

CONSULTATIVE GROUP ON INTERNATIONAL AGRICULTURAL RESEARCH

Interim SCIENCE COUNCIL AND CGIAR SECRETARIAT

**REPORT OF THE
FIFTH EXTERNAL PROGRAMME AND MANAGEMENT REVIEW
OF THE
INTERNATIONAL PLANT GENETIC RESOURCES INSTITUTE
(IPGRI)**

Interim SCIENCE COUNCIL SECRETARIAT

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

September 2003



Consultative Group on International Agricultural Research (CGIAR)

Interim SCIENCE COUNCIL
Emil Q. Javier
Chair

CGIAR
Francisco J.B. Reifschneider
Director

16 July 2003

Dear Ian,

We are pleased to submit to you the Report of the Fifth External Programme and Management Review of IPGRI, conducted by a Panel chaired by Dr. Mike Gale of the John Innes Institute, UK. The Review Report and IPGRI's Board and Management Response to the Report were discussed by iSC at its 84th Meeting at FAO in Rome, Italy, in June 2003. The Panel Chair made his presentation at the plenary session. The Centre was represented by Dr. Benchaphun Shinawatra Ekasingh, Board Chair; Dr. Geoffrey Hawtin, Director General; Dr. Emile Frison, DG Designate; and other members of senior management.

The Report of the Panel is accompanied by two attachments. The first contains the Response of IPGRI to the Panel Report. The second is the iSC Commentary, which summarizes iSC's reaction to the Panel's Report and to the Response of IPGRI's Board and Management.

We believe that the Panel carried out a very thorough and analytical review of IPGRI's programmes and management. The Report is highly complimentary of IPGRI's many achievements and the Centre was found to be steadily growing in terms of finances, staff and programmes. It also noted that the steady growth in programmes has to be matched by appropriate adjustments in the Institute's governance and management systems and procedures. We consider the Report's 12 recommendations and additional suggestions useful for IPGRI. The iSC and System Office (SO) are pleased to see IPGRI's very positive response to the EPMR Report and that the Centre is in agreement with all of the Panel's recommendations and has already taken action to address them.

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Mr. Ian Johnson
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The iSC endorses the overall conclusion of the Panel, that IPGRI has a very relevant and unique role in genetic resources research as an honest broker. It is important for IPGRI to remain efficient and focused when it faces opportunities for expansion. The iSC and the SO believe that this Report provides strong assurance to the donors and stakeholders that their continuing future support to IPGRI is worthwhile.

Finally, we wish to acknowledge the dedication and leadership of IPGRI's Director General, Dr. Geoffrey Hawtin. The good health of the Centre owes much to his outstanding commitment, which goes beyond IPGRI and across the CGIAR System.

Yours sincerely,

(Signed)

Francisco J. B. Reifschneider
Director, CGIAR

(Signed)

Emil Q. Javier
iSC Chair

iSC Commentary on the Fifth External Programme and Management Review of IPGRI

The Report of the Fifth External Programme and Management Review (EPMR) of IPGRI was discussed at iSC/TAC 84 at FAO, Rome, Italy in the presence of the Panel Chair, Dr Mike Gale, the Chair of IPGRI's Board of Trustees, Dr Benchaphun Shinawatra Ekasingh, IPGRI DG, Dr Geoffrey Hawtin, IPGRI DG designate, Dr Emile Frison, and other members of IPGRI senior management. The interim Science Council (iSC) expresses its appreciation to Dr Mike Gale and his Panel for an extremely thorough, analytical and very readable report which offers validation of IPGRI's many areas of excellence, and numerous recommendations for further progress.

The iSC is pleased to note the very positive response from the IPGRI Board and management and it appreciates the commitment shown by the Centre in pursuing to implement the recommendations of the Panel. The Panel has carefully assessed IPGRI's work in the light of the recommendations of the Fourth EPMR. In general IPGRI has diligently implemented the recommendations, a few of which have been outdated and a few deserving continued attention.

The Report of the 5th EPMR contains twelve key recommendations. It is rich in useful suggestions in the various chapters and gives due recognition to the many achievements of the Centre. The iSC broadly endorses the Panel's recommendations and provides the following commentary, which was prepared with inputs from the CGIAR Secretariat to complement the Report.

Introduction

IPGRI grew significantly during the period under review. In terms of funding it increased its annual budget from US\$ 19.6 million in 1997 to an estimated US\$ 28.9 million in 2003. In terms of staffing there was a 73 % increase from the beginning of 1997. IPGRI has also spread its activities, and recently moved from limited quarters in Rome centre to new offices in Maccarese. The Centre is foreseeing continued growth based on demand for services and funding opportunities.

Emphasis has moved towards use of germplasm, as reflected in growing attention to in situ germplasm conservation and management and genetic resources policy work. International negotiations and agreements have required input in policy. Developments in bioinformatics and modern biology have offered a niche for IPGRI to excel in database development with multiple applications.

IPGRI programme organisation has several dimensions: it consists of three major programmes, 20 multidisciplinary projects, including regional ones, and eight strategic areas cutting across the projects. The Panel evaluated IPGRI's activities by looking at genetic resources research, policy research, regional programmes and support activities separately. The iSC finds this approach suitable. Addressing the genetic resources research activities as they correspond with the activity areas of the Global Plan of Action is helpful for illustrating how IPGRI's work links with the internationally agreed goals. Research on forest genetic resources, an activity area that falls outside the GPA, has received due attention from the Panel.

This IPGRI EPMR provides a very useful example of self-assessment feeding into an external review. IPGRI has used the CCER mechanism systematically across its entire project portfolio, including reviewing two activity areas twice between the 4th and the 5th EPMR. The Panel made use of 13 CCER reports and an audit on human resource management practices. The iSC believes that the positive observations of the CCERs and suggestions for improving them by revising their Terms of Reference are beneficial for IPGRI and other CGIAR Centres in further developing their self-assessment mechanisms.

Mission, Strategy and Priorities

The iSC agrees with the Panel's observation that IPGRI's original mandate to advance the conservation and use of genetic diversity is still valid. In fact this mandate allows expansion of the activities to exploit opportunities posed by demand and scientific advancement. In its current situation of continuing growth, IPGRI's challenge is to keep itself focussed on areas where it is likely to excel and achieve impact.

IPGRI's institutional strategy was last revised in 1999 and since then the Centre has engaged in and completed strategic planning for many activity areas and regions. IPGRI will begin a new institutional strategic planning exercise as the first activity to be led by the Centre's incoming DG. The timing for the 5th EPMR was optimal to support the change in leadership, and the iSC is pleased to note that IPGRI will make full use of the report's wealth of analysis and suggestions in this exercise.

As a highly decentralised institution, IPGRI has the challenge to align its regional priority setting with global priority setting and with the priorities of other plant genetic resources networks. The iSC agrees with the Panel's suggestion to bring more clarity to priority setting and to what is expected from projects and individual scientists in terms of balance among different kinds of activities and outputs. It is important to add impact factors to priority setting. The Panel's notion that project approval mechanisms ought to be very clear is also valid.

The iSC joins the Panel in urging IPGRI to make strategic choices by identifying a few research areas of high priority where the Centre has clear comparative advantage and opportunities to excel at the world level. In agreement with the Panel, the iSC encourages the Centre to set its targets for success and recognition high, striving for global leadership in one or two key areas, and vigorously pursue those targets together with its research partners. The iSC acknowledges the need for IPGRI to remain engaged and relevant in many areas that are important for genetic resources conservation and use. However, the prospects of increasing funding have and will increase the temptation to move to many different areas of activity, including regional, even national activities focused on development that could lead to undesirable dispersal of efforts.

