

DRAFT (20 September 2001)

Report on a questionnaire on sharing responsibilities for germplasm conservation in Europe

1. Background

During its Sixth meeting in Braunschweig, Germany (30 June and 4-5 July 1998), the Steering Committee of ECP/GR requested that the Secretariat develop a questionnaire and analyze its results, in collaboration with a Task Force, to survey the opinion of germplasm curators with regard to the possibilities envisaged at national/institutional level to share responsibility for the conservation and use of the accessions conserved in Europe. The purpose of this analysis was to offer insights to the Steering Committee in order to suggest possible ways to guide curators, institutes and ECP/GR Networks in making appropriate and effective choices.

A questionnaire was prepared in October 2000 by the Secretariat and the following experts were invited to contribute with comments to its development and to the analysis of the results: Frank Begemann, ZADI, Germany; Ertug Firat, AARI, Turkey; Patrick Heffer, ASSINSEL; Theo van Hintum, CGN, The Netherlands; Jean Koechlin, BRG, France; Patrick Mulvany, ITDG, United Kingdom; Wieslaw Podyma, IHAR, Poland; Levon Rukhkyan, Ministry of Agriculture, Armenia; Silvia Strajeru, Suceava Genebank, Romania and Eva Thörn, NGB.

In December 2000 the questionnaire was sent to all the ECP/GR National Coordinators and Focal Points, together with a list of germplasm collection holdings for their respective countries, based on information available from the IPGRI Directory of germplasm holdings (1994). National Coordinators were invited to ensure the distribution of the questionnaire to all germplasm holding institutions within their countries and to encourage curators to respond. A total of 537 germplasm collection holding institutes were identified as potential recipients of the questionnaire in 43 countries. The Secretariat received 193 replies from 34 countries. No replies were received from Azerbaijan, Bosnia and Herzegovina, Croatia, Hungary, Macedonia FYR, Malta, the Netherlands, Portugal and Sweden.

2. Summary analysis

A full analytical account of the replies is given in a separate document. The present summary only highlights some results and tries to draw a few concluding remarks.

It should be noted that respondents did not always reply to all the twenty-one questions. Percentages are therefore calculated on the total replies given to each specific question. Moreover, a few respondents described their institution as belonging to more than one category. Therefore, a low number of replies are counted twice, since they are summed up with data referring to more than one type of institution. For these reasons, totals for each question do not always match when data are broken down by type of institution. Finally, it should be pointed out that the three different approaches for collaborative conservation were not given as alternatives and very often support was shown for more than one option.

2.1 Type of institution surveyed

The large majority of institutions contacted (98%) confirmed holding germplasm collections. When asked to more precisely define the type of institution they belonged to, 10 % of respondents identified it as a “genebank”, while the majority (54%) selected the category “research institution”, followed by the “universities” (14%). Private breeding companies (8%), botanic gardens (7%) and NGOs (4%) are also represented.

2.2 Size of germplasm collections

More than half of the collections (52%) contain over 1000 accessions; the other half is split between medium and relatively small collections (19% between 500 and 1000 accessions; 22% between 100 and 500). Very small collections represent only 6% of responses. There is no firm correlation between the type of institution and the size of collection. However, genebank collections are always more than 500 accessions. Research institutes and universities maintain collections of all sizes. Private companies tend to maintain relatively small collections (67% /hold between 100 and 1000 accessions). Botanic gardens tend to have large collections (78% have over 1000 accessions). NGOs tend to have small collections (75% hold fewer than 500 accessions).

2.3 Current level of responsibility sharing

About 54% of respondents affirm to be currently sharing responsibilities with institutions from different countries. Involvement in some form of responsibility sharing is more frequently acknowledged by genebanks (78%), followed by universities (62%) and research institutes (57%), while it is lower for NGOs (43%), private breeding companies (33%) and botanic gardens (36%). Considering the size of the collections, 64% percent of the institutions with

collections larger than 1000 accessions declare to be sharing responsibilities with other institutions, as opposed to 46 % of the institutions with smaller collections.

