

APPENDIX VI

EUROPEAN COOPERATIVE PROGRAMME FOR THE
CONSERVATION AND EXCHANGE OF CROP GENETIC RESOURCES (ECP/GR)

REPORT OF THE EVALUATION PANEL OF PHASE II OF ECP/GR
ENDORSED BY THE TCC ON 19 DECEMBER 1985

Introduction

The project document provides for an evaluation to be carried out by representatives of participating Governments, UNDP/FAO and IBPGR after the end of the second year of the Project. For reasons of cost-effectiveness it was proposed by UNDP, with the agreement of IBPGR, that the TCC at its meeting in Iceland, December 1985, could nominate a small panel, which drawing on the discussions of its meeting, could produce an Evaluation report on Phase II of ECP/GR. This report, which follows, has been endorsed by the Full Technical Consultative Committee.

The members of the Panel were:

J.H.W. Holden (IBPGR Rapporteur)
Ch. Lehmann (German Democratic Republic)
J.P. Prins (UNDP)
J. Valkoun (Czechoslovakia)
L. van Soest (Netherlands)
J.T. Williams (representing FAO and the Board of IBPGR)
R. Schacht (Austria) attended part of the meeting.

Achievement of Objectives

A. Development Objectives

These are defined inter alia in the Project Document as the establishment of "a network of cooperation between Institutes and sub-regional groupings in Europe."

Experience gained in operating this project was parallel to that gained in other similar regional projects of IBPGR and it has shown that the most effective focus for cooperation is the crop and the natural unit of organization is the crop working group. Regional or political groupings are indeed of use in furthering the work of the programme but the agricultural and biological reality in a genetic resources context is the crop or species group and the Evaluation Report of Phase I of ECP/GR has been shown to be correct in recommending action through crop working groups. Of the twelve crops or crop groups which it recommended for attention, six were selected for Phase II, namely, Barley, Allium, Forage Grasses and Legumes, Prunus, Avena and Sunflower.

Operation of the programme has revealed that the critical factor in the achievement of objectives is the degree of cooperation which has occurred between Institutes within countries and between countries. It has become equally clear during Phase II that the single most important constraint to this cooperation relates to the level of support-in-kind provided by national governments either as financial resources, facilities or staff support. All participating governments formally committed themselves to the provision of inputs in-kind but in many cases this principle has not been translated into the most effective support at the institute level.

Other development objectives were "the maintenance of comprehensive, well documented collections of crop genetic resources" and "encouraging closer links between genetic resources personnel". Substantial progress has been made towards these goals as will be discussed in detail later in this report.

With regard to "encouraging more effective use of plant genetic resources and closer links between genetic resources personnel and those who use the resources", this is seen as a logical development of the documentation, characterization and analysis of collections (which have been major activities of Phase II), and in general should therefore follow in Phase III.

B. Immediate Objectives

Four immediate objectives were assigned in part B of the Project Document. The same numeration that in the Project Document is used below to assess progress on each of them.

1. To create a system to facilitate:

- 1a) Establishment of contacts and working relationships between institutions and workers. This has been done through the setting up of Working Groups of experts in the particular crops and by the appointment of country coordinators to ensure the necessary linkages between curators of national collections (often several in each country) and the Working Groups; and the central data bases for the crop or crop groups. In one special case i.e. Prunus, which includes five crops - Almond, Cherry, Plum, Peach and Apricot, plus the wild species - two crop coordinators were also appointed, one each in eastern and western Europe. While the specialist crop coordinators have been active and effective in their work, the effectiveness of the country coordinators has been more variable. However, it was noted that majority of the IPF Country Coordinators took their responsibility seriously. In addition, contacts were fostered by the ECP/GR through training activities which took the form of working visits by individuals to institutes with recognized expertise in particular fields, or by workshops for groups on technical aspects of conservation, regeneration or data handling by computer. This result was additional to the fulfillment of their primary function of raising the level of scientific and technical expertise. The development of informal, personal relationships is of great importance to the smooth and effective working of a collaborative programme of this kind and should continue to be encouraged in Phase III.
- 1b) The facilitation of unhindered exchange of crop genetic resources. While occasional difficulties have been encountered, in general it can be said that no significant barriers exist to the free exchange of germplasm between the cooperating countries of the ECP/GR. While Phase II has accelerated the process of germplasm exchange, more progress can be expected in Phase III and beyond, following the production of comprehensive crop inventories and the move towards the rationalization of collections; both stemming from the work of Phase II.

