the text of Dr. Dieter Bommer's statement to the CGIAR meeting in Paris and the latter has also sent you a telex requesting factual information and cost estimates.

I urge you to consider carefully the cost estimates and to include in projections those activities which your Center would wish to see carried out if adequate funds were available. It might also be useful if you could assess the effect on the Centre if an international convention came into being between states.

Since FAO has to finalize its documentation before 21 July please try to have the above on paper for Tunis!

G-3 pd 6/28
DC

CENTRO INTERNACIONAL DE MEJORAMIENTO DE MAIZ Y TRIGO

INTERNATIONAL MAIZE AND WHEAT IMPROVEMENT CENTER

Sede-Headquarters: El Batán, Tezcoco, Estado de México - Km. 25.5 Carretera México - Veracruz, Vía Jalapa
Correo Mail: Londres 40, Apdo. Postal 6-641, Col. Juárez Deleg. Cuauhtemoc, 06600 México, D. F.
Telex: 1772023-CIMTME Cable: CENCIMMYT Teléfonos-Telephone: México, D. F. 585-43-55; Tezcoco, 421-00

June 15, 1983

Ref. RDH-583/83

Dr. Curtis Farrar
Executive Secretary
CGIAR
1818 H Street, N.W.
Washington, D.C. 20433

Dear Curt:

Your letter of May 9 arrived on May 31. Because of our previous telephone conversation and our discussions in Paris both Dr. Barco and I are fully aware that the Secretariat stands ready to assist as much as possible when asked to do so. I can assure you we will be back to you on this subject in the near future.

Yesterday we received the 297 pages of the draft proceedings of the CGIAR Paris meetings. As soon as I can find time to plow through them I shall be back to you with any comments on the quinquennial review discussions and the CIMMYT status.

With kind regards.

Sincerely,

Robert D. Havener
Director General

cc. Virgilio Barco, Colombia

Consultative Group on International Agricultural Research

International Board for Plant Genetic Resources

Executive Secretariat
Crop Genetic Resources Centre (AGPG)
Plant Production and Protection Division
Food and Agriculture Organization of the United Nations
Via delle Terme di Caracalla 00100 Rome Italy
Cables: Foodagri Rome Telex: 610181 FAO I Telephone: 57971

Rec 6/21
Monica

612

PR 3/11 IBPGR - EC

If you do not quote our code and date in your reply, the delivery of your correspondence may be delayed.

JUN 14 1983

Dear Curt,

The Executive Committee of the IBPGR meets around Centers Week in Washington. This year the tentative dates are 24-26 October and I would be grateful if you could kindly arrange a room for us in the Bank.

Many thanks for your help.

Yours sincerely,

J.T. Williams
Executive Secretary

D1056 -

Dr. Curtis Farrar
Executive Secretary
Consultative Group on International
Agricultural Research (CGIAR)
c/o World Bank
1818 H Street, N.W.
Washington, D.C. 20433
USA

Call Marlin
75025
to book D1056
for 24th

vej-12
cc: ej-13
cc: D-21
cc D-33

June 13, 1983

Files

Doreen E. Calvo DEC

75349

Back-to-Office Report: Visits to IBPGR, ISNAR and ODA, London.

1. On my way back from Syria in February last, I stopped in Rome primarily to visit IBPGR and the TAC Secretariat. Dr. Trevor Williams had been unable to leave New York because of the snow storm there, so I talked to his deputy, Dr. N. Murthi Anishetty. I met several members of the staff and was briefed on the IBPGR's current program. During the discussion, Dr. Anishetty expressed his organization's concern that some centers tended to believe that their efforts in germplasm collection and classification could be reduced because of the establishment of the IBPGR. I was also told of the accommodation problems that the IBPGR faces, which were, of course, very visible and I was briefed on the dual role of IBPGR as a CGIAR center and as a division of the FAO. I left somewhat depressed by the lack of space, poor facilities and obvious difficulties in which the members of the IBPGR work.

2. My visit to the TAC Secretariat was essentially a courtesy one. Mr. Risopolous and I discussed the forthcoming brainstorming session for the Impact Study and also the agenda for the May Meeting in Paris.

3. During my visit to Italy, I talked to Mrs. Lucia Bettella who is with Office Number 4 of the Ministry of Foreign Affairs dealing with food aid. Although Dr. Bettella and I were unable to meet, she advised me that responsibilities for CG matters seem to have shifted permanently and finally from her office to the Department for Technical Cooperation to Development in the Ministry of Foreign Affairs, with which her office had always shared responsibility for the CG. Dr. Bettella was obviously unhappy as her interest in the CG is very great. Dr. Bettella told me that on her return from Washington in November 1982, she had written a back-to-office report on the CG meetings which had received wide circulation within the Ministry of Foreign Affairs. Unfortunately, as a result of that interest, her own Minister decided that internal relations dictated that he withdraw his staff from participation in these meetings. Dr. Bettella expressed her concern about a gap in communications that might result from this decision. She pointed out that Dr. Papasolomontos had contacted her when in Rome to urge her to obtain Italian Government financing for capital costs of the ICARDA building program. Dr. Bettella had directed him to Mr. Mogni in the Department for Technical Cooperation but later understood that Dr. Papasolomontos had not followed up this suggestion. Dr. Bettella told me that she was preparing a memorandum for her Minister justifying his continued involvement in the CG system.

Dr. Bettella is a convinced friend of the system and is both imaginative and capable, so I shall try to maintain informal contacts with her to determine how successful she has been in her effort to maintain her responsibilities for the CG system.

4. On Wednesday, February 16, I met Dr. Jaap Hardon at ISNAR for a long discussion on the Impact Study and also on Board appointments. Dr. Hardon's views on the Impact Study were incorporated in a paper that was circulated to the European Donors at Montpellier. Dr. Hardon's skepticism about the need for the Impact Study essentially stems from his view of international agricultural research as a long-term effort in which progress is slow and rarely spectacular. In the discussion on Board appointments, I mentioned that the response to the Secretariat's request for nominations was not very good from many donors, including the Netherlands. I asked Dr. Hardon to give consideration to our requests for nominations and particularly bear in mind the system's interest in having good women nominees.

5. In the afternoon, I met members of the ISNAR staff and received in a short period of time an interesting briefing on the different aspects of ISNAR's work. My visit was too short to enable me to obtain an indepth familiarity with the work being carried out.

6. During my visit to London on Thursday, February 17, I had a long meeting in Dr. Cunningham's office with different members of ODA. We discussed the Impact Study and ODA's ideas were incorporated into a memorandum which is in our files. The second subject of conversation was Board nominations. In the same vein as with Dr. Hardon, I repeated the Secretariat's concern that the Group did not respond very actively to requests for nominations for the Boards of Trustees. I also indicated that the Group was interested in receiving nominations of well qualified women. Dr. Cunningham agreed to act on the last item, however, he indicated that, in fact, the number of U.K. representatives on Boards was at a reasonable level, so that this explained the relatively low key response of the U.K. government to the Secretariat's circulars.

cc: Messrs. Farrar, Greening, Plucknett, Jacqmotte, Ozgediz, Herdt

DCalvo:lar
File G-12, D-33, G-13, D-21 and Board Blackbook

9.12

June 8, 1983

Dr. J. Trevor Williams
Executive Secretary, IBPGR
Crop Ecology and Genetic
Resources Unit
Plant Production and Protection
Division
Food and Agriculture Organization
of the United Nations
Via delle Terme di Caracalla
Rome 00100, Italy

Dear Trevor:

Enclosed are three copies of a draft commentary on the IBPGR's 1984 mid-term report. This draft has been sent to the TAC Secretariat, and to Dr. Chaudhri and Dr. von Urff who are respectively handling the IBPGR's budget and chairman of one of the working groups on budgetary matters. If you have any reactions, please let us know and we will communicate them to the TAC Secretariat and to Dr. Chaudhri and Dr. von Urff.

With best personal regards,

Sincerely yours,

Jean-Pierre Jacqmotte
Senior Program Officer

Enclosures

JPJacqmotte:evl/File G12

June 8, 1983

Dr. Muhammad Y. Chaudhri
Member (Crop Sciences)
Pakistan Agricultural Research
Council
L-13, Almarkaz, F-7
Post Box 1031
Islamabad, Pakistan

Dear Dr. Chaudhri:

Enclosed is a draft commentary on the IBPGR's 1984 mid-term report. A copy of this has been sent to Dr. Williams. Hopefully this will help you in preparing for the budget discussion in Tunis.

With best regards,

Sincerely yours,

Jean-Pierre Jacqmotte
Senior Program Officer

Enclosure

JPJacqmotte:evl/File G12

G12

16.5.1983

Dr. D.F.R. Bommer
ADG, AG

Dr. C. Brauer
Director, AGP

Allocation of rooms to the IBPGR

With reference to your memorandum itemising a number of rooms for the IBPGR Secretariat, I wish to state that we accept these in order to fill an urgent need.

However, I would request that this be viewed as a temporary solution and attention given to the allocation of the rooms occupied by AGO on the seventh floor of building C.

CW 7/3

cc.1 2 AGP Reg.
Brauer
Williams
Freeman

Letter Kahre to Bommer
1980/81 for more space not on file!
It is almost certainly in
CGIAR Secretariat.

OFFICE MEMORANDUM

TO: Dr. O. Brauer
Director, AGP

DATE: 21 April 1983

I.R. Loerbroks
Assistant to ADG, AG

Space Requirements for IBPGR

With reference to earlier correspondence on the above I am pleased to inform you that the following offices have been made available by AGL and AGO for use by the staff of the IBPGR:

AGL	B-724bis
	B-725bis
AGO	B-727bis
	B-728bis

I realize that these offices are not adjacent to AGP, and would therefore appreciate knowing whether you find them acceptable or whether it would be advisable to consider a switch, i.e. that AGO and AGL release offices near IBPGR in lieu of the offices identified above.

CM 7/3

cc: Bommer
Loerbroks - chrono
AGD Reg (2)

25.4.4

Dr BRAUEN		
Williams	W	See note.

See me on the subject, please

Dr. D.F.R. Bommer
ABG/AGD

24 September 1982

Through: Dr. O. Brauer
Director, AGP

J.T. Williams
Executive Secretary, IBPGR

Space for AGPG staff and their servicing of IBPGR

As you will know the Governing Board of the European Cooperative Programme on Genetic Resources will meet in Brussels 18-20 October 1982.

At that meeting the Governments will agree on the financial aspects for Phase II to be operated through the IBPGR following the expressed wishes of several IPF delegates at earlier Board meetings.

The IBPGR has agreed to undertake the necessary work of a completely revised project based on expert working groups and technical follow-up. As such the project has to call on the services of all its officers but will require additional strengthening on administration and possibly a P-3 officer to oversee the project on a day to day basis.

The Chairman of the IBPGR has raised the question of space with you and I would welcome any decisions in the event I am asked in Brussels.

Most certainly the phaseover from AGO to AGP will raise discussion vis-a-vis the actual work and in order to maintain the confidence of government delegates I would wish to provide clear responses.

Your attention to the above would be much appreciated.

CM.7/3

JTW/jb

cc: AGPG/IBPGR
Chrono: Williams(2)
jb
AGP Reg.(2) PR 3/11 General

Mr. A.C. Georgiadis
Officer in Charge, AFS

3 March 1981

Through: Dr. D.F. Bommer
ADG, AG

O. Bruner
Director, AGP

Inadequate Space - TF 9150 Intern'l Board Genetic Resources

Apart from the overal critical situation of space inadequacy in AGP, which promises to get worse in the next biennium (two new posts authorised, 1 professional, 1 general service with no rooms available) there exists a urgent space problem within the International Board Secretariat.

The present staffing and room assignments are shown below:

TITLE	GRADE	NAME	Room No.
Senior Off.	P-5	Dr. Williams	C-712
	P-4	Ms. Bennett	C-708
	P-4	Dr. Anishetty	C-713
	P-3	Mr. Esquinas	C-709
	P-3	Mr. Howes } 1/	C-706 bis
	P-3	Mr. Van Sloten }	
Admin Assist.	G-7	Ms. Corelli	C-704
	G-6	Mr. Sayour	C-751
	G-6	Mr. Mc Lean	C-751
Clerk-Steno.	G-4	Ms. Shuter-Buccini	C-710
Clerk-Steno.	G-4	Ms. Quaye 2/	C-710
Bi-Ling.	G-4	Ms. Ascione-Sindery	C-706
Steno.	G-3	Ms. Saint-Rossi	C-706
Clerk	G-2	Ms. Bonomi	C-711
Typist	G-2	Ms. Forbes	C-711
Typist	G-2	Ms. Mc Arthur-Giannini	C-704

1/ Two Professional Officers in a room that measures 8 sq. meters, well below the standard minimum suggested by JIV.

2/ Reports clerk only.

From the above, it is clear that the division lacks one office for a P-3 professional. In addition, the Board of the IBPGR recommended to the ODG that each officer be authorised one Secretary and the Admin. Assist. be authorised a typist. Money has been allocated for this purpose and the ODG has concurred to the request. The absence of space for a typist and secretary prohibit us from implementing the Board's decision.

I would appreciate having your suggestions on how this problem can be resolved.

CM 7/3

cc: Dr. Bommer, AG
Mr. Pekorny, AGC

Dr. Williams, AGP
Ms. Corelli, AGP

Mr. Freeman, AGP
chrono O.B.

G12 PR 3/11 IBPGR GEN
cc. Dr. Bommer
ODG Reg
Dr. Brauer

Dr. Ralph W. Phillips
Deputy Director-General

19 August 1980

Dear Mr. Demuth,

This refers to our discussion on 6 May 1980, when you and Dr. Ralph Cummings visited with me in Rome, and to your memorandum of 7 May in which you summarized the main points made in that discussion regarding collaboration between IBPGR and FAO.

I must apologize for the long delay in responding to your memorandum. However, I was away for a month, and at no time since you were here have all the officers principally concerned been in Rome together, so it has been difficult to come to a concensus on all the points. In fact, both the Director General and Dr. Bommer are currently away, and they will be out of Rome for several weeks. However, I have not discovered any differences of view here so, without any further delay, I must respond to your points, taking them in turn as numbered in your memorandum.

1. We agree that both IBPGR and FAO have benefitted substantially from the close association that has existed. The Director General has been highly satisfied with the achievements resulting from this collaboration. This view was confirmed by the Twentieth Session of the FAO Conference, in November of last year, when it reviewed our work on the collection, conservation and evaluation of plant genetic resources, and also by the Quinquennial Review of IBPGR recently undertaken by TAC. We consider this collaborative effort an important part of FAO's Programme of Work and it will continue to receive support.

2. We understand your desire for the IBPGR Secretariat to be given more visibility within FAO's organizational structure, and have analyzed your suggestions in this light. We believe that the Secretariat is correctly placed within the Plant Production and Protection Division, since it deals solely with crops, and the Director of that Division is - as you know - the ex-officio member of the IBPGR. The Executive Secretary knows that he can approach the Assistant Director General of the Agriculture Department at any time, and especially during absences of the Division Director, in order to reduce cumbersome procedures to a minimum. I should add that the situation is not, in my view, comparable to that of the TAC Secretariat, which reports

Mr. Richard H. Demuth
Chairman, International Board for Plant Genetic Resources
Surrey, Karasik and Morse
1156 15th Street NW
Washington DC 20005
USA

.../...

directly to the Assistant Director General, since TAC covers a much broader field, and the Director General has entrusted the Assistant Director General with overall responsibility for FAO's research support activities and for liaison with CGIAR.

3. However, we are prepared to consider the possibility of raising the Crop Genetic Resource Unit to the level of a Service. We need some time for this since, as I am sure you will appreciate, it must be given careful consideration in relation to the overall Programme of Work and Budget, and to any other structural changes that the Director General may wish to place before the Twenty-First Session of the FAO Conference for approval. This must be approached with some care because, in recent years, our Governing Bodies have been somewhat reluctant to approve structural changes.

4. We have noted the suggestion by the Quintennial Review Panel that the title of the Executive Secretary be changed to "Director" or "Executive Director", and that this change would be purely for IBPGR and CGIAR purposes and would not apply to his FAO functions. We understand the intent of the suggestion, but must recognize that it is beset with certain difficulties. Since the Executive Secretary works within the framework of FAO, it is difficult to see how a completely clear distinction can be made between his FAO and his IBPGR functions. There would be some difficulty in having two "Directors" within the same Division. Within the UN system, the term "Executive Director" is used for senior posts having much wider responsibilities, for example, in the World Food Programme and the World Food Council. Consequently, we prefer a somewhat different approach which I believe should meet the point. Presently the designations used are Senior Genetic Resources Officer and IBPGR Executive Secretary. These could be changed to "Senior Genetic Resources Officer and IBPGR Programme Director."

5. The proposal to change the terms of reference of the IBPGR so that the head of the Secretariat would be appointed by the Director General of FAO "after consultation with the Board" would, I fear, be quite unacceptable to the Director General since he has sole responsibility for the appointment of FAO staff, and this is clearly indicated in our Basic Texts. To introduce the change as proposed would have the effect of modifying the Director General's responsibility for the appointment of the Organization's staff. I can, however, give you assurance that, whenever the post should become vacant, discussions would be held with the Chairman and the Board to identify the most suitable and qualified candidates before the Director General completes his selection and makes an appointment.

6. As regards publications, the problems you raise are those affecting all of our publications. These problems are being currently examined in depth by our Publications Committee, of which I am Chairman. Some ways of improving the situation in regard to publications financed by IBPGR can be resolved by closer consultation between the Executive Secretary and our Publications Division, and I understand some preliminary discussions have taken place. External printing might indeed prove helpful, particularly as regards attractive presentation. I doubt, however, whether more timely and attractive publications can be achieved at the same or lesser cost, taking into account the recent very heavy increases in external printing costs and the handling

..... / ....

and distribution charges which would have to be added thereto. We will, however, do all we can to meet your requirements in this area provided the funds made available are sufficient.

7. We recognize that the workload of an operational nature in the IBPGR Secretariat has grown over recent years, and, as you point out, the Division has taken steps, at the cost of its other activities, to provide some relief. We are therefore prepared to agree, as an exceptional measure, to shift from a 1:2 to 1:1 ratio as rapidly as this is justified by the workload and on the understanding, as stated in your memorandum, that the additional secretarial posts would be financed from IBPGR funds.

8. Regarding the delays you mention in the recruitment of staff, I understand there have been some undue delays in filling vacancies in the IBPGR Secretariat. Some delays in recruitment are inherent in the procedures an international organization must follow to ensure the obtaining of well-qualified staff and maintenance of reasonable geographic distribution. However, such delays should be kept to a minimum and I am instructing the officers concerned to do everything they can to ensure timely recruitment of IBPGR Secretariat staff.

I trust that the implementation of the ideas set out above will meet your basic points, and will result in more effective conduct of the work on Crop Genetic Resources, to which we attach great importance.

Sincerely,

Ralph W. Phillips
Deputy Director-General

Consultative Group on International Agricultural Research

International Board for Plant Genetic Resources

Executive Secretariat:

Crop Ecology and Genetic Resources Unit
Plant Production and Protection Division
Food And Agriculture Organization of the United Nations
Via delle Terme di Caracalla 00100 Rome Italy

Cables: Foodagri Rome Telex: 61181 FAO I Telephone: 5797

With the compliments of the Executive Secretary

OUTGOING TELEGRAM

COGENE file

Central Files
G-12
CGIAR

ADDRESSEE

PEACOCK
DIVISION OF PLANT INDUSTRY
CSIRO
P.O. BOX 260
CANBERRA, ACT 2608
(AUSTRALIA)

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Transmission Method		Routing
☐ UN	☐ ITC	
☐ TX	☐ TG	

INFORMATION COPY

MESSAGE

IBPGR EXECUTIVE CURRENTLY MEETING HAS RECEIVED REPORT COGENE MEETING AND AGREED AAA THE WHOLE QUESTION OF INTERFACE GENETIC MANIPULATION AND TRADITIONAL GENETIC CONSERVATION REQUIRES THOROUGH DISCUSSION AT ELEVENTH BOARD MEETING AND POLICY STATEMENTS stop BBB YOU BE DELEGATED AUTHORITY TO CONVENE SMALL WORKING GROUP COMMA THE REPORT OF WHICH WILL ACT AS BASIS FOR DISCUSSION BOARD MEETING CCC WORKING GROUP SHOULD BE ABOUT SIX AT IBPGR EXPENSE AND INCLUDE YOURSELF COMMA MYSELF COMMA STAN LEVIS COMMA A PERSON FROM A DEVELOPING COUNTRY AND OTHERS YOU DECIDE BUT ONE TO REPRESENT TRADITIONAL BREEDING stop BILL BROWN COMMA CHAIRMAN IBPGR MAIZE COMMITTEE ALSO SUGGESTED AS MEMBER SO CONSIDER UP TO SIX OR SIX PLUS MYSELF MAKING SEVEN DDD COSPONSORSHIP BY RF WELCOME AND I HAVE POSITIVE RESPONSE IN WRITING TO THIS EFFECT stop THIS WOULD AUGMENT NUMBERS EEE AGENDA TO INCLUDE PRIMO DEVELOPMENT OF A POLICY STATEMENT ABOUT THE VALUE OF GERMPLASM COLLECTIONS AND THAT NEW TECHNOLOGY UNLIKELY REPLACE THEIR USEFULNESS SECONDC THE NEED TO STIMULATE MORE EVALUATIONS EVEN TO GENE LEVEL TERZO FEASIBILITY ESTABLISH GENEBANK CLONES DNA AND ANY POSSIBLE VENUE BUT MAYBE YOUR

(continued over)

PROGRAMME	UNDP Project Symbol	Charge to Div.
9.9100.9150.00.44	TF	AGPG/IBPGR

	Name	Initials	Date	Hour (0000-2400)
Originator	J.T. Williams		17/5/83	10.00
Cleared	E.J. Freeman			
	Exec. Off. AGP			
Authorized (Name, Title and Signature)	J.T. Williams Execsec, IBPGR			

DISTRIBUTION OF COPIES

cc: AGP Reg.(2)
AGPG/IBPGR
Williams(2)
jb

Info copies: Sir Otto Frankel, CSIRO
Dr. J. Lyman, Rockefeller
Dr. D. Plucknett, CGIAR

FILING CODES: PR 3/11 IBPGR-EC

Cost. Lit.

AUM 98 - [illegible] - 10M - L. [illegible] La Stampa S.p.A. - Genova

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Page two

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MESSAGE

IDEA WEST COAST MORE SUITABLE DEPENDING YOUR MEMBERSHIP

stop IF LATTER SUITABLE DATES FOR ONE ARE 25-29 JULY COMMA 17-18

OCTOBER COMMA 7-9 DECEMBER stop GREETINGS (WILLIAMS IBPGR)

PROGRAMME	UNDP Project Symbol	Charge to Div.
9.9100.9150.00.44	TF	AGPG/IBPGR

Name	Initials	Date	Hour (0000-2400)
Originator			
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Dc 1/4 G-12

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NNNN

WORLDBNK440098

IRICON CERAM2

ZCZC WOT144 052123 ROP831 ((AGP)) 05.05.1983 16:31

PP OWT

FAO/ITC/AGP /831/ 05.05.1983

GREENING REOURTELEX 3 MAY OMITTED C.J. BISHOP WHO IS ELIGIBLE FOR SECOND THREE YEAR TERM (WILLIAMS IBPGR)

(FOODAGRI ROME TELEX 610181-610248)

REPLY VIA ITT

DC &
G-12

5 1983 MAY -4 AM 8:59
RECORDS AND COMMUNICATIONS

1720 EST⊕

WORLDBNK440098⊕

IRICON CERAM2

ZCZC WOT134 032121 ROP128 ((AGP)) 03.05.1983 15:33

PP OWT

FAO/ITC/AGP /128/ 03.05.1983

GREENING CGIARE RE IBPGR MEMBERSHIP STOP FOLLOWING RETIRES AND INELIGIBLE FOR REELECTION N CHOMCHALOW THAILAND FOLLOWING FIRST TERM OF THREE YEARS EXPIRES BUT ELIGIBLE FOR REELECTION MESSRSJ COOPER UK HK JAIN INDIA AND T SCARASCIA ITALY STOP IBPGR WOULD WELCOME PREFERABLY BY TELEX NOMINATIONS FROM CG MEMBERS ESPECIALLY FOR SOUTHEAST ASIA OR PACIFIC STOP WE HAVE LONG LIST CG NOMINATIONS OVER PAST THREE YEARS AND WILL ADD THESE TO THE SHORT LIST FOR CONSIDERATION IF MEMBERS DO NOT WISH TO RENOMINATE

(WILLIAMS)

(FOODAGRI ROME TELEX 610181-610248)

FORM NO. 27 - OCR
(3/82)

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9.12

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PAGE 1 OF 1

EXTENSION 75348

MESSAGE NUMBER

TEST NUMBER (FOR CASHIER'S USE ONLY)

START HERE

TO: NOUR, ICARDA

ALEPPO, SYRIA

BY LETTER OF APRIL 8, 1983, TO THIS SECRETARIAT, CANADIAN CIDA CONFIRMED A CONTRIBUTION FOR 1983 TO ICARDA OF CANADIAN DOLLARS 775,000 WHICH IS BEING DISBURSED. THIS IS CANADIAN DOLLARS 175,000 MORE THAN ANNOUNCED IN GREENING'S LETTER TO YOU OF JANUARY 18. REGARDS. JACQMOTTE.

END OF TEXT

NOT TO BE TRANSMITTED

924

CLASS OF SERVICE: telex

TELEX NO.: 924-331206/331263/ 331208 ICARDA SY

DATE: 4/21/83

SUBJECT: G-12

DRAFTED BY: J-P. JACQMOTTE/LCH

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AUTHORIZED BY (Name and Signature): J-P. JACQMOTTE

DEPARTMENT: CGIAR SECRETARIAT

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G. 12

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PAGE 1 OF 1

EXTENSION 75348

MESSAGE NUMBER

TEST NUMBER (FOR CASHIER'S USE ONLY)

START HERE

TO: TREVOR WILLIAMS, FOODAGRI

ROME, ITALY

BY LETTER OF APRIL 8, 1983, TO THIS SECRETARIAT, CANADIAN CIDA CONFIRMED A CONTRIBUTION FOR 1983 TO IBPGR OF CANADIAN DOLLARS 325,000 WHICH IS BEING DISBURSED. THIS IS CANADIAN DOLLARS 100,000 MORE THAN ANNOUNCED IN GREENING'S LETTER TO YOU OF JANUARY 18. REGARDS. JACQMOTTE.

END OF TEXT

NOT TO BE TRANSMITTED

CLASS OF SERVICE: telex

TELEX NO: 643-610181/610127 FAO I

DATE: 4/21/83

SUBJECT: G-12

DRAFTED BY: J-P. JACQMOTTE/LCH

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DISPATCHED

1983 APR 21 PM 4:36

COMMUNICATIONS DIVISION

G-12

April 22, 1983

Dr. J. Trevor Williams
Executive Secretary, IBPGR
Crop Ecology and Genetic Resources Unit
Plant Production and Protection Division
Food and Agriculture Organization of the
United Nations
Via delle Terme di Caracalla
Rome 00100, Italy

Dear Trevor:

I have received the attached letter from the Executive Director of the International Natural Rubber Organization, which includes a note about the work IBPGR is doing on Hevea Germplasm.

Best regards.

Sincerely yours,

Curtis Farrar
Executive Secretary

cc: Dr. K. Algamar
Executive Director
International Natural Rubber Organization
Kuala Lumpur, Malaysia

CurtisFarrar:vbm
File G-12

Record Removal Notice

The World Bank Group Archives & Records Management

File Title	Barcode No.
Consultative Group on International Agricultural Research [CGIAR] -G-12- International Board for Plant Genetic Resources [IBPGR] - 1981/1983 Correspondence - Volume 2	1762072

Document Date	Document Type
April 13, 1983	Letter

Correspondents / Participants

To: Dr. Judith M. Lyman, Agricultural Sciences, The Rockefeller Foundation

From: J.T. Williams, Executive Secretary, CGIAR - IBPGR

Subject / Title

Possibility of setting up a gene library of clones DNA

Exception(s)

Information Provided by Member Countries or Third Parties in Confidence

Additional Comments

The item(s) identified above has/have been removed in accordance with The World Bank Policy on Access to Information. This Policy can be found on the World Bank Access to Information website.

Withdrawn by	Date
Shiri Alon	25-Mar-16

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IRICON CERAM2

ZCZC MGT779 121301 ROPSEO ((AGP)) 12.04.1983

PP ODT

G12

(1)

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1983 APR 12 AM 9:47
CABLE SECTION

Lc

Title
1983 cables
re
IBPGR

FAO/ITALY/AGP /524/ 12.04.1983

D 1033

JACQUOTTE REURTEL 9/4 ENQUIRIES BEING MADE RE GERMAN AND SPANISH 1982 CONTRIBUTIONS TO IBPGR STOP ITALIAN CONTRIBUTION AMOUNTING TO 72,467 DOLLARS RECIEVED STOP ALL 1982 CONTRIBUTIONS RECEIVABLE OR RECEIVED IN 1983 NOW INCLUDED IN 1983 ESTIMATED SOURCE OF FUNDING RESULTING IN CARRY FORWARD TO 1984 OF 417,000 DOLLARS STOP MIDTERM REPORT AND TABLES REVISED ACCORDINGLY AND SECOND DRAFT WILLBE SENT BY COURIER 13/4 WITH COPY UNEP/IBPGR PROJECT DOCUMENT (WILLIAMS EXECSEC IBPGR)

(FOODAGRI ROME TELEX 610131-610243)

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NNNN

WORLDBNK440098

IRICON CERAM2

REPLY VIA ITT

G12 (2)

50

RECEIVED

1983 APR 11 PM 2 38

COMMUNICATIONS DIVISION

1338 EST

WORLDBNK44009

IRICON CERAM2

ZCZC WOT077 111340 ROP384 ((AGP)) 11.04.1983 20:38

PP OWT

FAO/ITC/AGP /384/ 11.04.1983

INFO GREENING ITALY DISBURSED LIRA 100 MILLION FOR 1982

PBPGR CONTRIBUTION ON 25 FEBRUARY 1983 (WILLIAMS IBPGR)

(FOODAGRI ROME TELEX 610181-610248)

ND
file IBPGR
& Italy

I am the
Record Comit

MET

1236 EST

WORLDBNK440098

IRICON CERAM2

Central Files
G-12

ZCZC WOT068 061738 ROP681 ((AGP)) 06.04.83 18:47

PP OWT

FAO/ITC/AGP /681/ 06.04.83

PLUCKNETT CGIAR REYRTELEX I EXPECT TO BE IN ROME ON 9 JUNE

GREETINGS (WILLIAMS EXECSECIBPGR)

(FOODAGRI ROME TELEX 610181-610248)

cc: Sent to Dr. Nigel Smith

=

NNNN

WORLDBNK440098

IRICON CERAM2

Ref 4/19 2

G 12

INTERNATIONAL NATURAL RUBBER ORGANIZATION
12th Floor, Mui Plaza, Jalan Parry,
Kuala Lumpur 01-02.
Malaysia.

INRO

Phone: 417812, 417735, 417696, 417533.
486466, 486467, 486485

Telex No. MA 31570 (INRO), P.O. Box 374, KL 01-02.

Reference:

8 April 1983

Mr. Curtis Farrar,
Executive Secretary,
Consultative Group on International
Agricultural Research (CGIAR),
1818 H St., N.W.
Washington, D.C. 20433,
U.S.A.

Dear Mr. Farrar,

Thank you for your letter of March 24, 1983 with the enclosure of 3 documents. I found the documents very useful and informative.

I understand that your Consultative Group is mainly concerned with research in food crops, although your International Board Plant Genetic Resources (IBPGR) is about to start work on Hevea Germplasm which INRO is interested. In implementing the project, I hope the IBPGR will be in the position to collaborate with the International Rubber Research and Development Board, an organisation INRO works with very closely.

I was very pleased to have the opportunity to meet you in Rome. I hope it would not be a last opportunity to meet you. Please do contact me whenever you visit Kuala Lumpur.

With best regards.

Yours sincerely,

K. Algamar
Executive Director

FORM NO. 27 - OCR
(3/82)

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L/a

eg 12

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PAGE 1 OF 1

EXTENSION 75346

MESSAGE NUMBER

TEST NUMBER (FOR CASHIER'S USE ONLY)

START HERE

TO: TREVOR WILLIAMS, FOODAGRI

ROME, ITALY

DR. NIGEL SMITH IS WORKING WITH ME ON VARIOUS RESEARCH PROJECTS AND WOULD LIKE TO VISIT IBPGR ON 9 JUNE TO LEARN MORE ABOUT CROP GERMPLASM CONSERVATION. NIGEL WILL BE STAYING AT THE HASSLER AND HOPES THAT YOU WILL BE AT IBPGR WHEN HE VISITS. THANK YOU FOR YOUR CONSIDERATION. BEST REGARDS. PLUCKNETT.

END OF TEXT

NOT TO BE TRANSMITTED

CLASS OF SERVICE: TELEX

TELEX NO.: 43 843-610181/610127 FAO I

DATE: Apr. 4/83

SUBJECT: File G-12

DRAFTED BY: Nigel Smith:apm

CLEARANCES AND COPY DISTRIBUTION:

cc: Dr. Nigel J. H. Smith

AUTHORIZED BY (Name & Signature): Donald L. Plucknett

DEPARTMENT: CGIAR Secretariat

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9/12 L/C

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PAGE 1 OF 2

EXTENSION 75348

MESSAGE NUMBER

TEST NUMBER (FOR CASHIER'S USE ONLY)

START HERE

TO: TREVOR WILLIAMS, FOODAGRI

ROME, ITALY

RE OUR TELEPHONE CONVERSATION OF MARCH 31 ON 1982 AND 1983 FUNDING. AAA BY LETTER TO BAUM OF DECEMBER 17, 1982 DR. TREITZ CONFIRMED ACTUAL DISBURSEMENTS OF GERMAN 1982 CONTRIBUTION TO IBPGR OF DM526,000. OF THIS AMOUNT ONLY DM200,000 PLUS DM126,000 ADDITIONAL CONTRIBUTION ARE REPORTED AGAINST 1982 IN TABLE II OF DRAFT MIDTERM REPORT. BALANCE IS NOT APPLIED AGAINST 1983. PLEASE ADVISE ON STATUS OF NOT REPORTED DM200,000. BBB EYE UNDERSTAND LIRA 100 MILLION FROM ITALIAN NATIONAL RESEARCH COUNCIL HAVE BEEN RECEIVED IN MEANTIME BUT DO NOT APPEAR AGAINST 1982 NOR 1983. CCC SPAIN CONFIRMED TO THIS SECRETARIAT BY TELEX OF JANUARY 5, 1983 THAT DISBURSEMENT OF DOLLARS 50,000 TO IBPGR WAS BEING PROCESSED TOGETHER WITH CONTRIBUTIONS TO OTHER IARCS, ONE OF WHICH SEND US COPY OF LETTER OF ACKNOWLEDGEMENT DATED JANUARY 20. THIS CONTRIBUTION DOES NOT APPEAR AGAINST 1982 NOR 1983. DDD THIS WOULD ADD APPROXIMATELY DOLLARS 203,000 EITHER TO IBPGR 1982 UNEXPENDED BALANCE OR TO FUNDING OF 1983, PROVIDING FUNDS IN EXCESS OF WHAT IS NEEDED TO FUND GROSS TOP OF BRACKET BY DOLLARS 382,000. THESE SHOULD THEREFORE BE SHOWN AS ESTIMATED BALANCE TO BE CARRIED FORWARD IN 1984, THUS REDUCING THAT YEAR'S

END OF TEXT

NOT TO BE TRANSMITTED

CLASS OF SERVICE: TELEX

TELEX NO.: 843-610181/610127 FAO I

DATE: 3/31/83

SUBJECT: File G12

DRAFTED BY: JPJacqmotte:evl

CLEARANCES AND COPY DISTRIBUTION:

AUTHORIZED BY (Name and Signature): Jean-Pierre Jacqmotte

DEPARTMENT: CGIAR Secretariat

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PAGE 2 OF 2

EXTENSION 75348

MESSAGE NUMBER

TEST NUMBER (FOR CASHIER'S USE ONLY)

START HERE

NET REQUIREMENTS. PLEASE ADVISE. EEE WOULD APPRECIATE RECEIVING

COPY OF UNEP'S PLEDGE FOR 1983 FOR DOLLARS 130,000 TO IBPGR.