There are many opportunities for IPGRI to expand its activities beyond its traditional mandate of plant genetic resources. IPGRI's expertise in areas such as conservation technology, database management, characterization and policy applies to all kinds of genetic resources, and the interactions between plant and other genetics resources offer interesting new dimensions to conservation. The iSC agrees with the Panel's assessment that IPGRI should be open to collaboration with leading institutions other than plant genetic resources.

The Centre should, however, not shift its focus from plant genetic resources where it has a clear comparative advantage.

The iSC greatly values the Panel's conclusion that IPGRI has an image of an honest broker among its stakeholders. IPGRI is not considered as a competitor to research and development institutions working with similar mandates, but rather as an institute catalysing, assisting and complementing them in their work. This image of honest broker is strengthened by the quite unique mode of operation IPGRI has adopted. It has no laboratories of its own and works on a partnership mode through collaborative research projects and networks. Much of the Centre's output comes from catalysing research and initiating and supporting networks. The iSC considers IPGRI's network model optimal, particularly for the commodities like Musa, coconut, cacao and date palm. IPGRI needs to be cautious for not accumulating responsibility for these kinds of operations beyond what is optimal for its mission. This operational model could, however, be considered more widely in the CGIAR as a template for work with commodities and themes which do not warrant a full-fledged breeding or research programme within the CGIAR itself.

Research Achievements and Impact

The iSC commends IPGRI for its good performance of which the Panel found ample evidence. The Panel relied much on the CCERs assessments of specific project activities and achievements. It also conducted a stakeholder review to collect impressions on IPGRI's performance and relevance. In general the Panel in its own assessment verified the positive conclusions of the CCERs about IPGRI's productivity and the high quality of its work.

IPGRI is commended for its publishing record in *ex situ* genetic conservation research, for advancing well in the area of complementary conservation and use, for initiating innovative work on *in situ* conservation and research on crop wild relatives and in forest genetic resources. The iSC notes with satisfaction that IPGRI has produced valuable work, substantive and methodological, for integrating socio-cultural variables, and identifying indigenous farmers' knowledge in its research and recommendations on plant genetic resources; leafy vegetables in Africa being one example. IPGRI has also had significant input and been highly visible in the international policy fora, including the negotiations preceding the International Treaty for on Plant Genetic Resources for Food and Agriculture.

IPGRI's commodity focus has grown beyond the INIBAP Musa projects to include coconut, cacao, date palm, tropical fruits and a number of neglected and underutilised crop species. One of IPGRI's major achievements includes facilitation of many effective networks for these commodities.

IPGRI's support to the Systemwide Genetic Resources Programme receives very high marks. Efforts for upgrading CGIAR genebanks, formulating common policies and developing the "gold standard" for germplasm and information management are highly appreciated across the System. The iSC agrees with the Panel that the SGRP provides a useful forum that should be open to genetic resources professionals outside the CGIAR. IPGRI's achievements in developing the SINGER database for serving the entire genetic resources community of practise and its instrumental role in initiating the Global Conservation Trust have been laudable and brought the Centre global visibility in partnership with the FAO.

In information and capacity strengthening, the evidence provided by two CCERs, the stakeholder survey and studies done by IPGRI itself indicate good productivity and impact. The iSC would have liked to see a more detailed assessment of IPGRI's performance in these very important areas of activity that cut across all other Centre projects.

IPGRI has adopted some innovative mechanisms that may impact positively in quality assurance. It employs Honorary Fellows who have had considerable impact on IPGRI's record of scientific publications and it provides small pilot grants for encouraging innovative ideas, which is unique in the System.

The iSC considers the "measures of esteem" used by the Panel as indicators of professional staff quality suitable for this kind of an institute. In addition to publications, indicators such as students supervised and lectureships give an indication of contacts with academic institutions and recognition of staff by peers outside. The iSC encourages IPGRI to seek ways of encouraging scientific opportunity and contacts for staff that are heavily involved in administration so that they may remain current in their fields. Management also needs to clearly communicate to staff what kinds of outputs are expected from them.

Governance and Management

The iSC agrees with the Panel's general conclusion about IPGRI governance and management reflected in the Recommendations 10 and 11, that the continuing growth requires that the Board and Centre management adopt more formal mechanisms for their operations and interaction, including exchange of information, lines of accountability and division of duties between different management levels and governing bodies.

Institutional Issues

The Main Phase of the IPGRI EPMR occurred at the same time as the work of the ISNAR restructuring team. Although not part of their Terms of Reference, the EPMR Panel gave some thought to an alternative proposing a merger between these two institutes. Certain areas of potential synergy between IPGRI and ISNAR were identified in the Report. The iSC is, however, strongly of the opinion that in terms of most programmatic elements, these two Centres are far apart, and therefore an institutional merger between ISNAR and IPGRI should not be an option. IPGRI has a clear mission and mandate within which it needs to prioritise and focus its actions to the most relevant areas of research. The Centre is facing enormous challenges with the changing science and global environment for germplasm conservation and use. Broadening its mandate to include very different areas of activity would not be desirable.

In a follow-up to a recommendation by the 4th EPMR, the Panel makes a strong recommendation to complete the integration of INIBAP to IPGRI. The iSC agrees with this recommendation, believing that there are synergies to be achieved in the regions and through institutional arrangements that should not be missed. At the same time it is important to capitalize on the positive image of IPGRI's Musa programme and secure the visibility of the work on bananas and plantains. Regarding genetic modification of banana and other crops, the iSC agrees with the Panel that IPGRI should articulate and obtain Board approval of a clear strategy for obtaining public support for any introduction and field testing of GM crops in the environment. The iSC joins the Panel in strongly encouraging IPGRI and IITA to

pursue common interests and synergies in collaborative Musa research and commends the Centres for the steps they have been taking toward this goal.

Conclusion

The iSC congratulates IPGRI for the excellent assessment it has received from the EPMR Panel. IPGRI has maintained positive development of its resource base during difficult times which is a reflection of donor trust in IPGRI's continued relevance, fulfilling an important mission. The iSC believes that this Report provides strong assurance to the donors and stakeholders that their continuing support to IPGRI in the future is well placed.

Missing transmittal letter from Centre to Emil and Francisco

Response of IPGRI's Board of Trustees and Management to the report of the Centre's Fifth External Programme and Management Review

1. IPGRI's Board and Management expresses its sincere thanks to the Panel and wishes to place on record its appreciation for the very constructive and analytical approach the Panel took towards its task. The review was comprehensive, forward-looking and addressed the major issues facing the Centre as it moves into a new phase of its existence. The Panel demonstrated an excellent appreciation of the highly complex and rapidly changing environment in which IPGRI operates, and through its recommendations and many valuable suggestions, has contributed substantially to our on-going efforts to position IPGRI for the future.

GENERAL OBSERVATIONS

2. We are delighted that the Panel recognizes the importance of IPGRI's mission and that we are "set to remain at the centre of one of the most important efforts mankind is making to ensure the long-term sustainability of the planet". We fully share this perspective.
3. We are very pleased to note the strong endorsement of the Panel for the way IPGRI conducts its business. IPGRI does not operate as a 'conventional' Future Harvest Centre in that it has no fields or laboratories of its own, but seeks to catalyze, promote, support and backstop the work of others. Partnerships are a central feature of IPGRI's programme and we have made substantial progress in institutionalizing our partnership arrangements. We are happy that the Panel conducted a thorough review of this and gave a positive endorsement of our efforts, recognizing the value and effectiveness of operating as an 'honest broker'. The partner survey conducted by the Panel has provided some useful feedback and justifies additional analysis that will undoubtedly help IPGRI to further strengthen its partnerships in the future.
4. We are also very pleased with the Panel's assessment of the quality of our work, and in particular of the science we are conducting. Operating in the way we do, the impression is sometimes created that IPGRI is not involved in research but is in effect purely a technical support organization. While support to the national programmes is our main *raison d'être*, we strongly believe that in order to be effective in this we need to be at the forefront of science. The Panel has cited many examples of where this is the case and indeed noted that IPGRI is "a world leader in its field and its scientists command the respect of their peers". We recognize that maintaining this scientific credibility is essential to our *modus operandi*. Furthermore, many of the difficult problems confronting the conservation of genetic diversity, and its use as a tool for social and economic development, require the application of the very best that science has to offer.