- 1c) The establishment of information and documentation systems and the facilitation of data exchange between genebanks. Progress in this area has been considerable (see para 1 of TCC report) and to a considerable degree this can be attributed to the commitment of workers who, in response to the recommendations of the Crop Working Groups established European Crop Data Bases. They have had to overcome serious problems in understanding, interpreting and transcribing data in various formats supplied to them by curators of collection, and employing diverse terminologies and descriptors.

The development of documentation and information systems initiated by ECP/GR is central to most other aspects of genetic resources work and delays in meeting deadlines in this work can have serious repercussions on the rationalization of collections (by mutual agreement of curators holding similar materials); on the planning of selective collecting; on characterization and hence on utilization. The frequent lack of adequate support at the national level is partly responsible for the different rates of progress among the central data bases.

A successful workshop on the problems of data processing and exchange was held at the Plant Acclimatization Institute, Radzikow, Poland in 1984, where problems were analysed and standard working procedures were established. This provided clear guidelines in order that the objective of ECP/GR and the targets set by the Working Groups could be met.

Central data bases have discovered that many accessions in collections lack any significant data. This is particularly true of early accessions in long established genebanks. However, when the same material occurs in more than one collection it is possible that data from one may be provided to another through the central data base acting as an information clearing house. This benefit has been noted on numerous occasions.

All central data bases had produced preliminary inventories for their crops or crop groups by December 1985, but in general much remains to be done before definitive inventories, incorporating, as appropriate, full available passport and characterization data, can be published. It recorded that all CDBs could estimate that from December 1985, the time needed for completion of the Phase II data base targets will be: barley 2 years, Avena 1 year, sunflower 1 year, Forages 1 year, Allium 1 year and Prunus 1/2 year. To a considerable extent, these delays result from over optimistic estimates by the Working Groups, which, in their path-breaking work, had no prior experience upon which to draw. The Evaluation Panel recognises that the problems facing each CDB differed both in terms of numbers of samples (more than 50,000 in one case; ca. 3000 in another) and in the willingness of curators to supply data in the required format. The Panel, taking these factors into account, is satisfied with the progress made. In no case were the collaborators in the CDBs or the Secretariat negligent in attempting to fulfill the recommendations of the six Working Groups.

- 2) Likewise the provision of information on material in collections to all interested plant scientists, which has begun as a positive activity in Phase II, will continue at an increasing rate following the completion of the documentation work. Greater efforts should be made to bring this information more to the notice of the scientific community during Phase III, as a first step in promoting the greater utilization of the germplasm.

The Secretariat was active in Phase II in presenting the work of ECP/GR to six international scientific congresses/meetings and a brochure on the aims and organization of ECP/GR was published and circulated to 700 workers and organizations in Europe.

Consideration should be given to widening the collaborative activities of the ECP/GR. For example, the increased awareness of the work in Phase II has led to a wish by representatives of major data bases in the International Agricultural Research Centers and in developing countries, to participate in Phase III activities. The Evaluation Panel noted with satisfaction the collaboration established in Phase II between ECP/GR and national programmes in Ethiopia, the Near East and North Africa. It was also noted that two European countries, not members of the project, namely Romania and the USSR, collaborated in several activities. Continued presentations of the results of the activities of the Working Groups, to appropriate international scientific meetings, should be encouraged. In these ways effective links could be consolidated between the crop groups of ECP/GR and the numerous relevant workers in other parts of the world, to their mutual benefit.

With regard to countries which originally provided material to European collections, or who may have participated in joint collecting expeditions, the data bases of the ECP/GR should recognize an obligation to offer them the characterization data obtained on that material. It is noted with satisfaction that plans are now in hand for the repatriation of much material to countries of origin. Further development of this kind should be encouraged whenever facilities for its safe storage exist in the country of origin. The apolitical umbrella of IBPGR, the partner of UNDP in operation of Phase II, has been of considerable advantage in establishing these international collaborative arrangements.

3) To establish, for specific crops of major economic importance, joint activities including:

3a) The organization of expeditions to collect genetic variation not held in existing collections, must await the full registration of these collections in the central data bases, and the analysis of the data to determine eco-geographic gaps. This work therefore, will occur during Phase III. Certain rescue collecting of material under severe threat has been done however in Phase II, to preserve material in Prunus, Avena, Forage grasses and legumes and Allium in accordance with the recommendations of the various Working Groups (see Table 1). The Evaluation Panel noted that of the recommended collecting missions the following percentages had been either started or completed: Prunus 60; Forage 40; Avena 50; Allium 30. The relatively low percentage success in Allium is attributed to the non-availability of expected funds from the EEC and the Evaluation Panel notes with regret the failure of several member governments to absorb these responsibilities as inputs-in-kind. In other cases countries have either failed to respond or alternatively have been active in some crops but not in others. The Evaluation Panel interprets this uneven response to be due partly to a difference in enthusiasm between workers in their commitment to the aims of the project and partly to the varying time intervals between the publication of the recommendations of the Crop Working Groups and the end of Phase II. Nonetheless, the positive results shown in Table 1 are commendable and it is confidently expected this work will be largely completed in Phase III. It is recognized that the setting up of adequately prepared collecting expeditions takes time. The Technical Consultative Committee recognized the need for additional surveying and collecting in Avena, Forages, Prunus and Allium.