THANKS AND BEST REGARDS, JACQMOTTE

END OF TEXT

NOT TO BE TRANSMITTED

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SUBJECT:

DRAFTED BY:

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FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

ORGANISATION DES NATIONS UNIES POUR L'ALIMENTATION ET L'AGRICULTURE

ORGANIZACION DE LAS NACIONES UNIDAS PARA LA AGRICULTURA Y LA ALIMENTACION

COAG/83/10

Item 10(a) of the Provisional Agenda

COMMITTEE ON AGRICULTURE

Seventh Session

21-30 March 1983, Green Room

PROPOSAL FOR THE ESTABLISHMENT OF AN INTERNATIONAL GENEBANK AND THE PREPARATION OF A DRAFT INTERNATIONAL CONVENTION FOR PLANT GENETIC RESOURCES (CONFERENCE RESOLUTION 6/81)

Table of Contents

W/M 4819

ACRONYMS

AR	Agricultural Research, Science and Education Administration (SEA) of the United States Department of Agriculture (USDA)
CGIAR	Consultative Group on International Agricultural Research
CIAT	Centro Internacional de Agricultura Tropical
CIMMYT	Centro Internacional de Mejoramiento de Maíz y Trigo
CIP	Centro Internacional de la Papa
FAO	Food and Agriculture Organization of the United Nations
IARC	International Agricultural Research Centre
IBP	International Biological Programme of the International Council of Scientific Unions
IBPGR	International Board for Plant Genetic Resources
ICARDA	International Center for Agricultural Research in the Dry Areas
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
IPPC	International Plant Protection Convention
IRRI	International Rice Research Institute
IUCN	International Union for the Conservation of Nature
NSSL	National Seed Storage Laboratory
TAC	Technical Advisory Committee of the CGIAR
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO/MAB	United Nations Educational, Scientific and Cultural Organization - Man and the Biosphere
UPOV	International Union for the Protection of New Varieties of Plants
WARDA	West African Rice Development Association

I. INTRODUCTION

1. This report sets out the findings of two detailed technical Studies made in response to a Resolution adopted by the Conference of the Food and Agriculture Organization at its Twenty-first Session, Rome, 7-26 November 1981.

RESOLUTION 6/81

Requests the Director-General to examine and prepare the elements of a draft international convention, including legal provisions designed to ensure that global plant genetic resources of agricultural interest will be conserved and used for the benefit of all human beings, of this and future generations, without restriotive practices that limit their availability or exchange, whatever the sources of such practices.

Requests the Director-General to prepare a study on the establishment of an international bank of plant genetic resources of agricultural interest under the auspices of FAO, taking into account the provisions of the proposed international convention as well as on-going national, regional and international efforts in this field, in particular those of the IBPGR.

Requests the Director-General to present proposals based on the Studies mentioned to the Committee on Agriculture at its Seventh Session in 1983, which shall report thereon to the Council with a view to consideration by the Twenty-second Session of the FAO Conference.

The sources from which information was sought by the Secretariat are given in Appendix 1.

II. ISSUES RELEVANT TO AN INTERNATIONAL CONVENTION ON PLANT GENETIC RESOURCES

(i) Background

2. The Twenty-first FAO Conference was unanimous in reaffirming that plant genetic resources are an indispensable store of genetic diversity, which is essential for crop improvement and that incisive action is required to maintain and conserve them. Irreplaceable genetic diversity is in danger of being lost owing to the spread of modern agrotechnology, urbanization and changes in land use.

3. Plant genetic resources are seen as a heritage of mankind that should not be the subject of national claims nor used for political motives. They should be fully and freely available to be used for the improvement of cultivated plants and thereby contribute to the security of the world food supplies and the welfare of the rural populations.

4. FAO's interest in the genetic variation of major crop plants dates back at least twenty years. The First FAO Technical Conference on Plant Exploration and Introduction was held in 1961 and FAO's Panel on Plant Exploration and Introduction met in 1966, 1967, 1969, 1970, 1973 and 1974. Its reports named crops for exploration missions and urged that the survey of threatened plant resources that had been proposed at an FAO/IBP Technical Conference in 1967 be carried out.

5. FAO established in 1968 a "Crop Ecology and Genetic Resources Unit" in the Plant Production and Protection Division (AGP). It contributed to a number of national initiatives aiming at the collection of the genetic variability of major crop species - particularly cereals - and to the establishment of genebanks for their long-term conservation.

6. At the United Nations Conference on the Human Environment held in Stockholm in 1972, with both FAO and IBP strongly involved, recommendations were carried urging governments and UN agencies to save and preserve irreplaceable genetic resources for present and future generations.

7. As a consequence and initiated by FAO, the Consultative Group on International Agricultural Research (CGIAR), which is co-sponsored by FAO together with the UNDP and the World Bank, established in 1974 the International Board for Plant Genetic Resources (IBPGR). Its terms of reference are given in Appendix 2. As agreed by the Seventeenth FAO Conference the IBPGR has its Headquarters in FAO and FAO provides the core of the IBPGR Secretariat through the now "Crop Genetic Resources Centre" in AGP Division. The CGIAR resources provided for 1982-83 to the IBPGR are US$ 7 900 000. The resources provided under FAO's Regular Programme to the Crop Genetic Resources Centre in 1982/83 are US$ 714 000. FAO is represented ex officio in the IBPGR and its Executive Committee by the Director, AGP. In practice, FAO and IBPGR pursue a joint programme on Plant Genetic Resources. This programme is being regularly reviewed in FAO's Regular Programme Review, and has been the subject of an in-depth review by the Twentieth FAO Conference. The IBPGR reports annually to the CGIAR in which FAO is represented as Co-sponsor. An in-depth Quinquennial Review of the IBPGR initiated by the Technical Advisory Committee (TAC) of the CGIAR in 1979 commented very favourably on benefits the IBPGR derives from its close association with FAO. The IBPGR promotes all important aspects of genetic resources activities mainly oriented to agricultural crops and aims at establishing international coordination of plant genetic resources centres (Appendix 3) leading to a global network (Appendix 4). With the establishment of the IBPGR, the FAO Panel of Experts on Plant Exploration and Introduction has been discontinued. But in the field of Forestry the FAO Panel of Experts on Forest Gene Resources, established in 1968, continues to be the major focus of international collaboration.

8. Having in mind this historical development described above, elements of a draft convention on plant genetic resources have been set out in Appendix 6 as a proposal. The following paragraphs comment more in detail on these various elements.

(ii) Categories of Plant Genetic Resources

(a) Domesticated plants

9. These are the wide range of plants cultivated by man to meet his essential needs in terms of food, feed, fibers, fuel, medicinal plants, raw material for industrial purposes and shelter.

10. Domesticated plants can be broadly divided by their stages of evolution into:

(i) primitive cultivars or land races, that have evolved under primitive agriculture during millenia of cultivation;

(ii) obsolete cultivars, which are no longer under cultivation, and have been replaced by advanced varieties as referred to under (iii);

(iii) advanced varieties (cultivars) in current use, which are the products of practical and scientific plant breeding during the last decades;

(iv) material used in on-going breeding programmes, such as parentlines, advanced breeding lines, mutants, inbred lines, etc.

(b) Wild species

11. There are two categories of wild species of interest in the context of this study. They are:

(i) wild species that are either the progenitors of cultivars or in an unimproved stage already of direct economic value, the latter group includes forest trees, pasture and range plants, some fruits and species that provide raw materials for the chemical industry;

(ii) wild species of potential value to man: this is a wide category of plants that is difficult to define. It includes relatives of domesticated plants, species worthy of attention as parents for wide crosses and those of potential value which still have to be assessed for domestication and breeding.

(iii) The Need for Comprehensive Plant Genetic Resources

12. The history of plant breeding shows that material from all categories of plant genetic resources is used for crop improvement; the use of a particular category of resources depends upon the crop and the problem.

13. In considering the necessity for genetic diversity to be available, it is immaterial whether a crop plant is seed grown or vegetatively propagated in cultivation. Once an improvement programme has been initiated, the whole range of the genetic diversity of the crop plant and its wild relatives should be available to be used by the breeder and other scientists.

14. By studying the widest obtainable range of diversity of a crop plant and its wild relatives, the experimental plant scientist can determine the cytogenetical make-up of the material, potentialities for hybridization and a possible insight into evolutionary histories. This knowledge is used by the plant breeder, an applied scientist, in planning a programme of crop improvement. How much of the total quantity of available genetic diversity he actually makes use of will depend upon the particular crop plant, the breeding objectives, crossability between species, and information regarding the characteristics of the plant material maintained in collections.

15. That the plant breeder's use of plant genetic resources is limited by circumstances in no way conflicts with the view that all categories of plant genetic resources should be fully and freely available to plant scientists. The species that cannot be used today might well be an invaluable asset tomorrow. The corollary is that at least in theory no category of plant genetic resources should be excluded in an international agreement aiming at the free exchange of germplasm.

16. Therefore, the nature of the germplasm (vegetative plant parts or seed) and its whereabouts (genebank, orchard, plantation, evolution garden or nature reserve) should not influence the principle of availability.

17. This principle being definitely accepted, in accordance with the terms of the Conference Resolution referring to the "global plant genetic resources of agricultural interest which should be conserved and used for the benefit of all human beings", the problem is to determine whether an international convention can possibly embrace the whole range of plant genetic resources, whatever the groups of species and their stages of evolution might be.

18. Because of applicability and practicability, it might not be feasible to cover the entire range of plant genetic resources of all crops throughout the world. Therefore, the identification of particular species or groups of species to be covered by an international convention must be considered. Such an identification exercise would, of course, be carried out by all the countries concerned, based upon the priorities attached to those groups of species considered as most important or essential for their agricultural development and the welfare of their peoples. The groups of plant species useful to man can generally be classified as: major food crops, horticultural crops, industrial crops, pasture and forage crops, medicinal plants and forest plants.

19. As previously mentioned, genetic resources of crop species are usually available at different stages of evolution from their wild relatives and land races to the modern cultivars in current use.

20. But it must be noted that the use of primitive cultivars or wild species in crop improvement programmes requires the availability of well qualified plant breeders, with necessary financial support for the development of the breeding programmes, including the use of these primitive cultivars. It is therefore vital that national capabilities in plant breeding are developed, so as to ensure that countries may derive the maximum benefit from the plant genetic resources available from different sources.

(iv) Practices and Procedures for Exchange of Plant Genetic Resources

21. In order to review the present practices and procedures for exchange of plant genetic resources by major depositories and countries in possession of such material, information

has been requested from various sources (Appendix 1). The salient points from replies received illustrate the wide range of procedures that govern exchange from completely free unrestricted despatch to the need for special permission from the government authorities concerned.

The points to note are:

- compliance with plant quarantine regulations is common to all concerned;
- in most instances, samples are only available to genuine users;
- although material may be freely available, usually only a small amount of each sample can be supplied and in some cases the number of samples is restricted;
- in some instances exchange may be conditional on reciprocity or an undertaking to report evaluation results;
- in the case of some crop plants, supply of material may be subject to permission from authorities in the country of origin;
- genebanks or other organizations holding germplasm collections state that propagative material of the crop plant in question is available.

(v) Restrictions on Some Plant Genetic Resources

22. Information on this topic has been collected from a variety of sources, notably by means of a questionnaire to Member Nations through FAO Country Representatives, correspondence with the staff of long-established genebanks and information from the IBPGR (Appendix 1). In both developed and developing countries, restrictions on the availability of certain varieties of crop plants are applied for economic reasons.

23. Lack of access to plant genetic resources could also occur as the result of a qualifying clause in the rules of management of a genebank; for example, that samples will be available only when reciprocity of exchange is allowed between two governments.

24. Several developed countries and some developing countries have plant breeders' rights legislation (Appendix 5). This legislation encourages plant breeding in the public interest since it covers the commercial marketing, in the country granting the rights, of propagative material of the new variety created by the breeder. The legislation, as reflected in Article 5 (3) of the Convention of the International Union for the Protection of New Varieties of Plants (UPOV, 1961), does not place any restriction on the use of the new variety as the initial source of variation for creating other new varieties and marketing them. This does not mean that protected varieties can be used for large-scale production of seeds without the consent of the plant breeders who have produced those varieties. In the same way, the use of parent lines or advanced breeding lines for the production of new hybrid varieties is not allowed without the consent of the plant breeders.

25. In general, parent lines used only for the production of hybrids are not freely available. However, hybrid varieties as such which are not, by themselves, in a ready-to-use stage, are usually available and constitute a source of genetic variability which can usefully be exploited for further improvement of crop varieties.

26. In certain countries, the export of propagative material of a limited number of crop plants, usually cash crops, is forbidden by national laws because of the crop's special significance in the country's economy or to protect national breeding programmes. It has not been possible to get authoritative statements from all governments that are known to prohibit the export of propagative material of particular crop plants.

27. As a matter of fact, it can be said that the free exchange of certain genetic resources may be limited in part by national legislations for certain categories.

28. One of the major reasons limiting the access to plant genetic resources is the lack of available evaluation on the existing collections for which lists of samples are usually available, but without complete data thus rendering the plant material unusable.

29. The data problem requires urgent attention on the part of all germplasm depositories and is in fact receiving special attention from FAO and IBPGR with a view to organizing a coordinated system of information on plant genetic resources for the benefit of the users – mainly plant breeders, but also other specialists in plant sciences such as botany, genetics, evolution of plant species, etc.

30. Almost all countries have quarantine regulations that must be complied with when importing or exporting plant material. Undoubtedly, these regulations delay the exchange of plant genetic resources, particularly as regards vegetatively propagated crops of which cuttings may in some instances be grown in isolation for as long as 18 months or more. Nevertheless, national quarantine regulations are essential precautionary measures to prevent the spread of diseases and pests. They in no way conflict with the principle of full and free exchange of plant genetic resources.

31. Although restrictions that limit the availability of plant genetic resources for scientific purposes must be regarded as undesirable, authenticated instances of plant breeding programmes that are being seriously handicapped by lack of particular germplasm known to be held by any specific individual or institution have not been made known to FAO.

32. Examples could be given of instances where requests for samples of seed and clonal material supposedly freely available have not been answered. The cost element may be one of the various reasons for this, particularly for subtropical and tropical vegetatively propagated crops (e.g. banana, cocoa, citrus, Hevea and sugarcane). Plants must be identified in the field and planting material taken, cleaned, examined by quarantine officials, packed and despatched. The trained personnel necessary to execute this work are often not available in developing countries. It is perhaps, for several reasons other than due to legal restrictions that some countries fail to comply with requests for the exchange of genetic resources material. Therefore, it would seem that, on the whole, breeding programmes are delayed more by failure to receive material that is supposedly available from an institute or genebank than by inability to acquire restricted material.

(vi) Provisions in a Convention to Promote the Full Availability of Plant Genetic Resources

33. A convention promoting the full availability of plant genetic resources, without national restrictions, could in particular apply to resources that are under the direct control of States (namely, those relevant to publicly owned collections of plant genetic resources and to national laws affecting the export of such resources). A convention could also seek to ensure the full availability of plant genetic resources under the control of private persons, including enterprises and institutions (in particular, the owners of private collections of plant genetic resources, and the owners of protected new plant varieties).

34. The two cases would have to be treated separately in the convention since a convention could be directly binding only on the States that are party to them. States could, however, assume the responsibility of adopting national legislation or other measures to implement the principles in the convention. The different approach for the two cases referred to above is reflected in paragraphs 5 and 6 of the elements of a draft convention in Appendix 6 hereto.

35. The questions that will be dealt with below are, first, the extent to which, under the draft convention, States might undertake to remove actual or potential restrictions relating to plant genetic resources over which they have control; and, second, the extent to which States might agree to compel private persons to do the same.

(a) Plant genetic resources under the control of States

36. With respect to plant genetic resources that are found in nature, it should be noted that the right to sovereignty over natural resources has been recognized by Resolution 1803 (XVII) of the UN General Assemby on Permanent Sovereignty over Natural Resources. This right "must be exercised in the interest of their national development and of the well-being of the people of the State concerned" (operative paragraph 1). "The exploration, development and disposition of such resources should be in conformity with the rules and conditions which the peoples and nations freely consider to be necessary or desirable

with regard to the authorization, restriction or prohibition of such activities" (operative paragraph 2). Pertinent principles are also contained in the Charter of Economic Rights and Duties of States (Resolution 3281 (XXIX) of the UN General Assemby), which refers inter alia (Article 13) to the responsibility of all States to "facilitate the access of developing countries to the achievements of modern science and technology".

37. At the same time, reference should be made to the International Covenant on Economic, Social and Cultural Rights, which is binding on the States that are party to it (74 States were parties on 1 September 1982) and can be said to reflect principles of international customary law. Article 11.2 of the Convenant provides that:

> "The States Parties to the present Covenant, recognizing the fundamental right of everyone to be free from hunger, shall take, individually and through international cooperation, the measures ... which are needed:
>
> (a) To improve methods of production ... of food by making full use of technical and scientific knowledge ... in such a way as to achieve the most efficient development and utilization of natural resources ...".

38. Resolution 5/81 of the FAO Conference recognizes that "plant genetic resources are indispensable for the genetic improvement of cultivated plants", and emphasizes the need for "legal provisions to ensure that global plant genetic resources of agricultural interest will be conserved and used for the benefit of all human beings ... without restrictive practices that limit their availability or exchange".

39. It can be concluded from the above that there is a strong international consensus that, without prejudice to the principle of sovereignty over natural resources, plant genetic resources should not be the subject of any restrictions where they are needed in order to make full use of technical and scientific knowledge for the benefit of agriculture, especially food production.

40. On the other hand, the practice by which States make the export or release of plant genetic resources subject to Government authorization would, in itself, not appear necessarily incompatible with the principles outlined above, provided that permission is always granted to bona fide users who are prepared to accept any reasonable conditions that may be stipulated with respect to their use of the plant genetic resources. The question what might be considered bona fide use may vary according to the circumstances. This category would, however, in all cases include the use of the resources for the purposes of scientific and technical research relevant to agriculture. As to the conditions that might be imposed on bona fide users, it would seem reasonable, in many cases, for a State to require an undertaking from the recipient of plant genetic resources that he will take the necessary measures for the conservation and evaluation of the resources and will not make any direct use of them for commercial purposes.

41. The concept of bona fide use may go beyond use merely for research purposes where plant genetic resources are important for the agricultural production of a country that does not have the necessary facilities to create useful new varieties. The emphasis on international cooperation towards freedom from hunger, in Article 11 of the International Covenant referred to, suggests that countries with strong capabilities for plant breeding should, insofar as possible, make small samples of new plant varieties available to less well-equipped countries even for ultimate large-scale distribution of the variety. In this connection, States may feel it legitimate in releasing such material to stipulate that plants cultivated from such material will not be exported to countries in which the owner of the material is commercially exploiting the new plant variety concerned.

42. The elements of a convention set out in paragraph 5 of Appendix 6 seek to reflect both the international consensus and national practices by prohibiting in principle the imposition of any restrictions on the availability of plant genetic resources needed by bona fide users, and at the same time safeguarding the right of States to prevent abuses and to stipulate reasonable conditions governing the export or release of the resources concerned.

(b) Plant genetic resources under the control of private persons

43. Where, as is frequently the case, potentially useful plant genetic resources are under the control of private persons (including companies or similar entities established under private law), a convention could not directly ensure the availability of such resources. The contracting parties could, however, undertake to adopt appropriate national legislation to ensure, insofar as possible, the application of the principles of the convention also to plant genetic resources that are under the control of private persons.

44. In the first place, it would be in keeping with existing legislative trends for a national law to require persons who remove potentially useful plant genetic resources to ensure that a sufficient amount of the resources remains in situ. Legislation of this kind is envisaged in paragraph 6 (i) of Appendix 6.

45. In the second place, in order to ensure the full availability of plant genetic resources, for the benefit of all, a national law might require private persons to provide duplicates of wild and primitive material to the national authorities upon request. The same kind of obligation could apply in the case of resources in collections, with account being taken of the expenses incurred by an enterprise in collecting and maintaining the resources. This kind of measure is envisaged in paragraph 6 (ii) of Appendix 6.

46. Many plant genetic resources that are the subject of restrictions relate to new plant varieties created by private breeders.

47. The existence of plant breeders' legislation in some countries would therefore have to be taken into account in the relevant provisions of the draft convention. However, without prejudicing breeders' rights, within the limits set by the legislation establishing them, it would seem possible for the convention to contain provisions facilitating the disclosure of protected material. Provisions of this kind would appear to be compatible with existing plant breeders' legislation.

48. As has been indicated earlier, the essential objects of the protection of new plant varieties, as reflected in the preamble to the UPOV Convention, are the development of agriculture and the safeguarding of the interests of breeders. The latter interests are safeguarded through the grant to the breeders of certain exclusive rights relating to the commercial use of the variety that they have created. In the context of the first object — the development of agriculture — it could be considered that the retention by breeders of the material that they have created is unnecessary provided that their legitimate interests are safeguarded. Moreover one of the objects of intellectual property legislation is the full availability of information on the protected subject matter; it should be noted that, under the relevant national procedures, a full pedigree of each protected new plant variety is furnished and made available to public inspection.

(vii) Provisions in a Convention to Establish an International Arrangement for the Collection, Conservation and Exchange of Plant Genetic Resources

49. The present informal arrangements for the collection, conservation and exchange of plant genetic resources at the international level will be outlined in Chapter III of this study, complemented by Appendixes 3 and 4 relating to the activities of the IBPGR. However, while these activities have been carried out with the full agreement of FAO, they have not been placed on an international legal basis, guaranteeing that they will be carried on as the responsibility of the international community as a whole. Indeed, there have been cases in which collections of plant genetic resources have been placed in jeopardy for financial reasons. Prompt protective measures in such cases, as well as international machinery for the mobilization of assistance where an institution is in difficulties or for enabling gaps left by the cessation of activities to be filled, therefore, appear most desirable.

50. Accordingly, paragraphs 7 to 10 of Appendix 6 propose that the draft convention could provide the legal framework for a global network of institutions for the collection, conservation and exchange of plant genetic resources. This network might consist wholly or partly of existing institutions or might bring other institutions into a relationship with it. In addition, reliance might be placed on existing mechanisms for cooperation and on the activities of other organizations working in relevant fields.

(a) Institutional nature of the arrangement

51. In order to ensure the effective implementation of the principles in the convention and to stimulate activities of the various institutions taking part in the conservation, evaluation and exchange of plant genetic resources, including the IBPGR, it seems necessary for the activities of the network to be guided by a committee or other body. This body, which could be one that already exists in the framework of FAO, or could be established within that framework, would have the basic functions of identifying the institutions which could be included in the network; of reaching agreement with the governments concerned, or with cooperating regional or international institutions, concerning the responsibilities of each institution, in particular the type of plants to be maintained in its genebank; of reviewing the activities of the network; and of discussing means of assistance where an institution is in difficulties (see paragraph 7 of Appendix 6). The responsibilities of the body could also cover documentation and clearing-house activities for the resources in the network.

(b) Establishment or designation of the Institutions

52. Once the body had identified the country or group of countries for which an institution could be established or designated, as well as the responsibilities of that institution, an appropriate agreement would be concluded between FAO and the country or countries concerned or, where appropriate, consultations could be held with an existing institution (paragraph 8 of Appendix 6).

(c) Implementation of the activities of the institutions

53. The parties to the convention would undertake to provide duplicates of plant genetic resources to be maintained in the network under the arrangement; to manage, or facilitate the management of, institutions on or for their territories; to give early warning of impending difficulties in such management, and to cooperate in the global documentation of plant genetic resources maintained inside and outside the context of the arrangement (paragraph 9 of Appendix 6). The activities of the network would be carried out in line with criteria established at the international level (paragraph 10 of Appendix 6).

54. In this connection, one of the most important tasks would be the evaluation by the institutions of the resources under their control.

(d) Provisions relating to protection against plant pests [1/]

55. As stated above, quarantine regulations must be accepted as essential precautionary measures to prevent the spread of pests caused by the import or export of plant genetic resources. The International Plant Protection Convention (IPPC), 1951, contains provisions which, while taking account of the need to facilitate international trade in plants and plant products, emphasize the responsibility of each importing State to provide for the necessary phytosanitary measures. Accordingly, the draft convention would expressly state that its provisions were without prejudice to those of the IPPC (see paragraph 11 of Appendix 6).

(viii) Final Clauses of the Draft Convention

56. Paragraph 12 of Appendix 6 refers to the kinds of matters that would have to be dealt with in the final clauses that are customarily found in conventions. The content of these clauses will depend upon such questions as whether the envisaged convention would be concluded within the framework of FAO, or for example adopted by a plenipotentiary Conference of interested States.

1/ Pest in this document refers to any living organism which decreases the quantity and/or quality of agricultural produce during the growing cycle and/or after harvest.

57. An important question to be considered in this connection is whether or not participation in the convention should be restricted to Member Nations of FAO. It would in fact seem desirable that it should also be open to other States. A related question that might be dealt with elsewhere in the convention is whether or not its benefits should be restricted to the contracting parties. While the purpose of the convention is to ensure that plant genetic resources "will be conserved and used for the benefit of all human beings" (Resolution 6/81 - emphasis added), the existence of specific advantages to contracting parties might be a decisive element for the adoption of the convention and adherence to it by States.

58. Consideration would also have to be given to the question of the conditions for the entry into force of the convention. It seems realistic for the convention to provide that it would enter into force only after it has been adhered to by a substantial number of States, including some which have major collections of plant genetic resources under their control.

59. A further question is the extent to which, if at all, a contracting party to the convention would be permitted to derogate from the provisions of the convention in particular situations or with respect to particular crops or genetic resources.

60. Another matter that might be studied, if the provisions indicated above were not considered feasible, or if the adoption of a convention did not receive adequate support, would be the possible inclusion of the provisions in an international instrument other than a formal treaty.

III. ISSUES RELEVANT TO THE ESTABLISHMENT OF AN INTERNATIONAL PLANT GENETIC RESOURCES BANK

(i) The Conservation of Plant Genetic Resources

61. The recognition of the importance of plant genetic resources as a basis for plant breeding has led different individual countries and institutions to establish their own germplasm collections and genebanks. From the information available, Appendix 7 shows the 90 countries which, at present, hold collections of plant genetic resources, the crop species they include and the approximate number of their accessions. It should be noted that many of them are working collections held in plant breeding institutions for direct use by plant breeders and that, in some cases, they are very limited in scope. Such national or private collections cannot be classified as genebanks on account of their restricted facilities.

62. The number of samples in the collections and the groups of crops replicated in different genebanks give an indication of the crops which are considered to be most important. It also indicates their variability and the extent of breeding work which has gone into their improvement. Evidently, cereals and food legumes are the crops most frequently included in global collections (Appendixes 4 and 7).

63. At this point, it must be said that the information provided in the Appendixes is not exhaustive but indicative. Other collections do certainly exist which have not been included in the list. As it is recognized that the number of collections of certain crops are correlated with their economic importance, it should also be kept in mind that many of these collections contain large numbers of samples in relation to the variability and movement of these crops.

64. There is apparently no specific cooperation agreement of a general international nature which guarantees the continuation of activities of the existing genebanks. Some banks exchange materials on the basis of scientific interests of a rather personal nature. Some countries have an internal organization whereby a large central genebank holds base collections of several crop species and smaller regionally distributed working collections retain selected materials for use and for provision to plant breeders. Some of the largest and best known global genebanks do receive numerous requests for seed samples, mainly because in establishing their own collections they have established contacts with plant breeders and institutions around the world, and also because they publish information on institutions around the world, as well as information on their collections.

65. The development of the International Agricultural Research Centers (IARC's) supported by the CGIAR resulted in a number of important genebanks acquiring accessions, mostly of a global nature, of the crops and related species with which they work, e.g. maize and wheat in CIMMYT, rice in IRRI, sorghum, millets and pulses in ICRISAT, etc. These Centers have undertaken to develop and maintain global collections of the crops included in their mandates. Accessions are also being carefully evaluated, classified and used for plant breeding purposes which in turn are made available and benefit national plant breeding programmes without any restrictions.

66. The first attempts to establish coordination at the international level with regard to plant genetic resources were started by FAO in 1961 and became more effective only after the organization of the IBPGR in 1974 and the resources provided to it by the CGIAR. The overall achievements of this Board are presented in Appendixes 3 and 4 which are based on the Board's reports. The IBPGR network of crop genetic resources centres is founded mainly on a Letter of Agreement signed by the authorities of the designated institutes (sample of form included in Appendix 4). On this basis it can be seen that 37 institutions in 28 countries could be considered as members of the network. The designated institutions hold base collections of 33 crops.

67. For the purposes of collection and conservation, 50 crops have been given by the IBPGR top priority in the 14 regions into which countries are grouped. Crops are given priority following the advice of international committees, working groups and other specialists, if they are important sources of food or industrial raw material; their range of variation in the field is threatened by changes in agriculture or natural disasters, e.g. drought, or their varieties and primitive forms have not been adequately collected.

(ii) The Need for the Establishment of an International Genebank

68. Although a genebank under the auspices of FAO may give added security to the collections it contains, the conservation of plant genetic resources must be viewed from a much broader aspect. It is not feasible for every country in the world to have a plant genetic resources programme. In many countries, the budgetary and manpower commitments that such a programme would entail could not be allowed to prejudice more urgent development programmes. International collaboration for the collection, conservation, multiplication, evaluation, documentation and use of plant genetic resources is, therefore, imperative.

69. A special significance of an internationally supported genebank, as compared with some existing genebanks, would not necessarily be such attributes as better management and equipment or greater safety, but the fact that the genebank would be established within a constitutional framework and become an activity within an existing intergovernmental organization. The implicit assumption in the concept of an international genebank under the auspices of FAO is that the Organization, by virtue of its status, would be able to overcome difficulties between Member Nations in obtaining plant genetic resources.

70. Considering the information available with regard to existing genebanks and relating it to the FAO Conference Resolution 6/81, it would appear that some kind of convention would be necessary to ensure the continued maintenance of genebanks and all other conditions that may guarantee the availability of materials for the users, especially plant breeders. On the other hand, the question of establishing an international genebank leads to a wide range of different alternatives which are discussed in the following pages.

(iii) Content of an International Genebank

71. The discussions held at the Twenty-first Session of the FAO Conference (1981) indicate a general agreement between Member Nations that the most important plant genetic resources are those related to food crops. Based on statistical information from the countries and trade, the major food crops could be considered as:

CEREALS:	barley, maize, millets, oats, rice, rye, sorghum and wheat
FOOD LEGUMES:	chickpea, cowpea, faba bean, lentil, pea, Phaseolus bean, pigeon pea, soyabean

VEGETABLES:	brassicas, cucurbits, eggplants, garlic, okra, onion, pepper and tomato
OIL SEEDS:	brassicas, cotton, flax, groundnut, sesame and sunflower
ROOT AND TUBER CROPS:	cassava, potatoes, sweet potatoes, taro, yams and cocoyams
PERENNIAL CROPS:	oil palm, coconuts, sugarcane, bananas and plantains, other palms
FORAGE CROPS:	this group of plants includes a wide range of species where the family of the Gramineae is dominant, followed by forage legumes and few species of other families.

72. The number of accessions that an international genebank would need to hold in order to satisfy the needs of developing countries for a world depository of plant genetic resources is estimated in Section (vi) below by comparison with some of the large existing base collections.

(iv) Links with Existing Genebanks

73. If a new international genebank were to be established, it would need to be linked to some of the genebanks already in existence. In order to provide a comprehensive cover of the genetic resources of the required crops (Section II (iii)), it would need to physically duplicate the collections held by some of the existing genebanks. It would probably, therefore, become a major member within a global network (Section III (i) and Appendixes 3 and 4).

(v) General Features of Genebanks and Management Problems

74. In order to discuss the kind of genebank which could be established under the auspices of FAO, it is necessary to describe some general features of a genebank which are relevant to its functioning, cost, efficiency and use.

(a) Seed conservation

75. It is a common misconception that a genebank can cater for all categories of plants that should be conserved as genetic resources. In reality, only seeds can be stored for long periods. This limits the use of the genebank to the conservation of plants that seed freely. Apart from forage grasses, most of these are annuals such as the small grain crops and food and forage legumes. A few perennials produce seed that can be stored but the majority of those that are vegetatively propagated in cultivation must be conserved as living plants in orchards and plantations.

76. The possibilities offered for these plant species by new techniques for conserving vegetative material, e.g. tissue culture and low temperature storage, are discussed in Section (c) below.

77. The UN Conference on the Human Environment (Stockholm, 1972) recommended the establishment of "both static ways (seed banks, culture collections, etc.) and dynamic ways (conservation of populations in natural environments)" of preserving genetic resources and, in particular, the maintenance of "gene pools of wild plant species within their natural communities".

78. So far, however, there have been few practical proposals for achieving the protection in situ of the wild relatives of crop plants. Indeed, probably the greatest problem with this type of conservation and that of the wild species of actual and potential agricultural interest is one of coverage. Plant breeders need to be able to draw upon as wide a range of variation as possible within a cultivar and its wild relatives. The wide geographical range of most wild relatives of crop plants suggests that one or two reserves would not meet requirements. The centres of diversity of major food crops and the distribution of their wild relatives are listed in Appendix 8.

79. It must be assumed, therefore, that the creation of one centralized genebank could probably be conceived only for the conservation of plants which seed freely and only if the seeds are not recalcitrant. The genebank could either:

(a) hold only base collections for safety purposes with very limited possibilities for providing samples to users, or

(b) include both base and active collections to fully satisfy the most urgent needs of Member Nations.

1. Base collections

80. These collections consist of seed stocks held for security and carefully conserved at temperatures of approximately 20°C below zero in airtight containers that are only opened when tests of viability are necessary (every ten years or so on average). Base collections are not intended to meet the day-to-day needs of plant breeders and other plant scientists.

2. Active collections

81. The collections from which samples are drawn for breeding or other purposes are called active collections. They contain duplicates of the accessions held in the base collections and are usually held in stores at about 0°C, with humidity controlled by a dehumidifier or by storing the dried seeds in airtight containers.

82. Centres holding active collections must have adequate facilities or have made arrangements for the multiplication of accessions when necessary. These centres distribute samples and work in association with a quarantine service for inward and outward clearance of material.

83. The assumption that an international genebank would supply plant genetic resources on request implies that both active and base collections would be held. This is a requirement that raises costs considerably beyond those that would need to be met for a base collection only.

(b) Seed rejuvenation

84. It is becoming evident, as experience is gained in handling the large collections that are being assembled at some of the existing genebanks, that rejuvenation and multiplication of seed samples are expensive operations which raise many problems. In fact, it is not unlikely that when the time comes for many of the new genebanks to undertake rejuvenation of accessions on a large scale, this rejuvenation will be neglected unless financial help is received from outside sources. Although rejuvenation of seed samples in a genebank may be unnecessary during the first few years of operation, eventually it has to be undertaken.

85. The rejuvenation of accessions in a base collection is less frequent than in an active one because of the different purposes for which the collections are intended. The current view is that when samples are dried to approximately 5 percent moisture content and held at approximately 20°C below zero as in a base collection, rejuvenation of the majority of accessions will not be necessary for several decades; in other words, the problem will be met by a later generation of plant scientists than the present one. Be that as it may, when rejuvenation has to be tackled, it will obviously be a major task.

86. The number of accessions that have to be grown annually for rejuvenation may be estimated by simply dividing the total number of accessions by the number of years through which total rejuvenation has to be completed. Example: 500 000 accessions in 10 years equals 50 000 accessions to be grown annually.

87. In an active collection, not only have seeds to be rejuvenated when viability falls below about 30 percent but, in addition, many accessions have to be multiplied to replace depleted stocks.

88. Of course, varieties and species differ in the rates at which their seeds lose viability, so that these differences would give a corresponding variance in the number of accessions to be rejuvenated each year. Even so, this would not alter the fact that, after five or six years, the number of samples to be rejuvenated and multiplied annually in any large genebank would be in the thousands.