5. We agree with the Panel, that many of IPGRI's management structures and procedures have not kept pace with the rapid growth of the institute, and that some adjustment is needed to best position IPGRI for the further growth anticipated. The relatively informal structures that served the institute well when we had a staff of about 100 and an annual budget of \$19 million, as was the case at the start of this review period, are less appropriate now that we have nearly 280 staff members in 27 countries and an annual budget approaching \$30 million.
6. We would also like to underscore the point raised by the Panel concerning the negative effects on IPGRI of a declining percentage of our income being unrestricted. While our total budget has increased substantially, unrestricted funding has declined. This has put considerable stress on a number of aspects of IPGRI's work that have traditionally been covered from such sources and for which it is hard to secure restricted support. IPGRI joins the Panel in calling on the donor community to bear this in mind when allocating resources to the Centre.
7. With the completion of this external review and the appointment of a new Director General, this is clearly an appropriate time for IPGRI to embark on a new strategic planning exercise. Thus we intend to initiate a process very soon of looking anew at our programme priorities and the strategies by which we address them. This will involve extensive consultations with a large number of partners, from all those stakeholder groups that have a role in helping to set our agenda. The planning exercise will build further upon the Global Plan of Action, which itself was developed through a highly consultative process in which IPGRI was heavily involved. It is intended to complete this exercise by the end of 2004.
8. The report contains a wealth of thoughtful, wise and helpful suggestions. Far too many, in fact, to be able to comment on them all here. However, we have taken stock of these suggestions and have developed a timetable and process for addressing them. In the following paragraphs we confine our comments mainly to the 12 formal recommendations of the report.

Response to the EPMR Recommendations

9. Recommendation 1

We agree with the Panel's recommendation that we not spread our efforts too thinly and identify a number of key topics of critical importance to the conservation and use of genetic diversity on which to focus our research. The process of identifying appropriate topics will be a part of the proposed strategic planning exercise. Priority will be given to those topics that require a holistic approach, and that are of critical importance to resource poor communities and the weaker national programmes.

10. Recommendation 2

IPGRI agrees with this recommendation and will undertake across-region analyses of forest genetic resources data in collaboration with appropriate partners.

11. Recommendation 3

We fully agree with this recommendation and note that the recent appointment of new Directors General at all three institutes - CIFOR, ICRAF and IPGRI – presents an excellent opportunity to take stock of existing collaborative arrangements and activities and to develop new ones.

12. Recommendation 4

We believe that good progress has been made during the period of the review with integrating INIBAP within IPGRI. Nevertheless, we fully agree with the Panel that more should be done, especially to capture greater synergies between the work of the INIBAP and PGR programmes, both thematically and in the regions. We note all of the Panel's helpful suggestions contained within this recommendation and will take them fully into account as we further address this issue within the context of developing the new strategic plan for the whole of the institute.

13. Recommendation 5

We very much welcome this recommendation. While it was made in the context of our work on *Musa*, we foresee the need for a clear policy and guidelines on GMOs for the whole of IPGRI. We have already played a significant role in helping to shape the Future Harvest Centres' collective position on GMOs, and we intend to continue to do so as this position evolves further. We are currently looking into the implications for genetic resources conservation of GM technology (e.g. the extent of geneflows between different populations) and recognize that our work on *Musa* offers an ideal basis for the further development of our overall policies and strategies regarding GMOs.

14. Recommendation 6

We fully accept this recommendation and are actively trying to secure the necessary resources to support the position of a full time economist at headquarters. In recruiting for this position we will be seeking someone with considerable experience of social as well as economic issues. We also agree with the suggestion of the Panel that we work even more closely with IFPRI in addressing certain key economic issues of importance to our overall work on genetic resources.

15. Recommendation 7

IPGRI agrees with this recommendation, and considers it to be fully in line with our intended future work programme on policy. Advice on genetic resources policies, regulations and legislation is one of the most frequent requests of our national programme partners. Foremost in this are requests for advice on the ITPGRFA and related provisions of the CBD – especially on access and benefit-sharing.

16. Recommendation 8

We agree with this recommendation and will look into ways in which we can most cost-effectively achieve greater inter-regional collaboration. Our intention to have videoconferencing facilities in all our Regional Offices in the near future should contribute positively to our ability to meet this objective.

17. Recommendation 9

We recognize that there is need for a careful assessment of the balance of staff time devoted to leading and participating in research on the one hand, and undertaking fund-raising, project management and technical assistance on the other. This balance will receive attention in the context of the strategic planning exercise.

18. Recommendation 10

We accept this recommendation in principle. While recognizing the need to maintain the critical distinction between the roles and responsibilities of the Board and management, we fully accept that a more formal relationship between the two is needed. We will consider in detail the many helpful sub-recommendations when the Board considers this issue in more depth at its next meeting.

19. Recommendation 11

We agree with the Panel that with the increase in size and complexity of IPGRI, there is a need for more formal planning and decision-making processes. Thus we accept this recommendation in principle. While it will be possible to implement some of the sub-recommendations almost immediately, others will be considered in more detail at the next Board meeting.

20. Recommendation 12

We fully agree that there is an urgent need for extra senior staff time to be devoted to resource mobilization and donor relations. While some short-term solutions should be possible, the details of how IPGRI will implement this recommendation in the longer-term will be addressed in the strategic planning exercise.

Conclusions

21. We note the observations of the panel in the concluding chapter concerning the future of ISNAR. IPGRI stands ready to consider whatever assistance, if any, the Board of ISNAR and the CGIAR as a whole deem appropriate.
22. We appreciate the very positive tone of the whole report, and especially as reflected in the concluding chapter. We are pleased that the Panel considers that IPGRI has a bright future, a view we fully share. Taking into account the Panel's recommendations, with the continued support of our many donors, and in collaboration with our many and diverse partners, it is our firm intention to make this bright future a reality.

Benchaphun Shinawatra Ekasingh
Chair, Board of Trustees

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March 21, 2003

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Dear Drs. Javier and Reifschneider,

I am pleased to transmit to you the Report of the Panel that conducted the Fifth External Programme and Management Review (EPMR) of the International Plant Genetic Resources Institute.

The Panel finds IPGRI to be strong and effective. Moreover, in these rapidly evolving scientific and political times, its role as an honest broker in the developing world and in the CGIAR is as vital as ever. IPGRI has grown from a staff of 100 to 250 and is set to continue. However, IPGRI is facing reductions in unrestricted funding at the same time as it is achieving increasing success with project funds. This imbalance is at the root of much of our comment.

We stress the importance of strategy formulation and priority setting. We stress the need to find the right balance in the genetic resources research programme and in the Centre's policy research. We explore measures to ensure more clarity in management's decision making and easier communication between components of the decentralized Centre. We suggest ways of helping the Board follow best practice in fulfilling its governance role. We also comment on the merger of INIBAP and IPGRI and urge the Centre to complete the job so that full scientific synergy can be achieved.

We would also take this opportunity to say that we found the good health of the Centre to owe much to the charisma and fine leadership of Dr. Geoff Hawtin, the DG of

IPGRI since 1991. He will leave this summer to continue his contribution to global PGR as interim Secretary of the Global Conservation Trust.

We would also like to record our thanks to the IPGRI Board, management and staff, including those posted in the eleven countries visited by Panel members during the review, who cooperated with us in every way and provided us with all the facilities we required.