3b) With regard to characterization and evaluation the Evaluation Panel wishes to draw attention to a change of approach in the policy of IBPGR and the views of the genetic resources community. Whereas at the time of setting up of the Project these two activities were linked together as appropriate activities for genebanks, it is now recognized that most evaluation work is highly location specific and should be carried out by the breeders/institutes who intend to utilize the results obtained. The characterization of material by the scoring of highly heritable characters, with environment-independent expression, is seen on the other hand as an essential activity of curators in the identification of accessions leading to the determination of duplicates. This distinction has been recognized by the Working Groups in drawing up agreed lists of descriptors for their crops: much more attention has been given to characterization descriptors and these have been widely accepted (Forage grasses present a special problem: very few characteristics are independent of environment in their expression; this was clearly recognized).

Progress in characterization varies widely between crops. The Evaluation Panel recognized action taken on barley and Prunus; intended work in 1986 on sunflower, Allium and Avena. However, experience shows that expectations at the start of Phase II were unrealistic but work initiated will, without doubt, lead to substantial progress in Phase III.

4. With reference to the objective to create a self-sustaining network the Evaluation Panel considers that the CDBs and their collaborating institutes throughout Europe are in practice largely self-sustaining providing the network continues to receive adequate governmental support. Nonetheless some institutes still have to be drawn in but the basic framework is established and functional. Without ECP/GR this would not have occurred and must be regarded as a major achievement of Phase II. The crucial nodes in the network are the CDBs and the Evaluation Panel draws attention to the need for long-term commitment from Governments for their guaranteed support and continuity. Failure of a CDB could have serious implications for the future of genetic resources work on that crop.

The Evaluation Panel was of the view that the ECP/GR Secretariat, supported by IBPGR, played a central role in achieving the success noted above. This was also recognized by the TCC meeting in 1983. In Phase III, the need for the Secretariat, as a central focus for the programme will be undiminished. The Secretariat can be expected to function efficiently under the IBPGR umbrella while control will remain with the participating countries. The Evaluation Panel recognizes the benefits accruing to the ECP/GR from the accepted apolitical international status of IBPGR.

Constraints in meeting objectives

With reference to the reports of the Working Groups and the discussions of the TCC, the Panel identified a number of general constraints.

1. Undue delays in the return of data from curators to the Central Data Bases.
2. In the transfer of data much has been left to the interpretive powers of the curators of central data bases and more effort is required from curators in sending their data in standard format. This is identified as a major potential restraint in Phase III and greater inputs-in-kind are required to assist both curators and central data bases.
3. Frequently collaborative work for ECP/GR has been added to the existing work programmes of staff with the result that target dates are often missed despite the willing efforts of collaborating workers. It is recommended that Government intentions should find practical expression in budget increases - often quite modest in size - so that objectives are achieved more rapidly in Phase III.
4. In some cases the country coordinators were not fully informed by the Secretariat and this should be rectified in the future.
5. Consideration should be given to ways of encouraging the more active participation of some country coordinators in Phase III. The Evaluation Panel is of the opinion that the country coordinators have an important part to play in facilitating the work of the programme by encouraging data flow to central data bases and by ensuring information flow between national programmes in collaborating countries and the ECP/GR.

5. Although not recognized at the beginning of the project, national quarantine regulations are clearly an impediment to the exchange of germplasm of vegetative material. Of interest to this project are Prunus and some forms of Allium. The TCC requested the respective Working Groups to investigate the merits and feasibility of third-country quarantine.

Inputs in Kind

The main conclusion of the Evaluation Panel was that government inputs in kind as estimated in the project document were met in full.

Project Personnel

The five itemized activities in the Project Document had been accurately specified but grossly underestimated in terms of the man/month requirements. The Evaluation Panel was heartened by the response of Governments in fulfilling their obligations as defined in the Project Document but draws attention to the fact that as the programme developed and more support was needed, particularly in the form of personnel and infrastructure, national authorities were unable to meet those needs. The Evaluation Panel is aware that the significant progress achieved in some data bases is largely attributable to the devoted efforts of individual members of staff. The Panel hopes that, having highlighted this major constraint, participating Governments will take steps to provide the additional inputs-in-kind to critical activities, for the sake of general progress.