89. At a rough estimate, slightly less than a half of the accessions in any genebank will be seeds of outbreeding crop plants. These accessions cannot be grown side by side and to keep them isolated in the field to prevent crossing between different accessions, a large financial outlay would have to be made for land, screen cages and personnel for bagging, hand-pollinating, recording, harvesting and other duties.

90. Rejuvenation of large collections of various species and origins at one central location is impossible for all of those species which radically belong in a different environment. Then even if the species as such could be grown in the same place, only the possibility of genetic drift within populations because of altered growing conditions compared to those of the original area would represent a major disadvantage.

91. If either type of genebank were not to directly undertake rejuvenation of its own accessions, the alternative would be to think in terms of long-term contracts with suitable existing institutions for the rejuvenation of seed samples. How many institutions would be required for such collaboration and what area of land should be now available remain open questions since they are linked to so many variable factors. The institutions concerned would need to make a permanent commitment to provide facilities, qualified staff and land. Another alternative would be to ask the original supplier to furnish a replacement sample when a sample becomes non-viable in the international genebank.

92. When rejuvenation and multiplication of samples are contracted out, a number of disadvantageous situations and shortcomings have to be considered:

- in periods of crisis affecting the contracting institution, for example, shortage of field staff or limited irrigation water, the normal research programme would be given priority putting aside the contracted activities;

- the fact that these important field operations for a genebank are not under the control of the permanent staff means less confidence in the purity of the samples being rejuvenated;

- also the lack of contact with field operations does not permit the genebank staff to carry out characterization and evaluation studies on the plants grown for rejuvenation.

93. With the organization suggested above, i.e. with the genebank in one country and some of the field activities in other countries, there will be a considerable flow of seed samples in both directions between countries participating in the rejuvenation and multiplication programme and in response to requests for material. How much this will be constricted by quarantine procedures is a matter for conjecture. The additional costs of packaging, transport, extra quarantine staff, etc., which would be incurred would also need to be considered.

(c) Maintenance of vegetatively propagated crop plants

94. These plants have to be conserved in living collections for a number of reasons. Some do not set seed, while other are shy seeders. The seeders of some of those that seed freely are not viable for very long. Yet again, the intrinsic merit of a particular plant (clone) may justify its conservation as a living plant.

95. This group includes almost all the root and tuber crops mentioned above (para. 71) as basic foods, and also the herbaceous and woody perennials, e.g.: banana, breadfruits, cocoa, cassava, citrus, coconut, date palm, Hevea, fig, olive, pineapple, pomegranate, sugarcane and temperate fruit trees, such as apple, pear and plum.

96. Undertaking the establishment and maintenance of living collections of clonally propagated crops, implies a formidable series of problems which would have to be solved.

It is evident that for such an extensive range of crops, many different sites would be required to meet the corresponding range of physiological and agronomic requirements.

97. Replication of the collections would also be necessary as an insurance against natural hazards - earthquake, fire, flood, storm, depredation by animals and pests.

98. The following questions would need to be resolved:

(a) the number of sites required per crop and the number of countries where each crop should be replicated;

(b) the number of accessions and replications per crop;

(c) the extent of each site, bearing in mind that 3 000 accessions of coconuts at Bogor, Indonesia, occupy 300 ha and that the large collection of citrus in Corsica consisting of 19 500 trees representing 3 400 varieties or clones occupies 60 ha;

(d) the number of suitable qualified staff required to maintain the collections in perpetuity, given that there is less experience available on the preservation and handling of these materials and the training which would be involved.

99. It should also be noted that the management of the collections would have to be at a high level of efficiency to ensure careful maintenance, pest control, precise labelling and good records. Furthermore, the effect of quarantine regulations should also be considered as they are applied very strictly in most countries to control the exchange of living material of these important clonal crop plants.

100. All of the above questions related to vegetatively propagated plants are presented, because the size and cost of the several sites required to keep actively living plants cannot be determined before it is decided which crops should be included.

101. Recent information on tissue culture indicates that the callus tissue used to reproduce clonally propagated plants may be kept alive by freezing at a very low temperature (-196°C, with liquid N) from which it is brought back to growing temperatures, so that new plants with the clonal genetic information can be produced. Should clonally propagated plants be included in an international genebank, it would be necessary to add installations for tissue culture and deep freezing techniques and to carry out some applied research for at least each of the different crop species which need to be conserved by these methods.

102. The questions are then open and, even more than in the case of seeds, lead to the belief that a network of collections kept within the plant's area of adaptation might be the most practical solution. Of course, the collection-keeping institutions would have to agree to the rules and intents of an international convention.

(d) Safety of genebanks

1. Phytosanitary measures

103. To safeguard against the introduction to the genebank of pests requires the establishment and application of stringent quarantine rules for all accessions. As a minimum, a seed pathology laboratory might be required at the genebank to ensure that accessions to be deposited were not carrying pathogenes. Materials in storage also require periodic checking against insect and even rodent infestations.

2. Safety against catastrophes

104. If base collections have to be protected against natural or manmade catastrophes, their safety is increased by duplicating them elsewhere. The same is true if a network were to be established. Such measures would evidently entail a duplication of costs for a centralized bank, but not for a network.

(vi) Estimates of the Size and Cost of an International Genebank

105. Unfortunately, there is no objective way in which to estimate the number of seed accessions of a crop plant and its wild relatives that are necessary to give comprehensive samples of their genetic diversity.

106. Some of the largest existing collections are the following:

		ACCESSIONS (nearest '000)
USSR	Wheat and wild relatives	70 000
USSR	Barley, oats and rye	30 000
IRRI	Rice	63 000
ICRISAT	Sorghum	20 000
ICRISAT	Millets	15 000
CIMMYT	Maize	15 000
USSR	Food legumes	26 000
USSR	Vegetables	35 000
USSR	Oil seeds	20 000
	TOTAL	294 000

107. Although most existing collections undoubtedly contain numerous duplicate samples not yet identified as such, for any one crop the different samples by no means represent total genetic variability. On balance, allowance should, therefore, be made for future expansion of the genebank.

108. So far as can be judged from available information, the USA and Europe hold 340 000 and 750 000 accessions of seed crops, respectively, and the People's Republic of China has over 300 000 samples of seed crops - 1 390 000 accessions in all. Assuming at least 60 percent of them are duplicates, the reduced total is still 556 000. Therefore, a genebank with 500 000 accessions in a base collection and 100 000 in an active collection is possibly the minimum size on which estimates for an international genebank to operate on a world-wide scale could be based.

109. In Appendix 9, estimates are given for the cost of establishing each of six differently sized genebanks. All the estimates were calculated in the same way, but full details are only given for two of them - a genebank with a base collection only (500 000 accessions) and one with base and active collections (500 000 and 100 000 accessions, respectively).

110. The figures are no more than indicative of levels of costs, because the decision was taken to use 1982 prices for estimates of both capital and recurrent expenditures, the latter to be those when the genebank is fully operational.

111. In reality, of course, the building would be costed at prices ruling in the year of requests for tenders, whereas the cold stores, equipment and staff be acquired progressively at the ruling prices of the day. With accessions entered into a genebank at the rate of 100 000 per year, between two and three years would elapse before the smallest one was fully operational and ten years for the largest.

112. The following is a summary of the estimated costs:

No. of Accessions in Genebank		Estimated Costs in US $		Number of Staff
Base Collection	Active Collection	Capital	Recurrent per year	
250 000	-	2 056 000	726 000	11
500 000	-	2 836 000	922 000	12
1 000 000	-	4 728 000	1 422 000	17
250 000	50 000	2 439 000	1 126 000	17
500 000	100 000	3 602 000	1 453 000	20
1 000 000	200 000	5 920 000	2 478 000	32

113. The figures show that the cost of establishing and running a genebank is high. This fact draws attention to the economic and practical advantages of a system based on the development of a global network of genebanks for which costs are met for the most part by host countries.

114. It must also be remembered that the commitment to an international genebank would need to be a continuous one - in effect, perpetual.

(vii) Outline of Rules Governing the Movement of Germplasm in an International Genebank

(a) Accessions

115. (1) Initially the genebank would need to be established by incorporating duplicate collections from already existing ones;

(2) Accessions should be limited to the crops, especially food crops, and their wild relatives which are considered to be the responsibility of the genebank;

(3) Accessions should be actively sought to increase the coverage of crops and regions according to careful priority studies (Appendix 3 (i));

(4) Collections and accessions coming from other genebanks should be accompanied by identification and evaluation data suitable for recording and retrieval by computer;

(5) If data referred to under (4) are not available, every accession, if accepted, should be accompanied by the minimum characterization data essential for classification and retrieval;

(6) Any material not yet evaluated should be duplicated and sent to an appropriate site for evaluation as quickly as possible and appropriate funding should be provided for such evaluation whenever necessary;

(7) All accessions should comply with quarantine regulations.

(b) Outgoing material

116. (1) If the genebank is only for the maintenance of base collections and to guarantee the availability of materials:

Seed samples would be sent only to, or through, the designated authorities after documented proof has been provided that national research institutions which need the samples have been unable to obtain the materials from active collections.

2. For any other type of genebank, i.e. those with active collections, satellites to base collections, or even those holding vegetative materials:

   (a) Samples could only be sent to research institutions in Universities or government organizations where a minimum guarantee should be given that the material would be used for research purposes and/or the improvement of crops;

   (b) After growing the material, the recipient must undertake to send to the genebank all results of evaluation of the material received;

   (c) Depending on how the genebank may be financed, a minimum fee to cover direct expenses may be charged, or a higher one to cover expenses of conservation, multiplication, classification, etc.;

(viii) The Present and Future Outlook on the Use of Plant Genetic Resources in Plant Breeding Programmes

117. The collection and conservation of plant genetic resources is not a goal by itself. The idea that the collected materials could be used directly to obtain cultivars of any kind is generally wrong. In order to take advantage of the samples collected, it would be necessary to actively reinforce or develop the following activities.

118. In the genebanks and network:

   (a) evaluate and classify existing and new collections;

   (b) establish a system of information and retrieval which could be universally understood for exchange purposes and practical use.

119. In the countries and institutions:

   (a) take advantage of existing plant breeding programmes, both national and international by testing and using the most convenient cultivars for each set of conditions;

   (b) identify gaps related to plant breeding programmes, particularly those which may improve production of food crops and cover them. This is applicable to different plant species, different environments and different parts of existing programmes;

   (c) an intergovernmental institution that could coordinate the global information on plant genetic resources and identify the gaps of plant breeding, according to the needs and wishes of developing countries would be a useful asset in relation to both the international convention and the genebank network on plant genetic resources.

APPENDIX 1

SOURCES FROM WHICH INFORMATION WAS REQUESTED

(i) Governments of Member States of FAO

through: FAO Permanent Representatives
FAO Country Representatives
UNDP Representatives
Directors of National Research Organizations
Directors of National Genetic Resources Institutes
National Universities (Colleges of Agronomy)
National Divisions of Plant Industry

(ii) Governments of Non-Member States

through: National Genetic Resources Coordinator (Union of Soviet Socialist Republics)
National Genetic Resources Coordinator (German Democratic Republic)

(iii) UN Specialized Agencies

Food and Agriculture Organization of the United Nations
United Nations Educational, Scientific and Cultural Organization

(iv) Intergovernmental Organizations

EC Programme on Genetic Resources and Resistance Breeding, Brussels
International Seed Testing Association (ISTA)
International Union for the Protection of New Varieties of Plants (UPOV)
Nordic Gene Bank (NGB)

(v) Non-Governmental Organizations

International Coalition for Development Action (ICDA)
International Union for the Conservation of Nature and Natural Resources (IUCN)

(vi) International Board for Plant Genetic Resources

(vii) International Agricultural Research Centres

CIAT
CIMMYT
CIP
ICARDA
ICRISAT
IITA
IRRI
WARDA

(viii) Private Concerns

Danish Potato Breeding Foundation
C.S.R. Limited, Australia
Sugar Industry Research Institute, Jamaica
The Fiji Sugar Corporation Ltd.
Victorias Milling Company, Inc., Philippines
West Indies Central Sugarcane Breeding Station
Tea Research Foundation of Central Africa, Malawi
Tea Research Foundation of Kenya
Weibullsholm Plant Breeding Institute, Sweden
Rubber Research Institute, Kuala Lumpur, Malaysia.

APPENDIX 2

TERMS OF REFERENCE OF THE IBPGR

Status

The Board is an autonomous scientific, international, philanthropic, non profit-making organization under the aegis of the CGIAR.

Terms of Reference

The Board will have responsibility, under the authority of the CGIAR, for recommending policies and developing programmes in close collaboration with and with the help and advice of FAO to meet the following objectives:

(i) To plan, initiate and coordinate wherever possible a world-wide programme through the promotion of genetic resources concepts at government and scientific level;

(ii) To identify general and specific needs for exploration, collection, conservation and evaluation of plant genetic resources with particular reference to species of major economic importance and their wild and cultivated relatives, to determine priorities among them, and to ensure to the fullest possible extent that the materials conserved are made available for plant breeding and other scientific activities as required;

(iii) To see the collection of genetic resources is carried out according to the established priority needs;

(iv) To arrange for the replicated maintenance of both seed and vegetative collections and the duplication of materials between collections;

(v) To implement appropriate data storage and retrieval systems;

(vi) To arrange for the characterization of collections, and to incorporate relevant data in data storage and retrieval systems; to promote fuller evaluation by breeders; and to see that relevant data are exchanged along with materials;

(vii) To promote training at all levels;

(viii) To promote technical meetings to further the foregoing objectives and to issue technical publications relating to standards, methods and procedures and other matters;

(ix) To support research activities into problems the solving of which are essential to the operation of the Board's activities.

Membership of the Board

The Board consists of 15 members, of whom not less than four are to be nationals of developing countries, and not less than six are to be scientists. Thirteen members of the Board are elected by the CGIAR, on the recommendation of the IBPGR. FAO and UNEP each appoint one *ex officio*, non-voting member of the Board. The Executive Secretary also acts as *ex officio* member. Elected members serve in their personal capacities irrespective of their professional or official affiliation. The Board shall have the power to co-opt additional members if the need should arise.

Executive and other Committees

The Executive Committee comprises the Chairman and Vice Chairman of the Board and at least three other elected Board members. The member of the Board designated by FAO shall participate in all the deliberations of the Executive Committee. At least two of the members of the Executive Committee will be from developing countries.

Executive Secretariat of the Board

FAO provides the Executive Secretariat for the Board.

Other Relationships with FAO

The priorities recommended by the Board will be observed to the maximum practicable extent in formulating the programmes of the Crop Genetic Resources Centre of FAO.

Financial Support

The central fund, established by a Letter of Agreement between certain donor members of the CGIAR and FAO, will be administered by FAO as a Trust Fund.

APPENDIX 3

INTERNATIONAL COORDINATION OF PLANT GENETIC RESOURCES CENTRES BY THE IBPGR

The only organization that is actively engaged in the international coordination of crop genetic resources centres is the International Board for Plant Genetic Resources (IBPGR) established in 1974 by the Consultative Group on International Agricultural Research. The Executive Secretariat of the Board is within FAO under the title "Crop Genetic Resources Centre".

The basic function of the IBPGR is the organization and promotion of an international network of centres to further the collection, conservation, documentation, evaluation and use of plant germplasm.

Activities of the Board to date that are pertinent in the context of this Study may be summarized as follows:

The definition of priorities for conservation among crops and regions

This has been done by means of expert advice from Advisory Committees, Working Groups and appropriate specialists. Currently, 50 crops are given top priority in the fourteen regions into which countries are grouped.

Collecting

The Board has sought to identify the existing major collection, to determine the nature and quality of the accessions held in them and to determine whether or not the collections are comprehensive. As an outcome of these surveys, the Board has organized and supported collecting missions in the Mediterranean and Southwest Asia (particularly for cereals and pulses), in the Sahelian zone of Africa (particularly for sorghum, millets and vegetables), in Western Africa (for rice, root and tuber crops and legumes), in Eastern Africa (cereals, legumes, roots and vegetables), in the Andean highlands (quinoa, maize, lupin and indigenous tuberous crops), other parts of Latin America (cotton, maize and groundnut) and in the countries of Southeast Asia (fruits, root crops and legumes), in South Asia (cereals, legumes, vegetables and oil seed crops) and in the Far East (maize). Prior to these missions, arrangements were made for the conservation of the collected material.

Conservation

To date, the Board has reached agreement with 38 genetic resources centres throughout the world to hold base collections of seeds of 33 crops, including the major cereals and legumes (Appendix 4). Arrangements for regeneration, evaluation, multiplication and distribution of accessions are made simultaneously with the designation of a centre.

A very important feature of the Board's strategy in arranging for base collections under long-term storage (seeds dried to ca. 5-7% humidity; held at ca. -20°C) is that every endeavour is made to ensure that at least one replica is in safe-keeping elsewhere.

When the global network is complete, it will cover about one hundred centres, of which a third will hold base collections and the remainder active collections. The latter are collections maintained for medium-term storage (ca. 0°C) and from which samples are drawn for regeneration, multiplication, distribution, evaluation and documentation.

Buildings and land for a base collection are provided by the institution at which the collection is held. If requested, and subject to certain conditions being met, the Board gives a grant towards the purchase of refrigeration and laboratory equipment. Eighteen institutions have been supported in this way. Many countries, however, are still without cold stores for national collections.

In 1981 the Board started to deal with vegetatively propagated material. Clonal repositories have been designated for collections of banana, coconut, and pomegranate. Collections of cassava, sweet potato, citrus and sugarcane are held by institutions included in the global network of centres.

Characterization and preliminary evaluation

In order to have information about the accessions in a collection recorded in a standard manner, the Board has sponsored the preparation and publication of descriptor lists for 30 crops. (A descriptor describes one item of information that may have alternative states.)

Documentation

Data in a large collection must be handled by computer owing to the many characteristics (descriptor states) that must be recorded for each sample. Those centres with large collections that need assistance for data management may obtain it on request from consultants appointed by the Board.

Utilization

Because a plant genetic resources collection is only of value if it is used, the Board supports various activities that encourage the exchange of information and the use of accessions. A notable one is the preparation and publication of crop directories that give details of the major germplasm collections with characterization and evaluation data. A main use is as a source of reference for plant breeders.

Training

From the start, support for training has been an essential component of the Board's programme owing to the dearth of qualified personnel in many countries.

In the last five years eighty trainees have attended the one-year post-graduate course on Conservation and Utilization of Plant Genetic Resources at Birmingham University, England.

With the support of the Board, short technical courses have been arranged at a number of centres on such subjects as exploration techniques, seed technology for genebanks and wheat and its wild relatives.

In brief, the IBPGR is carrying out a world-wide programme that embraces all aspects of plant genetic resources, not least of which is the coordination of activities on an international scale.

APPENDIX 4

THE GLOBAL NETWORK OF CROP GENETIC RESOURCES CENTRES DESIGNATED BY THE IBPGR

The network of Crop Genetic Resources Centres that is being established by the IBPGR consists of institutes designated to hold global or regional base collections (*).

The commitments that are accepted by an institute at which a base collection is stored are the following:

(i) that the collection will continue to receive adequate operating funds and personnel and that if, at some future time, this is not possible, FAO/IBPGR will be alerted promptly;

(ii) that if the material stored is not available from an active collection, it will be made freely available from the base collection to any professionally qualified institution or individual seriously interested in using it;

(iii) that material will be accepted for storage on a global basis;

(iv) that appropriate arrangements will be made (if necessary with suitable institutes) for regeneration of the material; and

(v) that arrangements will be made to duplicate the material for safety (preferably in another IBPGR designated genebank).

Currently, the network consists of 37 institutes in 28 countries.

(*) Base collection: for long-term seed storage, usually at -10 to -20°C.

THE GLOBAL NETWORK - CEREALS

Base collection centres	Rice	Wheat	Maize	Barley	Sorghum	*Pennisetum*	Minor millets	Oats	Rye
OPERATIONAL									
PGR Ottawa Canada				Global Collection		Global Collection		Global Collection	
PGRC Addis Ababa Ethiopia				African[1/] Collection			Global[1/] Collection *Eragrostis* and *Eleusine*		
ZICUK Gatersleben German Democratic Republic				European[1/] Collection					
NBPGR New Delhi India							Global Collection minor Indian millets		
ICRISAT Hyderabad India					Global Collection	Global Collection	Global Collection *Eleusine* *Setaria, Panicum*		
CNR Bari Italy		Global Collection							
Barley Germplasm Centre Okayama University Japan				Asian[2/] Collection					
NIAS Tsukuba Japan	Global Collection *O. japonica*	Global Collection wild spp.	Asian Collection	Asian Collection					
Plant Germplasm Institute Kyoto University Japan		Global Collection wild spp.							
IITA Ibadan Nigeria	African Collection								
IRRI Los Baños Philippines	Global Collection *O. indica* *O. javanica* wild spp.								
Polish Genebank Radzikov Poland									Global[2/] Collection
Nordic Genebank Lund Sweden				European Collection				Global Collection	Global[2/] Collection
TISTR Bangkok Thailand			Asian[1/] Collection						
ARARI Izmir Turkey									Global[3/] Collection wild spp.

1/ Statement of intent received

2/ To be designated during 1982

3/ Formal acceptance pending

CEREALS Continued.

Base collection centres	Rice	Wheat	Maize	Barley	Sorghum	Pennisetum	Minor millets	Oats	Rye
OPERATIONAL									
NSSL Fort Collins USA	Mediterr. & American Collection (+ duplicate others)	Global Collection	New World Collection		Global Collection	Global Collection			
VIR Leningrad USSR		Global Collection	Central European Collection						
NON-OPERATIONAL									
CAAS Beijing China							Global[2/] Collection *Setaria*		
Portugese Genebank Braga Portugal			Mediterr. Collection						
ICARDA Aleppo Syria				Global[2/] Collection					

1/ Statement of intent received

2/ To be designated during 1982

THE GLOBAL NETWORK - FOOD LEGUMES

Base collection centres	*Phaseolus*	Pigeon pea	Groundnut	Chickpea	*Vigna* spp	*Vicia faba*	Winged bean	Pea	Lupins
OPERATIONAL									
INTA Pergamino Argentina			New World Collection						
University of Gembloux Belgium	Global Collection wild spp.				Global[2] Collection wild spp.				
CIAT Cali Colombia	New World Collection								
FAL Braunschweig Federal Republic of Germany	European Collection								
ZIGUK Gatersleben German Democratic Republic									Global[1] Collection
NBPGR New Delhi India		Global[2] Collection			Global[2] Collection *V. radiata* *V. mungo* *V. umbellata*				
ICRISAT Hyderabad India		Global Collection	Global Collection	Global Collection					
CNR Bari Italy						European[1] Collection		Mediterr[2] and South European Collection	
NIAS Tsukuba Japan					Global[2] Collection *V. angularis*				
IITA Ibadan Nigeria					Global Collection *V. unguiculata*				
IPB Los Baños Philippines							Global Collection		
Polish Genebank Radzikow Poland								Central & East European[2] Collection	
IMIA Madrid Spain	Mediterranean Collection of Food Legumes, with the exception of *Vicia faba* and Pea								
Nordic Genebank Lund Sweden								Global Collection	
TISTR Bangkok Thailand							Global[1] Collection		
NSSL Fort Collins USA	New World Collection				Global[2] Collection *V. unguiculata*				
NON-OPERATIONAL									
ICARDA Aleppo Syria				Global[2] Collection		Global[2] Collection			

1/ Statement of intent received

2/ To be designated during 1982

Base collection centres and clonal repositories	Potato	Cassava	Sweet Potato
CNPMF Cruz das Almas Bahia Brazil		Latin American Collection[1] of *M. esculenta* and wild species from South America (clones & seed)	
CIAT Cali Colombia		Latin American Collection[1] including wild species (clones & seed)	
NIAS Tsukuba Japan			Global Collection (seed)
INIA Mexico		Meso-American Collection[1] of wild species (clones & seed)	
IITA Ibadan Nigeria		African Collection[1] of *M. esculenta* (clones & seed)	Global Collection[1] (clones & seed)
CIP Lima Peru	Global Collection wild and cultivated species		
NSSL Fort Collins USA			Global Collection[2] (seed)

1/ Statement of intent received

2/ To be designated during 1982

Base collection centres	*Allium* spp.	*Amaranthus* spp.	*Capsicum* spp.	Crucifers	*Cucurbita* spp.	Eggplant	Okra	Tomato
NON-OPERATIONAL								
A suitable genebank in the Andes								Global 3/ Collection
CAAS * Beijing China	Asian 2/ Collection			Global 2/ Collection Vegetable crucifers *Raphanus* spp.				
INIA Mexico		New World 1/ Collection						
NIHORT Ibadan Nigeria		African 1/ Collection			African 1/ Collection	African 1/ Collection	African 1/ Collection	

2/ To be designated during 1982

3/ To be designated after 1982

THE GLOBAL NETWORK - VEGETABLES

Base collection centres	*Allium* spp.	*Amaranthus* spp. and *Celosia* in Africa	*Capsicum* spp.	Crucifers	*Cucurbita* spp.	Eggplant	Okra	Tomato
OPERATIONAL								
PGR Ottawa Canada				Global Collection Oilseed and green manure crucifers				
CATIE Turrialba Costa Rica			Global Collection					Global Collection (Temporarily)
PGRC Addis Ababa Ethiopia				Global[1/] Collection *Brassica carinata*				
FAL Braunschweig Federal Republic of Germany				Global Collection *B. napus* *B. carinata* Oilseed and green manure crucifers				
ZIGUK Gatersleben German Democratic Republic								Global[1/] Collection
NBPGR New Delhi India		Asian[2/] Collection	Asian[2/] Collection	Asian[2/] Collection Oilseed crucifers		Global[2/] Collection	Asian[2/] Collection	
NIAS Tsukuba Japan	Asian Collection			East Asian Collection				
Tohoku University Sendai Japan				Global Collection wild spp.				
IVT Wageningen Netherlands	Global[2/] Collection *A. cepa* *A.ampeloprasum* wild spp.		Global Collection	Global Collection *Brassica oleracea*		Global Collection		
IPB Los Baños Philippines								Asian Collection
Universidad Politecnica Madrid Spain				Global Collection wild spp.				
NVRS Wellesbourne UK	Global Collection			Global Collection Vegetable and fodder crucifers *Raphanus* spp.				
NSSL Fort Collins USA	Global[2/] Collection *A. cepa* wild spp.	Global Collection				New World Collection	Global[2/] Collection	Global Collection

1/ Statement of intent received

2/ To be designated during 1982

Base collection centres and clonal repositories	Beet	Cotton	Sugarcane	Tobacco
FAL Braunschweig Federal Republic of Germany	Global Collection			
Greek Genebank Thessaloniki Greece	South European[2/] Collection	Mediterranean[2/] Collection		Mediterranean[2/] Collection
Sugarcane Breeding Institute Coimbatore India			Global Collection[1/]	
NIAS Tsukuba Japan			Global Collection[3/] (seed)	
Nordic Genebank Lund Sweden	European[2/] Collection sugar/ fodder beets wild Spp.			
NVRS Wellesbourne UK	European[2/] Collection garden beets			
NSSL Fort Collins USA			Global Collection[3/] (seed)	
Sugarcane Field Station Canalpoint & USDA Subtropical Horticulture Station Miami, USA			Global Collection[1/] (clonal material)	

1/ Already designated by the International Society of Sugarcane Technologists (ISSCT) in 1971. The Governments of the USA and India entered into a commitment to maintain the clones and make them freely available

2/ Statement of intent received

3/ To be designated in 1982

APPENDIX 5

COUNTRIES WITH PLANT BREEDERS' RIGHTS LEGISLATION

Members of UPOV

Belgium
Denmark
France
Germany (Federal Republic of)
Ireland
Israel
Italy
Netherlands
New Zealand
South Africa
Spain
Sweden
Switzerland
United Kingdom
United States of America

Non-members of UPOV

Argentina
Austria
Chile
Finland
Germany, Democratic Republic
Hungary
Japan
Kenya
Poland
Republic of Korea
Romania
Union of Soviet Socialist Republics
Yugoslavia

APPENDIX 6

ELEMENTS OF A DRAFT INTERNATIONAL CONVENTION
ON PLANT GENETIC RESOURCES

Preamble

1. A preamble would briefly indicate the background to the adoption of the draft convention, stressing the importance of plant genetic resources and the danger of their erosion and loss.

Purpose

2. The purpose of the draft convention would be to promote the full and free availability of plant genetic resources for the benefit of all human beings and to establish an international arrangement for cooperation in the collection, conservation and exchange of such resources.

Scope

3. The draft convention would cover all plant genetic resources of agricultural interest. The term "plant genetic resources" would denote the propagating material of living plants, including seeds, bulbs and buds, cuttings and tissue cultures of the following categories of plants:

(i) cultivated varieties (cultivars) in current use;

(ii) obsolete cultivars;

(iii) primitive cultivars (land races) of old-fashioned agriculture;

(iv) wild and weed species, near relatives of cultivated varieties;

(v) special genetic stocks, such as induced mutants and chromosomal variants experimentally produced or selected by plant scientists or others.

4. The draft convention would have particular reference to plant genetic resources of agricultural interest that are to be used for scientific investigations and plant breeding.

Rights and Obligations Relating to the Full and Free Availability of Plant Genetic Resources of Agricultural Interest

5. The draft convention would affirm the right of everyone to benefit from plant genetic resources and would, in particular, provide:

(i) that the contracting parties undertake to make plant genetic resources under their control available to any person requesting them for any of the purposes specified in the draft convention; these purposes would include technical and scientific research and the promotion of agricultural development in countries with insufficient facilities for plant breeding;

(ii) that, if the grant of such request is made subject to conditions, such conditions must be consistent with principles that would be laid down in the draft convention;

(iii) that the reasons for any refusal of a request must be given and must be based on clear provisions of the national law, consistent with the provisions of the draft convention.

6. The contracting parties would also undertake to adopt any necessary legislation:

(i) to prevent the loss of plant genetic resources of agricultural interest, and

(ii) to ensure, insofar as possible and compatible with their other international commitments, that all plant genetic resources, including advanced breeding lines, that are growing or are being maintained on their territories, are made available in line with the principles of the draft convention.

The International Arrangement for the Collection, Conservation and Exchange of Plant Genetic Resources of Agricultural Interest

7. The draft convention would provide the legal framework for a global network of genebanks or other institutions for the collection, conservation and exchange of plant genetic resources of agricultural interest. The activities of the network would be coordinated by an intergovernmental body within FAO. The intergovernmental body would, inter alia:

(i) identify the institutions that should be included in the network, as well as the responsibilities of each such institution;

(ii) periodically review the activities of the network;

(iii) recommend to FAO measures for assisting contracting parties where the efficiency of an institution is threatened (see paragraph 9 (iii) below).

8. The institutions forming part of the network would be established or designated by agreement between FAO and the country or countries concerned, or by consultation with the institutions themselves, where appropriate.

9. The contracting parties would undertake:

(i) to provide institutions forming part of the network, upon request, with duplicates of plant genetic resources;

(ii) to take responsibility for the management of such an institution or to provide any such institution on their territories with specified facilities;

(iii) where they are responsible for the management of an institution, to give early warning to the Director-General of FAO of any hazards that threaten the efficient maintenance and operation of the institution, especially difficulties regarding staffing and running costs;

(iv) to give sympathetic consideration to supporting any measures designed to assist in overcoming the difficulties of institutions referred to under (iii);

(v) to cooperate in the documentation of plant genetic resources by transmitting to FAO, upon request, national inventories of plant genetic resources, whether under public or private control, in genebanks, in protected areas and in traditional cultivation, or by collaborating with FAO with a view to obtaining the necessary information.

10. The conservation, maintenance and exchange of the plant genetic resources in the institutions forming part of the network would be carried out in line with criteria established at the international level.

Phytosanitary measures

11. The draft convention would be without prejudice to the provisions of the International Plant Protection Convention (IPPC), 1951, and would incorporate essential provisions of that Convention relating to the authority of Governments to take the necessary phytosanitary measures with respect to plant genetic resources imported in to their territories.

Final clauses

12. The final clauses of the draft convention would relate to such matters as: the States that would be eligibe to become parties to the convention; the conditions for entry into force of the convention; ratification, accessions, denunciations, reservations and the duration of the convention; and the way in which it could be amended.