Sirkka Immonen from the iSC Secretariat and Selçuk Özgediz from the CGIAR Secretariat (who helped from a distance) served as resource persons and supported the Panel throughout the review. We thank Ruth Erickson from iSC Secretariat for putting this report together.

Finally, the Panel members and Consultants join me in expressing appreciation for the opportunity to participate in the challenging task of conducting this Review. We hope that the Report will be useful to the CGIAR as well as to IPGRI and its partners.

Yours sincerely,

A handwritten signature in black ink, appearing to be 'Mike Gale', with a stylized flourish at the end.

Professor Mike Gale FRS
Chair
External Review Panel

CONSULTATIVE GROUP ON INTERNATIONAL AGRICULTURAL RESEARCH

Interim SCIENCE COUNCIL AND CGIAR SECRETARIAT

**REPORT OF THE
FIFTH EXTERNAL PROGRAMME AND MANAGEMENT REVIEW
OF THE
INTERNATIONAL PLANT GENETIC RESOURCES INSTITUTE
(IPGRI)**

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Sirkka Immonen (iSC Secretariat)
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Interim SCIENCE COUNCIL SECRETARIAT

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

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PREFACE

This is the Report of the Fifth External Review Panel appointed to evaluate the programme and management of the International Plant Genetic Resources Institute (IPGRI). The membership of the Panel and their background are given in Appendix I. The Terms of Reference of this Fifth External Programme and Management Review are shown in Appendix II.

The Panel's approach to the Review was participatory and forward looking. In conducting the Review, the Panel considered the driving forces within the Centre and the CGIAR System, as well as in the external environment that influence the operational framework for IPGRI. The Panel wished to concentrate on the most strategic issues facing the Centre, after examining information pertaining to all the principal areas of the review.

The information on which the Panel based its decisions regarding the key concerns and issues, and its assessments and conclusions, were gathered in a number of ways. The Panel made extensive use of 13 Centre Commissioned External Review Reports. The Panel interacted with Centre Board, senior management and research staff, both at headquarters and at several regional sites. It conducted a staff survey among all IPGRI staff. The Panel members met with national programme representatives and other IPGRI partners and stakeholders during field visits at various locations in Africa, Asia, Latin America and Europe. The Panel itinerary is given in Appendix III. The Panel also conducted a questionnaire survey among IPGRI's stakeholders and received over 100 responses. Telephone interviews were conducted with stakeholders in Latin America and selected institutes elsewhere. The list of people contacted either during field visits or by telephone is given in Appendix IV.

The Panel obtained additional information through a survey letter sent to all other CGIAR Centres and to all CGIAR Members and Regional representatives. Furthermore, both the interim Science Council of the CGIAR and the IPGRI management and Board raised issues that they considered important for the review.

Finally, the Panel had access to documents and data made available by IPGRI in advance and during the Main Phase of the review. The iSC and CGIAR Secretariats provided documentation covering CGIAR strategies, finance and organization, strategic studies and review reports. A complete list of documents given to the Panel is shown in Appendix V. One of the documents provided by IPGRI was the Centre response and follow up to the 4th EPMR recommendations, which together with the Panel's comments, is provided in Appendix VI.

SUMMARY AND RECOMMENDATIONS

Evolution of IPGRI

IPGRI evolved from the International Board for Plant Genetic Resources and became an independent CGIAR Centre in 1991. In 1994 IPGRI took on the responsibility for banana and plantain improvement, when it became home to the International Network for Banana and Plantain (INIBAP). Since then it has also been the convening Centre for the Systemwide Genetic Resources Programme. In 2001 IPGRI's headquarters moved to a new site at Maccarese outside of Rome.

IPGRI's mandate and mission for the advancement of conservation and use of genetic resources have remained largely unchanged, except to accommodate an explicit commitment to commodities, such as banana.

IPGRI today has some 260 staff, almost two thirds of whom are stationed at 14 locations in developing countries. In addition to serving developing countries in Asia, Africa and Latin America, IPGRI, uniquely among CGIAR Centres, has a regional group dedicated to Europe. Today IPGRI has a revenue base of some US\$ 30 million a year, relative to only US\$ 19 million in 1997.

The world in which IPGRI operates has changed remarkably over the review period. The politics surrounding genetic resources has advanced from the Convention on Biological Diversity (CBD), the Global Plan of Action (GPA), and the TRIPS agreement of the WTO to the upcoming ratification of the International Treaty. Genome research, biotechnology and geographic information systems, all central to IPGRI's research, have advanced tremendously. IPGRI has to stay abreast of this progress. Genetic modification and intellectual property rights have become issues. Altogether, a number of factors have converged to put genetic resources firmly under the spotlight.

IPGRI's strategy

IPGRI has no research facilities of its own, but works as a catalyst and facilitator with partners, including national research programmes and NGOs in developing countries, advanced research institutes, and other CGIAR Centres and FAO, to carry out its goals. IPGRI operates through, and often helps maintain, crop and regional networks. It generally conducts its research and capacity strengthening initiatives through bi or multi-lateral agreements, many initiated and maintained through the regional offices. A major change over the review period is that IPGRI's research agenda has moved from 'conservation for use' to emphasis on 'conservation through use'.

Over the review period IPGRI has reformulated its strategy as eight Strategic Choices that map very closely onto the 20 Activities in the GPA (with the exception of forest genetic resources, not included in the GPA). The strategy today includes some commodity work on coconuts, cacao, tropical fruits and other neglected and underutilised species, as well as banana and plantain. The overall research programme is organized into 20 Projects within which priorities are debated in the Programme Planning and Review Committee. IPGRI has a

further scheme, the Innovation Fund, which encourages and funds ‘thinking out of the box’ proposals from IPGRI staff.

For monitoring the performance of its research Projects, IPGRI has during the review period used 13 Centre Commissioned External Reviews, which have also aided the Panel in this review.

IPGRI’s accomplishments

Traditionally IPGRI has focused on the *ex situ* PGR conservation. These studies, including the development of cryopreservation and *in vitro* protocols and the use of microsatellite DNA markers for studying diversity, have continued. IPGRI has also continued its involvement in collecting, albeit at a diminished level. However, particularly through the 1997 US\$ 6 million ‘Global *in situ*’ project, IPGRI has expanded a substantial share of its PGR research portfolio into on-farm conservation, together with attendant socio-economic research. It has also secured considerable funding for ‘*In situ* conservation of crop wild relatives’, which will enter its main phase this year.

The FGR programme has consolidated established networks and initiated new networks in Sub-Saharan Africa and the Asia, Pacific and Oceania regions, as well as developing optimal forest tree seed storage methods with partners worldwide.

In the commodity area, the INIBAP *Musa* programme has doubled in size to US\$ 6.2 million in 2002, and now includes offices in Cameroon and Uganda in addition to those already located in Costa Rica and the Philippines. The Global Programme for *Musa* Improvement was launched in 1997 to maximise the output from breeding programmes. The *Musa* Genomics Consortium, a network to develop knowledge and tools to benefit crop improvement by conventional means and by genetic transformation, was launched in 2001. The INIBAP programme also holds the world’s leading *Musa ex situ* collection at the Katholieke Universiteit Leuven in Belgium. The coconut network, COGENT, has established international field genebanks in four countries.

In policy, IPGRI has played a significant role in the inter-governmental negotiations that led to the adoption of the International Treaty on PGRFA. A new programme, the Genetic Resources Policy Initiative (GRPI), has been launched specifically to strengthen capacity for policy and legal framework formulation in developing countries, including implementation of the ITPGRFA.

Training remains a key IPGRI activity. At the national programme level some 3500 trainees have worked as interns or attended short courses. The Centre has also established a competitive longer term Abdou-Salam Ouédraogo Fellowship to join the Vavilov-Frankel and Italian-funded Research Fellowships. IPGRI staff has published more than 200 refereed research papers and has significantly addressed public awareness of PGR issues.