Overall collaboration specifically with institutions outside of Europe is much lower (19%). The higher percentage of involvement in this case is shown by genebanks (33%) and universities (22%), followed by research institutes (19%), with a lower level of collaboration shown by botanic gardens (15%) and NGOs (14%). Private breeding companies do not undertake this type of collaboration. Again, a higher percentage of positive answers is given by holders of collections larger than 1000 accessions (26%) rather than by smaller ones (11%).

The type of collaboration mainly consists in sharing information (66%), sharing characterization and evaluation work (65%) or regeneration and multiplication (42%), while agreements for safety-duplication are quoted by only 38% of respondents. Rather low is also the level of delegation of responsibility for conservation to other institutions (20%). The level of formalization of the above arrangements is quite low (only 24% mention the establishment of Memoranda of Understanding), while most of the collaboration is undertaken through informal agreements between institutions (65%).

Responsibilities are mainly shared with public institutions, such as genebanks (71%), public breeding institutions (60%) and, in some cases, also with private companies (21%).

2.4 Three possible approaches for sharing responsibilities

Considering the three potential options proposed for a system of shared responsibilities for *ex situ* conservation in Europe, option 1 (Decentralized European collections, on an accession basis) received the highest support (84% of respondents), followed by option 3 (Sub-regional collections) with 72% and option 2 (Centralized European collections on a crop basis) with 57%.

2.4.1 Option 1 (Decentralized European collections, on an accession basis)

General support for option 1 (decentralized collections) is very high from research institutes (82%), genebanks (89%), universities (86%) and botanic gardens (75%), and it is still high (71%) for private breeding companies, with low support only coming from NGOs (28%). Independently from the type of institution, support as high as 95% comes from collections larger than 1000 accessions. A high support for this option (78%) is also registered from institutions with fewer than 1000 accessions.

The main advantage of this option is perceived to be a safer long-term maintenance of European collections (64%), followed by the possibility of identifying and reducing duplicates (58%) and the increased trust on accessing material maintained in different institutions across Europe (52%). The main disadvantages are seen as the uneven quality standards for conservation activities throughout Europe (58%) and the risk of reduced access to a restricted number of accessions (48%).

Seventy seven (77%) percent of respondents declare to be currently in a position to directly support the above option; in 56% of the cases who expressed themselves on this point, support would be possible after simple institutional approval, while more formal government approval is thought to be required in 39% of cases. A high percentage of institutions from all categories affirm to be able to support this option; lower percentages are only recorded for private companies (54%) and especially for NGOs (20%). Although a more convinced offer for support comes from institutions with medium – large collections containing over 500 accessions (76%), also collections smaller than 500 accessions (73%) consider themselves as possible partners in this type of arrangement.

The main activity that respondents seem ready to undertake, in order to participate in option 1, is “sending safety-duplicate samples to a different genebank” (66%), but also to directly “assuming responsibility as germplasm maintainers” (66%), or “assuming responsibility as a genebank maintaining safety-duplicates) (38%) and “assuming responsibility as a central database manager” (28%).

2.4.2 Option 2 (Centralized European collections on a crop basis)

All categories of institutions show a slightly lower level of general support for option 2 (centralized collections) than for the option 1, with 62% support coming from research institutes, 59% from genebanks, 70% from breeding companies, 36% from universities, 33% from botanic gardens and 29% from NGOs.

Also in this case, although at lower levels than in option 1, a higher percentage of support comes from institutions with collections larger than 1000 accessions (71%), while 47% of institutions holding collections smaller than 1000 accessions confirm their support for option 2.

The main advantages of this option are perceived to be the possibility of identifying and reducing duplicates (65%) and the cost-effectiveness (58%). The main disadvantages are seen as the risk of reduced access to a restricted number of accessions (62%) and the risk of reductions in funding and staff (47%).