APPENDIX 7

MAJOR COLLECTIONS OF CROP PLANTS [1]

('000 of accessions + = significant collection)

	CEREALS						Food Legumes	ROOT CROPS				Vegetables	FRUITS		Industrial Crops	FORAGES		Forest Trees
	Wheat	Rice	Maize	Barley	Sorghum & Millets	Others		Cassava	Sweet Potato	Potato	Others		Tropical	Temperate		Legumes	Grasses	
Afghanistan	1	0.1	0.1				0.8											
Algeria	0.2						0.2											
Argentina	5	3.2	3	+	2.7		0.6	0.2		1.5								
Australia	20			2.0	1.0		?		+	0.2					+			
Austria	?			+												+	+	
Bangladesh		5.1					0.7								+			
Barbados									+						+			
Belgium	0.5			2.0			0.5			0.1				1.5 [2/]		+	+	+
Bolivia			2.2				0.1											
Brazil	7	0.5	0.6	19.5	?			1.0	+	5.1					+			
Bulgaria	14		?	3.2			0.1			0.4		2.0				+		
Burma		?																
Canada	10		2.8	21.0	0.5		1.0			0.3								
Cameroon															+			
Chile			0.3							0.5								
China	20	4.0	?		6.0		20.0		0.4	1.2					+			
Colombia		1.0	5		1.0		23.0 [6/]	2.5		1.0					+			
Costa Rica			0.3				2.5		0.1						+			
Cuba			0.1				0.2								+			
Cyprus																		
Czechoslovakia	5		1.3	2.0	+		2.0			0.7		+				+	+	
Denmark	0.5			0.8						0.4				+	+			
Ecuador								0.1							+			
Ethiopia	6			5.0	5.0		0.5											
Fed. Repub. Germany	8.5			5.6			3.1			2.5		+		+		+	+	
Fiji									+						+			
Finland				1.2												+		
France	2.5	2.5	0.1		5.0		0.5					2.0		+	+	+	+	
German Dem. Repub.	10		0.5	8.5	0.5		4.0			?		+			+	+	+	
Ghana		0.1			?										+			
Greece	1			1.0			0.1									+		
Guatemala								0.1										
Hungary	5		0.2		+		5.0					6.0			+	+	+	
Iceland																	+	
India	10	34	1.5	3.0	19.0 [7/]		35.0 [7/]	1.8							+			
Indonesia			6.0				0.2	0.7	1.2						+			
Iran	(20)		0.5				?											
Iraq	0.4																	
Ireland						+								+	+		+	
Israel	25			1.0														
Italy	26		0.6	1.0			8.0					5.0		+		+	+	
Ivory Coast															+			
Jamaica									+						+			
Japan	12	18	3.5	6.0	0.5		3.5		1.7	0.3					+			
Kenya			1.5		?		3.0								+			
Korea		4.2																
Liberia		0.5	1.0															
Madagascar		2.0			0.3													
Malawi		1.5	3.5		1.0		3.0								+			
Malaysia		4.5					0.3								+			
Mauritius															+			
Mexico	?		22.0		3.0		7.0								+			
Netherlands	4.5		0.7	2.3			2.5			1.0		10.0				+	+	+
Nepal		1.0																
Nicaragua			?															
Nigeria		7.0	0.5				13.0 [6/]	4.0 [9/]	0.1						+			
Norway																		
Pakistan	7	1.4	0.3	+	?		0.2											
Papua New Guinea							0.5		0.3						+			
Paraguay			0.2															
Peru			3.4					0.2		1.4					+			
Philippines		63.0 [3/]	1.3				4.5	0.8	0.3						+			
Poland	8			4.7	0.7		2.0			0.8		+		+	+		+	
Portugal	0.1		0.5	?												+		
Romania	9.0		3.2	3.5	5.0	+	3.0									+	+	
Rwanda							1.0											
Sierra Leone		0.5																
Somalia																		
South Africa					?													
Spain	0.5		1.0	0.7			2.0					1.0				+	+	
Sri Lanka		2.3													+			
Sweden	? [4/]			14.0 [4/]		+	5.0							+		+		
Switzerland			0.1	0.8		+											+	
Syria	16 [5/]			21.0 [5/]			11.5 [5/]									+	+	
Thailand		2.0			1.5		0.5								+			
Trinidad & Tobago															+			
Tunisia	0.2				+													
Turkey	15	0.1	0.5	?		+	?					+				+		
Uganda															+			
United Kingdom	3		0.1	5.0			6.2			7.0		10.0		+	+	+	+	
United States of America	50	23.0	26.0	25.0	15.0		20.0		1.5	2.0					+			
Uruguay			0.8															
Union of Soviet Socialist Republics	70	3.5	15.0	17.0	19.0		27.0			9.0		35.0		+	+	+	+	
Venezuela		0.3	0.1		0.5		1.5	0.5							+			
Yemen Arab Republic					4.0													
Yemen - People's Dem. Repub.																		
Yugoslavia		.		1.0		+												
Zaire								0.5										
Zambia					0.2										+			

1/ Based on data from:
Directory of Crop Genetic Resources Institutions (FAO/RER/80/005)
IBPGR Crop Directories (FAO/AGP:IBPGR 80, 81 & 82)

2/ Cocoa, coconut, cotton, flax, poppy, sugarbeet, sugarcane, sunflower, tea, tobacco, according to climate and country

3/ IRRI and Maligaya Rice Research & Training Centre

4/ Nordic countries (Denmark, Finland, Iceland, Norway, Sweden) have a genebank in common: Nordic Genebank, Lund, Sweden

5/ Entries refer to Agricultural Directorate, Douma, Damascus, and ICARDA at Aleppo where large collections of cereals and food and forage legumes are held

6/ Includes CIAT and Estación Experimental de Palmora (ICA)

7/ Includes ICRISAT and National Bureau of Plant Genetic Resources (NBPGR)

8/ IITA

9/ IITA and National Cassava Centre, Umuhaia, Nigeria

10/ Pyrus 650, Malus 550, Prunus 80 - Gembloux, Belgium

APPENDIX 8

REGIONS OF DIVERSITY OF MAJOR CROP PLANTS AND THEIR WILD RELATIVES

(i) Cereals:		
Wheat	Cultivars:	Europe, Mediterranean, southwest Asia and central Asia
	Wild species:	Mediterranean, southwest Asia and central Asia
Rice	Cultivars:	Two cultivated rices, Asian (*Oriza sativa*) and African (*O. glaberrima*)
	Wild species:	Pan-tropical distribution in Africa, south and southeast Asia, northern Australia, Central America, South America and the West Indies
Sorghum	Cultivars:	Very variable in both western and eastern Africa. Spread throughout India and China; also southern U.S.A.
	Wild species:	Southeast Africa, West Africa and North Africa
Pearl Millet	Cultivars:	In Africa, same distribution as *Sorghum*; also in India and Pakistan
	Wild species:	Africa, south Europe, Asia and America
Maize	Cultivars:	Central America and northern South America; secondary centres of variability in north central U.S.A. and southeastern Europe
	Wild species:	Meso-America
Barley	Cultivars:	Important variability in the Mediterranean region, Ethiopia, southwest Asia, central Asia and the Far East
	Wild species:	Mediterranean, southwest Asia and central Asia
(ii) Food Legumes		
Chickpea	Cultivars:	Ethiopia, Mediterranean region, southwest Asia, central Asia and south Asia
	Wild species:	Mediterranean, southwest Asia and central Asia
Cowpea	Cultivars:	East and West Africa, Ethiopia, central Asia, south Asia, southeast Asia and the Far East
	Wild species:	Africa and Asia
Faba bean (*Vicia faba*)	Cultivars:	Middle East, parts of India and Burma, western Asia and Europe
	Wild species:	-

Asiatic Vigna	Cultivars:	South Asia, southeast Asia and the Far East
	Wild species:	Africa, south Asia
Groundnut	Cultivars:	Brazil, southern South America, Andean zone, Meso-America, Eastern and western Africa, south Asia and the Far East
	Wild species:	Brazil, Paraguay
Lentil	Cultivars:	Afghanistan, India, Pakistan, Ethiopia, Near East and Mediterranean region
	Wild species:	Mediterranean, southwest Asia
Pea	Cultivars:	Near East, Europe
	Wild species:	Mediterranean and Near East
Phaseolus bean (Phaseolus vulgaris)	Cultivars:	Origin in New World tropics; now spread through tropics and subtropics
	Wild species:	Nearly 200 species in warm temperate and tropical zones
Soyabean	Cultivars:	Southeast Asia and the Far East; spread to Russia, southern European countries, U.S.A., South America, Africa and India
	Wild species:	Africa, Australia, east and southeast Asia, South Pacific

(iii) Root Crops

Cassava	Cultivars:	Meso-America, Andean zone, southern South America, eastern and western Africa, south and southeast Asia and Far East
	Wild species:	Meso-America, Brazil and tropical South America
Potato	Cultivars:	High plateau of Bolivia and Peru; North America and Europe
	Wild species:	South America
Sweet potato	Cultivars:	Meso-America, Brazil, Andean zone, southern South America, Pacific Islands, Southeast Asia, China
	Wild species:	Throughout tropics

APPENDIX 9

ESTIMATED COSTS OF AN INTERNATIONAL GENEBANK

(i) Volume of Refrigerated Storage Space

To estimate the volume of refrigerated space that would be required for base and active collections, the assumptions are made that:

- three-quarters of the accessions will be small seeded and one-quarter large seeded;
- small seeds will have an average 1 000 seed volume of 50 cm^3; large seeds an average 1 000 seed volume of 400 cm^3;
- in the base collection:

  small seeds will be in containers of 9 cm (diam.) x 5 cm: approximately 250 cc;

  large seeds will be in containers of 9 cm (diam.) x 9 cm: approximately 500 cc;

  one container will be used for each small-seeded accession and three for a large-seeded one to give samples of about 3 - 5 000 seeds;

- in the active collection:

  small seeds will be in containers of 9 cm (diam.) x 18 cm: approximately 1 000 cc;

  large seeds will be in the same sized containers as the small seeds but two will be used per accession to give a volume of about 2 litres;

- for the base collection, mobile shelving will be used;
- for the active collection, the shelving will be static:

  each shelf unit is 2.4 m high and has shelves 1 m x 45 cm x 3 cm thick;

  spaces between shelves are 6 cm, 11 cm and 20 cm for 250 cc, 500 cc and 1 000 cc containers, respectively to give 25, 16 and 10 usable shelves, respectively in a shelving unit; each shelf therefore holds 50 containers irrespective of capacity;

  the modulus for a cold room is 12 m x 7.2 m x 3 m high;

  with the static system the modular cold room accommodates 89 shelving units whereas with the mobile system, it accommodates 133 shelving units (108 mobile and 25 static). See Fig. 1, A and B.

Using these figures as a basis for calculations, it will be seen that:

- Each shelving unit holds the following numbers of containers:

Size of container	No. of shelves per unit	No. of containers per unit
ca 250 cc	25	1 250
ca 500 cc	16	800
ca 1 000 cc	10	500

- The number of shelving units required for a base collection of 500 000 accessions with three-quarters small seeded is:

small seeds	$\frac{375\,000}{1\,250}$	= 300 shelving units
large seeds	$\frac{(25\,000) \times 3}{800}$	= 469 shelving units
	TOTAL	= 769 shelving units

It follows that to house the base collection under the mobile system $\frac{769}{133} = 5.78$, say 6 modular cold rooms are needed.

- The number of shelving units required for an active collection of 100 000 accessions with three-quarters small seeded is:

small seeds	$\frac{75\,000}{450}$	= 167 shelving units
large seeds	$\frac{(25\,000) \times 2}{500}$	= 100 shelving units
	TOTAL	= 267 shelving units

It follows that to house the active collection under the static system $\frac{267}{89} = 3$ - 3 modular cold rooms are needed.

(ii) Estimates of Costs

(a) For base collection (500 000 accessions)

		US $
1.	Capital costs	
(i)	Building 1/	
	For cold store at US$ 400/m^2	374 400
	Laboratories, offices, etc. at US$ 1000/m^2	530 000
	Site development	90 400
(ii)	Cold stores: 6 rooms at US$ 350/m^2	544 300
(iii)	Mobile shelving units	240 000
(iv)	Ante-room (for seed drying)	16 000
(v)	Laboratory equipment	100 000
(vi)	Computing facilities	360 000
(vii)	Laboratory and office furniture	50 000
(viii)	Metal seed containers (500 000 at $400 per 1000)	200 000
	TOTAL	2 505 100
	Administration (14%)	350 700
	GRAND TOTAL	2 855 800

1/ Cold store building 36 x 26 = 936 m^2

Laboratory building

Seed reception	10 x 5	50 m^2	
Seed processing	10 x 5	50 m^2	
Seed testing	10 x 8	80 m^2	
Documentation	10 x 10	100 m^2	530 m^2
Offices (4)		72 m^2	
Stores (2)		54 m^2	
Boiler room		24 m^2	
Corridors, toilets, etc.		100 m^2	

	2. Recurrents costs	US $
(i)	Staff 1/	433 900
(ii)	Maintenance and running of cold stores	15 000
(iii)	Consumables/general supplies	30 000
(iv)	Rejuvenation/multiplication 20 000 accessions per year	250 000
(v)	Postage and freight (50 000 samples)	10 000
(vi)	Travel	15 000
(vii)	Office supplies	5 000
(viii)	Computer maintenance/consumables	30 000
	TOTAL	788 900
	Administration (14%)	110 400
	GRAND TOTAL	899 300

(b) For base and active collections
(500 000 and 100 000 accessions respectively)

	1. Capital costs	US $
(i)	Building 2/ (see Fig. 2)	
	For cold store at US$ 400/m^2	561 600
	Laboratories, offices, etc. at US$ 1000/m^2	612 000
	Site development	-
(ii)	Cold stores: 6 rooms at US$ 350/m^2	544 300
	3 rooms at US$ 300/m^2	233 300
(iii)	Static shelves (active collection)	36 000
	Mobile shelves (base collection)	240 000
(iv)	Ante-rooms (seed drying)	32 000
(v)	Laboratory equipment	100 000
(vi)	Computing	400 000
(vii)	Laboratory and office furniture	75 000
	Metal seed containers (base collection)	200 000
	Foil pouches (active collection): 100 000 at $80 per 1000	8 000
	TOTAL	3 159 600
	Administration (14%)	442 300
	GRAND TOTAL	3 601 900

1/

		US$
Senior Officer	P-5	80 000
Officer (seed testing)	P-3	60 000
Officer (seed registration)	P-3	60 000
Officer (computing)	P-3	60 000
Programmer	G-6	26 000
Technical Assistant (seed laboratory)	G-6	26 000
Technical Assistant (seed laboratory)	G-4	20 300
Technical Assistant (seed laboratory) x 2	G-3	35 000
Technical Assistant (seed distribution)	G-6	26 000
Technical Assistant (seed distribution)	G-4	20 300
Stenographer	G-4	20 300

2/

Cold store building	54 x 26		1404 m^2
Laboratory building			
Seed reception	10 x 5	50 m^2	
Seed processing	10 x 5	50 m^2	
Seed testing	10 x 8	80 m^2	
Documentation	10 x 10	100 m^2	
Offices (8)		144 m^2	612 m^2
Stores (2)		54 m^2	
Boiler room		24 m^2	
Corridors, toilets, etc.		110 m^2	

	2. Recurrent costs	US $
(i)	Staff 1/	630 400
(ii)	Maintenance and running of cold stores	22 000
(iii)	Consumables and general supplies	45 000
(iv)	Rejuvenation/multiplication 40 000 accessions per year	500 000
(v)	Postage and freight 50 000 samples	10 000
(vi)	Travel	20 000
(vii)	Office supplies	7 000
(viii)	Computer maintenance (consumables)	40 000
	TOTAL	1 274 400
	Administration (14%)	178 400
	GRAND TOTAL	1 452 800

(iii) Estimates of Costs for Other Sizes of Genebank

The estimates given below were obtained using the procedures followed in 2.1 and 2.2 above.

No. of accessions		Estimated costs (US $)		
Base	Active	Capital	Recurrent	No. of staff
250 000	nil	2 056 300	725 838	11
1 000 000	nil	4 727 700	1 421 900	17
250 000	50 000	2 438 500	1 125 800	17
1 000 000	100 000	5 919 600	2 477 800	32

(iv) Concerning the Estimates

(a) All costs are estimated at 1982 prices

(b) Staff costs relate to technical officers at the genebank itself. The cost of field staff is included in item (iv), rejuvenation/multiplication for which the cost per sample is taken as US$ 12.5

(c) The assumption is made that administrative services will be supplied by staff at FAO Headquarters; therefore, 14% of total costs is allowed for this purpose.

1/

		US$
Senior Officer	P-5	80 000
Officer (seed testing)	P-3	60 000
Officer (seed registration)	P-3	60 000
Officer (rejuvenation)	P-3	60 000
Officer (computing)	P-3	60 000
Programmer	G-6	26 000
Technical Assistant (seed laboratory)	G-6	26 000
Technical Assistant (seed laboratory) x 2	G-4	40 600
Technical Assistant (seed laboratory) x 2	G-3	35 000
Technical Assistant (seed distribution)	G-6	26 000
Technical Assistant (seed distribution) x 2	G-4	40 600
Technical Assistant (seed distribution) x 2	G-3	35 000
Technical Assistant (data) x 2	G-4	40 600
Stenographer x 2	G-4	40 600

ROOM : 12 x 7.2 m — 89 UNITS

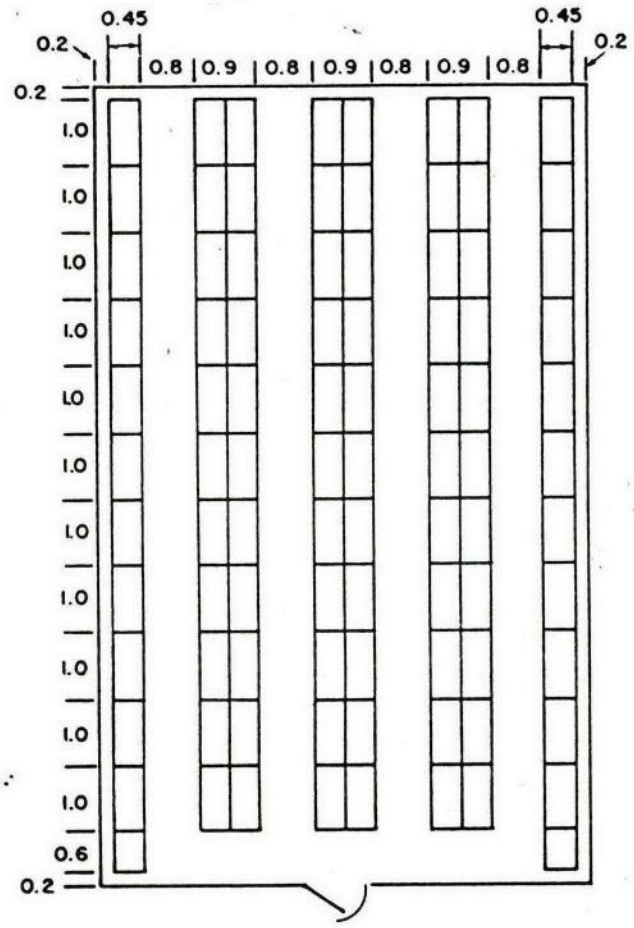

Fig. 1A: *COLD STORE SHELVING - STATIC*

ROOM: 12 x 7.2 m — 133 UNITS

(108 mobile ; 25 static)

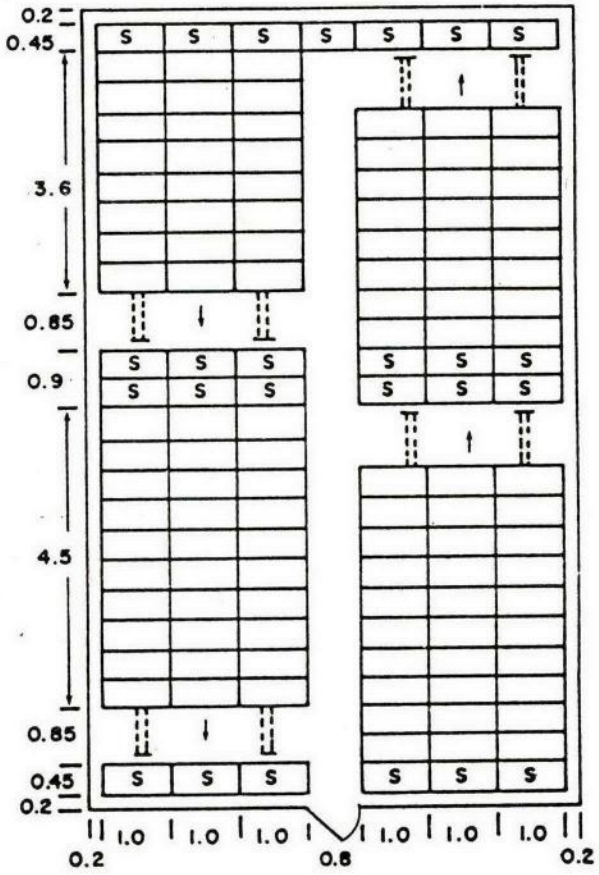

Fig. 1B : *COLD STORE SHELVING – MOBILE SYSTEM*

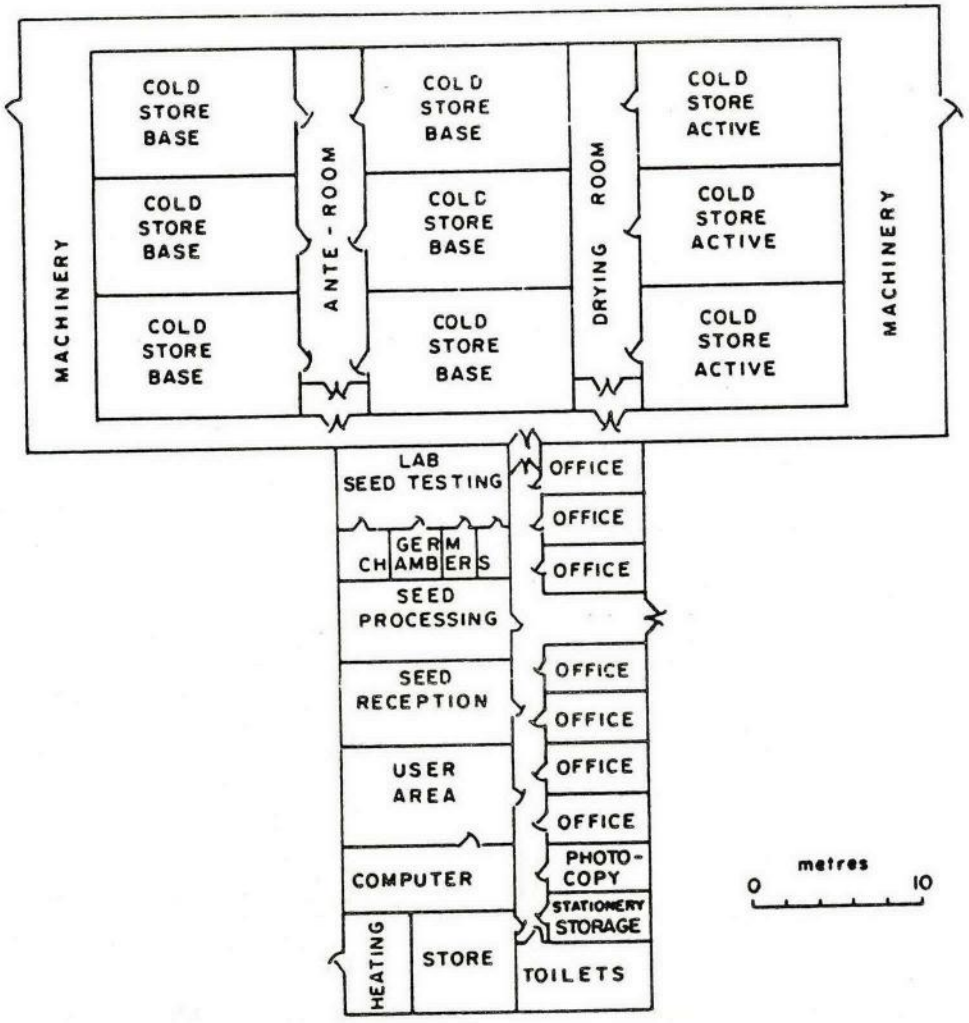

Fig. 2 : *FLOOR PLAN OF GENE BANK WITH BASE AND ACTIVE COLLECTIONS*

APPENDIX 10

NATIONAL SEED STORAGE LABORATORY - POLICY STATEMENT

General

1. The Laboratory is a Federal facility and all seed accepted for long-term storage becomes the property of the US Government and remains so until released by the Laboratory.

2. Only seeds are accepted for storage in accordance with the following policy guidelines.

3. The principal mission of the Laboratory is long-term preservation of valuable plant germplasm as viable seed. The Laboratory conducts research in support of its principal mission. Long-range studies focus on biochemical-physiological and genetic changes in seed during storage and effects of seed moisture content, storage environment, and storage containers on seed longevity. Laboratory procedures for accurate monitoring of seed viability during storage are established on a crop-by-crop basis.

4. The Laboratory issues periodic inventories of the stocks held in long-term storage to inform research workers of materials available.

5. All foreign proposals for storage will be reviewed for approval by the AR Plant Germplasm Coordinating Committee. In making its decisions, the Committee will be guided by recommendations of appropriate crop advisory committees. Acceptance for storage may require an exchange of letters between AR and the requesting agency or institution. Collections accepted for long-term storage (i.e., base collections) will be accessioned and incorporated as an integral part of the Laboratory and hence the US National Germplasm System. Collections for temporary or emergency storage may be accepted but under terms specified in the exchange of letters between AR and the requestor.

Accessioning

6. In keeping with policy here set forth, the Laboratory Director accepts valuable seed stocks from US Federal and State institutions, commercial seed interests, private individuals and, as specified in item 5 above, from foreign institutions. Information as to source of individual accessions is essential. Genetic composition and complexity of improved stocks should be documented as thoroughly as possible.

7. Only clean seed of reasonably high germination is acceptable for storage. Seed of low viability will be held on a tentative basis until the donor is able to provide replacement seed of acceptable viability.

8. After seed is accepted officially, the Laboratory, unless exempted by specific agreement, is responsible for future increases necessitated by viability decline or stock depletion.

9. The Laboratory assumes no responsibility for replenishment when stocks received are subminimal in quantity or viability. However, for obsolete varieties or rescued collections not meeting the preceding acceptable standards, the Director of the Laboratory in consultation with appropriate crop specialists may make arrangements for their increase.

10. The acceptance of seed of commercial varieties by the Laboratory shall not be considered in any way Federal endorsement as to the value of the variety.

Distributing

11. Any bona fide research worker of the United States, its territories and possessions may receive, without charge, seed from the collections stored at the Laboratory, but may be requested to return a portion of the increased seed for any item which requires immediate increase. Foreign research workers also may receive seed under the same conditions, provided the US Government and that of the country concerned will permit reciprocal exchange of germplasm. No seed will be distributed if it is commercially available or can be located in working stocks of cooperating agencies. The Principal Plant Introduction Officer will provide alternate sources of supply.

12. The Laboratory is not responsible for errors which may occur in original documentation including the cultivar name supplied by the donor.

COAG/83/REP 2

COMMITTEE ON AGRICULTURE

Seventh Session

Rome, 21-30 March 1983

~~DRAFT~~ REPORT - PART 2

TABLE OF CONTENTS

SELECTED DEVELOPMENT PROBLEMS

FOLLOW-UP TO WCARRD: THE ROLE OF WOMEN IN AGRICULTURAL PRODUCTION[1/] Item 7

1. The Committee expressed its appreciation for the nature and quality of COAG/83/7 "Follow-up to WCARRD: The Role of Women in Agricultural Production", and supported FAO's proposed strategy to reach rural women. It commended FAO for the increased emphasis it was placing on rural women.

2. The Committee supported FAO's effort in implementing the WCARRD Programme of Action by focusing more attention on the inter-relationship between the goals of growth with equity and women's participation. It noted with satisfaction that WCARRD high level missions addressed these issues and recommended that this trend be continued and intensified.

3. The Committee encouraged FAO to make further efforts to provide catalytic assistance that can strengthen national capacities to reach the rural poor women more effectively. It is also noted with appreciation that the ACC Task Force on Rural Development, for which FAO is the lead agency is coordinating with other agencies on women's issues and encouraged this approach.

4. The Committee called on FAO to make an effective contribution to the Conference on the End of the Women's Decade.

5. The Committee urged that in accordance with the Programme of Action of WCARRD, steps should be taken to undertake additional activities in agrarian reform; credit; and employment opportunities regarding women.

6. The Committee expressed the need for mobilization of more resources to provide action enabling rural women to enhance their work as producers at home as well as in agriculture, and to make this subject a priority. Furthermore, it urged donor governments to provide funds for programmes in all fields for projects which can demonstrate that they meet the criteria for women's integration into the development process.

1/ COAG/83/7

7. The Committee recommended that extension and training assistance be regularly reviewed regarding its outreach to women and inclusion of women as trainees; it urged that FAO initiate efforts to design culturally appropriate ways to train women and girls in agricultural subjects and particularly to promote their access to modern farming technology and methods. The Committee also suggested that: (a) an indicative target be established to increase women beneficiaries in FAO-assisted training programmes; (b) FAO should assist Member Countries to increase the number of female extension agents, and (c) national literacy programmes be supported by FAO as a means through which agricultural training could be introduced to women.

8. The Committee noted the heavy work burden of rural women in their domestic sphere and urged continuation of FAO assistance to help reduce this: efforts related to fuel wood; reduction of cooking time; access to water for domestic use were all mentioned as important. The Committee emphasized that farm technology tends to be introduced for men without adequate consideration for needs of and the benefit to rural women and urged assistance to correct this.

9. The Committee stressed that there was a need for more information about the effects on rural women's activities of modernization in agriculture. The introduction of modern techniques which primarily benefitted men could displace women from opportunities to provide or supplement family income or food supplies. The ways in which women managed, even when men were unemployed or dispossessed of land, to continue providing daily food needed recognition and further support. Women's increased access to employment opportunities, as well as to modern technology in lieu of traditional implements, was encouraged.

10. The Committee urged FAO to increase its work on statistics related to women in production; and to include in this efforts to develop concepts and categories to reflect more accurately women's work outside the money economy. Guidelines and country fact sheets, it was agreed, should be produced, to

involve the cooperation of national institutions. The lack of data available from Latin America was noted in particular, and a special effort to provide these data was recommended. The Committee requested that FAO assistance should be provided to the countries in developing or strengthening the existing data base related to rural women.

11. The Committee recognized with appreciation FAO's commitment to make women beneficiaries in its work in all fields, and endorsed the Inter-Divisional Working Group on Women in Development.

12. The Committee emphasized that attention should be given to the need for women to be involved in the design, preparation and implementation of rural development programmes. Priority attention should be given at the project preparation phase.

13. The Committee Members commended FAO on the change in the name of the 2.1.5.4 programme element from "Home Economics and Social Programmes" to "Women in Agricultural Production and Rural Development" and it also urged the application of this name to the relevant Service as well.

14. The Members of the Committee recognized that the obstacles to women's advancement include legal, economic, social, traditional and cultural factors. Committee urged that efforts be made to provide women with legal rights equal to men for land ownership, access to credit and banking services and membership and decision-making responsibilities in farmer's cooperatives.

15. The Committee pointed out the important role carried out by Non-Governmental Organizations and advised FAO to further collaborate at regional and national levels with these organizations to reach rural women. The Committee also suggested that continuing FAO support should be given to FAO Small Farmers Programme and Community Action for Disadvantaged Rural Women which aim to reach rural poor women.

16. The Committee welcomed the proposed Women in Food Staples Programme as an important step in recognizing and assisting rural women. In this regard the Committee also endorsed the forthcoming FAO Consultation on Women and Food Staples, which will take place in Rome in December 1983, and urged more support from donors.

17. The Committee noted that there were regional differences in women's role and recommended that activities be developed on a regional basis. In this connection, the Committee suggested that FAO's work on Women in Agricultural/ Rural Development should be reviewed at FAO organized Regional Conferences/ Inter-Country Consultations in order to develop more specific action programmes appropriate for regional and national priorities. It was also urged that men and women participate in planning and implementation, and that interministerial cooperation at national level be assisted as required. The Committee stressed the importance of traditional methods of food preservation and post harvest handling as well as the production of crops and animals for which women have traditional responsibility. It urged that these subjects be considered in global and regional discussions so that related assistance could be formulated and implemented.

18. In addition to making separate projects for women, the Committee urged that Member Governments and FAO strive to achieve the integration of women in on-going projects.

19. The Committee endorsed the proposals put forward in the medium-term action plan as described in paragraph 81 of document COAG/83/7 "Follow-up to WCARRD: The Role of Women in Agricultural Production".

OTHER MATTERS

PROPOSAL FOR THE ESTABLISHMENT OF AN INTERNATIONAL GENEBANK AND THE PREPARATION OF A DRAFT INTERNATIONAL CONVENTION FOR PLANT GENETIC RESOURCES (CONFERENCE RESOLUTION 6/81)1/ Item 10(a)

20. This item was placed on the Agenda in response to Resolution 6/81, as follows: [see last page of report].

21. The Committee discussed the item on the basis of document COAG/83/10 which documented the studies carried out in response to Conference Resolution 6/81. The document provided technical details bearing on the issues relevant to an International Convention on Plant Genetic Resources and those relevant to the establishment of an International Plant Genetic Resources Genebank. The Committee commended the Director-General for his response to this important matter. However, many Members felt more information was necessary.

22. The Committee stressed that crop genetic resources were a heritage of mankind and that they should be freely exchanged between countries and their respective institutions for scientific purposes and use in national crop breeding programmes. The Committee commended FAO for its continued action in raising the awareness of the international community and countries to the need to collect and conserve these materials - action which dates back to 1961. In this context the Committee noted that since 1974 the IBPGR, in close collaboration with FAO, had developed an international programme of activities and a worldwide network of plant genetic resources centres working on the principle of free availability of materials. In view of its great importance and benefit to all countries, the need was expressed for the FAO/IBPGR network to be completed and strengthened.

23. The Committee thanked the Secretariat for its efforts in producing the succinct summarization of difficult technical problems in document COAG/83/10 and considered that this was a useful basis for discussion. Some Members pointed

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1/ COAG/83/10

out that there appeared to be some technical and political issues which had not been addressed; and that there were several existing legal inter-governmental agreements on genetic resources which had not been itemized. The Committee concluded that the document provided sufficient information for its deliberations to be recorded and passed to Council.

24. Some Members of the Committee were in favour of the two proposals. They stressed that the proposed convention would provide international regulations through a legal framework and an international genebank would provide a necessary instrument provided it was under the aegis of the United Nations. Other Members felt that the adoption of an international convention was the most important proposal in order to state and implement the principles of free availability of genetic resources and that the existing FAO/IBPGR system of genebanks could satisfy the need for an international genebank. Some of these Members made their approval conditional on the bringing of the FAO/IBPGR fully within the United Nations system, while others thought this unnecessary.

25. Some Members felt that the existing system developed by the FAO/IBPGR programme would meet in principle the requirements for international cooperation and plant genetic resources exchange, and considered the two proposals were unnecessary. It was felt that there were a number of practical and/or legal aspects of the present system which required refinement and a number of Members were willing to offer the services of their Governments, in association with FAO, to make the existing system more effective. They felt this would be more cost-effective than proceeding with the proposals.

26. Referring specifically to the proposed international convention, Members expressed different views on the types of materials to be included. Document COAG/83/10 had listed various categories. The Committee noted that these categories of materials also include breeders' lines which were being developed and held by public as well as private institutions.

27. The Committee was unable to reach agreement as to whether all or only some of the categories should be included in a convention. Some Members considered it inappropriate to include breeders' lines in any international convention, pointing out that this material was not unique from the viewpoint of genetic conservation because the genes were still freely available in the original populations used to make the breeding lines, and also in any variety which might be produced from them. Nonetheless, the Committee agreed that it was not morally right for any individual or country to exploit the resources found in developing countries to the detriment of those countries. The Committee endorsed that the genetic material under threat of loss in many parts of the world included wild species and primative cultivars and noted that the present FAO/IBPGR programme puts emphasis on these. However, the Committee agreed that all the categories of plant genetic resources ought to be examined to see whether they were suitable for inclusion in any convention.

28. The Committee agreed that in the spirit of Conference Resolution 6/81 further discussions on the question of a proposed convention must relate to the drafting of elements which would meet and respect the concerns of the majority of governments both members and non-members of FAO so that the convention would be truly universal. In addition, it was considered that a convention should not result in an additional international system aimed at replacing on-going activities but should incorporate these in a harmonious way, and that account should be taken of existing national legislation. From the discussions emerged a consensus to further study a convention or other forms of international agreement. In pursuing this, constraints in the present system should be documented, particularly those hindering on-going breeding programmes.

29. Referring to the proposed international genebank many Members stressed that, while the proposed international convention could create a legal framework for existing genebanks of participating countries and international institutions, the international genebank could guarantee the effectiveness of the conventions in international exchange. Other Members felt that a convention alone could fully meet this requirement, particularly in view of the existence of the FAO/IBPGR network.

30. There was a consensus that the costs proposed for an international genebank were in all probability under-estimated. However, some Members felt that the costs of the genebank could be reduced considerably if a number of functions were rationalised and retained by the existing FAO/IBPGR network. The Committee agreed that an international genebank, if considered necessary, should include both base collections (for long-term safety and hence not for distribution unless for regeneration) and active collections for routine exchanges. The Committee noted that the study had not fully taken into account the cost of conserving duplicates and of the large international operation necessary for multiplication of the stocks in areas of the world suitable for growing the materials. These costs would have to be estimated in relation to the types of agreements that would be necessary for these operations.

31. Although the Secretariat's document had pointed out that at present it was only feasible to consider seed-propagated crops, several Members suggested that the concept be extended to include clonally propagated crops and plant introduction operations beyond the present limits of genetic conservation programmes.

32. The Committee suggested that the international genebank should be considered as an international concept and not a single physical entity; it could be formed of a network of storage facilities. The type of network and the location of the facilities, either the existing ones or new ones, should be studied so that the various alternatives could be discussed. It would be necessary to carefully examine the mechanisms whereby the facilities could be placed fully within the United Nations system and whether this mechanism was necessary.

33. The Committee stressed the need for technical data to be made available together with samples of genetic resource material. At present these data are very insufficiently available and the Committee agreed that the present international efforts on genetic resources documentation needed strengthening.

34. The Committee agreed on the predominant need, in developing countries, to strengthen national capabilities in plant genetic resources, plant breeding and seed multiplication, which ultimately determine whether effective use could be made of existing or exchanged gene material for the benefit of agricultural development in each country. It urged the Director-General and countries with advanced expertise to assist developing countries in these areas and to pay particular attention to the relevant training requirements to overcome existing man-power constriants.

35. Among those Members who supported the creation of an international gene-bank, different views were expressed on whether it should simply duplicate samples of those in existing genebanks or whether there should be an active policy to incorporate materials not present in other genebanks. This would relate to the scope of the proposed international convention and whether or not it could incorporate in its elements all genetic resources activities from collecting in the field through to utilization by breeders. The Committee stressed the urgent need to evaluate material in existing collections and to make the results available in an organized way to utilization programmes.

36. Many Members suggested that the Committee should request the Director-General to consider, taking into account the financial and administrative implications, establishing a working party, by virtue of the powers conferred upon him by Article VI.6 of the Constitution, in cases where he was satisfied that urgent action was required. The working party would assist the Director-General to supplement the studies in preparation for the next session of the Conference. It would assist in identifying, in the light of the Committee's discussions, the aspects of the studies on which further information was needed, and provide advice on the elaboration of those aspects. It would consist of a limited number of Members of the Committee, chosen with due regard to the need for all the shades of opinion expressed in the Committee to be reflected. The Director-General would transmit the report on the deliberations of the working party to the November 1983 session of the Council.

37. Other Members considered, however, that it would be more appropriate for the decision concerning the convening of the working party to be taken by the Council, rather than by the Director-General. They noted that the Council would then have the benefit of the report of the Committee and the related material.