The 5th EPMP assessment

The Panel found that IPGRI is taking appropriate steps to implement efficient strategic planning and directed priority setting, which is so important for a Centre with such a broad global mandate. However, still more can be achieved. The Panel is convinced that building more clarity into senior management decision making fora will hasten maturity of the process.

The Panel found the research programme to be expanding and still relevant. The research and the researchers are of a quality commensurate with an international research organization and IPGRI has adequate measures in place for monitoring its relevance and quality. A stakeholder survey undertaken by the Panel suggested, however, that while IPGRI was generally well regarded, there may be scope to improve the opportunities for stakeholders to influence IPGRI's research, training and outreach agenda.

IPGRI's convening role in the SGRP to promote common methods and policies throughout the CGIAR's *ex situ* crop germplasm collections, together with the development and support for SINGER was judged very effective. Likewise IPGRI's role in the formulation of the ITPGRFA and, with FAO, the initiation of the Global Conservation Trust, were seen as very valuable services to all involved with genetic resources.

Elsewhere the Panel's comments and recommendations mostly addressed the question of appropriate structures for retaining efficiency and focus in an organization of increased, and still increasing, size. These included: the implementation of mechanisms to ensure that IPGRI's research remains focused in areas of its comparative advantage; mechanisms to ensure that workloads are kept in check and maintain the right balance between research and technical assistance; simpler and clearer reporting structures; improved communications, particularly between the regions; and development of a more structured relationship between the Board of Trustees and the Centre's management and senior staff. The increased need for research, knowledge and advice on the economics of PGR conservation and use prompted a recommendation to recruit a staff member in that area.

The Panel judged IPGRI's links with other CGIAR Centres to be generally good, but also suggested that IPGRI continue to build productive links to exploit synergies between its genetic resources work in banana with IITA and in FGR with CIFOR and ICRAF. The Challenge Programmes offered further opportunity for inter-institutional collaboration, and the Panel noted that IPGRI is one of the Centres leading the development of the CP, 'Unlocking crop genetic diversity for the resource poor'.

Finally, the Panel was impressed with the contribution of INIBAP to IPGRI's research. However, it felt that there were scientific opportunities and synergies yet to be exploited. It recommended that the *Musa* Programme, including the INIBAP regional offices, be fully integrated within the IPGRI research programme.

IPGRI's future

The Panel was optimistic for IPGRI's future. It felt that there was room for cautious expansion beyond plant genetic resources, providing the appropriate experts elsewhere in the CGIAR and in FAO were prepared to lead the partnerships. Research with appropriate partners into animal, fish and even microbial genetic resources and their interactions with plants could bring a new dimension to IPGRI's work. The Panel was less positive about IPGRI taking on activities with primarily a development focus.

One of IPGRI's key assets, which must not be compromised, is its position as an 'honest broker'. That goodwill should now be firmly focused on re-establishing genetic resources as a public good from which the benefits be fairly shared by all.

LIST OF KEY RECOMMENDATIONS

CHAPTER 2 – GENETIC RESOURCES RESEARCH ACTIVITIES

Recommendation 1

The Panel recommends that IPGRI position itself clearly by focussing on a number of topical research areas in which progress is lagging, where few others at the international and national level are active, and in which IPGRI has a comparative advantage. The Panel recommends that IPGRI take a holistic approach to decide in which topics it will invest further in order to excel. Potential topics that IPGRI may further concentrate on include: new roles of genebanks and new collection concepts in the area of genomics; bioinformatics and association genetics; the possible impact of GMOs on the conservation and development of genetic resources; complementary germplasm management strategies; economics of genetic resources management (*ex situ* and *in situ*); coping strategies to combat genetic erosion; cultural practices associated with genetic diversity; nutrition and health; and the role of non-domesticated and semi-domesticated biodiversity in rural communities, including forest products. The Panel believes that IPGRI should not spread itself too thinly.

Recommendation 2

The Panel recommends that IPGRI explore opportunities for optimising use of forest genetic resources network databases through meta-analyses across regions and other methods that would contribute to understanding of general global forest genetic resources patterns and dynamics.

Recommendation 3

The Panel recommends that IPGRI proactively engage with CIFOR and ICRAF to review and update the 1993 agreement on their shared agenda, redefine roles as appropriate and implement mechanisms to facilitate regular interactions necessary for effective collaboration and information sharing.

Recommendation 4

The Panel recommends that IPGRI review the position of the *Musa* Programme with a view to completing full integration of INIBAP into the Centre. Options considered should include:

- (a) removing use of the INIBAP acronym (this might accompany a ‘rebranding’ of the entire Centre);
- (b) establishing the *Musa* work, possibly together with other IPGRI commodity work, as a new grouping. The head of the group could be at Group Director level, with appropriate reporting lines;
- (c) rationalizing use of the Montpellier facility to optimise scientific synergies and administrative function with IPGRI headquarters; and
- (d) rationalizing use of the regional facilities to achieve maximum scientific synergy and efficiency, again with an appropriate reporting structure.

Recommendation 5

The Panel recommends that IPGRI's Management develop, and obtain Board approval for, the Institute's policy and guidelines on research and breeding, including field trials, of genetically modified bananas and other crop products. The policy should articulate a clear strategy for obtaining public support for any introduction and field testing of genetically modified crops in the environment.

CHAPTER 3 – POLICY AND SOCIO-ECONOMIC RESEARCH ACTIVITIES**Recommendation 6**

The Panel recommends that IPGRI recruit a full time staff member with the necessary academic qualifications and experience in environmental and agricultural economics, preferably with a focus on PGR.

Recommendation 7

Given the increasing number of international fora in which PGR policy and legal issues are being negotiated and the growing demand on IPGRI's limited core policy and legal expertise, the Panel recommends that over the next 5 years the Institute focus most of its resources for international policy work on supporting the national institutions with the implementation of the ITPGRFA and related provisions of the CBD.

CHAPTER 4 – REGIONAL ACTIVITIES**Recommendation 8**

The Panel recommends that IPGRI establish specific mechanisms to promote collaboration between the Regions at the Regional Director level.

Recommendation 9

The Panel recommends that Management review staff time allocation between research work and technical assistance, particularly in the Regions.

CHAPTER 7 – GOVERNANCE AND THE BOARD OF TRUSTEES**Recommendation 10**

The Panel recommends that a more formal relationship between the Board and the Institute's management is required to ensure that the Board's governance role as overseer is effectively exercised. To this end there should be:

- (a) a regular monthly interaction between the Chair and the DG;
- (b) the agenda and minutes of the MEC made available to the Chair on a timely basis;
- (c) Board approval of a schedule of issues and expenditure levels on which management has to inform and seek approval from the Board;
- (d) a discretionary annual imprest account of, say, US\$ 50,000 for the Chair;
- (e) an Executive Committee-MEC conference call at least once between scheduled Board meetings;
- (f) an invitation to the Leader of POTG to the November project review meeting;

- (g) more regular interaction between the Leader of the FITG and the DFA;
- (h) a strengthening of the financial and economic oversight by the Board through appropriate selection of the next three Board members; and
- (i) a review of the Board procedures, particularly as they relate to the composition of Board quorums and the voting rights of the DG.

CHAPTER 8 – PROGRAMME ORGANIZATION AND MANAGEMENT

Recommendation 11

The Panel recommends that a more formal and transparent planning and decision making process is required with respect to the Institute’s scientific programme, whereby:

- (a) an appropriate ToR for MEC should be agreed with the Board, which would include the requirement that all new projects and activities are approved by the full MEC before they are submitted to donors;
- (b) MEC meet regularly once a month, and the agenda and minutes are available on the intranet to all staff in a timely manner;
- (c) Regional Directors report directly to the DDGP; and
- (d) all activities with an annual budget of over US\$ 500,000, and activities where IPGRI is assuming non-traditional risks, are brought to the attention of the Executive Committee of the Board.