Training

With regard to both individual fellowships and workshops, Governments had met their commitments. The Panel notes that only a limited number of Governments have been responsible in fulfilling the collective obligations of all members countries. It is worthy of note that 3 IPF countries played an important role in this activity.

Equipment and premises

Although it is difficult to estimate the approximate inputs, the Evaluation Panel is satisfied that collectively these obligations have been met to the extent defined in the project document.

Miscellaneous

Participating countries have been involved in considerable expenditures related to information exchange between the 25 countries through print-outs, photocopied reports as well as normal miscellaneous expenses such as postage, telephone, telex and cable expenditures.

Cost sharing

Concerning the IPF Governments' cost-sharing, 8 out of 9 countries had paid their contributions by 1 December 1985.

Contributions through IBPGR

Table 2 shows the schedule of payments of the member countries against the commitment. It was noted that 7 countries had not paid all their amounts by 1 December 1985 and one of these had not paid anything at all in Phase II. Information available suggests that most of the outstanding balance of \$48,000 will be received before the end of Phase II. Nonetheless the Panel views this with concern. Were it not for the fact that the Executive Secretary has been able to temporarily divert core IBPGR funds to meet shortfalls, on the understanding that they are reimbursed, the ECP/GR could have been in serious difficulties.

UNDP inputs

UNDP has met in full its obligations.

FNO/IBPGR inputs

The IBPGR has continued to provide direct technical and financial support to activities supporting the project. These have included collecting missions, provision of hardware and software, training, characterization, travel and additional staff time. These inputs exceed the estimate by approximately 25%.

Timing of the ECP/GR

Since Phase I was completed in December 1982, Phase II should have commenced early in 1983. In fact, Phase II unofficially began in June 1983 (although officially agreed in June 1984). The expenditures June 1983 to May 1984 were met by IBPGR against subsequent reimbursement and sanction was received from UNDP for expenditure of their contributions starting June 1984. These delays were due to time taken for UNDP and FNO to reach agreement on the details of the project document.

Conclusions

The Evaluation Panel expresses its general satisfaction with the progress achieved during Phase II in establishing ECP/GR on a firm scientific/technical basis and in the achievements recorded in the 1985 report of the ICC. This clearly permits the Panel to fully endorse the proposals for continuation of ECP/GR into Phase III. It notes, with approval, the intention to retain the Working Groups which met during Phase II, after a review of priority crops. This will permit the consolidation and completion of the active programmes with which they are engaged. The Panel also endorses the wish of Governments that IBPGR should continue in its role of administration and leadership.

Table 1

Collecting missions during Phase II

	<u>Countries</u>	<u>Action</u>	<u>Funding</u>
<u>Prunus</u>	France	initiated	input-in-kind
	Greece	initiated	IBPGR
	Italy	initiated	input-in-kind
	Romania	initiated	national programme
	Spain	initiated	input-in-kind
	Turkey	continued	input-in-kind
	Yugoslavia	initiated	IBPGR
<u>Forages</u>	Netherlands	initiated	input-in-kind
	UK	continued	input-in-kind
	Greece	continued	IBPGR
	Sweden/Finland	continued	input-in-kind
	Belgium	initiated	input-in-kind
	Israel	initiated	IBPGR
<u>Avena</u>	Spain/Canaries	completed	IBPGR
	Morocco	completed	IBPGR
<u>Allium</u>	Hungary	continued	input-in-kind
	Turkey	initiated	input-in-kind
	Nordic Countries	initiated	input-in-kind
	Yugoslavia	agreed 1986	IBPGR
	Poland	agreed 1986	input-in-kind
	Israel	initiated	IBPGR
<u>Sunflower</u>	USA (wild material)	initiated	IBPGR

Table 2

Cost sharing schedule of payments Phase II

<u>Country</u>	<u>Amount committed</u>	<u>Amount received</u>	<u>Amount outstanding 1 Dec. 1985</u>
Austria	11,446	5,524	5,922
Belgium	11,446	11,446	
Denmark	11,446	11,446	
Finland	5,723	3,891	1,832
France	28,615	18,723	9,892
German D.R.	11,446	11,446	
Germany, F.R.	28,615	28,615	
Iceland	2,862	1,381	1,481
Ireland	5,723	5,723	
Israel	5,723	5,723	
Italy	28,615	28,615	
Netherlands	11,446	11,446	
Norway	5,723	2,762	2,961
Spain	11,446	11,439	
Sweden	11,446		11,446
Switzerland	11,446	5,524	5,922
United Kingdom	28,615	19,455	9,160
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	231,782	183,159	48,616