38. Some other Members felt that, rather than formally convening a working party as described above, a more flexible and expedient solution would be for the Director-General to continue the studies in close contact with interested governments. In addition, the June 1983 session of the Council could request the Director-General of FAO to further study the alternatives for an International Genebank, in consultation with the

IBPGR, to report on the requirements to complete the existing plant genetic resources network, and to ensure unrestricted exchange of materials.

39. Taking into account the various views expressed, the Committee concluded that the Director-General should be assisted by a working party of Member Nations to help him prepare his report to the Council at its November 1983 session.

SELECTED DEVELOPMENT PROBLEMS (cont)

PLANT PROTECTION - DEVELOPMENT OF A GLOBAL STRATEGY 1/ Item 8

40. This item had been proposed for discussion as a selected development issue by the Committee at its Sixth Session. The Committee discussed the item on the basis of document COAG/83/8, Plant Protection - Development of a Global Strategy.

41. The Committee, fully recognizing the importance of plant protection as a major element in increasing food production, supported the proposal by FAO to integrate plant protection into a wider agricultural development approach.

42. The Committee stressed that effective plant protection activities required careful advance planning but recognized that the level of activities needed to be tailored to each country's level of agricultural development.

43. The Committee noted the past achievements of plant protection activities in developing countries and the valuable contributions of various donor organizations and agreed that a better coordinated international effort aimed at priority needs was required to effectively orientate future activities for the benefit of small farmers.

1/ COAG/83/8

44. The Committee recognized that much of the improvement in plant protection would come from the use of chemicals, but these had to be applied with great care because of their potential harmful effects on human beings and on the environment generally, the creation of ecological imbalances and the problem of resistance. The Committee emphasized the importance of FAO's work on pesticides and recommended that every effort be made by FAO to further promote their safe and efficient use. Some Members proposed that FAO consider establishing a pesticide programme similar to the International Fertilizer Supply Scheme.

45. The Committee welcomed the development by FAO, in consulation with other concerned agencies and organizations, of a Code of Conduct on the distribution and use of pesticides and considered the Code should identify the potential hazards, define the requisite actions and stipulate the responsibilities of the various parties concerned. Some Members expressed concern regarding instances of over-aggressive pesticide marketing practices.

46. The Committee noted that substantial quantities of sub-standard and spurious insecticides were being marketed in developing countries and recognized the need to strengthen quality enforcement arrangements, including the establishment of pesticide quality control laboratories.

47. The Committee emphasized the importance of biological control and the use of natural pesticides of vegetable origin in integrated pest control programmes and noted that they frequently provided the most cost-effective measures especially for small-scale farmers.

48. The Committee strongly endorsed the need for more concentrated efforts on weed management and most Members recognized that the time spent in weeding represented the greatest single constraint to increased crop production in many developing countries. The Committee stressed the need for better tools and implements and urged that their use should be combined with the rational use of herbicides.

49. The Committee welcomed the assistance which the International Weed Science Society and other major weed organizations had provided to FAO to develop appropriate knowledge and to integrate it in cropping systems for small-scale farmers.

50. The Committee requested the Director-General to consider the establishment of an Expert Panel to advise him on improved integrated weed management systems. In order not to increase the number of panels, consideration should be given to merging existing panels after re-evaluating their tasks.

51. The Committee stressed the importance of durable crop resistance and recommended the Director-General give consideration to convening an ad hoc Governmental Consultation on Genetic Variability in Major Food Crops.

52. The Committee stressed the need to reduce post harvest losses and called for the improvement of storage and drying systems.

53. The Committee attached great importance to the improvement of national plant protection and quarantine services and welcomed current efforts to strengthen their capabilities.

54. The Committee recognized the need for better dissemination of information and suggested the development of a data bank for the benefit of the international community. It also emphasized the need for the transfer of appropriate technology.

55. The Committee supported the further development of early warning systems to better monitor and evaluate major pests and diseases.

56. The Committee recommended that multilateral and bilateral assistance for national plant protection programmes be further expanded, and appreciated the specific offers of assistance made by a number of Member Countries and observers.

57. As regards future priorities, some Members preferred to attach higher priority to Transfer of Technology, while others gave higher priority to Forward Planning. The Committee recognized the critical need for training at all levels and in all fields of plant protection as well as for strengthening research. Some Members mentioned specific areas of research, such as the control of black Sigatoka disease of bananas in Latin America and Coffee Berry Disease in some African countries.

58. In conclusion, the Committee endorsed the global strategy of plant protection and the priorities for the future, which provided a useful framework on which a concerted and improved international effort could be built. The Committee also endorsed the proposed Cooperative Action for Plant Health (CAPH).

Resolution 6/81

PLANT GENETIC RESOURCES

THE CONFERENCE,

Recognizing that plant genetic resources are indispensable for the genetic improvement of cultivated plants, and that they are in danger of erosion and loss,

Recalling, that work on plant genetic resources was begun in FAO as the result of a recommendation made by the First Session of the Advisory Committee on Agriculture in 1946,

Recalling further that in 1974 with the support of the Consultative Group on International Agricultural Research, the International Board for Plant Genetic Resources (IBPGR) was set up for which FAO provides the Secretariat,

Noting that a joint FAO/IBPGR programme is promoting the international collaboration of national, regional and international plant genetic centres in which plant genetic resources are collected, maintained, evaluated, exchanged and distributed,

Considering that there is no international agreement for ensuring the conservation, maintenance and free exchange of the genetic resources of agricultural interest contained in existing germplasm banks,

Convinced of the need for such an agreement,

Recalling the proposal made by some members during the Seventy-ninth Session of the Council in June 1981 that consideration be given to the establishment of an international bank of plant genetic resources under the auspices of FAO to ensure the free exchange of plant genetic resources between countries,

1. Requests the Director-General to examine and prepare the elements of a draft international convention, including legal provisions designed to ensure that global plant genetic resources of agricultural interest will be conserved and used for the benefit of all human beings, of this and future generations, without restrictive practices that limit their availability of exchange, whatever the source of such practices.

2. Requests the Director-General to prepare a study on the establishment of an international bank of plant genetic resources of agricultural interest under the auspices of FAO, taking into account the provisions of the proposed international convention as well as on-going national, regional and international efforts in this field in particular those of the IBPGR.

3. Requests the Director-General to present proposals based on the studies mentioned to the Committee on Agriculture for consideration at its Seventh Session in 1983, which shall report thereon to the Council with a view to consideration by the Twenty-second Session of the FAO Conference.

(Adopted 25 November 1981)

g/12

March 30, 1983

Dr. J. Trevor Williams
Executive Secretary
Crop Ecology and genetic Resources Unit
Plant Production and Protection Division
Food and Agriculture Organization of the
United Nations
Via delle Terme di Caracalla
Rome, Italy

Dear Trevor:

It looks as though Warren and I will be calling on the Spanish authorities in Madrid on May 23rd, just before the Paris meeting. I understand that there has been a change in the Spanish Government so we are dealing with a new set of people who may benefit from having an occasion to find out about the CGIAR. Our purpose will be to strengthen the Spanish role in the Group. If possible, we would also like to encourage an increase in the annual contribution above the floor of half a million dollars.

Since your center has been one of those receiving Spanish support, you may have some thoughts about how we could best approach enhancing this relationship. If so, I'd appreciate having your suggestions the first week of May so that we can try to work them into our program.

Best regards.

Sincerely yours,

Curtis Farrar
Executive Secretary

cc: Mrs. Doreen E. Calvo

CurtisFarrar:vbm
File G-12

G-12

Rcd 3/29

3/31.

Consultative Group on International Agricultural Research

International Board for Plant Genetic Resources

Executive Secretariat
Crop Genetic Resources Centre (AGPG)
Plant Production and Protection Division
Food and Agriculture Organization of the United Nations
Via delle Terme di Caracalla 00100 Rome Italy
Cables: Foodagri Rome Telex: 610181 FAO I Telephone: 57971

INFORMATION COPY

Dr. Curtis Farrar

PR 3/11 IBPGR-Membership

If you do not quote our code and date in your reply, the delivery of your correspondence may be delayed.

MAR. 2 1 1983

To: All past and present Board members

Date: 21 March 1983

LORI Board file

From: J.T. Williams
Executive Secretary

Subject: Chairmanship of IBPGR

I am delighted to inform you that following the request of the Members at the last Board meeting (22-25 February 1983) that Professor L. Kåhre be re-elected to serve as Chairman 1984-86 inclusive the Director General of FAO has concurred with this.

cc.: ODG
Members of the IBPGR
Brauer/Willians, AGP
Reg. (2)
Chron

Membership

PR 3/11 IBPGR - BX

16 March 1983

Dear Professor de Langhe,

I have consulted the Director-General on the reelection of Professor L. Kåhre as Chairman of the International Board for Plant Genetic Resources for another three-year term until the end of 1986.

I am pleased to inform you that the Director-General concurs with the desire of the members of the IBPGR to reelect Professor Kåhre. I am copying this letter to Professor Kåhre and to the members of the IBPGR for their information.

Yours sincerely,

D.F.R. Bommer
Assistant Director-General
Agriculture Department

Professor E.A.L. de Langhe
Katholieke Universiteit Leuven
Labo. Tropische Plantenteelt
92 Kardinaal Mercierlaan
3030 Leuven
Belgium

PLANT PRODUCTION
Rec'd: 18 MAR 1983

REFERRED TO:	Initials
Dr. WILLIAMS	W
IBPGR	

FORM NO. 27 - OCR
(3/82)

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PAGE 1 OF 1

EXTENSION 73592

MESSAGE NUMBER

TEST NUMBER (FOR CASHIER'S USE ONLY)

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TO: WILLIAMS, FOODAGRI

ROME, ITALY

CONCERNING FORWARDING OF 1984 PROGRAM AND BUDGET DOCUMENTS. IN ORDER TO MINIMIZE DELAYS IN TRANSMITTAL OF THESE DOCUMENTS AND TO ASSIST IN KEEPING TRACK OF WHERE WE ARE, SECRETARIAT PROPOSES THE FOLLOWING SYSTEM COLON AAA AS DOCUMENTS ARE PREPARED, CENTER SHOULD SEND FOUR COPIES OF COMPLETE SET TO CGIAR SECRETARIAT IN WASHINGTON BY AIR EXPRESS. PLEASE GIVE REMAINING FIVE TO THE TAC SECRETARIAT. BBB CENTER SHOULD ALSO AIRMAIL ONE COPY TO TAC MEMBER WHO HAS BEEN ASSIGNED TO SPECIALIZE IN CENTER, AND ONE COPY TO TAC MEMBER WHO WILL CHAIR THE SUB COMMITTEE REVIEWING THE CENTER'S BUDGET DURING TUNIS TAC MEETING. LIST OF NAMES AND ADDRESSES WILL BE PROVIDED TO EACH CENTER BY TAC SECRETARIAT. CCC SAME DISTRIBUTION PATTERN SHOULD BE FOLLOWED FOR ANY REVISIONS. DDD WORLD BANK USES DHL WORLD WIDE COURRIER EXPRESS, WHOSE ADDRESS AND TELEPHONE/TELEX NUMBER IN ROME IS AS FOLLOWS, IN CASE YOU WISH TO USE THEM COLON DHL INTERNATIONAL S.R.L., VIA SIBARI 4, 00185, TELEPHONE (06) 7554441, TELEX COLON (843) 721414 DHLROMI. EEE PLEASE TELEX NOT LATER THAN END MARCH ACTUAL OR EXPECTED DATE OF DISPATCH OF DOCUMENTS TO CGIAR SECRETARIAT. LET ME KNOW IF THE ABOVE CAUSES ANY PROBLEMS. REGARDS FARRAR

END OF TEXT

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SUBJECT: FILE G-12

DRAFTED BY: CURTISFARRAR:VBM:LAR

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AUTHORIZED BY (Name and Signature): Curtis Farrar

DEPARTMENT: CGIAR Secretariat

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1) ~~Mr Jacquotte~~
2) ~~Mr Debroeck~~
3) Mr Farrar o/r

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PRESENTLY DUTY TRAVEL WASHINGTON TEL (301) 3443311

(VANSLOTEN IBPGR)

(FOODAGRI ROME TELEX 610181-610248)

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FORM NO. 27 - OCR
(3/82)

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PAGE 1 OF 1

EXTENSION 75349

MESSAGE NUMBER

TEST NUMBER (FOR CASHIER'S USE ONLY)

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TO: CURTIS FARRAR, HOTELVILLE

D 2
Ver of 12

ROME, ITALY

REF GENESBANK QUESTION AND RESPECTIVE COMMITTEE MEETING, AM ASKED TO CONFIRM THAT FRIENDS WILL ATTEND AND ARE READY TO REPRESENT INTERESTS OF CURRENT BOARD. REGARDS, CALVO

END OF TEXT

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TELEX: 843 611676

DATE: 3/10/83

SUBJECT: Files D2/G12

DRAFTED: DCalvo:evl

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AUTHORIZED: Doreen E. Calvo

DEPARTMENT: CGIAR Secretariat

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PAGE 1 OF 1

EXTENSION 75363

MESSAGE NUMBER

TEST NUMBER (FOR CASHIER'S USE ONLY)

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TO: WILLIAMS, FOODAGRI

ROME, ITALY

WE HAVE BEEN INFORMED BY BANK'S CASHIER'S DEPARTMENT THAT 1983 AUSTRALIAN CONTRIBUTION HAS BEEN RECEIVED. I HAVE INSTRUCTED CASHIER'S TO DEPOSIT THE EQUIVALENT OF AUSTRALIAN DOLLARS 94,000 IN IBPGR'S ACCOUNT. REGARDS. DEBOECK

END OF TEXT

NOT TO BE TRANSMITTED

CLASS OF SERVICE: TELEX

TELEX NO.: ~~843~~ 43-610181/610127 FAO

DATE: 3/8/83

SUBJECT: FILE G-12

DRAFTED BY: H. DEBOECK/LCH

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AUTHORIZED BY (Name and Signature): D. CALVO

DEPARTMENT: CGIAR SECRETARIAT

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F.2
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G.12

TO: Mr. Jean-Pierre Jacqmotte, CGR DATE: February 25, 1983
G.13

FROM: Peter Greening, CGR

SUBJECT: Terms of Reference - Preparation for and Attendance at TAC Meeting, Visits to ISNAR and the IBPGR, Contacts with Italian Officials, Visit to CIMMYT

1. On Monday February 28 you will proceed to Rome to assist the TAC Secretariat in the preparation of data for the discussion on special projects by TAC.

2. On Wednesday March 2 you will proceed to The Hague where you will visit ISNAR until Friday March 4 to discuss financial and budgeting issues with regard to 1983 and the 1984 budget. If time permits, you will also familiarize yourself with the organization, its mandate and its activities.

3. On Saturday March 5 you will return to Rome to attend the preparatory meetings of TAC on Saturday March 5 through Monday March 7. You will also attend the TAC meeting from Tuesday March 8 through Tuesday March 14 and will particularly focus on the special projects discussion and the CIMMYT QQR presentation.

4. While in Rome you will, at the initiative of the Executive Secretary of the CGIAR, meet with Italian officials on streamlining the allocation of their restricted funds for 1983. You will also visit the IBPGR to discuss any financial or budgetary issues with regard to 1983 and 1984.

5. On Tuesday March 15 you will proceed from Rome to Washington in order to ensure the organization of any follow up necessary on TAC's decisions with regard to special projects.

6. On Thursday March 17 you will proceed to Mexico where you will visit CIMMYT. The effects of the latest devaluation of the Mexican peso and concommitant changes in inflation, etc. should be discussed with CIMMYT's financial staff and management. The impact on the 1983 funding requirement should be assessed and any consequent adjustment in the 1984 budget assumptions should be discussed.

7. From Sunday March 20 on you will attend CIMMYT's presentation week and visit the off-campus programs of CIMMYT in Mexico.

8. You will return to Washington no later than March 28.

9. On return you will prepare a back-to-office report on these visits, contacts and meetings.

JPJacqmotte:evl/File D33, F2, G3, G12 and G13

G12

Pol 3/4

1) ~~Mr H. Debouck~~
2) Mr S-P-50/2
3) ~~Mr Farrar~~
4) Mr Greening 0/1

Consultative Group on International Agricultural Research

International Board for Plant Genetic Resources

Executive Secretariat
Crop Genetic Resources Centre (AGPG)
Plant Production and Protection Division
Food and Agriculture Organization of the United Nations
Via delle Terme di Caracalla 00100 Rome Italy
Cables: Foodagri Rome Telex: 610181 FAO I Telephone: 57971

Dr. Curtis Farrar
Executive Secretary, CGIAR

INFORMATION COPY

PR 3/11 IBPGR-East Africa

If you do not quote our code and date in your reply, the delivery of your correspondence may be delayed.

FEB 23 1983

Dear Dr. Camus,

Dr. Williams has drawn to the attention of the Executive Committee of the IBPGR the situation regarding provision of office space for other Center staff by ILRAD in Kenya.

As you will know the IBPGR has a Regional Officer for East Africa located there through Dr. Williams concluding a mutually satisfactory arrangement with ILRAD. We regard this as extremely important so that the scientific arm of the Board can reach into areas where needed.

Any reconsideration TAC can give to the funding needs to provide space for other Center staff would be supported by the Board.

The experiment in ILRAD for the family of centers is one which should not be regarded lightly.

Yours sincerely,

Lennart Kåhre

Lennart Kåhre
Chairman

Dr. Guy Camus
Chairman, TAC
c/o TAC Secretariat
FAO
Rome, Italy

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pls. attach letter.

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FARRAR CGIAR REYRLET POSSIBLE USE IBPGR COMPUTER DURING

TAC MEETING STOP OUR PRESENT COMPUTER CONFIGURATION

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IBPGR)

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February 9, 1983

Dr. J. Trevor Williams
Executive Secretary, IBPGR
Crop Ecology and Genetic Resources Unit
Plant Production and Protection Division
Food and Agriculture Organization
of the United Nations
Via delle Terme di Caracalla
Rome 00100, Italy

Dear Trevor:

As the TAC meeting in March approaches, it becomes clearer that it would be very useful for us to be able to make use of your computer during the meeting if that can be done without too much cost or disturbances.

While we have some information about your equipment, it is not very precise. Hence I wonder if you could telex details of what you have so that we can make a judgement about the feasibility of using it for the following two purposes:

(1) For Apple Writer 2, a word processing system which requires only 48 K of memory and DOS 3.3, 2 disk drives, and some sort of printer.

(2) A 16 sector VISICALC software package, VG-Expand/80 software package, 48 K memory plus at least 1 SATURN 32 K RAM Board (at the CGIAR Secretariat we have two 32 K RAM Boards which give us 112 K of memory) and DOS 3.3, a Videc 80 column Board, a softswitch to transfer from 40 columns to 80 columns, a systems saver fan, 2 disc drives, and a 233 column printer.

If you can give us the specifications of your equipment, it may be that we can either bring a little extra hardware with us, or find a way to make do with what you have.

Obviously this would be a reciprocal arrangement. Please do give some thought to anything we can do along similar lines for the IBPGR. Many thanks.

Best regards.

Sincerely yours,

Cleared with and cc: Mrs. Deboeck
CurtisFarrar:vbm
File G-12

Curtis Farrar
Executive Secretary

OFFICIAL FILE COPY

FORM NO. 27 - OCR
(3/82)

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F-1
cc G12

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PAGE 1 OF 1

EXTENSION 75349

MESSAGE NUMBER

TEST NUMBER (FOR CASHIER'S USE ONLY)

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TO: TREVOR WILLIAMS AND RISOPOULOS, FOODAGRI

ROME, ITALY

PROPOSE, IF CONVENIENT TO YOU, TO VISIT IBPGR FROM 10.00 AM ON MONDAY, FEBRUARY 14TH, AND TAC SECRETARIAT FROM FIFTEEN HOURS SAME DAY. IF NOT CONVENIENT, PLEASE LEAVE MESSAGE FOR ME AT HOTEL HASSLER. REGARDS, CALVO

END OF TEXT

NOT TO BE TRANSMITTED

CLASS OF SERVICE: Telex TELEX NO.: 610181 FAO I DATE: 2/4/83

SUBJECT: Files F1 and G12

DRAFTED BY: DCalvo.evl

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AUTHORIZED BY (Name and Signature): Doreen E. Calvo

DEPARTMENT: CGIAR Secretariat

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PAGE 1 OF 1

EXTENSION 75363

MESSAGE NUMBER g.12

TEST NUMBER (FOR CASHIER'S USE ONLY)

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TO: WILLIAMS, FOODAGRI

ROME, ITALY

RE ANNEX ON QUOTE ESTIMATED CORE FUNDING IN 1983 UNQUOTE TO OUR LETTER OF JANUARY 18, 1983. BELGIAN CONTRIBUTION IS AMOUNT IBPGR WILL RECEIVE FROM BELGIUM IN 1982 AND WHICH HAS BEEN EXTRAPOLATED AS BELGIAN CONTRIBUTION FOR 1983. REGARDS. GREENING.

END OF TEXT

NOT TO BE TRANSMITTED

CLASS OF SERVICE: TELEX TELEX NO.: 43 610181 FAO I DATE: 2/3/83

SUBJECT: FILE G-12

DRAFTED BY: H.DEBOECK/LCH

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AUTHORIZED BY (Name and Signature): P. GREENING

DEPARTMENT: CGIAR SECRETARIAT

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G12

Rd 2/8

Bd

Consultative Group on International Agricultural Research

International Board for Plant Genetic Resources

Executive Secretariat:
Crop Ecology and Genetic Resources Unit
Plant Production and Protection Division
Food and Agriculture Organization of the United Nations
Via delle Terme di Caracalla 00100 Rome Italy
Cables: Foodagri Rome Telex: 610181 FAO 1 Telephone: 5797

Solna, 1983-02-01

Mr. C. Farrar, Executive Secretary
CGIAR
1818 H St., N.W.
WASHINGTON, D.C. 20433
U S A

Dear Mr. Farrar,

Many thanks for sending the legal documents of the IARC. Directly after the CW I asked the IBPGR Secretariat to send our 1981 report to all the Chairmen.

I would like to add to my address my office telephone number which is 08/850130.

Kind regards,
Yours sincerely,

Lennart Kåhre

Lennart Kåhre

FORM NO. 27 - OCR
(3/82)

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PAGE ☐ OF ☐

EXTENSION 75349

MESSAGE NUMBER

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TO:

BOOK OF TWO

TRT

1. TREVOR WILLIAMS, FOOAGRI
   ROME, ITALY
   TELEX 610181 FAO I

436 1012 7/436 1024 8/
436 1112 7/436 1018 1

2. KAHRE, SWEDISH SEED TESTING AND CERTIFICATION INSTITUTE
   S-17173 SOLNA, SWEDEN
   CABLE

Fr/WUT

END OF TEXT

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2/1/83

CLASS OF SERVICE: TELEX NO.: DATE:

SUBJECT: File G12/Disk 50

DRAFTED BY: DCalvo:evl

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AUTHORIZED BY (Name and Signature): Peter Greening

DEPARTMENT: CGIAR Secretariat

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PAGE 1 OF 1

EXTENSION 75349

MESSAGE NUMBER

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FOR KAHRE. COPIED FOR INFORMATION TREVOR WILLIAMS. OUR RECORDS SHOW THAT THE PRESENT TERM OF DRS. BISHOP, COOPER, JAIN AND SCARASCIA-MUGNOZZA, CG-DESIGNATED MEMBERS ON THE IBPGR BOARD, WILL EXPIRE IN DECEMBER 1983. PLEASE ADVISE WHETHER OR NOT BOARD WOULD LIKE TO RENOMINATE THEM AND, IF POSSIBLE, IF THEY WOULD BE WILLING TO SERVE. WE UNDERSTAND THAT DR. CHOMCHALOW IS NOT ELIGIBLE FOR REELECTION WHEN HIS PRESENT TERM EXPIRES IN DECEMBER 1983. PLEASE INDICATE QUALIFICATIONS, BACKGROUND AND EXPERIENCE PREFERRED IN NEW CG-DESIGNATED MEMBERS SO SECRETARIAT CAN SOLICIT NAMES OF APPROPRIATE CANDIDATES FROM THE GROUP IN DUE COURSE.

REGARDS, GREENING

END OF TEXT

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1983 JAN 31 AM 9 22

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613286 FAO I

File IBPGR G-12

FAO011251 JACQMOTTE IMPOSSIBLE REPLY YOUR TELEX 23 DEC BEFORE 10 FEB AT EARLIEST BEFORE ESTIMATING CARRYFORWARD STOP DYE EEEE STOP DUE OUR BEING LINKED IN FAO SYSTEM

WILIAMS IBPGR FOODAGRI ROME

WORLDBNK440098

WORLDBNK440098

613286 FAO I

G12 Bd 2/8

IBPGR Bd. file

Xu Yun-tian
Institute of Crop Germplasm
Resources
Chinese Academy of Agri. Scis.
Beijing, China.

Dr. Curtis Farrar
Executive Secretary
Consulative Group on International
Research

January 28, 1983.

Dear Dr. Farrar:

Your letter and all the materials have arrived. Thank you ever so much for your kindness and consideration.

It is an hour for me to be chosen as a member of the IBPGR, and I am pleased to work for the Board in the future. Thank you very much for your congratulations.

Best wishes,

许运天

Xu Yun-tian

Vol. 12 D 21
ej 13 D 33
ej 14
ej D.17

TO: Ms. Doreen E. Calvo, CGR January 28, 1983

FROM: Peter Greening, CGR

SUBJECT: Terms of Reference - Visit to Syria, Italy, the Netherlands and the United Kingdom

1. Syria (Damascus). You will arrive in Damascus, Syria on Friday, 4th of February, to participate in the IFPRI Board meeting which begins on Tuesday, 8th of February, and is preceded by extensive field trips arranged by IFPRI. The purpose of your mission is to familiarize yourself with IFPRI Board procedures and to acquaint yourself with IFPRI Board members.

2. Italy (Rome). On Monday, February 14th, you will meet Dr. Williams of the IBPGR for general discussions on that center. On the same day you will meet members of the TAC Secretariat also for general discussions. If Mr. Farrar considers it appropriate, you will also meet Drs. Mogni and Bettella (members of the Italian delegation who were present at ICW in November) for general discussions, including the Impact Study and Board membership.

3. The Netherlands (The Hague). On Wednesday, February 9th, you will visit ISNAR to familiarize yourself with the work of that center and to discuss with Dr. Gamble the Impact Study. While in The Hague, you will also meet Dr. Hardon for general discussions including the Impact Study and Board membership.

4. UK (London). On Thursday, February 17th, you will meet Dr. Cunningham of ODA in London for discussions on the Impact Study and Board membership. While in London you will also contact the London office of the World Bank to identify ways in which that office could be useful to this Secretariat.

4. After your return to the office on February 22nd you should prepare a brief back-to-office report on the outcome of all the above meetings.

DCalvo:evl/Files G12,G13,G14,D17,D21,D33/Disk 20

Central File

CONSULTATIVE GROUP ON INTERNATIONAL AGRICULTURAL RESEARCH

eg. 12

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

January 28, 1983

Ms. Grayce Finger
Science
A.A.A.S.
1515 Massachusetts Avenue, N. W.
Washington, D. C. 20005

Dear Ms. Finger:

I am the senior author of an article that has just been accepted for Science, entitled "Crop Germplasm Conservation and Developing Countries".

I am enclosing a few slides for possible use as a cover photograph to accompany the article. I believe Dr. Nigel Smith also has sent some slides to you.

Sincerely yours,

Donald L. Plucknett
Scientific Adviser

Enclosure

4-12

DL Plapm

My mission file

G12

1983 JAN 27 PM 12:01

COMMUNICATIONS DIVISION

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FAO 9904 - DOREEN CALVO GCIAR REYRTELEX 25/1 ANY TIME FEB 14

SUITABLE TO IBPGR (WILLIAMS EXECSEC FOODAGRI ROME)

⊕

WORLDBNK440098⊕

616022 FAO I

REPLY VIA ITT

eg 12

January 27, 1983

Dr. Nigel J. H. Smith
3819 N. W. 10th Place
Gainesville, Florida 32605

Dear Nigel:

Here is a revised version of the paper. I have got it down to about 24 pages. Trevor will be here during the week of February 7. Perhaps you can work out the final version with him during that time, have the corrections done here on the Micom, and send the corrected manuscript back to Science.

Kindest regards.

Sincerely yours,

Donald L. Plucknett

Enclosure

DLPlucknett:apm
File G-12

eg 12

January 27, 1983

Dr. J. Trevor Williams
Executive Secretary, IBPGR
Plant Production and
Protection Division
Food and Agriculture Organization
of the United Nations
Via delle Terme di Caracalla
Rome 00100, Italy

Dear Trevor:

Enclosed is a revised version of the germplasm paper for Science. Nigal and I have attempted to deal with the reviewers' comments and to shorten the paper to 20 pages. In the latter, we have not fully succeeded. I count about 24 full pages now.

I will have an extra copy of the paper held here at the office for your use when you visit Washington during the week of February 7.

Please share this copy with Murthi. Kindest regards.

Sincerely yours,

Donald L. Plucknett
Scientific Adviser

Enclosure

cc of letter to Dr. N. Murthi Anishetty
Assistant Secretary, IBPGR

cc: Dr. Nigel J. H. Smith

DLPlucknett:apm

File G-12

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(3/82)

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PAGE 1 OF 1

EXTENSION 75349

MESSAGE NUMBER

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TO: TREVOR WILLIAMS, FOODAGRI

ROME, ITALY

REF STATISTICS ON WOMEN AND YOUR TELEX OF OCTOBER 28, 1982. MANY THANKS CLEAR STATEMENT SUBMITTED. WE SHOULD BE GRATEFUL IF YOU COULD PROVIDE EXACTLY COMPARABLE STATISTICS FOR 1981. THANKS AND REGARDS, GREENING

END OF TEXT

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PAGE 1 OF 1

EXTENSION 75349

MESSAGE NUMBER

TEST NUMBER (FOR CASHIER'S USE ONLY)

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TO: RISOPOULOS AND TREVOR WILLIAMS, FOODAGRI

ROME, ITALY

WILL BE IN ROME ON MONDAY FEBRUARY 14 AND WOULD VERY MUCH LIKE TO VISIT BOTH IBPGR AND TAC SECRETARIAT IF POSSIBLE. COULD YOU PLEASE ADVISE ME WHAT TIME WOULD BE CONVENIENT. REGARDS, DOREEN CALVO, SENIOR PROGRAM OFFICER, CGIAR

END OF TEXT

NOT TO BE TRANSMITTED

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SUBJECT: Files F1/G12 611127

DRAFTED: DCalvo:evl

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DEPARTMENT: CGIAR Secretariat

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January 18, 1983

Dr. J. Trevor Williams
Executive Secretary, IBPGR
Plant Production and Protection
Division
Agriculture Department
Food and Agriculture Organization
of the United Nations
Via delle Terme di Caracalla
Rome 00100, Italy

Dear Dr. Williams:

1. I am writing to advise you on the contributions which IBPGR is likely to receive from the members of the CGIAR for its approved core operating and capital budget in 1983.

2. At International Centers Week (ICW) in Washington in November 1982 the Group approved funding for 1983 for all 13 centers in the CGIAR system at two levels of a bracket. At the top of the bracket the approved level of funding was $175.7 million while at the bottom of the bracket the approved level of funding was $165.8 million. Taking into account technical adjustments which have been made subsequently the amounts are $174.8 million and $164.9 million respectively.

3. Since ICW, the Secretariat has solicited all members of the Group to ask them to confirm the contributions they intend to make to each center in 1983. Out of a total of 36 donors to the system, about two-thirds have said explicitedly how much they intend to give to each center, although they have not necessarily formally confirmed their intentions. The remaining one third have either provided very tentative or incomplete data. On the basis of what we have been told, the Secretariat has divided all donor contributions into five categories. The definitions of these categories and the level of funding in each are as follows:

		$ millions	%
Category 1.	Confirmed contributions. Where donors have confirmed in writing how much they intend to give to the system and to each center.	54.06	33.3
Category 2.	Probable contributions. Where donors have indicated in writing their intentions on both the total for the system and the allocation but have not formally confirmed them.	73.03	44.9

Category 3.	Likely contributions. Where donors have informally indicated (but not necessarily confirmed), their contributions to the system, but have not indicated in writing to which centers they intend to contribute. In these circumstances the Secretariat has calculated for each such donor a notional allocation which is an extrapolation of the donor's pattern of contributions in previous years.	2.24	1.4
Category 4.	Possible contributions. Where donors have provided little or no information and the Secretariat has had to make tentative estimates on the donor's previous pattern of contributions.	0.80	0.5
Category 5.	Unallocated contributions. Where donors have specifically set aside some of their contributions for allocation later in the fiscal year, or where donors have given no indication to whom they will give and where the Secretariat does not have enough information to make any judgement as yet.	32.41	19.9
	Total of all five categories (at 11/10/82 exchange rates)	162.54	100.0

4. General points to note are as follows:

(a) As in the past the allocation of the World Bank's contribution to centers is based on the principle that the Bank is "donor of last resort". It will be disbursed in three tranches. The first tranche will comprise 40% of the total contribution from the Bank and will be disbursed during the second half of February. The second tranche, about 30% of the total contribution, will be disbursed when the overall pattern of donations is clearer and the amounts carried forward by each center from 1982 are firmly known. This will probably be towards the end of June. The third tranche will be disbursed later in the year, probably in October, when the overall pattern of donations is known with a fair degree of certainty.

(b) This year the U.S. contribution will again be in two tranches. The bulk of it, about 95%, will be available to be drawn on by centers in the first quarter of 1983. The remainder will be made available later in the year when the total of the U.S. contribution is finally determined.

(c) The total of unallocated funds is $32.41 million, which is about the same amount as in 1982. Included in this figure is the Bank's second tranche of $11.40 million, the entire Japanese contribution of about $9.08 million, a portion of the Italian contribution amounting to $3.95 million, the Saudi Arabian contribution amounting to $3.0 million, a portion of IFAD's contribution amounting to $1.35 million, a portion of OPEC's contribution amounting to $1.0 million, the Brazilian contribution of $0.75 million, the Mexican contribution of $0.5 million and smaller sums from a number of other donors that presently amount to $1.38 million. At this stage, it is not possible to predict exactly when and how the unallocated funds will be distributed.

(d) There is doubt whether one or two donors will be able to contribute to the system in 1983, due to domestic uncertainties. Such contributions have been classified as unallocated.

(e) It should be emphasized that contributions in category 1 are the only ones which have been officially confirmed. Moreover, the allocation of contributions shown in categories 3 and 4 are planning assumptions made by the Secretariat and have no official sanction. It would therefore be unwise, and possibly embarrassing, for a center, in its dealings with donors whose contributions are listed in categories other than category 1, to quote the amounts listed until provided with confirmatory information from the Secretariat or the donor concerned.

(f) The interest free short term credit facility from the World Bank is again available for centers with cashflow problems. It is available for up to 60 days and for an amount representing 15 days operating expenditures up to a limit of $600,000. A cashflow should be submitted indicating the need and the source of repayment after 60 days, together with a statement that all usual commercial credit facilities have been exhausted and that the center does not have outstanding cash investments.

(g) Regarding Italy, the Secretariat is in contact with the Italian authorities on the criteria for the allocation of restricted core funds, and will ask centers for proposals as soon as the criteria are known.

(h) Regarding Saudi Arabia, the Secretariat is in contact with the Saudi authorities concerned about the distribution of the Saudi contribution and will be in touch with centers as soon as possible.

(i) Regarding Japan, the entire contribution has been left unallocated until the Japanese position is clearer. We will be in touch as soon as more is known.

5. Insofar as IBPGR is concerned the Group approved for 1983 a budget of $4.12 million gross (net 3.89 million) at the top of the bracket, and $3.89 million gross ($3.66 million net) at the bottom of the bracket. In the Annex we detail all we have been able to learn so far with regard to the level of funding likely to be contributed to IBPGR in 1983. We have

used the same categories as mentioned in the previous paragraph of this letter. The information can be summarized as follows:

		Millions
Category 1.	Confirmed contributions	1.47
Category 2.	Probable contributions	1.29
Category 3.	Likely contributions	0.09
Category 4.	Possible contributions	0.05
	Total of above categories (excluding possible share of unallocated funds).	2.90

6. Points to note are as follows:

(a) The Canadian contribution to IBPGR in 1983 could be slightly more than Can $225,000 indicated in the Annex.