Recommendation 12

The Panel recommends that, to serve the requirements of an organization of IPGRI’s complexity, a key senior individual be exclusively dedicated to fund raising, working to the Board approved fund raising strategy incorporating an appropriate PR function.

CHAPTER 1 – BACKGROUND AND CONTEXT

1.1 The global need for conservation of plant genetic resources

IPGRI was established because the future of world food production and sustainable agriculture depends on continued conservation and use of genetic diversity. The urgency and need for conservation of plant genetic resources has been highlighted by several international initiatives during the last decade. UNCED at Rio de Janeiro in 1992 led to the ratification of the Convention on Biological Diversity (CBD) in 1993, and the International Technical Conference on Plant Genetic Resources in Leipzig led to the adoption of the Global Plan of Action on Plant Genetic Resources for Food and Agriculture (GPA) in 1996. In 2001 an FAO Conference adopted the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) to promote the conservation, exchange, and sustainable use of the PGR relevant for agriculture and food security. It will come into force as a legally binding agreement after ratification by 40 countries, probably in 2004.

The GPA seeks to: (1) ensure the conservation of PGR for food and agriculture as a basis for food security and sustainable agriculture; (2) promote improved utilization of PGR, in order to foster development and reduce hunger and poverty, particularly in developing countries; (3) promote among and within countries, and with farmers and communities, the fair and equitable sharing of benefits arising from the use of PGR for food and agriculture and from the knowledge, practices, or innovations associated with such resources; and, (4) assist countries and institutions responsible for conserving and using PGR to identify priorities for action.

IPGRI is the most important international organization concerned with PGR, and has a major responsibility to help the world achieve the goals of the GPA. Furthermore, IPGRI holds ‘in trust’ a major collection of *Musa* genetic resources and in addition, as a CGIAR Centre it supports other CGIAR Centres which are the curators of a strategic part of the world’s PGR for food and agriculture under the auspices of FAO. These activities underpin those of the CGIAR itself in the areas of poverty alleviation, food security and protection of the environment.

1.2 Mission and evolution of IPGRI

IPGRI was established as a legal entity under international law in October 1991 and recognized as such by the host country, Italy, through the parliamentary ratification of IPGRI’s establishment and Headquarters Agreements in January 1994. Its operations started in 1994, evolving from the International Board for Plant Genetic Resources (IBPGR) hosted by FAO, which was itself set up in 1974. IPGRI took on responsibility for the Systemwide Genetic Resources Programme (SGRP), and responsibility for banana and plantain improvement when it became ‘home’ to the International Network for Banana and Plantain (INIBAP). IPGRI’s original mandate was and remains:

The advancement of the conservation and use of genetic diversity for the well-being of present and future generations.

IPGRI's original Mission was marginally modified in 1993 to accommodate work on commodities, which was represented initially by the *Musa* work only. The modified Mission underpins that of the CGIAR and reflects IPGRI's responsibility to the CGIAR Centres to support their programmes to maintain collections with 600,000 accessions of 2400 plant species, a highly strategic part of the world's collected diversity. The present Mission is:

To encourage, support and undertake activities to improve the management of genetic resources worldwide so as to help eradicate poverty, increase food security and protect the environment. IPGRI focuses on the conservation and use of genetic resources important to developing countries and has explicit commitment to specific crops.

IPGRI's Objectives, restated in 1999¹, have shifted to reflect an increased emphasis on conservation through use and on sustainability. These are:

(1) To assist countries, particularly developing countries, to better assess and meet their own PGR needs; (2) to stimulate strengthened international collaboration in the conservation and use of genetic resources; and (3) to develop and disseminate knowledge and technologies relevant to the improved conservation and use of PGR.

1.3 Managing global genetic resources in a changing environment: The challenges for IPGRI

The Panel has considered IPGRI's mandate, strategy and future in the context of the rapidly changing environment in which the Centre operates. The changes include continuous evolution at the Centre itself, an evolving CGIAR System, and a changing and more challenging external world.

Evolution at IPGRI - At IPGRI the key drivers for change at the Centre are the new holistic approaches to the management of genetic resources, which are themselves now recognized as assets for improving the livelihoods of small farmers; the need for increased stakeholder accountability; and the rapidly advancing frontiers of a highly complex science.

IPGRI's total budget has continued to grow considerably over the years. However, in common with most grant-aided organizations and other CGIAR Centres, IPGRI has diminishing unrestricted core funds at its disposal. These funds are needed to maintain IPGRI's infrastructure, and cover a large part of operational overhead and essential components of its work that are not attracting specific donor funding. A larger institute with increasing staff numbers and continuing decentralization will need to evolve more adaptable and flexible management structures. Failing to do so would result in excessive complexity, rigidity and loss of transparency. Increased donor accountability will require improved monitoring and reporting systems. There is growing pressure for an extended remit, both to genetic resources beyond plants, and science beyond genetic resources. IPGRI must be fully cognisant of the ramifications of accepting either challenge. There is also pressure to get involved in development activities, and IPGRI must continually assess donors' objectives against its own strategic choices, carefully considering where its comparative advantages lie.

¹ Diversity for Development, IPGRI, 1999 (ISBN 92-9043400-7)

The shifts in IPGRI's own research include an increased commodity outlook and a new orientation stemming from the concept of 'conservation through use'. There are new technologies, particularly those arising from genomics which both provide new applications for genetic resources management, and draw from genetic resources for development of new breeding tools. In addition, developments in bioinformatics will drastically change the storage, retrieval and analysis of large, incongruent and dispersed datasets. The application of Geographic Information Systems (GIS) will further strengthen options to understand the distribution of genetic diversity and enhance its conservation. These new technologies have significant implications for genetic resources research. There are also new approaches in the areas of participatory on-farm management of genetic resources that require new expertise. Success and continued activity at the cutting edge in all of these areas will require an adaptable and high quality cadre of scientific staff, as well as resourceful and innovative use of scientific partnerships.

An evolving CGIAR system - The CGIAR itself is evolving rapidly. In 2000 the CGIAR adopted a new vision and strategy, which reaffirms the main CGIAR goal of reducing poverty, hunger and malnutrition on a sustainable basis. Its other main elements include: mobilising modern science for assessing complex causes of poverty and food insecurity; developing a concerted approach to address the needs of the poor, particularly in Sub-Saharan Africa and South Asia; adopting a regional approach to research planning and implementation to address the heterogeneous nature of poverty and food insecurity and to integrate regional priorities with global priorities; seeking new types and new forms of partnerships for problem identification, research and dissemination of research outputs; addressing major problems through a task force approach; and strengthening CGIAR's role as a catalyst, integrator and disseminator of knowledge. IPGRI's mandate and *modus operandi* encompass all these strategic principles.

The CGIAR at large is faced with declining funds while at the same time there is increased donor requirement for accountability and performance. In this context there are strong moves towards a more unified System. There are new conceptual and financial tools, such as the Challenge Programmes, and tendencies towards consolidation of activities and structural adjustments within the CGIAR. IPGRI must be appropriately engaged as this scenario unfolds. The System must be stronger than the sum of the Centres for it to retain its relevance and standing, so IPGRI must remain an integral part of the System. With its present growing funding base IPGRI looks relatively well placed; however it must also be astute if it is to continue to remain relevant.