Fifty (50%) percent of respondents declare to be in a position to directly support this option; in 35% of the cases who expressed themselves on this point, support would be possible after simple institutional approval, while more formal government approval is thought to be required in 29% of cases.

In this case, a relatively high percentage of potential direct support is offered by the genebanks (78%) followed by research institutes (57%), botanic gardens (50%) and universities (33%), while all the other categories show a lower level of support, which comes from 17% of the breeding companies and 0% of NGOs.

Institutions with larger collections, over 1000 accessions, consider themselves as possible partners in this type of arrangement in 60% of cases. The percentage of institutions offering support is lower (39%) when they have collections smaller than 1000 accessions.

The main activity that respondents seem ready to undertake to participate in option 2 is “delegating responsibility for the conservation of specific accessions to existing and newly established central collections” (64%) and “assuming responsibility on behalf of ECP/GR for the maintenance and distribution to *bona fide* users of a specific crop collection” (57%).

2.4.3 Option 3 (Sub-regional genebanks)

General support for option 3 (sub-regional genebanks) is shown by 72% of respondents. Support for this option is relatively high from all categories: botanic gardens (80%), NGOs (83%), research institutes (72%), genebanks (69%), private companies (64%) and universities (62%).

Considering the size of the collections, a similar support comes from small collection holders (72% of collections with less than 1000 accessions) and from large collection holders (73% of collections with more than 500 accessions).

The main advantages of this option are perceived to be cost-effectiveness (54%), the possibility of identifying and reducing duplicates (50%) and the safer long-term maintenance of European collections (50%). The main disadvantage is considered the risk of reduced access to a restricted number of accessions (46%).

Sixty-three (63%) per cent of respondents declare to be in a position to directly support the above option; in 46% of the cases, this would be possible after simple institutional approval, while more formal government approval is thought to be required in 30% of cases.

Institutions that affirm to be readily available to support this option are mainly the genebanks (69%), followed by the universities (68%), botanic gardens (67%), research institutes (61%) and private companies (38%).

Sixty-one (61%) percent of institutions with collections over 500 accessions consider themselves as possible partners in this type of arrangement. Slightly higher (70%) is the positive response from institutions with collections smaller than 500 accessions.

The main activity that respondents seem ready to undertake to participate to option 3 is “sending safety-duplicate samples to the sub-regional genebank” (63%) and “assuming responsibility for the maintenance of germplasm” (59%).

3. Conclusion

The generally large support for the concept of sharing responsibilities shows that there is fertile ground to build a better-structured framework for regional collaboration in Europe.

Option 1 (Decentralized European collections on an accession basis) receives the widest support from institutions of all types and with all sizes of collections, with the exception of the NGOs. This general support is probably the most significant result of the questionnaire, suggesting that this option may deserve further efforts to be made to put it into practice. The wide support suggests that mechanisms could be sought to involve not only large genebanks, but also smaller public and private collections.

The relatively high support given to Option 2 (Centralized crop collections) indicates that this option can be further promoted and formalized as one of the possible approaches to establish an integrated system for conservation in Europe.

Regarding the generally high support for Option 3 (Sub-regional genebanks), this probably particularly reflects the perceived advantages of cost-effectiveness and of possible rationalization of the collections. The difficulty of proceeding in this direction, which would require a coherent political and financial commitment taken by a number of countries in their respective sub-regions does not seem to concern the respondents.

In general, but especially in the case of decentralized collections, concerns are expressed regarding quality standards for conservation (58%). It seems essential to find ways to improve the quality standards of all the partners involved, independently from the collaborative approach that is chosen.

Concern for the risk of reduced access to germplasm is also frequently mentioned and it is especially pronounced (62%) in the case of option 2 (Centralized crop collections). This suggests that it is important to improve the level of reciprocal trust that material will remain easily accessible in the long term. The adoption of a common model for material transfer agreements is one of the possible steps in this direction.