(b) The CGIAR Secretariat has contacted UNEP, who could be a potential donor to IBPGR in 1983.

7. In view of his interest in the matter I am copying this letter to Dr. Lennart Kahre, Chairman of the Board of Trustees of IBPGR.

Sincerely yours,

Peter Greening
Deputy Executive Secretary

cc: Dr. Lennart Kahre
Director
Swedish Seed Testing and
Certification Institute
S-17173 Solna, Sweden

PGreening/D62:lar/ms/lch
File G12

ANNEX

IBPGR: ESTIMATED CORE FUNDING IN 1983
(AS OF JANUARY 10, 1983)

	PLEDGED DENOM.	CURRENCY AMOUNT	EXCHANGE RATE (PER US $) 11/10/82	US $ EQUIV.	MONTH IN 1983 IN WHICH FUNDS ARE EXPECTED TO BE DISBURSED
CATEGORY 1: CONFIRMED CONTRIBUTIONS ‡					
AUSTRALIA	A $	94000	1.06	88479	JANUARY
DENMARK	DKR	450000	9.00	50000	FEBRUARY/MARCH
ITALY	LIRE	360 MILL	1467.50	245315	NOT YET KNOWN
NETHERLANDS	US $	305000	1.00	305000	US $ 203,000 IN MARCH, REMAINDER UPON RECEIPT AND APPROVAL OF 1982 ACCOUNTS
NORWAY	NKR	600000	7.27	82559	JANUARY
SPAIN	US $	100000	1	100000	NOT YET KNOWN
SWEDEN	SKR	1300000	7.53	172700	TWO INSTALLMENTS, JANUARY AND JUNE
SWITZERLAND	SFR	200000	2.22	90212	JANUARY
UNITED KINGDOM	POUND	200000	0.60	332226	TWO INSTALLMENTS, APRIL AND SEPTEMBER
SUBTOTAL				1466491	
CATEGORY 2: PROBABLE CONTRIBUTIONS ‡					
BELGIUM	BFR	3500000	49.83	70239	PROBABLY TOWARDS END OF 1983
CANADA	CAN $	225000	1.22	184441	NOT YET KNOWN
GERMANY	DM	350000	2.57	136187	DM 100,000 IN JANUARY, APRIL AND JULY. DM 50,000 IN OCTOBER
US (FIRST TRANCHE)	US $	900000	1.00	900000	FIRST QUARTER
SUBTOTAL				1290867	
CATEGORY 3: LIKELY CONTRIBUTIONS ‡					
FRANCE	FF	658537	7.27	90558	NOT YET KNOWN
SUBTOTAL				90558	
CATEGORY 4: POSSIBLE CONTRIBUTIONS ‡					
INDIA	US $	50000	1.00	50000	NOT YET KNOWN
SUBTOTAL				50000	
CATEGORY 5: UNALLOCATED FUNDS ‡					
NOT YET DETERMINED					
TOTAL				2897916	

‡ FOR DEFINITION OF CATEGORIES SEE ATTACHED LETTER.

eg. 12

January 18, 1983

Dr. J. Trevor Williams
Executive Secretary, IBPGR
Plant Production and
Protection Division
Agriculture Department
Food and Agriculture Organization
of the United Nations
Via delle Terme di Caracalla
Rome 00100, Italy

Dear Trevor:

Here is the manuscript with the reviewers' comments. Please go over these and make the corrections you can, paying special attention to the long-term questions raised by the favorable reviewer. Nigel and I will make a try at shortening the paper.

I hope to get this back to Science as soon as possible.

Sincerely yours,

Donald L. Plucknett
Scientific Adviser

Enclosure

Identical letter to:

Dr. N. Murthi Anishetty
Assistant Secretary, IBPGR

DLPlucknett:apm
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TO:

BOOK OF TWO

1. TREVOR WILLIAMS, FOODAGRI

ROME, ITALY TELEX 610181 FAO I

43 /610127

2. MURTHI ANISHETTY, FOODAGRI

ROME, ITALY TELEX 610181 FAO I

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PAGE 1 OF 1

EXTENSION 75346

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GERMPLASM PAPER APPROVED BY SCIENCE. AWAITING REVIEWER'S COMMENTS. WILL CONTACT YOU WHEN WE HAVE RECEIVED THE COMMENTS AND HAVE MADE FIRST EFFORTS TO DEAL WITH THEM. REGARDS PLUCKNETT

END OF TEXT

NOT TO BE TRANSMITTED

CLASS OF SERVICE: TELEX

TELEX NO.: 610181 FAO I

DATE: 1/13/83

SUBJECT: File G-12

DRAFTED BY: DLPlucknett:apm

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January 10, 1983

Dr. Xu Yuntian
Deputy Director
Institute of Crop Germplasm Resources
Chinese Academy of Agricultural Sciences
Beijing, China

Dear Dr. Yuntian:

I would like to join Mr. Baum, Chairman of the Consultative Group on International Agricultural Research, in welcoming you to the CGIAR system and to congratulate you on your appointment to the Board of the International Board for Plant Genetic Resources.

With reference to Mr. Baum's letter of January 7, I am enclosing a set of documents on the CGIAR. They should provide you with a general background on the system, which comprises thirteen international agricultural research centers.

In addition to the descriptive brochure, I am sending you a copy of this year's Integrative Report and a recent commentary on the IBPGR prepared by the CG Secretariat. You might also be interested in reading the Report of the Second Review Committee dated November 1981 and a follow-up paper describing the implementation of the Committee's recommendations dated October 7, 1982.

If the CGIAR Secretariat can be of any assistance to you now or in the future, please do not hesitate to let me know.

Yours sincerely,

Curtis Farrar
Executive Secretary

Enclosures

DCalvo:evl/File G12/Disk 50

FORM NO. 27 - OCR
(3/82)

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PAGE 1 OF 1

EXTENSION 75363

MESSAGE NUMBER

TEST NUMBER (FOR CASHIER'S USE ONLY)

START HERE

TO: WILLIAMS, FOODAGRI

ROME, ITALY

SPANISH GOVERNMENT HAS INFORMED CGIAR-SECRETARIAT THAT THEIR 1982 CONTRIBUTION TO IBPGR, AMOUNTING TO US DOLLARS 50,000, IS BEING PROCESSED. EXACT DISBURSEMENT DATE UNKNOWN. REGARDS, GREENING.

END OF TEXT

NOT TO BE TRANSMITTED

CLASS OF SERVICE: Telex

TELEX NO: 43 610181 FAO I

DATE: 1/10/83

SUBJECT: File G-12

DRAFTED BY: Hennie Deboeck:lar

CLEARANCES AND COPY DISTRIBUTION:

AUTHORIZED BY (Name and Signature): Peter Greening

DEPARTMENT: CGIAR Secretariat

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January 7, 1983

Dr. Xu Yuntian
Deputy Director
Institute of Crop Germplasm Resources
Chinese Academy of Agricultural Sciences
Beijing, China

Dear Dr. Yuntian:

I am writing on behalf of the Consultative Group on International Agricultural Research (CGIAR) to welcome you to the Board of Trustees of the International Board for Plant Genetic Resources (IBPGR) in Rome. Dr. Lennart Kahre, Chairman of that Board, will be writing to describe the terms of the appointment and your duties as a Trustee of the IBPGR Board.

You are already aware of the activities of the IBPGR, but in case you are not fully familiar with the activities of the CGIAR as a whole, and of the other centers, I am asking the CG Secretariat to send you some current information. I feel sure you will find the material of interest, particularly where it gives some idea of the interrelationships among the various elements constituting the system. This unique international effort to develop the technology to help developing countries to increase food production has already demonstrated its effectiveness. Sound and imaginative governance by the Boards of Trustees of the international centers is crucial to the continued effectiveness of the CGIAR system. Your help in this very worthwhile endeavor will be much appreciated.

May I take this opportunity to mention that all the members of Boards of Trustees of the centers do serve in their individual capacities and not as representatives of any country, interest group or organization. This applies as well to those members who, like you, are selected by the Consultative Group itself. Consequently, you will not be expected to report to, or receive instructions from, the Group or any of its members. Members completing their first term of service are eligible for appointment by the Group for a second term, but would be appointed to a third term only in exceptional circumstances. Appointments to a second term depend on the Group's view of the needs of the center and the system at the time.

I am sending a copy of this letter to Dr. Kahre and to Dr. J. Trevor Williams, Executive Secretary of the IBPGR.

Sincerely,

Warren C. Baum
Chairman

cc: Dr. L. Kahre, IBPGR
Dr. J. Trevor Williams, IBPGR
Mr. C. Farrar, CGR

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MR. CURTIS FARRAR

EXECUTIVE SECRETARY

CGIAR

INTBAFRAD

WASHINGTONDC

I AM HONORED TO LEARN THAT I HAVE BEEN ELECTED TO THE MEMBER OF IBPGR AND PLEASED TO WORK WITH YOU.

XU YUNTIAN

COL CKD

9-12

December 28, 1982

Dr. S. A. Qureshi
Director General Agriculture
(Research)
Ayub Agricultural Research
Institute
Faisalabad, Pakistan

Dear Dr. Qureshi:

I would like to join Mr. Baum, Chairman of the Consultative Group on International Agricultural Research, in welcoming you to the CGIAR system and to congratulate you on your appointment to the Board of the International Board for Plant Genetic Resources.

With reference to Mr. Baum's letter of December 22, I am enclosing a set of documents on the CGIAR. They should provide you with a general background on the system, which comprises thirteen international agricultural research centers.

In addition to the descriptive brochure, I am sending you a copy of this year's Integrative Report and a recent commentary on the IBPGR prepared by the CG Secretariat. You might also be interested in reading the Report of the Second Review Committee dated November 1981 and a follow-up paper describing the implementation of the Committee's recommendations dated October 7, 1982.

If the CGIAR Secretariat can be of any assistance to you now or in the future, please do not hesitate to let me know.

Yours sincerely,

Curtis Farrar
Executive Secretary

Enclosures

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PAGE 1 OF 3

EXTENSION 75348

MESSAGE NUMBER

TEST NUMBER (FOR CASHIER'S USE ONLY)

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TO: TREVOR WILLIAMS, FOODARI

ROME, ITALY

THIS SECRETARIAT WILL SEND IMMINENTLY A MEMORANDUM TO EACH CENTER CONTAINING THE GUIDELINES FOR THE PREPARATION OF THE 1984 OR 1984/85 PROGRAMS AND BUDGETS. THE METHODOLOGY PROPOSED IS INFLUENCED BY DISCUSSIONS SECRETARIAT HAD LAST JUNE AND NOVEMBER WITH CENTER DIRECTORS AND TAC. THE GUIDELINES REQUEST EACH CENTER TO PRESENT TO TAC BY END MARCH 1983 A BUDGET REQUEST AT THE LEVEL OF A CENTER SPECIFIC BUDGET BASE, AN ITEMIZED AND PRIORITIZED FALLBACK LIST UP TO 7 PERCENT BELOW THE BUDGET BASE, AND AN ITEMIZED AND PRIORITIZED FORWARD LIST UP TO ABOUT 10 PERCENT ABOVE THE BUDGET BASE. FOR EACH CENTER THE BUDGET BASE IS BUILT UP FROM THE 1983 LEVEL OF OPERATIONS - DISCOUNTED FOR PROVISIONS FOR QQR - TO WHICH ARE ADDED A PROVISION FOR PRICE INCREASES, AND WHERE RELEVANT A PROVISION FOR INCREMENTAL WORKING CAPITAL AND A PROVISION FOR HIGH PRIORITY CAPITAL EXPENDITURES. SUM OF CENTERS BUDGET BASES AMOUNTS TO DOLLARS 183.5 MILLION GROSS, I.E. 10.9 PERCENT IN NOMINAL TERMS ABOVE 1983 FROM BOTTOM OF BRACKET. SUM OF CENTERS FALLBACK POSITIONS AT 7 PERCENT BELOW BUDGET BASES AMOUNTS TO DOLLARS 170.6 MILLION, I.E. 3 PERCENT IN NOMINAL TERMS ABOVE 1983 GROSS BOTTOM OF BRACKET. SUM OF CENTERS BUDGET

END OF TEXT

NOT TO BE TRANSMITTED

CLASS OF SERVICE: Telex TELEX NO.: 610181 DATE: 12/22/83

SUBJECT:

DRAFTED BY: J-P. Jacqmotte/lch

CLEARANCES AND COPY DISTRIBUTION: FILE G-12

AUTHORIZED BY (Name and Signature): J-P. Jacqmotte

DEPARTMENT: CGIAR Secretariat

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PAGE 2 OF 3

EXTENSION 75348

MESSAGE NUMBER

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PROPOSALS INCLUDING TO FORWARD LISTS AT 10 PERCENT WOULD AMOUNT TO DOLLARS 202 MILLION, I.E. 22 PERCENT ABOVE 1983 BOTTOM OF BRACKET. THIS SPREAD SHOULD ENABLE TAC TO RECOMMEND IN JUNE CENTER SPECIFIC BRACKETS OF GROSS FUNDING WITH TOTALS AT BOTH TOP AND BOTTOM FALLING BETWEEN DOLLARS 171 MILLION AND 202 MILLION. PRICE INCREASE FACTORS FOR 1984 WERE DEVELOPED FOR EACH CENTER BY THIS SECRETARIAT, DRAWING ON DIFFERENT SOURCES INCLUDING INFORMATION SUBMITTED BY CENTERS. THE COMBINATION OF ALL CENTERS PRICE FACTORS AMOUNTS TO 10.3 PERCENT, WHICH IS WELL BELOW THE 14 PERCENT PROJECTED EARLIER FOR 1984. IT HOWEVER TAKES INTO ACCOUNT LATEST DEVELOPMENTS AND PROJECTIONS OF INFLATION IN US DOLLAR MARKET, DOMESTIC INFLATION AND CURRENCY MOVEMENTS VERSUS US DOLLARS IN CENTERS' HOST COUNTRIES. GUIDELINES PROVIDE FOR EACH CENTER WORKING ASSUMPTIONS UNDERLYING THE CENTER SPECIFIC PRICE FACTOR ARRIVED AT. FOR IBPGR THE RELEVANT GUIDELINE FIGURES ARE COLON AAA BUDGET BASE OF DOLLARS 4.319 MILLION, INCLUDING 11 PERCENT PRICE PROVISION. BBB FALLBACK POSITION AT 7 PERCENT BELOW BUDGET BASE OF DOLLARS 4.017 MILLION. WITH REGARD TO FUNDS AVAILABLE BUT UNEXPENDED IN 1982, SINCE 1983 APPROVED BUDGETS CONSIST OF A BRACKET AND 1983 FUNDING BY CGIAR IS PRESENTLY ESTIMATED AT OR NEAR BOTTOM OF BRACKET, CARRYOVER FUNDS

END OF TEXT

NOT TO BE TRANSMITTED

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PAGE 3 OF 3

EXTENSION 75348

MESSAGE NUMBER

TEST NUMBER (FOR CASHIER'S USE ONLY)

START HERE

FROM 1982 TO 1983 SHOULD BE ADDED, REPEAT ADDED BY EACH CENTER TO 1983 CORE FUNDING BY CGIAR DONORS AND EARNED INCOME. ONLY WHERE THE SUM OF 1983 FUNDING, EARNED INCOME AND FUNDS BROUGHT FORWARD FROM 1982 IMPLY GROSS EXPENDITURE IN EXCESS OF 1983 TOP OF BRACKET, WILL 1983 NET REQUIREMENTS BE REDUCED BECAUSE OF FUNDS CARRIED FORWARD. SEASON'S GREETINGS. REGARDS, FARRAR.

END OF TEXT

NOT TO BE TRANSMITTED

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December 22, 1982

Dr. S. A. Qureshi
Director General Agriculture
(Research)
Ayub Agricultural Research
Institute
Faisalabad, Pakistan

Dear Dr. Qureshi:

I am writing on behalf of the Consultative Group on International Agricultural Research (CGIAR) to welcome you to the Board of Trustees of the International Board for Plant Genetic Resources (IBPGR) in Rome. Dr. Lennart Kahre, Chairman of that Board, will be writing to describe the terms of the appointment and your duties as a Trustee of the IBPGR Board.

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I am sending a copy of this letter to Dr. Kahre and to Dr. J. Trevor Williams, Executive Secretary of the IBPGR.

Sincerely,

Warren C. Baum
Chairman

cc: Dr. L. Kahre, IBPGR
Dr. J. Trevor Williams, IBPGR
Mr. C. Farrar, CGR

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CURTIS FARRAR EXECTIVE SECRETARY CGHAR INTBAFRAD

WASHINGTON DC USA

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FM QUENTIN JONES, S&E, ARS, NATIONAL PROGRAM STAFF, USDA

WASHDC

TO CURTIS FARRAR, EXECUTIVE SECRETARY, CGIAR, INTRAFRAD

WASHINGTON, DC

BT

DECEMBER 20, 1982

PLEASED TO ACCEPT APPOINTMENT BY THE CUNSULTATIVE GROUP ON INTERNATIONAL AGRICULTURAL RESEARCH TO A SECOND THREE-YEAR TERM ON THE INTERNATIONAL BOARD FOR PLAN GENETIC RESOURCES. I UNDERSTAND THAT THIS APPOINMENT IS FOR THE PERIOD FROM JANUARY 1, 1983 THROUGH DECEMBER 31, 1985. I THANK THE CGIAR FOR GIVING ME THIS HONOR AND OPPORTUNITY.

BT

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FORM NO. 27 - OCR
(3/82)

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TO:

BOOK OF TWO

1. DR. S.A. QURESHI, DIRECTOR GENERAL AGRICULTURE (RESEARCH)
AYUB AGRICULTURAL RESEARCH INSTITUTE, FAISALABAD, PAKISTAN
CABLE IBF/W41

2. DR. XU YUNTIAN, DEPUTY DIRECTOR, INSTITUTE OF CROP GERMPLASM
RESOURCES, CHINESE ACADEMY OF AGRICULTURAL SCIENCES
BEIJING, CHINA
CABLE FR/W41

END OF TEXT

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SUBJECT: File G-12/Disk 50

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DEPARTMENT: CGIAR Secretariat

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PAGE 1 OF 1

EXTENSION 75349

MESSAGE NUMBER

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PLEASED TO INFORM YOU THAT MEMBERS OF THE CONSULTATIVE GROUP ON INTERNATIONAL AGRICULTURAL RESEARCH HAVE APPROVED THE PROPOSAL BY THE BOARD OF THE IBPGR THAT YOU BE APPOINTED TO THAT BOARD FOR A THREE-YEAR TERM BEGINNING JANUARY 1, 1983. THE CHAIRMAN OF THE GROUP HAS ACCORDINGLY SO APPOINTED YOU. WE ARE ADVISING THE CHAIRMAN OF THE BOARD AND THE EXECUTIVE SECRETARY OF THE IBPGR SIMULTANEOUSLY. PLEASE CONFIRM YOUR WILLINGNESS TO SERVE BY TELEX TO ME AT INTBAFRAD, WASHINGTON, D.C., TELEX NUMBER 440098 WORLDBANK. REGARDS, CURTIS FARRAR, EXECUTIVE SECRETARY, CGIAR

END OF TEXT

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PAGE [ ] OF [ ]

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START HERE

TO:

BOOK OF TWO

1. DR. QUENTIN JONES, BARC-WEST, SCIENCE AND EDUCATION ADMINISTRATION/AGRICULTURAL RESEARCH, US DEPT OF AGRICULTURE, BELTSVILLE, MARYLAND 20705

CABLE NL/WUT

2. H.E. DR. DJIBRIL SENE, MINISTER FOR HIGHER EDUCATION AND SCIENTIFIC RESEARCH, ADMINISTRATIVE BUILDING, AVENUE ROUME, DAKAR, SENEGAL

CABLE LT/WUT

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PAGE 1 OF 1

EXTENSION 75349

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G-12

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PAGE OF

EXTENSION

MESSAGE NUMBER

TEST NUMBER (FOR CASHIER'S USE ONLY)

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TO:

BOOK OF TWO

1. DR. LENNART KAHRE, SWEDISH SEED TESTING AND CERTIFICATION INSTITUTE, S-17173, SOLNA, SWEDEN

FR/WGI

CABLE

L/C 2. TREVOR WILLIAMS, FOODAGRI
ROME, ITALY

43
TELEX 610181 FAO I

END OF TEXT

NOT TO BE TRANSMITTED

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SUBJECT FILE G-12/Disk 50

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PAGE 1 OF 1

EXTENSION 75349

MESSAGE NUMBER

TEST NUMBER (FOR CASHIER'S USE ONLY)

START HERE

TO DR. LENNART KAHRE. CC: FOR INFORMATION DR. TREVOR WILLIAMS.

PLEASED TO INFORM YOU THAT THE MEMBERS OF THE CONSULTATIVE GROUP ON INTERNATIONAL AGRICULTURAL RESEARCH HAVE APPROVED THE PROPOSALS MADE BY THE IBPGR BOARD AND CONTAINED IN THE SECRETARIAT'S CIRCULAR OF OCTOBER 25, 1982, THAT (1) DRS. JONES AND SENE BE REAPPOINTED FOR A FURTHER THREE-YEAR TERM AND (2) DRS. QURESHI AND XU YUNTIAN BE APPOINTED FOR A FIRST THREE-YEAR TERM. THESE TERMS RUN FROM JANUARY 1, 1983 TO DECEMBER 31, 1985. I HAVE ADVISED THE CANDIDATES BY TELEX OF THEIR APPOINTMENTS AND WILL INFORM YOU WHEN THEY ACCEPT. I SHOULD BE GRATEFUL IF YOU COULD PROVIDE THE NEW APPOINTEES WITH INFORMATION RELATING TO THEIR DUTIES ON THE IBPGR BOARD. MR. BAUM WILL BE SENDING THEM A LETTER WELCOMING THEM AND THE SECRETARIAT WILL PROVIDE THEM WITH INFORMATION ON THE CG SYSTEM. REGARDS, CURTIS FARRAR, EXECUTIVE SECRETARY, CGIAR

END OF TEXT

NOT TO BE TRANSMITTED

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(FOODAGRI ROME - WILLIAMS)

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SCIENCE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE
1515 MASSACHUSETTS AVENUE, NW, WASHINGTON, D.C. 20005 • 202—467-4350

11 December 1983

Dr. D.L. Plucknett
International Agricultural Research
World Bank
1818 H Street, N.W.
Washington, D.C. 20433

Dear Dr. Plucknett:

We are glad to accept for publication in Science your article entitled "Crop Germplasm Conservation and Developing Countries". Some revision is necessary, however, and I am now enclosing the referees' comments as well as marked copies of the manuscript.

Our main concern is the length of the paper, and we must aim for only 20 pages of text including the References and Notes (there are now 24 by my counting). Figure 2 should be omitted, and the tables can be reduced in length or discussed with Nigel Smith on January 7. I have indicated directly on the manuscript some paragraphs that might be shortened or omitted. I hope that you will find other places to cut as well.

The less enthusiastic referee has made some comments directly on the manuscript. Some of these need attention. I will leave it to you to decide what to do about the suggestions made in paragraphs 2 and 3 of the complimentary review, and will hope that for every word you add you will subtract at least two. I think that footnote 9 should remain.

We will look forward to receiving the revised manuscript.

Yours sincerely,

Ruth Kulstad

Ruth Kulstad
Senior Editor

RK:dr

Enclosures

Copy Ball sent to Nigel Smith.

banks were included for each crop, with a summary of the number of other collections, the number of long-term storage facilities available, etc. Footnote 9 is not especially useful and could be omitted if reference were made to some other index of acronyms.

A brief layman's definition of "germplasm" in the introductory paragraphs would be helpful.

The following comments refer to numbered points in the text.

1. Page 1, para 1. Add "Crop monocultures in many productive farming areas are thus increasingly susceptible to environmental stresses and to..."

2. Page 9, para 2. Nurseries or plantations of vegetatively propagated germplasm are especially vulnerable to destruction by disease, natural disasters and political change.

3. Page 9, para 4. Some mention might be made of the complex issues raised by in situ conservation, such as how the costs and the benefits will be shared, and how developing countries can be motivated to forego development of such areas.

4. Page 11, para 1. The statement that CIMMYT and Pakistan have the only medium-term storage facilities for wheat in the developing world is confusing because several other countries are listed as having medium/long-term facilities in Table 1, page 12 (Ethiopia, Argentina, Turkey, Afghanistan).

Return To author marked by reference??

Crop Germplasm Conservation and Developing Countries

D. L. Plucknett, N. J. H. Smith, J. T. Williams, N. Murthi Anishetty

Summary. Erosion of the genetic diversity of some of the world's crops has accelerated since the second world war. Many productive farming areas are thus increasingly susceptible to adverse weather and to severe attack by pests and diseases. Reasons for the shrinking of the genetic base of crops are explored and the value of conserving those resources through germplasm banks is discussed.

To feed the growing human population, plant breeders have concentrated on raising the yield ceiling of crops and on improving stability. These efforts have generally been successful. In the last 50 years, for example, most of the increased production by U.S. farmers has come from increased yields rather than an expansion of area under the plow. And the great strides made by India to feed herself in the last 15 years are largely due to the release of high-yielding varieties (HYVs) of wheat and rice rather than the opening up of new farm lands (1).

Why single out India Pakistan Turkey, etc same story

While yields have been generally increasing, the genetic base of most of the crops important ~~in commerce and subsistence~~ has been narrowing. The main forces behind the genetic ~~erosion~~ of crops include the

food

The consequence has been genetic vulnerability.

vulnerability

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widespread adoption of HYVs, ~~shifts to monoculture, land clearing, overgrazing, and the extinction of tribal cultures with their indigenous varieties or landraces, Species attrition is a normal evolutionary process and many landraces were abandoned by farmers before the arrival of modern varieties. But the tempo and scale of crop genetic erosion are unprecedented and have been particularly pronounced since the second world~~ war (2). In the last 40 years, 95% of Greece's wheat varieties have been abandoned, and virtually all of the sorghum races of South Africa disappeared after the introduction of high-yielding Texas hybrids (3).

When vast areas are planted to a single variety, agricultural productivity can become vulnerable to factors that limit yields (4). In 1846, the late blight fungus Phytophthora infestans cut Ireland's potato production in half and triggered a mass emigration; the country's basic staple was vulnerable because it was derived from only a handful of introductions. The susceptibility of a parental line of hybrid maize to another blight-causing fungus, Helminthosporium maydis, caused an average 15% reduction of U.S. maize yields in 1970 and cost farmers hundreds of millions of dollars in lost production. In the Soviet Union, the Bezostaja wheat variety spread outside its original area of cultivation during a period of relatively mild winters. By 1972 the variety covered 15 million ha, but a return of cold weather that year resulted in the loss of millions of tons of winter wheat (5), thereby forcing Russia to import even more food.

To counteract the genetic vulnerability of crops, germplasm collections have been assembled to provide material for breeders attempting to combat problems caused by diseases, pests, poor soils, and harsh weather. The fact that massive crop failures due to such factors

have not occurred on the scale of the Irish potato famine can be attributed in large part to the success of agricultural science and to the availability of genebanks. U.S. maize production rebounded the year following the 1970 southern corn leaf blight outbreak because breeders had access to genetic materials that had been evaluated and improved. Genebanks are thus becoming a pivotal part of agricultural research.

Genebank Genesis

Until the 1960s, most germplasm collections were held by the developed nations which financed explorations in various centers of diversity of crops, especially for the major cereals. In past decades, many temperate zone countries gathered promising plants both at home and in the tropics and these were usually assembled in botanical gardens, such as Kew Gardens in London. Plants were maintained outdoors in plots, in glasshouses, and to a lesser extent as seeds kept at ambient temperature. The technology for storing crop germplasm under refrigeration only emerged in this century. The Soviet Union gained an early lead in collecting and conserving plant genetic resources due to the work of V.I. Vavilov who set up the All-Union Institute of Plant Industry (VIR) in the 1920s, but long-term storage facilities for germplasm were not instituted until the 1970s. The United States has collected and evaluated crop germplasm since the last century, but it was not until 1949 that the nation established a center for conservation of crop germplasm, the Inter-Regional Potato Introduction Project at Sturgeon Bay, Wisconsin. The first national facility for the deep-freeze preservation of seed crops, the National Seed Storage Laboratory (NSSL) operated by the U.S. Department of Agriculture, was built at Fort Collins, Colorado, in 1958 (6). Germplasm collections in Western Europe, Canada, and Australia are generally smaller and less comprehensive than those of the U.S. and the Soviet Union. Australia, for

example, concentrates on the collection of wild plants for its forage and pasture improvement research.

Although genebanks in industrial countries have assisted plant breeders in the Third World, an awareness has emerged that more collecting and preservation are needed for the genetic resources of tropical and sub-tropical crops. The Food and Agricultural Organization of the United Nations (FAO) has spearheaded the effort to bring the issue of germplasm conservation to the attention of the world community. In 1961, FAO organized the first international technical meeting on plant exploration and introduction, and a panel of experts on the topic was established four years later. Two further international technical conferences on crop genetic resources in 1967 and 1973 recommended that a global network of crop genebanks be established. Echoing this concern, the 1972 U.N. Conference on the Human Environment adopted a resolution calling for an international program for preserving the germplasm of tropical and sub-tropical crops. In the same year, the newly established Consultative Group on International Agricultural Research (CGIAR) convened a working group at Beltsville, Maryland, which strongly urged the creation of a network of nine regional genetic resource centers and a series of crop-specific institutions consisting mostly of International Agricultural Research Centers (IARCs). The International Board for Plant Genetic Resources (IBPGR) was established in 1974 as an outgrowth of CGIAR involvement in this effort. IBPGR has its headquarters at FAO in Rome.

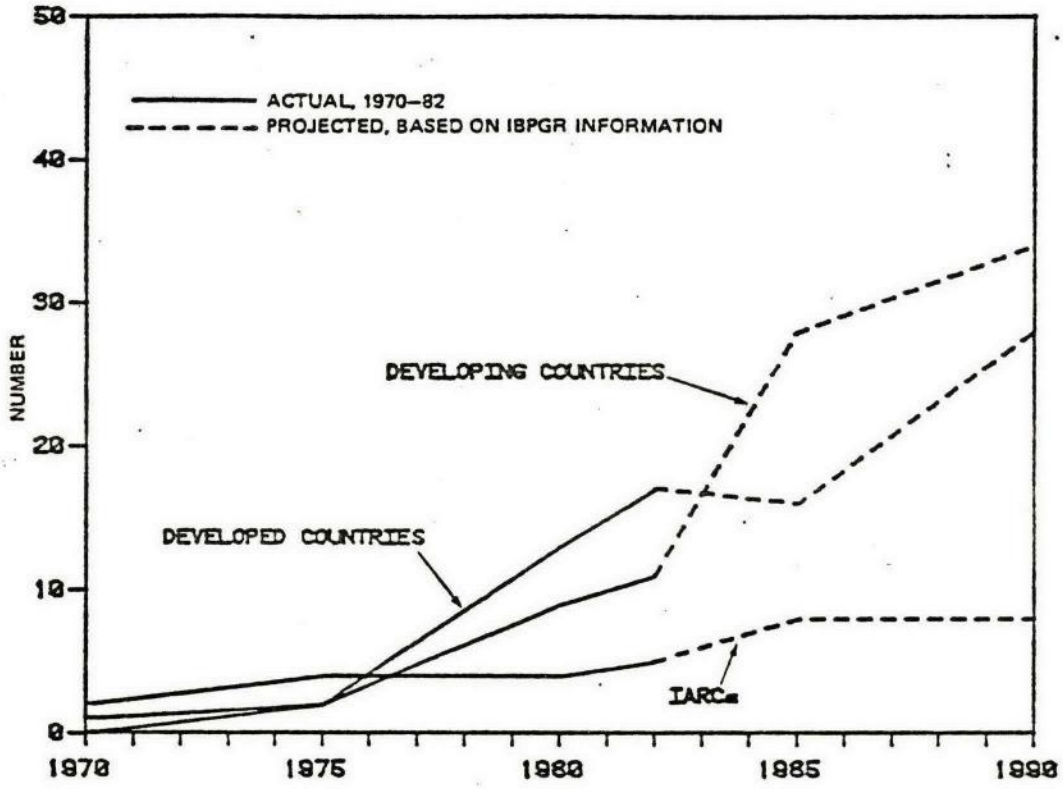
The rising chorus of concern for the conservation of crop genetic resources has fortunately spurred concrete action. In 1975, an FAO survey revealed that only 8 institutions in the world were operating facilities for the long term storage of seeds, whereas 7 years later the total had reached 33. By 1984, the less developed countries are expected to

overtake the industrial nations in the number of genebanks with long term storage capacity (Figure 1).

IBPGR has played a central part in stimulating the development of germplasm storage facilities in the Third World despite its small staff of 6 scientists at headquarters, 2 in Washington, and a modest annual operating budget of under US$4 million. In the Third World, the Board fields 5 regional officers for Southwest and Central Asia (stationed at Aleppo, Syria), Southeast Asia (Bangkok), Western Africa (Upper Volta), East Africa (Nairobi), and Latin America (Cali, Colombia). IBPGR supports missions to collect plant germplasm, helps upgrade genebanks, improves documentation, and strengthens training programs. The Board provides pump-priming money for germplasm work and acts as a catalyst. IBPGR-sponsored activities now span over 80 countries and involve more than 120 species, 50 of them crops.

IBPGR has not acted as the sole catalyst for genebank construction and germplasm evaluation in developing countries. The Federal Republic of Germany has helped to establish two regional long term storage facilities at the Plant Genetic Resources Center (PGRC) in Addis Ababa, Ethiopia, and at CATIE (Centro Agronomico Tropical de Investigacion y Ensenanza) near Turrialba, Costa Rica. The Inter-American Development Bank has assisted Brazil in launching its genetic resources program within EMBRAPA (Empresa Brasileira de Pesquisa Agropecuaria). New or additional storage facilities are planned or under construction in Thailand (with financial support from Japan and IBPGR), Pakistan (World Bank), India (U.K.), the People's Republic of China (Rockefeller Foundation), Bangladesh (Asian Development Bank), and Bulgaria (UNDP). Other organizations that have assisted germplasm conservation efforts include FAO, the Ford Foundation, the governments of Australia, Japan and

FIGURE 1: THE NUMBER OF GENEBANKS FOR LONG-TERM STORAGE OF CROP GERMPLASM THAT WERE IN OPERATION BETWEEN 1970 AND 1982 AND PROJECTED TO 1990 (IBPGR, 1982)



(Certainly the USDA has done far more on all than the NAS)

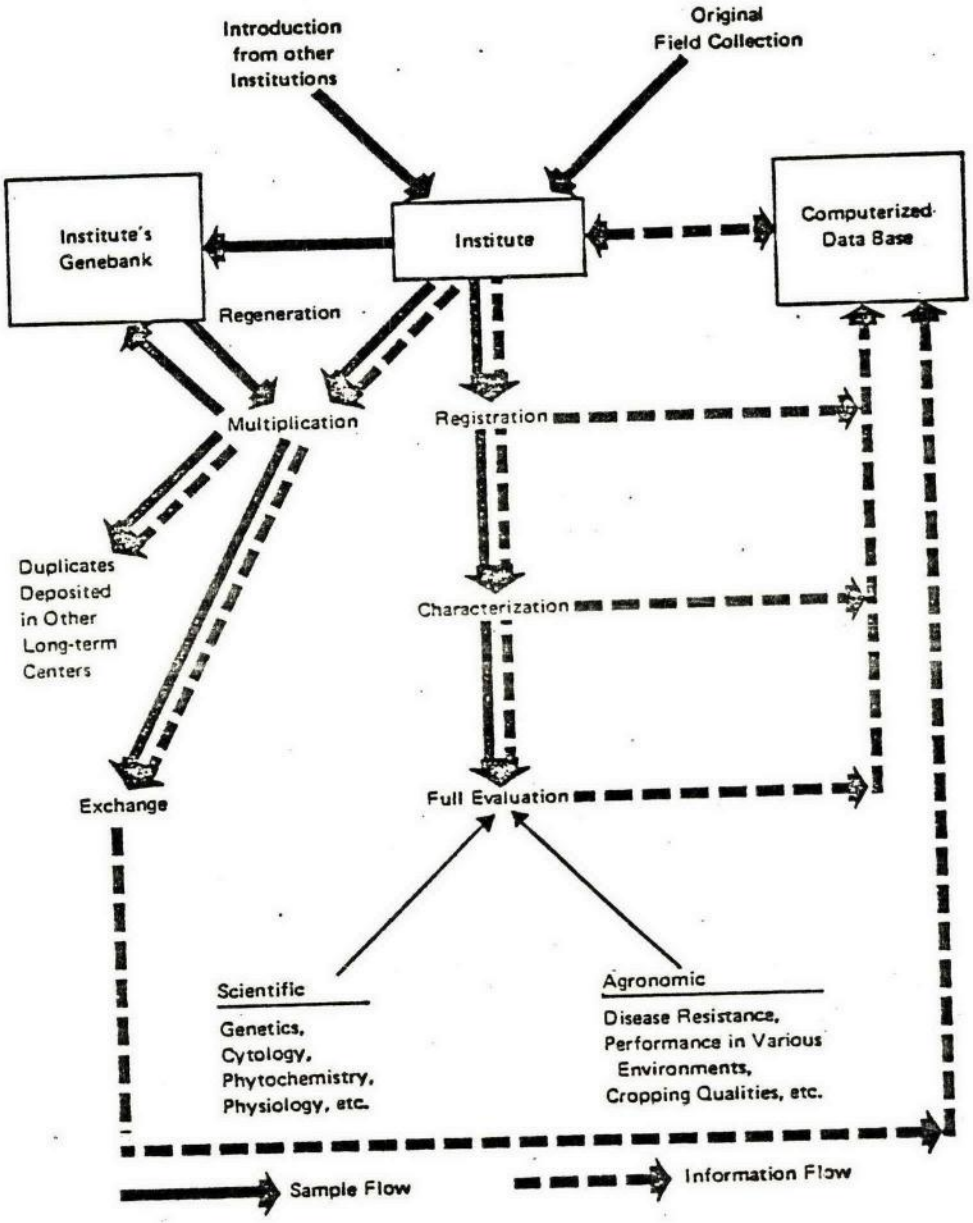
Sweden, the U.N. Environment Program, and the U.S. National Academy of Sciences. Approximately US$55 million was spent worldwide on plant genetic resource activities in 1982 (7).