Evolution of the world around IPGRI - Significant developments are taking place in the external world that have implications for IPGRI's work. The political arena occupied by the CBD, WTO, TRIPS, WSSD and, in particular, the upcoming ratification of the ITPGRFA provide focus on genetic resources. IPGRI faces new challenges in operating in the middle of a range of conflicting stakeholder agendas. A significant consequence of this is that the international exchange of genetic resources has dwindled, which is a challenge for IPGRI, and of considerable concern to the other Centres. The Global Conservation Trust (GCT), an effort led by FAO and IPGRI, on behalf of the CGIAR, is in the final stages of being established. Wherever its final location and whatever its final mission, the Trust Fund will surely impact IPGRI's work in many ways.

The emergence of genetic modification has stirred a considerable debate and resulted in hardened and often opposing positions being taken by various stakeholder groups on the benefits and risks of the new technology. To make matters worse, genetic modification has

become an icon for those who take issue with complex international science, the globalization of industry and capitalism in general. This is at a time when there is considerable potential for the CGIAR and IPGRI to harness biotechnology for their own programmes.

Elsewhere genetic resources have become an explicit part of international research. Industry has an increasing interest in genetic resources because of technical and IP developments. A range of NGOs has entered the arena of genetic resources and agrobiodiversity, with focus on conservation *per se*, the use of genetic resources, and the role of agrobiodiversity in community development. New associations and modes of partnership and methodologies need to be developed. IPGRI is not the only supplier of research information and technical assistance in GR. It needs to position itself among both old and new partners which include universities, the NGO community, industry and the like, and exploit its comparative advantages.

In addition it must be recalled that the Earth's natural resource base is facing severe challenges. The population, which will demand adequate food and improved quality of life, is expected to continue to rise from 6 to 9 billion by 2050, with a concomitant increase in the pressure on land and water resources and therefore on the stock of diverse genetic resources.

In the face of all this the importance of IPGRI remains as great as ever. Its mission and goals are as relevant as ever. However it is clear that IPGRI's future will not be the same as its past. The future will bring new and complex challenges. IPGRI will have to evolve to continue to retain its relevance and continue to be effective.

1.4 IPGRI's mode of operation

IPGRI has an unusual *modus operandi* among CGIAR Centres. Without any research facilities of its own, IPGRI operates as a catalyst and facilitator for research activities in counterpart organizations. This independence is particularly important as IPGRI is seen as an 'honest broker' by potential donors, partners and critics. Partnerships are critical for IPGRI's functioning. A successful IPGRI activity is one where the partners' activities continue and grow after IPGRI has ended its input. The decentralization of IPGRI is a key factor in its *modus operandi*. It allows IPGRI to more readily assess regional needs.

This way of working allows IPGRI to adopt principles in priority setting that are not always available to other Centres. IPGRI's priority setting process itself is both 'bottom up', particularly from the regions, and 'top down' from senior management, with a senior staff group, the Project Planning and Review Committee, acting as the debating forum.

Networks are key to IPGRI's operation. Both crop and regionally orientated networks are supported. They should provide means of communication; allow stronger countries to assist the more needy; and they provide a means by which NARS and other partners can influence IPGRI's strategy and priorities. Networks need to be sustainable in the long run. In regions with more developed economies funding should come from the network itself, elsewhere funding will have to come from external sources for a considerable period.

1.5 Responses to the Recommendations of the 1997 IPGRI EPMP

The 4th EPMP in 1997 made 16 Recommendations. The Panel considers that IPGRI has implemented nine of these in full (Recommendations 4, 5, 7, 9, 10, 11, 13, 14 and 15), and another five are being implemented as an ongoing process (1, 2, 6, 8 and 16). The

remaining two Recommendations (3 and 12) are no longer so relevant, having been superseded by events. IPGRI has followed up the 4th EPMP Review through three iterations of comments (initial, mid-term and current) and responded very diligently.

The 4th EPMP's Recommendations, IPGRI's comments and the Panel's assessment are given in Appendix VI.

1.6 Framework of this review and major issues

The 5th EPMP is charged to review: (1) IPGRI's mission, strategy and priorities, (2) the quality and relevance of IPGRI's planning processes and science, (3) the effectiveness and efficiency of IPGRI's management, and (4) IPGRI's accomplishments and impact. In undertaking this review the Panel has given special attention to five broad issues.

Mandate and scope - For the past quarter century IPGRI and its previous incarnation focused exclusively on crop PGR. The past decade has seen it engage in a number of vertically integrated commodity research programmes, of which the first was banana and plantain. These have been followed by coconut, cacao and some underutilised crops. At the same time a number of new areas of potential interest have surfaced. These include forest genetic resources, *in situ* methods of conservation, social, economic and cultural aspects relating to the management of PGR and a number of related policy questions. There are opportunities, and in some cases external pressures, for IPGRI to expand still further beyond PGR for food and agriculture. There is the whole field of activity related to sustainable development and livelihoods which draws an essentially research and network orientated institution directly into the interface with farmers and rural communities. There are suggestions to include medicinal and ornamental plants in the Institute's mandate, and to move beyond the plant genetic resources into livestock and fish genetic resources. A move into the conservation of agriculturally significant microbes has also been suggested. Examination of and comment on all of these possibilities fall within the EPMP's ToR.

Strategy development and priority setting - IPGRI's purview is global. Effective use of limited funds and resources, particularly precious staff time, requires an effective strategy development and priority setting process. During the review the Panel took special account of the Institute's planning and priority setting process as it affects activities, especially in the regional and thematic projects. Particular attention was paid to limits set for IPGRI's direct involvement in research and the identification of the supporting and collaborative role to be played by IPGRI's partners, particularly NARS, in the work programme.

Balance in research - IPGRI's research portfolio has changed dramatically over the past decade, both because of scientific advances and because of donor demand and funding opportunities. A balance needs to be struck between the commitment of resources to adaptive research and technical assistance. Maintaining this balance has become an issue for IPGRI in carrying out its mandate. The Panel paid attention to the *in situ* - *ex situ* balance, the opportunity cost of flagship science particularly in the Regions, which while raising the intellectual standing of the Institute can be at the expense of providing technical assistance. There are also implications for IPGRI's ability to attract and retain scientific staff at the forefront of their field. This is a particular issue in a Centre that does not have its own laboratories.

Modus operandi - IPGRI has a unique *modus operandi* among CGIAR Centres. It is harder to define and measure its output in terms of public goods. Nevertheless it is important

to evaluate the fulfilment of its mandate by paying due attention to the degree to which projects and initiatives it has helped start continue after its involvement. Successful interventions by IPGRI as a catalyst, networking, or research organization will be judged by the degree to which the interventions are picked up by partners and continued once IPGRI has moved on. For example, successful *in situ* and participatory field projects will be those that assume a life of their own and spread, unaided by IPGRI, beyond the initial contact group.

Governance - Governance issues as they relate to Board oversight of the Institute and the manner in which the Institute is managed and operates have been addressed by the Panel in its review. This is particularly important in an institution whose staff and budget has grown so fast, and in an environment that is in a state of flux.

Integration at IPGRI - Finally the Panel has also looked closely at the internal cohesion of the Institute and particularly the success of the integration of INIBAP into IPGRI. This has been a novel institutional experiment for the CGIAR, and has some bearing on the issues that follow the recent EPMR of ISNAR.

CHAPTER 2 – GENETIC RESOURCES RESEARCH ACTIVITIES

2.1 Introduction

In its assessment of IPGRI's PGR research activities, the Panel has drawn from the analysis and recommendations of three CCERs; namely Forest Genetic Resources Programme 1998, INIBAP Programme 2000 and Methodologies and Strategies 2001.