Principles and Operation of Genebanks

The general steps and procedures in germplasm conservation and evaluation are summarized in Figure 2. Three principles guide work in the collection, conservation, and exchange of germplasm. First, when an accession is gathered a sample is left in the country of origin for national use. Second, germplasm is to be freely available to all bona fide workers, and third, all long term collections are duplicated and maintained in another location. To be useful to plant breeders, a genebank must have information that is easily retrieved and understood about the material in stock. The first step in germplasm conservation is to compile a checklist of characters about the plant and to describe the environment in which it grows. Field data are ideally entered later into a computer. Before being placed in cold storage, the sample is often multiplied to increase the number of seeds or tubers and to obtain sufficient material to send to other institutions. The next step, evaluation, is best performed by specialists in such fields as pathology, entomology, plant physiology, and agronomy.

Germplasm of crops grown from true seed is stored in three main types of banks. In long term genebanks, known as base collections, samples are stored at -10° to -20° C for several decades or potentially up to a century in some cases. In medium term facilities, seeds are maintained between 0 to 5° C for up to 20 years. In short term collections, germplasm is kept at ambient temperatures or under refrigeration above 5° C. Under such conditions seeds may last a few years. In all three types of collections, the moisture content of

FIGURE 2: PROCEDURES IN EVALUATION AND HANDLING OF ACCESSIONS IN CROP GERMPLASM BANKS



seeds is usually lowered before storage. Medium- and short-term facilities are referred to as active or working collections; samples are constantly withdrawn for evaluation and breeding purposes. Germplasm in base collections is rarely disturbed.

Germplasm of vegetatively propagated crops is difficult to maintain and usually must be grown continuously or replanted frequently. For this reason, some tropical and sub-tropical crops have not been adequately collected or maintained.

Some genebanks, particularly in developing countries, have experienced difficulties with machinery, power supplies, and information storage. Some genebanks still use file cards and logbooks to record information about samples, thereby retarding the flow of information. Evaluation of accessions is necessary if germplasm is to be used effectively, but this vital step often lags due to financial and manpower constraints. Duplicates of records, as well as seeds and clones, are needed to prevent loss or damage by fire or accident.

As habitat modification endangers wild relatives of crops and more landraces disappear, genebanks can help to preserve genes for qualities important in crop breeding such as disease or drought resistance. But when seeds are grown in the field for regeneration, the genetic make-up of accessions can change due to genetic drift, accidental hybridization, and different selection pressures in nurseries (8). Genebanks are thus no substitute for the preservation of wild areas. However, in situ conservation of landraces is more difficult since landraces are dependent upon man for survival. Genetic erosion of landraces is not uniform; half of the wheat area in the Third World, for example, is still planted with traditional varieties, and HYVs account for

only one quarter of the area planted to rice in developing countries. Primitive cultivars account for most of the maize cultivated outside of the industrial nations.

Exchange of germplasm must take place without transmission of disease or insects. For most crops, except for seed-transmitted viruses, this is less a problem than it is for vegetatively-propagated crops. To reduce risk of transmitting diseases, tissue culture is being used increasingly to ship germplasm of vegetatively propagated crops.

The increasing use of patents or plant breeder's rights established for certain cultivated plants has stirred concern that breeders will be reluctant to exchange germplasm. However, germplasm material of food crops moves regularly in scientific circles and most institutions willingly exchange samples. Another potential obstacle to the flow of germplasm may arise if governments object to foreigners collecting crop samples to send back to their home institutions. Such concerns are usually assuaged when collections are carried out jointly and when duplicates are left in the countries in which collections are made (a policy of FAO and IBPGR). Unfortunately, not all developing countries have adequate facilities for preserving seed and vegetative specimens, or sufficient maintenance for refrigeration equipment. At the very least, then, germplasm specimens should be freely available to plant breeders working in the national programs.

(Genebanks never exhaust an accession by sending out sub-sets of it)

Status of Germplasm Collections

Cereals account for the overwhelming proportion of accessions in genebanks. The size of a collection, though, is not necessarily commensurate with its value; its effectiveness in serving breeding programs is the crucial issue. Nevertheless, the number of accessions in

only in a "present time" sense
The most important aspect is the degree to which it represents the range of diversity within a species or group of closely related species. Breeding objectives will change, and future objectives can only be hedged by having as-wide-as possible a range of diversity in the genebank

a genebank provides a rough measure of the level of activity and of the relative importance given to particular crops. Wheat, domesticated in the Middle East, accounts for over 400,000 entries in genebanks (Table 1). Facilities for long term storage of wheat germplasm are also concentrated in the industrial nations; VIR in Leningrad (USSR), NSSL at Fort Collins (USA), and the Instituto del Germoplasma at Bari, Italy, house the most extensive collections (Table 1). In the Third World, the largest wheat genebanks are found at CIMMYT (Centro Internacional de Mejoramiento de Maiz y Trigo) near Mexico City, and at ICARDA (International Center for Agricultural Research in the Dry Areas) at Aleppo, Syria. CIMMYT maintains a medium term collection of 50,000 tropical and sub-tropical wheats and triticale (a cross between wheat and rye), while ICARDA holds some 17,000 wheat samples. With the help of the Japanese government, CIMMYT completed facilities for medium term storage of wheat in 1982 and now joins Pakistan's Agricultural Research Council (ARC) as the only such genebanks for wheat in the developing world. Wheat breeders throughout the world still rely heavily on the small grains collection at Beltsville and on the NSSL for material.

Table 1. Wheat (Triticum spp.) accessions in germplasm banks (9)

Accessions	Storage	Institution	Location
63,000	medium, long	VIR*	Leningrad, U.S.S.R.
50,000	medium	CIMMYT	El Batan, Mexico
46,186	long	NSSL*	Fort Collins, U.S.A.
36,710	medium	USDA ~~Germplasm Resources Lab.~~ National Small Grains Collection	Beltsville, U.S.A.
31,000	short	ARO	Bet Dagan, Israel
26,000	medium, long	Instituto del Germoplasma*	Bari, Italy
20,200	long	New South Wales Dept. Agric.	Tamworth, Australia
20,000	short 1/	CGI	Beijing, China
17,000	short	ICARDA	Aleppo, Syria
13,600	short 1/	IPIGR	Plovdiv, Bulgaria
10,000	medium, long	Zen. Gen. Kulturplanzen	Gatersleben, D.R. Germany
8,520	medium, long	FAL	Braunschweig, F.R. Germa
8,000	short	IHAR	Radzikow, Poland
7,000	short	CNPT	Passo Fundo, Brazil
6,000	short	Res. Inst. Cer. Tech. Plants	Fundulea, Romania
6,000	medium	ARC	Islamabad, Pakistan
6,000	medium, long	Plant Genetic Resources Cen.	Addis Ababa, Ethiopia
5,000	medium, long	Inst. Gen. Plant Breeding	Prague, Czechoslovakia
4,852	medium, long	INTA	Pergamino, Argentina
4,611	medium	Plant Germplasm Inst.	Kyoto, Japan
4,000	short	Shensi Province Acad.	Wukung, China
4,000	medium	ARARI	Menemen, Turkey
4,000	medium	SVP	Wageningen, Netherlands
4,000	medium, long	NIAS	Tsukuba, Japan
4,000	medium	Nat. Inst. Agrobotany	Tapioszele, Hungary
3,000	medium, long	PBI	Cambridge, U.K.
2,500	short	INRA	Versailles, France
2,000	short	Univ. California	Riverside, U.S.A.
1,726	medium	Darul Aman Res. Sta.	Kabul, Afghanistan

1/ long-term facility being constructed.

* IBPGR-designated base collections.

why not put this in tabular form as for wheat?

With about 200,000 accessions, collections of rice germplasm are not as large as those of wheat. Rice is a basic staple in much of the Third World, especially in southeast Asia where the crop was domesticated. Seven of the ten largest rice genebanks are in developing countries (Table 2). The main genebanks for tropical rices are located at the International Rice Research Institute (IRRI) in the Philippines, various national centers in India, the West Africa Rice Development Association (WARDA) in Liberia, and the International Institute for Tropical Agriculture (IITA) in Nigeria. Japan and the U.S. house major collections of temperate rices.

Since its inception in 1962, IRRI has assembled the world's largest rice genebank. The center's rice collection is especially useful because of the care taken to record information about samples. Each entry is checked for 45 morphological and agronomic qualities. Fresh seeds are prepared for short, medium, and sometimes long term storage, while duplicates are sent to NSSL. The computerized germplasm information base is being expanded to handle an expected 125,000 accessions by 1985. The rice genebank at IITA in Ibadan, Nigeria, concentrates on upland varieties, now approaching 4,000 accessions which are held in medium term storage; a long term storage facility became operational in 1982. IITA, especially with IBPGR inputs, is also acquiring a collection of an African domesticated rice, Oryza glaberrima, a task shared by IRRI (Table 2). IITA assists WARDA in its germplasm work which concentrates on assembling African paddy rices, now totalling 8,000 entries.

Much remains to be done with the conservation of other tropical cereals. Maize, for example, is an important staple in many parts of Latin America, Africa, and India, but only two long-term

Table 2. Rice (*Oryza spp.*) accessions in germplasm banks (9)

Species	Accessions	Storage	Institution	Location
Common rice (*O. sativa*)	60,000	medium, long	IRRI*	Los Banos, Philippines
	30,000	medium	IARI	New Delni, India
	18,065	long	NSSL*	Fort Collins, U.S.
	18,000	medium, long	NIAS*	Tsukuba, Japan
	15,249	medium	CRRI	Cuttack, India
	11,230	short	Agric. Res. Cen.	Beltsville, U.S.A.
	8,226	medium	WARDA	Monrovia, Liberia
	6,000	medium	Cen. Res. Inst. Agric.	Bogor, Indonesia
	5,100	medium	Bangladesh Rice Res. Institute	Dacca, Bangladesh
	4,600	medium, long	Koitotron Seed Bank	Penang, Malaysia
	4,227	medium, long	Agric. Exp. Sta.	Suweon, Korea
	4,000	short	Bangkhen Rice Sta.	Bangkok, Thailand
	3,765	medium 1/	IITA*	Ibadan, Nigeria
	3,500	medium, long	VIR	Leningrad, U.S.S.I
	3,200	short	INTA	Cordoba, Argentin
	2,516	medium	Cen. Agric. Res. Inst.	Gannoruwa, Sri La
	2,500	short	CGI	Beijing, China
	2,500	short	Taiwan Agric. Res. Inst.	Taipei, Taiwan, China
	2,000	short	Inst. Rech. Agron.	Tananarive, Malag
	1,500	short	Chitedze Agric. Res. Sta.	Lilongwe, Malawi
	1,404	medium	ARC	Islamabad, Pakist
	1,000	short	ICA	Colombia
	1,000	short	ORSTOM	Paris, France
African rice (*O. glaberrima*)	2,575	medium, long	IRRI*	Los Banos, Philippines
	1,515	medium	IITA*	Ibadan, Nigeria

1/ long-term facility about to be operational.

* IBPGR-designated base collections.

genebanks for maize are located in the Third World, one in Argentina and the other in the Philippines (Table 3). Furthermore, the long term maize collections at INTA (Instituto Nacional de Tecnologia Agropecuaria) at Pergamino and the Institute of Plant Breeding (IPB) at Los Banos contain under 5,000 accessions. The largest maize genebanks are found in the Soviet Union and in Yugoslavia where 30,000 accessions are kept under medium- and long-term storage. The University of Illinois serves as a repository of maize mutants and holds more than 100,000 samples for use by the world research community (G.B. Fletcher, pers. comm.). In the Third World, CIMMYT and Mexico's national program, INIA (Instituto Nacional de Investigaciones Agricolas), have the largest short-term collections of the cereal, with 14,000 and 8,000 accessions respectively. The CIMMYT maize genebank contains entries from over 50 countries and gains some 500 (no longer true, CIMMYT says) accessions each year. Domesticated maize comprises most of CIMMYT's working collection, but wild relatives such as annual teosinte (Zea mexicana) and the recently discovered perennial maize (Z. diploperennis) are also included.

Sorghum (Sorghum bicolor) is used mainly for livestock feed and to manufacture syrup in the industrial nations, but in the drier regions of Africa and India it is a food for millions of people. Despite its widespread prominence as a food, sorghum is poorly represented in genebanks. The PGRC in Ethiopia is the only facility in the Third World for long-term storage of sorghum germplasm (Table 4). NSSL and VIR are the only other long term genebanks for sorghum. The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) has the largest collection with 24,000 samples kept in a medium term genebank. With help from the Japanese government and the Asian Development Bank, ICRISAT

Table 3. Maize (Zea mays) accessions in germplasm banks (9)

Accessions	Storage	Institution	Location
15,084	medium, long	VIR*	Leningrad, U.S.S.R.
15,000	medium	Inst. Maize Research	Belgrade, Yugoslavia
14,000	medium	CIMMYT	El Batan, Mexico
11,000	medium	INIA	Mexico City, Mexico
7,619	long	NSSL*	Fort Collins, U.S.A.
5,006	short	ICA	Colombia
3,444	medium	Univ. Nac. Agr. La Molina	Lima, Peru
3,200	short	Res. Inst. Cer. Tech. Plants	Fundulea, Romania
3,000	medium, long	INTA	Pergamino, Argentina
2,800	long	Ottawa Res. Sta.	Ottawa, Canada
2,654	medium, long	NIAS*	Tsukuba, Japan
2,607	medium	North Cent. Reg. Pl. Intr. Sta.	Ames, U.S.A.
2,220	medium	Cen. Inv. Fit. Eco. Pairunani	Cochabamba, Bolivia
1,645	short	INIAP	Ecuador
1,571	short	IARI	New Delhi, India
1,500	medium	Nat. Agric. Res. Sta.	Kitale, Kenya
1,332	medium, long	Inst. Plant Breeding	Los Banos, Philippin
1,306	medium	Maize Res. Inst.	Trnava, Czechoslovak
1,040	medium	INIA	Madrid, Spain
1,000	short	Choong-Nam Nat. Univ.	Daejeon, Korea
600	medium 1/	Maize Institute*	Bruga, Portugal
(to be acquired)	(long) 1/	TISTR*	Bangkok, Thailand

1/ Long-term facility under construction.

* IBPGR-designated base collections.

Table 4. Sorghum (Sorghum bicolor) accessions in germplasm banks (9)

Accessions	Storage	Institution	Location
24,000	medium 1/	ICRISAT*	Hyderabad, India
14,000	long	NSSL*	Fort Collins, U.S.A.
9,815	short	USDA/SEA-AR	Experiment, GA, U.S.A.
9,615	medium, long	VIR	Leningrad, U.S.S.R.
5,000	medium, long	PGRC*	Addis Ababa, Ethiopia
4,900	short	Res. Inst. Cer. Tech. Plants	Fundulea, Romania
4,610	short	U.S. Sugar Crops Field Sta.	Meridian, U.S.A.
4,000	short	Mayaguez Inst. Trop. Agric.	Mayaguez, Puerto Rico
4,000	short	Am. Sorg. Proj.	Tihama, Yemen
3,000	short	CGI	Beijing, China
3,000	medium	INIA	Mexico City, Mexico
2,700	short	Estacion Exp. Agro.	Manfredi, Argentina
2,626	medium	ORSTOM	Bondy, France
2,000	short	IARI	New Delhi, India
1,500	short	CGI	Beijing, China
1,500	short	Kasetsart Univ.	Bangkok, Thailand
1,000	short	Cunningham Lab.	St. Lucia, Australia

1/ long-term facility under construction.

* IBPGR-designated base collections.

expects to complete construction of a long-term facility in 1983. ICRISAT's sorghum accessions have increased markedly since 1978 when there were 15,000 entries (10), but even though the genebank contains samples from 68 countries, many landraces have not been collected.

Barley (Hordeum vulgare) is relatively well represented in genebanks, but collections are held mostly in the developed world (Table 5). In the industrial nations, barley is used mostly by brewers and as an animal feed, but in tropical highlands and in the drier portions of the sub-tropics, the cereal is a human food. The CNPT (Centro Nacional de Pesquisa de Trigo) in Brazil, ICARDA, and CIMMYT hold the largest barley germplasm collections in the Third World. Some barleys are drought and frost tolerant and can be used in wide crosses with other cereals, such as wheat. Many landraces of tropical highlands remain to be collected.

The millets, comprising some dozen species in 6 genera, seldom enter world trade but they are nevertheless a valuable human food in arid portions of Africa, Asia, and the Mediterranean region. Millets thrive in diverse problem environments, including areas with poor soils or subject to drought, hence their importance to millions of rural folk in the Third World. Only a handful of genebanks preserves millet germplasm (Table 6) and only one institution, ICRISAT, has facilities near completion for long term storage for these cereals. Pearl millet (Pennisetum typhoides) is the best represented of the millets in genebanks; ICRISAT has a collection of 14,000 accessions gathered in 25 countries (Table 6). Entries of other millets total less than 20,000 in all genebanks.

Table 5. Barley (*Hordeum spp.*) accessions in germplasm banks (9)

Accessions	Storage	Institution	Location
25,284	long	NSSL	Fort Collins, U.S.A.
23,371	medium	Agric. Res. Sta.	Beltsville, U.S.A.
21,000	long	Plant Gene Resources Office*	Ottawa, Canada
19,500	short	CNPT	Passo Fundo, Brazil
17,459	medium, long	VIR	Leningrad, U.S.S.R.
13,900	long	Nordic Gene Bank*	Lund, Sweden
13,000	medium	ICARDA	Aleppo, Syria
10,200	medium, long	Zen. Gen. Kulturplanzen	Gatersleben, D.R. Germany
10,000	short	CIMMYT	El Batan, Mexico
6,025	medium	Barley Germplasm Centre	Kurashiki, Japan
5,263	medium, long	NIAS*	Tsukuba, Japan
5,017	medium, long	FAL	Braunschweig, F.R. Germany
5,000	medium, long	Plant Genetic Resources Cen.*	Addis Ababa, Ethiopia
4,900	medium, long	PBI	Cambridge, U.K.
4,500	short	IHAR	Radzikow, Poland
3,500	short	Res. Inst. Cer. Tech. Plants	Fundulea, Romania
3,200	short	IPIGR	Plovdov, Bulgaria
3,100	short	SCRI	Edinburgh, U.K.
3,000	short	IARI	New Delhi, India
2,600	medium	ARC	Islamabad, Pakistan
2,500	short	Joseph Nickerson Res. Cen.	Lincoln, U.K.
2,500	medium, long	Research Inst. Plant Prod.	Praha, Czechoslovakia
2,300	medium	SVP	Wageningen, Netherlands
2,000	medium	CSIRO	Canberra, Australia
1,504	short	Exp. Breeding Sta.	Bakow, Poland
1,460	medium	Res. Inst. Plant Prod.	Bratislavska, Czechoslovak
1,333	medium	Cereal Inst.	Thessaloniki, Greece
1,275	short	CNIA	Buenos Aires, Argentina
1,240	short, medium	Inst. Plant Breeding	Jokioinen, Finland
1,000	short	ARO	Bet Dagan, Israel
1,000	medium, long	Instituto del Germoplasma	Bari, Italy

* IBPGR-designated base collections.

Table 6. Millet accessions in germplasm banks (9).

Species	Accessions	Storage	Institution	Location
Pearl millet (*Pennisetum typhoides*)	14,340	medium 1/	ICRISAT*	Hyderabad, India
	2,247	short	AICMIP	Poona, India
	2,100	medium	ORSTOM	Bondy, France
	1,200	long	Plant Gene Resources Office*	Ottawa, Canada
	1,000	long	NSSL*	Fort Collins, U.S.A.
Foxtail millet (*Setaria italica*)	5,017	short	AICMIP	India
	3,226	short	CGI	Beijing, China
	1,160	medium 1/	ICRISAT*	Hyderabad, India
Finger millet (*Eleusine coracana*)	5,904	short	AICMIP	India
	1,241	medium 1/	ICRISAT*	Hyderabad, India
Kodo millet (*Paspalum scrobiculatum*)	1,405	short	AICMIP	Poona, India

1/ long-term facility under construction.

Tuber crops are also basic staples in many parts of the world, but they are generally poorly represented in genebanks. The common potato (Solanum tuberosum), with 44,000 accessions, is the best collected root crop (Table 7). The International Potato Center (CIP) in Peru holds close to a third of the world potato germplasm collection. Of the 13,000 potato accessions maintained there, 6,000 are clones that are grown each year near Huancayo in the Andes. Duplicates are sent to CIP's headquarters in Lima and to ICA (Instituto Colombiano Agropecuario), Colombia's national agricultural research institution. The potato was domesticated in Peru and that country accounts for 82% of CIP's accessions (11). About 80% of CIP's collection is S. tuberosum, but more restricted domesticates, such as S. ajanhuiri and S. stenotonum, are also represented because they harbor genes that confer resistance to frost and to diseases of the cultivated forms (12). The center sends duplicates of seeds from wild potatoes to the Inter-Regional Potato Introduction Project which houses the largest collection of wild potato seeds with over 90 species represented (13).

With respect to the storage and exchange of tuber crop germplasm, an important breakthrough has occurred that has been rapidly exploited by CIP and other IARCs. By employing tissue culture techniques, CIP scientists are now able to surmount difficulties encountered with maintaining bulky collections of tubers. Potato plantlets grown from cells taken from tips of growing shoots are raised in test-tubes until they are ready for planting. Numerous potato plants can be generated from a single plantlet maintained in a test-tube. Also, growth in test-tubes can be slowed by cool temperatures and the use of certain culture media; at 6-10^{o}C potato plantlets thrive in test tubes for 2 years. This

Table 7. Root and tuber crop accessions in germplasm banks (9).

Species	Accessions	Storage	Institution	Location
Potato (*Solanum* spp.)	13,000	medium, long	CIP*	Lima, Peru
	9,435	medium, long	VIR	Leningrad, U.S.S.R.
	5,000	short, medium	EMBRAPA	Brasilia, Brazil
	3,400	short	INIPA	Pèru
	2,800	medium	Int. Reg. Pot. Intro. Sta.	Sturgeon Bay, U.S.A.
	2,370	short, medium	FAL	Braunschweig, F.R. Germany
	1,300	short, medium	AVRDC	Shanhua, Taiwan, China
	1,200	short	SCRI	Edinburgh, U.K.
	1,000	short, medium	ICA	Bogota, Colombia
Sweet potato (*Ipomoea batatas*)	1,250	short	USDA/SEA-AR	Charleston, U.S.A.
	1,200	short	Lem. Pus. Pen. Pert.	Bogor, Indonesia
	1,200	short	Kyushu Nat. Agr. Exp. Sta.	Kagoshima, Japan
	1.000	short	AVRDC	Shanhua, Taiwan
Cassava (*Manihot esculenta*)	3,000	medium	CIAT	Cali, Colombia
	2,922	medium	IITA	Ibadan, Nigeria
	1,800	short	Cen. Tuber Crops: Res. Inst.	Kerala, India
	1,500	short	CENARGEN	Brazil
	1,060	short	Nat. Cassava Cen.	Umuahia, Nigeria
Yams (*Dioscorea* spp.)	7,100	short	Dodo Creek Res. Sta.	Honiara, Solomon Islands

* IBPGR-designated base collection.

method saves space and money since the material does not have to be planted in fields every year. Other root crops for which tissue culture is used for germplasm storage are cassava and sweet potato. Yams (Dioscorea spp.), taro (Colocasia esculenta), cocoyams (Xanthosoma spp.), and ulloco (Ullucus tuberosa) are represented sparingly in genebanks.

The germplasm conservation picture for legumes is much brighter than for root crops. At least 14 species of grain legumes, ranging from the commercially-important soybean (Glycine max) to a little-known Andean lupin (Lupinus mutabilis), are deposited in genebanks (Table 8). Unlike the situation with most cereals, the majority of grain legume genebanks is in the Third World. AVRDC, for example, keeps 10,000 soybean accessions in medium-term storage in Taiwan, while the CIAT (Centro Internacional de Agricultura Tropical) genebank near Cali, Colombia, contains 28,750 entries of the common bean (Phaseolus vulgaris).

Genebanks and Breeding

Breeders draw on genebanks for traits which they wish to incorporate into crop lines. Scientists screen germplasm for resistance to insect and disease attack and for tolerance to poor soils and climatic extremes. Whenever possible, breeders attempt to introduce resistance to a broad range of diseases and pests into a crop so that yields will be more stable. Also, gains are likely to be longer lasting if more than one gene coding for resistance or tolerance can be transferred successfully to a variety. Genebank searches are thus greatly facilitated when collections have been evaluated and documented.

A high priority for plant breeders is resistance to crop diseases, and screening for these traits accounts for a substantial amount of time and resources of breeders. In India, the Indian Agricultural

Table 8. Accessions of grain legumes in germplasm banks (9).

Species	Accessions	Storage	Institution	Location
Soybean (*Glycine max*)	10,000	medium	AVRDC	Shanhua, Taiwan, China
	8,350	long	NSSL	Fort Collins, U.S.A.
	3,000	medium, long	VIR	Leningrad, U.S.S.R.
	3,000	medium	NIAS	Tsukuba, Japan
	3,000	short	Oil Bearing Crops Inst.	Wuhan, China
	2,900	short	Shadong Agric. Acad.	Jinan, China
	1,500	medium	INIA	Mexico City
	1,000	short	Liaoning Agric. Academy	Harbin, China
	1,000	long	Plant Gene Resources Office	Ottawa, Canada
Common bean (*Phaseolus vulgaris*)	28,750	medium, long	CIAT*	Cali, Colombia
	7,979	short	USDA/SEA-AR	Pullman, U.S.A.
	4,250	medium	Univ. Cambride	Cambridge, U.K.
	4,193	long	NSSL	Fort Collins, U.S.A.
	3,109	short	ICA	Colombia
	2,627	short	Research Center for Agrobotany	Tapioszele, Hungary
	2,575	short	USDA/SEA-AR	Geneva, Georgia
	2,000	short	Nairobi Univ.	Kenya
	2,000	short	Univ. Malawi	Lilongwe, Malawi
	1,592	short	INIPA	Ecuador
	1,369	short	INIPA	Peru
	1,300	short	Univ. Central	Ecuador
	1,300	medium, long	Zen. Gen. Kulturplanzen	Gatersleben, D.R. Germany
	1,162	short	FONAIAP	Caracas, Venezuela
	1,000	short	Thike Hort. Res. Sta.	Thike, Kenya
	1,000	short	ISAR	Butare, Rwanda
Lima bean (*Phaseolus lunatus*)	2,300	medium	CIAT*	Cali, Colombia
Runner bean (*Phaseolus coccineus*)	1,000	medium	CIAT*	Cali, Colombia

Table 8. (cont.)

Species	Accessions	Storage	Institution	Location
Phaseolus spp.	1,000	long	Nat. Veg. Res. Sta.	Wellesbourne, U.K.
Mungbean (Phaseolus aureus)	5,000	medium	AVRDC	Shanhua, Taiwan
	3,000	short	Punjab Agric. Univ.	Ludhiana, India
	2,500	short	Univ. Philippines	Los Banos, Philippines
	2,100	short	Univ. Missouri	Colombia, Missouri
	1,000	short	IARI	Delhi, India
Cowpea (Vigna unguiculata)	12,000	medium	IITA*	Ibadan, Nigeria
	3,518	short	USDA/SEA-AR	Experiment, GA U.S.A.
	1,050	medium	VIR	Leningrad, U.S.S.R.
	1,000	medium	Nat. Plant Gen. Lab.	Los Banos, Philippines
Bambara ground nut (Voandzeia subterranea)	2,000	medium	IITA	Ibadan, Nigeria
Chickpea (Cicer arietinum)	13,000	medium 3/	ICRISAT*	Hyderabad, India
	4,500	short 1/	ICARDA	Aleppo, Syria
	3,100	short	USDA/SEA-AR	Pullman, U.S.A.
	1,685	medium	VIR	Leningrad, U.S.S.R.
	1,600	medium	INIA	Mexico City, Mexico
Pigeonpea (Cajanus cajan)	8,850	medium	ICRISAT*	Hyderabad, India
Ground nut (Arachis hypogea)	8,800	medium	ICRISAT	Hyderabad, India
	4,685	short	USDA/SEA-AR	Experiment, GA, U.S.A.
	3,925	long	NSSL	Fort Collins, U.S.A.
	2,500	medium	IITA	Ibadan, Nigeria
	1,053	medium, long	VIR	Leningrad, U.S.S.R.
Lentil (Lens esculenta)	5,400	long 2/	ICARDA	Aleppo, Syria

Table 8. (cont.)

Species	Accessions	Storage	Institution	Location
Faba (*Vicia faba*)	5,000	short 1/	ICARDA	Aleppo, Syria
Lupin (*Lupinus mutabilis*)	3,342	short	INIPA	Peru
Winged bean (*Psophocarpus tetragonolobus*)	1,000	short	NBPGR	New Delhi, India
	1,000	long	TISTR 3/ *	Bangkok, Thailand
	400	long	IPB 3/ *	Los Banos, Philippines

1/ Medium-term facility under construction.

2/ In deep-freeze cabinets.

3/ Long-term facility under development.

* IBPGR-designated base collections.

Research Institute (IARI) bred semi-dwarf barley varieties that are resistant to yellow rust and released them to farmers on the northern plains in 1974 (15). IARI has also successfully introduced two maize hybrids to farmers in widely scattered locations in India. Ganga Saied 2 is the leader in maize seed sales and is resistant to bacterial rot and pythium stalk rot (16). The second most popular hybrid maize seed in India, Ganga 5, is highly adaptable and is resistant to brown stripe downy mildew (Sclerophthora rayssiae var. zea) and leaf blight, as well as stem borer. CIMMYT breeders are tapping material stored in the center's wheat collection as well as samples from other institutions to develop high-yielding lines that resist scab and leaf blotch caused by Helminthosporium septoria tritici (14). Scientists at IITA discovered resistance to cocoyam blight by examining landraces held in the center's genebank.

Chinese wheat breeders have used germplasm from a number of countries including Austria, Brazil, Canada, and the U.S. to develop varieties that withstand attack from a wide variety of diseases. Considering that the country is known to harbor all the major diseases of wheat, Chinese scientists have clearly demonstrated skill in averting massive crop failure due to pathogens. The last serious outbreak of a wheat disease occurred in Shensi province in 1964 (17).

Wild relatives of crops have been especially useful to breeders searching for sources of disease resistance. In Nigeria, for example, ceara rubber (Manihot glavziovii) was crossed in 1958 with cassava at the Federal Research Station at Moor Plantation to introduce genes for resistance to cassava bacterial blight. Subsequently, the cross was found to be useful in breeding programs to make cassava more resistant to

cassava mosaic disease (18). An ICRISAT team located resistance to Aschochyta blight of chickpea in a wild species, Cicer reticulatum, and successfully transferred this resistance to the cultivated species, C. arietinum. IRRI's genebank collection of wild rice is a valuable source of resistance to viral diseases. Scientists at IRRI discovered that a single accession of Oryza nivara from Uttar Pradesh State in India contains the only known gene that confers resistance to grassy stunt virus (19). IRRI and national programs have employed that O. nivara strain to upgrade disease resistance in rice varieties that are now grown on 20 million ha in Asia.

Genebanks are also used heavily by breeders screening for material that withstands insect attack. After initial lines of high-yielding dwarf rice succumbed to pests in the mid 1960s, IRRI developed a series of rice lines with resistance to some important insects. In 1973, for example, scientists in Vietnam and the Solomon Islands used IRRI material as parents in crosses to develop varieties resistant to brown leafhopper (Nilaparvata lugens) (20). And in Africa, IITA breeders have found cassava varieties that are genetically resistant to mealybug (Phenacoccus manihoti) and green spider mite (Mononychellus tanajoa), serious pests of the root crop in Africa (21). Pubescent leaves, among other factors, discourage the insects that were introduced from Latin America in the late 1960s and early 1970s. IITA is multiplying resistant clones for distribution to Nigerian farmers and seeds are being dispatched to national programs throughout Africa.

Tailoring crops to problem soils is another high priority of plant breeders. CIMMYT and EMBRAPA, for example, are screening germplasm collections for bread wheats and triticales that perform well on the acid,

high aluminum content soils of central and southern Brazil. Aluminum toxicity reduces root growth and renders plants more vulnerable to drought. When dwarf wheats from Mexico are successfully crossed with landraces from Brazil to develop new high-yielding varieties, the cerrado region may be transformed into an important food-producing region (22). IRRI, CIAT, CIP, and IITA are developing lines of rice, cassava, forage plants, potato, and cowpea that thrive on rainfed, acid soils with high levels of aluminum (23). Tolerance to salinity in rice has been derived primarily from traditional varieties from southern India and Sri Lanka deposited in IRRI's genebank (24).

IRRI's genebank has also been helpful to rice breeders searching for material tolerant to climatic extremes. Japanese scientists, for example, found that accessions of the Silewah variety which were gathered in the hills of Sumatra in 1974 are more cold tolerant than the northernmost cultivars of Hokkaido, even though Silewah is a tropical rice. Collections made in Bangladesh in the same year during a flood, turned up rices that survive water 5 m deep. And IRRI's evaluation program has identified 2,781 accessions that do well in dry areas (25).

The value of genebanks is especially evident when they contain material that has vanished elsewhere. The Oryza perennis from Taiwan that has been found to be resistant to ragged stunt virus is now extinct there; fortunately, collections of the cosmopolitan species were made in Taiwan and deposited with IRRI's genebank before the island strain disappeared. In Kampuchea, many unique rice cultivars were lost in the 1970s when war disrupted agricultural production. Seeds of numerous landraces were eaten or rotted, so the lines died out. Fortunately, IRRI's genebank contains rice varieties that were collected in Kampuchea before the outbreak of

political strife, and some of these have been successfully re-introduced to the country. In 1981, for example, IRRI sent 36 Khmer varieties to Kampuchea through the offices of OXFAM, and a further 103 indigenous varieties were sent to the national program in 1982.

Conclusions

The conservation of crop germplasm has evolved into a world-wide effort. An amalgam of older national centers, newer national institutions in developing countries, several regional centers, and the IARCs are preserving and manipulating the genetic resources of crops. Genebanks are relatively inexpensive to set up and operate which partly accounts for their rapid increase in developing countries. Given the enormous payoffs for breeding, genebanks are clearly a sound investment and their numbers are sure to continue to increase. Since the centers of diversity of many important crops are in the Third World, industrial countries have a clearcut interest in the progress of germplasm conservation. The growth of genebanks in developing countries has been heartening and should be encouraged and supported. The IARCs are becoming global centers for the conservation and evaluation of the germplasm of many important food crops and are helping to serve the needs of the developing countries by providing germplasm and advanced breeding lines for use in national breeding programs.

Genebanks are needed to safeguard the germplasm of other important plants and micro-organisms such as timber and fruit trees, medicinal herbs, nitrogen-fixing bacteria, yeasts, and plantation crops. Also, institutions are needed to focus on germplasm conservation of tropical cash crops. Many cash crops, such as bananas and coconuts, are also important food crops. Some have argued that work on plantation crops

is properly left to commercial interests, but few companies have expressed a desire to establish genebanks. It would be unwise to exclude cash crops from germplasm collections since they are the underpinning for many Third World economies.

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7. In 1982, crop germplasm work world wide cost an estimated US$55 million. Of this total $36.4 million was spent by national programs ($29 million in 18 developed countries and $7.4 million in 35 developing nations), $9.1 million by IARCs, $3.8 million by IBPGR, $3 million by bilateral agencies, and $2.8 million by multilateral organizations.

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9. With the exception of IBPGR-designated base collections, only genebanks holding more than 1,000 accessions of a crop are included. Accession totals change as duplicates are eliminated and new material is added. Ranges of storage temperatures are: short (6°C to ambient), medium (0°C to 5°C), and long (-10°C to -20°C).

Acronyms: AICMIP (All India Coordinated Millet Improvement Programme), ARARI (Aegean Regional Agricultural Research Organization), ARC (see text), ARO (Agricultural Research Organization), AVRDC (see text), CATIE (see text), CENARGEN (Central National Plant Genetics Resources Agency), CGIAR (see text), CGI (Crop Germplasm Institute), CGRI (Crop Germplasm Resources Institute), CIAT (see text), CIMMYT (see text), CIP (see text), CNIA (Centra Nacional de Investigaciones Agropecuarias), CNPT (see text), CRRI (Central Rice Research Institute), CSIRO (Commonwealth Scientific and Industrial Research Organization), EMBRAPA (see text), FAL (Institut fur Pflanzebau und Pflanzenzuchtung), FONAIAP (Fondo Nacional de Investigacion y Promocion Agropecuaria), IARI (see text), IBPGR (see text), ICA (see text), ICARDA (see text), ICRISAT (see text), IHAR (Plant Breeding and Acclimitization Institute), IITA (see text), INIA (see text), INIAP (Instituto Nacional de Investigaciones Agropecuarias), INIPA (Instituto Nacional de Investigación y Promoción Agropecuaria), INRA (Institut Nacional de la Recherche Agronomique), INTA (see text), IPB (see text), IPIGR (Institute of Plant Introduction and Genetic Research), IRRI (see text), ISAR (National Institute of Agricultural Research), NBPGR (National Bureau of Plant Genetic Resources), NIAS (National Institute of Agricultural Sciences), NSSL (see text), NVRS (National Vegetable Research

Station), ORSTOM (Office de la Recherche Scientifique Outre-Mer), PBI (Plant Breeding Institute), PGRC (see text), SCRI (Scottish Crop Research Institute), SPBS (Scottish Plant Breeding Station), SVP (Foundation for Agricultural Plant Breeding), TISTR (Thailand Institute of Scientific and Technological Research), VIR (see text), WARDA (see text). Sources: International Board for Plant Genetic Resources, Directory of Germplasm Collections (IBPGR, Rome, 1980-82); IBPGR, Regional Committee for Southeast Asia, Newsletter 4(2), 7 and 4(3), 5(1980); Crop Germplasm Conservation and Use in China, (Rockefeller Foundation, New York, 1980); Reunion Sobre Recursos Fitogeneticos de Interes Agricola en la Region Andina, (CIRF/FAO/IICA/JUNAC, Lima, 28-30 April 1981); Plant Genetic Resources Newsletter, 49, 13 (1982); V.A. Johnson and H.L. Beemer, Eds., Wheat in the People's Republic of China (National Academy of Sciences, Washington, D.C., 1977), p. 38; L.N. Bass (pers. comm.); D. Bondioli (pers. comm.); F. Cardenas Ramos (pers. comm.); L. Holly (pers. comm.); F.E. Lopez (pers. comm.); G.R. Lovell (pers. comm.); K.C. Nagel (pers. comm.); D.H. Smith (pers. comm.).

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G 12

CONSULTATIVE GROUP ON INTERNATIONAL AGRICULTURAL RESEARCH

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Telephone (Area Code 202) 477-3592
Cable Address – INTBAFRAD

FROM: The Secretariat

December 8, 1982

International Board for Plant Genetic Resources (IBPGR)

* * *

Appointment of Board Members

1. In a memorandum dated October 25, 1982, the Secretariat requested the Group's approval of the IBPGR Board's proposal that Dr. Quentin Jones and Dr. Djibril Sene be reappointed for a further term of three years and that Dr. S.A. Qureshi and Dr. Xu Yuntian be appointed as new members. These terms would run from January 1, 1983 to December 31, 1985.

2. The Group has now approved these proposals. Drs. Jones, Sene, Qureshi and Yuntian and the Chairman of the Board and Executive Secretary of the IBPGR have been informed.

Distribution:

CGIAR Members
TAC Chairman
TAC Secretariat
Chairman, IBPGR
Executive Secretary, IBPGR

9/12.

Mr. Warren C. Baum, OPSVP

December 8, 1982

Curtis Farrar, CGR

IBPGR Board

We have completed the process of selection of the CG members of the IBPGR Board. This involves reappointment of two, Drs. Quentin Jones of USDA, and Djibril Sene of Senegal. Also two new appointments, Drs. Qureshi of Pakistan and Yuntian of China.

I will telex the four that you have appointed them, also advise the IBPGR. You are asked to sign two letters to the new members welcoming them to the Boards, which will be dated and dispatched when the members confirm their acceptances. I will also write the new members providing a packet of materials on the Group and offering any assistance that the Secretariat can render.

If you have no problems with this procedure (it is clear in this case that the Chairman of the Group makes the appointments) please sign the letters and we will take care of the rest.

Attachments

CFarrar/ms/G12

FORM NO. 27 - OCR
(3/82)

WORLD BANK OUTGOING MESSAGE FORM Telegram, Cable, Telex

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PAGE 1 OF 1

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TEST NUMBER (FOR CASHIER'S USE ONLY)

START HERE

TO: TREVOR WILLIAMS, FOODAGRI

ROME, ITALY

REGARDING 1982 INDIAN CONTRIBUTION TO IBPGR WE HAVE BEEN ADVISED THAT FUNDS WILL BE PAID SHORTLY THROUGH ICRISAT. ICRISAT WILL RECEIVE THE EQUIVALENT OF US DOLLARS 50,000 (1982 CONTRIBUTION TO IBPGR) IN RUPEES. WE UNDERSTAND THAT ICRISAT WILL DISBURSE FUNDS TO IBPGR IN US DOLLARS AT RUPEE DOLLAR EXCHANGE RATE AGREED UPON BY THE INDIAN COUNCIL OF AGRICULTURAL RESEARCH AND ICRISAT.

REGARDS, GREENING.

END OF TEXT

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1) IBPGR

2) EUROPEAN COOPERATIVE PROGRAMME FOR CONSERVATION AND
AND EXCHANGE CROP GNETIC RESOURCES

3) UNDP AND 26 GOVERNMENTS

4) UNDP -FAO PROJECT

5) ENCHAEEE ENHANCED COLLABORATION NORTH -SOUTH EAST WEST
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BEFORE MARCH MEETING OF TAC

(WILLIAMS FODAGRI ROME)

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REPLY VIA ITT

e/12

Security Officer, ADM

November 18, 1982

Olivia Vent, CGR

IBPGR Press Conference

1. Attached is a list of journalists who have been invited to attend the IBPGR Press Conference in Room D-1056, at 10:30 a.m., November 19, 1982.

2. All invitees have been requested to enter through the "E" building lobby. There may be some journalists attending whose names do not appear on the list. Could you please admit them as well.

3. If you have questions, call me on x75347. Thank you.

Attachment

OVent/lch/file G-12

Ms. Gisela Bolte
Time, Inc.

Jason DeParle
New Republic

Mr. Robert Sole
LeMonde

Mr. James R. Lobe
Inter-Press News Service

Mr. Warren Unna
The Statesman of India

Mr. N. Ram
The Hindu

Mr. Host-Alexander Siebert
Die Welt

Mr. Ed Lachica
Asian Wall Street Journal

Mr. J. N. Parimoo
The Times of India

Mr. T. V. Parasuram
The Indian Express

Mr. V. Balasubramanian
The Hindustan Times

Mr. Jeff Rosenberg
National Public Radio

Mr. Yu Enguang
Xinhau News

Mr. Sakae Sakamoto
Jiji Press

Mr. Claude Moisy
Agence France Presse

Mr. Toshio Ohata
Yomiuri Shimbun

Mr. Slobodan Obradovic
Tanjug

Ms. Susan Gilpin
Nairobi Times

Mr. Arno Meyer
German Press Agency (DPA)

Mr. Akihiko Miura
Asahi Shimbun

Mr. Svein Rohne
Nordic News Agency (TTB)

USA Today
Science Editor

Ms. Jenniffer Otwell
Commodity News Service

Mr. Dick Lawrence
Journal of Commerce

Ms. Jane Gabbett
Reuter

Editor
Tronto Glove & Mail

PRESS INVITED TO IBPGR CONFERENCE
WORLD BANK BUILDING
NOVEMBER 19, 1982

Mr. Benet Akpa
Baltimore Afro-American

Ward Sinclair
Washington Post

Jim Vincini
Reuters

Carol Richards
Gannett News Service

Raskin Lusby
Farm Bureau News

Angus Robertson
Commodity News Service

Ralph Wennblom
Farm Journal

Barry Wood
Voice of America

Jim Webster
Food and Fiber Letter

Don Kendall
Associated Press

Jay Richter
Progressive Farmer

Mrs. Dorothy Mayes
Progressive Farmer

William Senior
Kiplinger Agricultural Letter

Roger Lewin
Science Magazine

George Anthan
Des Moines Register

David Cook
Christian Science Monitor

Seth King
New York Times

Eleanor Randolph
Los Angeles Times

Steve Lanrigan
Africa Magazine

Ms. Linda Werfelman
United Press International

Dennis Flanhagan
Scientific American

Paul Trachtman
Smithsonian Magazine

Kenneth Farrell
Resources for the Future

Jerry Buckley
Newsweek

Mr. Harry Ellis
Christian Science Monitor

Mr. Daniel Mintz
Des Moines Register

Ms. Pat Roberts
Washington Post

Mr. David Bartell
Knight-Ridder Publications

Mr. Bob Fick
Associated Press

Ms. Sonja Hillgren
United Press International

Mr. Jeff Birnbaum
Wall Street Journal

Mr. Mike Pollock
McGraw Hill (Business Week)

Mr. Jens Eckhardt
Handelsblatt

Ms. Barbara Klein
Voice of America

Mr. Martin Bell
British Broadcasting Corporation

E. J. Kahn, Jr.
The New Yorker

Bill Pritchard
Voice of America

Kit Johnston
Science 82

Mr. Chris Joyce
New Scientist

Mr. Deborah Shopley
Nature

Mr. Sytze Van der Zee
NRC-Handelsblad

Mr. Martin Bell
British Broadcasting

Mr. Peter Merseburger
Bureau Chief & TV
German Radio-TV

Mr. Edmund Fawcett
Bureau Chief
The Economist

Mrs. Carola Kaps
Frankfurter Allgemeine Zeituing

Mrs. Valeska Von Roques
Der Spiegel

BANCO INTERAMERICANO DE DESARROLLO INTER-AMERICAN DEVELOPMENT BANK

WASHINGTON, D. C. 20577
CABLES: INTAMBANC

GERENTE
DEPARTAMENTO DE PLANES Y PROGRAMAS

MANAGER
PLANS AND PROGRAMS DEPARTMENT

November 16, 1982

Mr. Curtis Farrar
Executive Secretary
Consultative Group on International
Agricultural Research (CGIAR)
1818 H St., N.W.
Washington, D.C. 20433

Dear Curtis:

I am pleased to refer to the circular memorandum addressed by the Secretariat to the membership of CGIAR on October 25th, 1982, relating to the filling of vacancies on the Board of Trustees of the International Board for Plant Genetic Resources (IBPGR).

In response, I wish to advise you that given the circumstance that two distinguished Latin American Scientists are already on the Board of the IBPGR, the Bank has no objection to the appointment of Messrs. S. A. Qureshi and Xu Yuntian as new members of that Board, and to the re-election for another term of Messrs. Quentin Jones and Djibril Sene.

With best wishes, as ever,

Sincerely,

José D. Epstein

cc: Mr. Warren C. Baum
Chairman of CGIAR

912.

Tom Rimpler, ADM

November 16, 1982

Olivia Vent, CGR

IBPGR Press Briefing

1. On Friday, November 19, at 10:30 a.m., the International Board for Plant Genetic Resources will hold a press briefing in D-1056. Journalists have been requested to enter the "E" building. Could you please arrange to have a sign in the lobby that day reading:

IBPGR Press Briefing
Room D-1056

2. It would also be helpful if you could have a sign and some arrows near the elevators directing the press to the "D" conference room.

3. Thank you for your cooperation. Please let me know if questions arise.

Ovent/lch/file G-12

Mr Chairman, ladies and gentlemen

G12
11/9/82

First of all, I would like to thank you and the Consultative Group for your kind interest in the work of the International Board for Plant Genetic Resources (IBPGR). It has been active since 1974 and working in close collaboration with FAO.

We are now able to distinguish a foundation of a global network for conservation and exchange of important crop genetic resources. More than 80 countries and about 150 national, regional and international centres are now getting more and more involved in our work.

38 gene banks, out of which 18 are located in developing countries and six at International Agricultural Research Centres, are actively participating in establishing long-term base collections.

I am pleased to see that the work with which the IBPGR concerns itself is the subject of the integrative report to the Group which you will consider later this week.

From earlier presentations at Centers Week you will have realized that the IBPGR is a little different from the big international centres. It differs for several reasons:

First, it has its own truly international programme and yet links closely with the germplasm work of the crop-oriented centres. In addition, we have recently established collaboration with ILCA and also ISNAR and ILRAD, the latter hosting one of our regional officers. One aspect of concern to IBPGR, a subject which was brought to the attention of TAC, has been that in times of funding deficits, genetic resources programmes are vulnerable - somewhat like training.

Second, the IBPGR does not have its own central buildings. It was established with the willingness of FAO to provide space at no cost and to administer our funds without overheads. For this we have been grateful and a symbiotic relationship - unique to both organizations - has developed.

IBPGR does not intend to grow to a large institute, but tries to guide and fill gaps in order to safeguard important germplasm, to make the related documentation available and in good order, to train personell and to promote evaluation

and utilization of the collected material by plant breeders and other plant scientists. To monitor this activity the IBPGR staff must be suitably composed and adequately spaced in order to fulfill the work in the most efficient way.

It is true, however, that the IBPGR Secretariat has grown at a rapid rate and is now including 15 professional staff and also administrative and support staff totalling 26 people.

Therefore, we need increased space for our operational base. I am confident that in a near future FAO will help us to solve these problems. In the event that more space cannot be offered at the headquarters in Rome I have asked FAO to consider moving the Secretariat to another FAO office such as the joint plants divisio with IAEA in Vienna.

As from January 1983 IBPGR will also start Special Project work. We have been asked by 26 governments of Europe to take over the operation of a UNDP/FAO cooperative project for a three-year period. We have agreed to this with the aims to enhance cooperation between north and south, east and west Europe and to see that UNDP inputs benefit developing countries. We look to our European donors to help us with technology transfer to other parts of the world.

Details of the IBPGR activities will be given by the head of the programme, Dr. J.T. Williams, who needs no introduction to you. But before doing so I would like to record my thanks to him and his staff for a very efficient work.

With your permission, Mr. Chairman, I will now leave the floor to Dr. Trevor Williams.

Thank you!

Presentation at Centers' Week 1982 IBPGR.

Mr. C-, L & G.

Last year we reported to the Group that the IBPGR had carried out a major update of its priorities and that the Board's work was now based on a formidable list of species. However, since it is impossible to initiate all the work needed on all the crops in the immediate future, our emphasis is still on high priority food crops, especially cereals, food legumes. In addition we have accelerated work on vegetables for the tropics which we initiated 2 years ago and continued the work on woody species for fuel wood in the arid zones.

We have tried several ways to organize field work to ensure effectiveness including multi-crop collecting — but, the emphasis will still have to be crop specific for a number of practical reasons.

As a result of the priorities there is a great deal of collecting to do. Over the past 4 years we have organized 183 collecting missions. More or less equal ~~weight~~ numbers have been put fielded in Africa, LA, Med/N Africa respectively i.e about 40 missions in each area. One continued disappointment has been the low number of missions in SW Asia, the cradle of agriculture due to political reasons.

In relation to the field work we are continually expanding our interests into new areas and countries and new crops are added to the workload as and when feasible. In the past 18 months, new countries collected for the first time by IBPGR have included Korea, Bhutan, Yemen, Ethiopia, Zimbabwe and Guatemala. In the past year we have successfully operated in 50 countries despite the fact that planning of field

work in many of the countries is fraught with difficulties, political and otherwise.

The collecting falls into two groupings; first where it is carried out in association with the International Centres and where the work is guided by our joint Crop Committees

S/Millets
Rice
Maize
Wheat
} slide

Second, where the IBPGR has taken the lead. The next slide shows where food legumes were collected in 1981. One highlight has been the continued work on groundnuts in E. A. Similar work relates to roots and tubers & fruits and vegetables.

The vegetables include a whole series including Tomato, aubergine, Capsicum and Okra in various parts of the world.
The fruits include three indigenous in SE Asia/Malaysia/Viti's in the E Mediterranean and coconut in parts of the Pacific.

We reported in 1978 that the Board would add an additional 3-4 new crops to its workload each year. The strategy for this is based on the convening of an expert international Working Group which advises on the detailed work necessary, the consideration of the report by the Board and then the implementation of field work. Last year I reported on Working Groups which had met on sweet potato, barley & sugarcane. Since the last Centres Week similar groups have met on cassava, Citrus, Vigna and soyabean. We look forward to reporting on action in the future - particularly on forages

Aside from collecting there has been an important expansion of the conservation network for seed crops. There are currently 28 centres involved in storing material for long-term conservation covering 23 crops or groups of crops. These 28 centres are invited by the IBPGR to accept responsibility to serve as 'world' or 'regional' depositories for major base collections. 5 of the Int. Centres are included. By 1985 this network will be complete for seed crops. At the last meeting of the Board the rest of the designations have been agreed in principle but several have to await the construction of facilities such as those in China and India.

This number of genebanks network has expanded rapidly in recent years. Not all by any means are included in the network of base collections. Within 5 years we expect that there will be more genebanks in the developing world than in the developed world, a fact that might refute some of the arguments made by the anti plant breeders rights groups that most of the germplasm of the world is in the developed sector - this is no longer true.

Ideally all material will be duplicated for safety. To the present the IBPGR has not designated duplicate collections for all crops but this has been done for the major staple crops. Again there have to be suitable genebanks available. The Board has helped to establish such genebanks in many parts of the world, more recently in Thailand, Cyprus, ICARDA and NIHORT. One problem, of course, is that seed stocks have to be sufficiently large. In 1984 the Board recognized that in many cases some seed money was necessary to multiply stocks for duplication.

and on-site research on seed physiology will lead to a practical manual within about one year

Many of the genebanks which will not hold base material will be linked into the network as active centres. This will form a second developmental phase of our work and one of our Secretariat posts, now vacant, will be filled by an expert who can guide this work. Just over a year ago the IBPGR convened an international seed storage committee to advise on the procedures followed in genebanks & I shall return to practical procedures later when I come to strategic considerations.

With the move forward by the Board to deal more with clonally propagated crops than hitherto, during 1982 an expert group met to consider how to store such material. The report will be discussed by the Board's executive committee next week and I predict that within a short time the Board will be supporting initiating research on cryopreservation, characterization by biochemical markers and stimulating disease indexing - the WG noted that in spite of repeated statements made in the past 15 years that in vitro techniques will form the basis of genetic conservation for a number of world crops except for some of the work in Int-Centres, little research in this field has been appropriately directed in the past decade and there are no known major in vitro proposals for such research. Thus there is need for cryopreservation research on cassava, potato, bananas, ~~[illegible]~~ and other fruits; DI in all roots & tubers, bananas & sugarcane and basic development and better use of good culture techniques applicable to sweet potato, yams and many other crops.

Regions. Originally a regional approach. It has not proved too effective. The Board has its regions of priority and although it has major activities within most of them truly cooperative work has only proved to be feasible in SE Asia. It may well emerge in the Andean zone within the next few years. Both SE Asia & the Andean zone covered by organizations such as ASEAN and the Andean Pact comprise countries linked by a number of cultural and economic considerations. In such cases a regional approach is probably practicable. In others we continue to strive towards increasing inter-country cooperation and our operational base has been strengthened by our regional staff who can deal with day to day practical problems. There are now IBPGR staff working in SE Asia, SW Asia, Med., E Africa, W Africa and Latin America. Of these sister institutes, we have in agreement, with the offices of CIAT, ILRAD and ICARDA. We have also agreed to increase our field work in Asia for rice by the appointment of a joint IRRI/IBPGR collector being stationed in IRRI.

The Board has been aware of the difficulties in a regional approach for some time. It has recently set up high level 'in house' reviews for SW Asia and the Mediterranean and has also examined its policy for linkages with the FAO funded regional project in Ethiopia. All these will be considered by the next Board meeting in February 1983 and will be made available to the donors

I turn now to documentation. To promote the world-wide exchange of data and information on genetic resources the IBPGR began in 1980 to publish a series of directories containing information on all known major holdings of priority crops. To date these have been issued for wheat, barley, oats, maize, food legumes, root crops, some cash crops, and vegetables. Already they need revision and expansion to include more information on evaluation. However this has to be computerized and the Board agreed to the purchase of a new DBMS in 1982 not only to deal with this type of work but to computerize data from all collecting missions and the subsequent follow-up on evaluation and distribution. The information about samples is catalogued on the basis of descriptor lists which IBPGR develops. These are data which are representatives of collectors, curators and breeders and a major effort has been made in the past 2 years to issue internationally acceptable lists. A publication is also in press which stemmed from a Working Group in association with the Pea Genetics Association and the Nordic Gene Bank which provides a model for documentation including characterizations using conventional descriptors to the ultimate characterization using gene symbols.

The Board has also continued to provide advice and funding for the installation of suitable computer systems for g.r. documentation. Plans are well advanced for the provision of technical assistance to Pakistan and Indonesia with the number of countries helped to 14. The Board had hoped to pay attention to cereals,

India with significant collections but there have been undue delays.

Lastly as documentation for the first time using my own staff we organized a TC in 1982 for 15 scientists from developing countries where the IBPGR intends to provide assistance within the next year. This was most successful.

2) It would not be right to provide you with an outline of the Board's work without ~~[illegible]~~ to the practical work in collecting, conservation, evaluation etc. I ~~shall~~ outline a few important [illegible]. ~~This I shall provide I shall return to [illegible]~~

WORLD BANK / INTERNATIONAL FINANCE CORPORATION

Collecting

Dilemmas

although it is carefully planned by coop.n with IARCs, Crop Committees and Expert Working Groups

We have to be fully aware that

i) Time is running out for capturing much of the diversity: In principle within 5 years ~~we~~ most of the major collecting should be finished. Much has been said about total numbers of samples already in collections but these numbers can be very misleading. Given time there are ways of working out the spread of variation in existing collections and then it would be possible to fill the gaps. However this would be based on full information recorded about the collections and that hardly exists anywhere in the world. So much of the collecting has to proceed without absolute knowledge. This exercise sometimes will have proceeded so far that we can confidently say that most collecting will have been completed for maize, potato (largely thro' CIP) sorghum, pearl millet, in the foreseeable future. For rice we are convening a planning meeting in April 1983 to see how far we have to go.

P.T.O.

(7) Another major activity has been training: the IBPGR supports this at the PG level by support to an int. TC. in the UK and by organizing Tech.-TCs — in assoc'n with IARCs and (global centres) in the latter IARC staff frequently participate.

The Board has agreed to put more emphasis on technical training

..... We also wish to make the training more effective; again the OAR recommended an increase of support in this area. Human resources for our work is still a limiting factor. One thing has been clear the support of the Board to post-graduate training has had much more impact on the development of the global network than the great efforts placed on short technical training courses in the regions. Unlike the large centres we have never supported post-doc. training except thro' being linked with the FAO Assoc. Expert scheme. Nonetheless this is an area to be addressed in the future when a training officer is in post.

For many of the other crops the field work will go on for quite a few years more.
There is nearly a delay in relation
~~The delay~~ to the subsequent work i.e. conservation and feeding the material thro' into evaluation. Here stimulation by the Board is proving to be inadequate. Mo there is, in most countries, and institutes a reluctance to move quickly on documentation. Nonetheless shall we continue to provide pump-priming funds in strategic institutes.

The Board recognizes very clearly that it is not ~~only~~ a technical assistance organization. It was established to develop a world network of activities and therefore continues to work with whatever institute it is necessary to, whatever country. At present we liaise with such institutes in well over 150 countries.

However the constraints are such that the work of the Board, in its present form, will have to continue for quite a number of years.

Lastly I turn to some strategic issues.

Although we receive a great deal of support from the developed world, the problem solving research is not being carried out at such a rate that there is the right technology for transfer. For instance geneticists have to handle peculiar material and there are no rules for testing much of the material. Breeders have not developed regeneration standards for their particular crops and so on. These constraints will clearly affect the strategy of the Board in the immediate future but a more important one relates to characterization and evaluation and multiplication which is expected to require funding, this is in principle a task for the plant breeding community but such work rates relatively low priority and the Board will continue its efforts to cajole and stimulate. Leaving aside the work at the I— C— s, the work is likely to be expensive and there is no way the IBPGR can fund it with its existing budget. Nonetheless the Board predicts that in the future this will be a responsibility which the CG will have to lay at its door because the whole point of g.r. work is to make material available for use and sooner rather than later.

This brings me to two related subjects. First pre-breeding. At the moment there is great interest in this and there is a need to make available material of wild species relatives of crop plants already amalgamated into a cultivated background as building blocks to provide to breeders. Too often the material is screened for single genes to provide resistances rather than to use the material more effectively. This the IBPGR will address. Second, genetic manipulation. All the

most of the successes are at the microbial level there is great potential for crop plant improvement. We are ready, when the time is ripe, to discuss priorities, since genetic engineers will require well documented collections of plants from which to draw their genes.

Such strategic issues and the constraints in developing the network lead us to think a think-tank is necessary & the IBPGR will discuss this at its next meeting. Clearly not every country should be ~~[illegible]~~ misled into establishing a G-R. programme because priorities for development are much more important. However there are still a number of areas of the world where our activities need acceleration and countries are ~~[illegible]~~ now coming to us and asking to join the network. Our job is to maintain an overview and leadership in the field and to do it better a think-tank — not a planning committee — should meet.

Finally I turn to the staffing. We now have in place operational arms in SE Asia, SW Asia, Med, E Af, W. Africa, LA and thro' the FAO Liaison Office in Washington have increased the operational base from an original small Secretariat in Rome. All this has proved to lead to much more effective work.

At the moment my staff totals 15 prof. officers plus nearly as many support staff. In the future the Board has agreed to strength yet further its core Sect. since the Review Committee of the CG recommended that IBPGR will continue to work on

non-food crops There is the need for additional expert strength for ~~non~~ plantation or cash crops material. The Board has also agreed to provide a full time training officer and a part-time publicity - information officer.

The staff will not continue to grow year by year. Much of the work is finite and is dealt with by staff on fixed-term contracts.

I express my thanks to all my staff for the support they have given, ~~and~~ last and last but not least to the directors

Thank you.

G12 Doreen

Overseas Development Administration
Eland House Stag Place London SW1E 5DH

Telephone 01-213: 5572
or Switchboard 01-213: 3000

The Secretariat
Consultative Group on
International Agricultural
Research
1818 H Street NW
Washington DC 20433
USA

Your reference

Our reference NRR 505/506/011

Date 4 November 1982

Dear Secretariat

IBPGR - APPOINTMENT OF BOARD MEMBERS

Thank you for your note of 25 October. We agree with the proposal in paragraph 3.

Yours sincerely

R S Ridgwell
Natural Resources Division

INBAFRA

MET

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FAO 124291 LEJEUNE IBPGR STATISTICS ON WOMEN AS FOLLOWS

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TO: TREVOR WILLIAMS, FOODAGRI

ROME, ITALY

THIS IS TO ADVISE YOU THAT SECOND TRANCHE OF WORLD BANK'S 1982 CONTRIBUTION TO IBPGR IS EXPECTED TO BE DOLLARS 300,000. THIS AMOUNT WILL BE DISBURSED EARLY NOVEMBER. TOTAL 1982 CONTRIBUTION OF WORLD BANK TO IBPGR IS THEREFORE EXPECTED TO AMOUNT TO DOLLARS 660,000. CONSISTENT WITH BANK'S ROLE AS DONOR OF LAST RESORT, ALLOCATION OF SECOND TRANCHE HAS BEEN MADE SO AS TO EQUALIZE FUNDING AMONG CENTERS TAKING INTO ACCOUNT PRIMO CENTERS REVISED REQUIREMENTS, SECUNDO KNOWN PAYMENTS OR COMMITMENTS BY DONORS TO CORE PROGRAMS, TERTIO EFFECT OF CHANGES IN EXCHANGE RATES OF NON-DOLLAR CONTRIBUTIONS. REGARDS, LEJEUNE

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DEPARTMENT: CGIAR Secretariat

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CONSULTATIVE GROUP ON INTERNATIONAL AGRICULTURAL RESEARCH

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

FROM: The Secretariat October 25, 1982

International Board for Plant Genetic Resources (IBPGR)
* * *
Appointment of Board Members

1. The operational rules and procedures that govern the IBPGR state that thirteen members of the Board are elected by the CGIAR, on the recommendation of the IBPGR.

2. Last June members of the CGIAR were requested to suggest candidates to fill vacancies on the Board that will occur at the end of the year. Such nominations were subsequently submitted to the IBPGR.

3. The Board has now proposed that two existing Board members, Dr. Quentin Jones and Dr. Djibril Sene, be reappointed for a further term of three years. It also proposes that two new members be appointed to the Board, these being Dr. S. A. Qureshi, Director General at the Ayub Agricultural Research Institute in Pakistan, and Dr. Xu Yuntian, Deputy Director at the Institute of Crop Germplasm Resources in China. The term of their appointments would be from January 1, 1983 until December 31, 1985. Copies of the curricula vitae of Dr. Qureshi and Dr. Yuntian are attached, as well as the current list of the IBPGR Board members.

4. The Group's approval of this proposal is requested. In the absence of objection from CG members, to be communicated to the Secretariat by November 29, 1982, the Board will be informed of the Group's agreement.

Attachment

Distribution:

CGIAR Members
TAC Chairman
TAC Secretariat
Chairman, IBPGR
Executive Secretary, IBPGR

INTERNATIONAL BOARD FOR PLANT GENETIC RESOURCES (IBPGR)

Chairman:

Dr. Lennart Kahre
Director
Swedish Seed Testing and Certification Institute
S-171 73 Solna, Sweden

Member designated by FAO:

Dr. O. Brauer
Director, AGP
Food and Agriculture Organization of the UN
Via delle Terme di Caracalla
Rome 00100, Italy

Member designated by UNEP:

Dr. Reuben Olembo
Division of Environmental Management
United Nations Environment Programme
P. O. Box 30552
Nairobi, Kenya

Executive Secretary of IBPGR:

Dr. J. Trevor Williams
Plant Production and Protection Division
Agriculture Department
Food and Agriculture Organization of the UN
Via delle Terme di Caracalla
Rome 00100, Italy

Elected Members:

To serve until December 31, 1984:

Dr. Edmond de Langhe
Katholieke Universiteit Leuven
Labo. Tropische Plantenteelt
Kardinaal Mercierlaan 92
3030 Leuven, Belgium

Dr. Muneo Iizuka
Faculty of Agriculture
Chiba University
Matsudo-shi
Chiba-ken, Japan 271

Dr. Dalmo C. Giacometti
National Genetic Resources
Programme of Brazil
CENARGEN/EMBRAPA
Avenida W-5
Norte Parque Rural
C.P. 10.2372
CEP 70.000
Brasilia D.F., Brazil

Dr. William J. Peacock
Division of Plant Industry
CSIRO
P. O. Box 260
Canberra, ACT 2608, Australia

To serve until December 31, 1983:

Dr. Charles J. Bishop
Research Branch
Agriculture Canada
Ottawa, Canada K1A 0C5

Dr. H. K. Jain
Indian Agricultural Research
Institute (IARI)
New Delhi 110012, India

Dr. Narong Chomchalow
Thailand Institute of Scientific
and Technological Research
196 Phahonyothin Road
Bangkhen, Bangkok 9, Thailand

Dr. G. T. Scarascia-Mugnozza
Faculty of Agriculture
University of Viterbo
Viterbo, Italy

Dr. John Philip Cooper
Welsh Plant Breeding Station
Plas Gogerddan
Nr. Aberystwyth
United Kingdom

To serve until December 31, 1982:

Dr. F. Cardenas-Ramos
INIA
Arcos de Belen 79
Mexico 1, D.F., Mexico

Dr. M. Dokuzoguz
Department of Pomology
and Viticulture
Ege University
Faculty of Agriculture
Bornova, Izmir, Turkey

Dr. Quentin Jones
BARC-West
Science and Education
Administration/Agricultural
Research
US Department of Agriculture
Beltsville, Md., USA 20705

H.E. Dr. Djibril Sene
Minister for Higher Education
and Scientific Research
Administrative Building
Avenue Roume
Dakar, Senegal

BIODATA OF DR. XU YUNTIAN

Name: Xu Yuntian

Nationality: Chinese

Position: Deputy Director, Institute of Crop Germplasm Resources, Chinese Academy of Agricultural Sciences, Beijing, China

Responsibilities: In charge of the crop genetic resources programme of China

Expertise of crops: Rice, wheat and barley

IBPGR contacts: Country delegate to IBPGR Symposium in the Far East, 1980. Invited member of IBPGR/IRRI Rice Advisory Committee.

Other contacts: Collaborator Rockefeller Foundation Programme for the Construction of Long-term Seed Storage in Beijing

Approx. age: 55 years

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Correspondents / Participants

Subject / Title
Biographical data in respect of Dr. S.A. Qureshi, Director General Agriculture (Research), Ayub Agricultural Research Institute, Faisalabad

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Personal Information

Additional Comments

The item(s) identified above has/have been removed in accordance with The World Bank Policy on Access to Information. This Policy can be found on the World Bank Access to Information website.

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FAO/121436 LEJEUNE GREENING HACQUEMOTTE FOR YOUR INFO IBPGR HAS BEEN ASKED TO TAKE OVER A LARGE UNDP PROJECT FOR EUROPE FROM 1 JANUARY 1983 STOP IT IS EXPECTED THAT EUROPEAN DONORS WILL PLEDGE SMALLADDITIONS TO COVER MEMBERSHIP THIS PROGRAMME AS SUITABLE AND EASY PAYMENT METHOD STOP PLEAS ENSURE IT IE CLEAR THESE AMOUNTS ARE NOT REPEAT NOT PART OF IBPGR CORE FUNDS AND CGIAR IN EFFECT BEING USED AS POST OFFICE IN THIS RESPECT (UILLIAMS IBPGR FOODAGRI ROME)

D@

INBAFRA

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