The 20 priority activities identified in the FAO GPA for PGRFA were used as a reference to evaluate IPGRI's research activities and achievements. These actions are clustered in four main groups, i.e. '*In situ* conservation and development', '*Ex situ* conservation', 'Utilization of PGR', and 'Institutions and capacity building'. An analysis of IPGRI's activities as described under its 20 Projects shows that all of the GPA priorities are covered. Furthermore, the analysis also shows a strong focus on the priorities in 'Institutions and capacity building' (more than 50% of the IPGRI C-series project activities), whereas the priorities under 'Utilization of PGR' are relatively strongly represented only in the four *Musa* projects. The distribution of the IPGRI project activities over the GPA priorities can be regarded as generally in line with IPGRI's *modus operandi*. The number of project activities under '*In situ* conservation and development', relative to under '*Ex situ* conservation' indicate that the two approaches receive approximately equal attention and investment. This seems the result more of a stepwise process of project development than of an explicit strategy decision.

While socio-economic and policy research activities are reported separately in Chapter 4 their omission from Chapter 2 could give the impression that the work of Project C13 is not fully integrated into the work on genetic resources, or similarly that GRST does not use holistic and multidisciplinary approaches. To the contrary, it should be noted that socio-economic and policy research is well integrated within the GRST research programme and that since 1995 significant progress has been made because of this, in particular regarding on-farm management of genetic resources, i.e. how farmers characterise, use and deploy PGR, a major focus of the socio-economics and policy work.

2.2 Crop oriented genetic resources research

2.2.1. Major changes over the evaluation period

The multi-donor funded '*Global in situ*' project was fully implemented in nine countries across the world and received more than US\$ 6 million over the period 1997 – 2002. The US\$ 12 million GEF co-funded project, '*In situ* conservation of wild relatives', was initiated in 2000 and will enter its main five year phase in 2003. This is being implemented in five countries and complements the '*Global in situ*' project. The inclusion of these projects has shifted the balance from research on mainly *ex situ* conservation to a combination of *ex situ* and *in situ* approaches. Substantial restricted funding has also been obtained to support work on NUS as well as for the establishment of a global programme on cocoa germplasm conservation and utilization. A large share of IPGRI's total activities in this

priority area is now funded from restricted sources. Research methods have also evolved and molecular markers and GIS are now used in many PGR project activities.

Another major development was the continuation in 1999 of CFC funding for the Coconut Genetic Resources Network (COGENT) for five years. The partners currently include 38 coconut producing countries in addition to other stakeholders, such as ADB, DFID, the Government of France, CIRAD, the IGG/OOF and the APCC, all of which are interested in the development of coconuts as an economic and sustainable resource for smallholder farmers in developing countries.

2.2.2 Priority setting

Explicit strategies have been formulated on a number of cross-cutting issues, including NUS, nutrition, and molecular genetics, over the review period (for a full list see Appendix V). Strategic elements are also included in other documents². Furthermore, priority setting at the Project level is done in formulating Project frameworks, particularly in defining objectives, expected results and milestones.

Prioritised research topics include: distribution patterns of genetic diversity; seed supply systems analysis; genetic erosion patterns; germplasm management strategies; economies of conservation approaches; NUS; conservation of wild relatives of crop species; management of PGR in protected areas; use of molecular markers for genetic analysis; methodology for *in situ* data analysis; and integration of agrobiodiversity components into agricultural development.

The CCER on 'Locating and monitoring genetic diversity' observed that priority setting was clearly reflected in the Project activities. The Panel concurs with this observation. The Panel also notes that, likewise, the two major externally funded projects on *in situ* conservation and development, the 'Global *in situ*' project which started in 1995 and the '*In situ* conservation of wild relatives' project which started to be developed in 2000, provide a clear set of priorities imbedded in their objectives which reflect IPGRI's overall strategy.

It is obvious to the Panel that, at first sight, agreed priorities are less clear in the case of *ex situ* conservation approaches than they are in IPGRI's *in situ* work. The Panel also observes that in this large set of activities the relative weights of *in situ* and *ex situ* work may have been shifting without strategic justification.

2.2.3 Activities

IPGRI's Project activities include a mixture of elements: in-house desk research; research projects in collaboration with single or multiple partner institutions; collaborative actions involving research, conservation or use; preparation of publications; and participation in policy development and strategic planning. The products of these activities are invariably the result of close collaboration with partners in developing and developed countries.

2.2.3.1 Genetic diversity and in situ conservation and development

IPGRI's activities in 'Locating and monitoring genetic diversity' stem from the recognition that PGRFA are not evenly spread in space and time, and that in order to arrive at well based conservation strategies, basic knowledge on the distribution of genetic diversity in

² e.g. Draft guidelines: The handling of germplasm and associated data collected with the Institute's support.

a crop complex is needed. Activities include the development of methods to locate and measure diversity and its dynamics, studies on factors affecting distribution of diversity, and methods to effectively collect genetic diversity. The *modus operandi* has been to identify the needs of national programmes and, with the involvement of large numbers of IPGRI staff and national partners, implement case studies that have resulted in publications and tools for distribution in the PGR community. The case studies have received mostly restricted funding.

Measuring genetic diversity and its dynamics has increasingly focused on the use of molecular markers and comparison of the results of such analysis with agromorphological measurements and farmers' classifications. Genetic diversity assessments, which rely to a considerable extent on desk based information retrieval, have been conducted on NUS in the APO, SSA and CWANA regions. Subsequent on-farm *in situ* and *ex situ* conservation activities have sprung from these assessments.

A series on 'Ecogeographic studies of crop genepools' has been published, and revised collecting forms incorporating indigenous knowledge have been widely distributed. There is no record, however, of the extent to which they have been used.

As mentioned before, two major multi-partner activities have been initiated during the reporting period, i.e. the 'Global *in situ*' and the '*In situ* conservation of crop wild relatives' projects, both of which aim at creating a portfolio of options based on experiences from case studies.

In all these activities, emphasis has been given to developing methodology to strengthen the capacity of communities and national systems, to conserve and use landraces and their wild relatives, and to develop a knowledge base for crop management decision making. The Panel finds this focus commendable.

2.2.3.2 Ex situ conservation

Most of the Project efforts over this reporting period were devoted to developing and improving *ex situ* storage techniques, which have traditionally received major attention, and to disseminating the new methodologies through publications and training. Focus has been on developing slow growth *in vitro* protocols, cryopreservation and ultra-dry seed storage methods. Fifteen counterpart institutions have been involved in the project's technical activities.

Germplasm health and germplasm management strategies have also been addressed, mainly through collecting and disseminating information. However, due to limited funding, work on germplasm management strategies has been restricted to the optimization of strategies, methods and techniques. Work on germplasm documentation has focussed on protocols for descriptor lists, data modelling (see also Section 5.1) and development and promotion of genebank documentation software, including several internally developed genebank management systems and USDA's pcGRIN. Outputs have included training, scientific conferences, technical bulletins featuring technologies on seed drying, seed moisture content determination, cryopreservation, core collection development and genebank germplasm health.

In its collecting activities IPGRI has shifted focus from direct involvement to strengthening methodologies needed for efficient collecting and facilitating collecting missions. IPGRI has facilitated only a few collecting missions of fruit trees and vegetables

and one of wild relatives of rice, as part of a PhD study in SSA. IPGRI co-funded and IPGRI staff participated in collecting more than 10,000 new accessions over the period.

2.2.3.3 Use of plant genetic resources

IPGRI focuses its current strategy on improving the use of genetic diversity. Its agenda has involved six areas of work: the development of complementary conservation strategies; an analysis of current obstacles to use of PGRFA; improving accessibility to *ex situ* conserved germplasm; increasing the use of diversity within production systems; addressing NUS; and work on commodity crops. A substantial part of the work in promoting use is also carried out by IPGRI's regional groups and is discussed in Chapter 4.

IPGRI has produced guidelines for improving complementary conservation strategies. A wide range of activities has been undertaken to strengthen the conservation and use of fruit trees, aromatic plants and NUS, particularly in the Mediterranean, CWANA and the Americas regions. Technical bulletins were produced on the use of core collections, molecular markers and on evaluation.

2.2.3.4 COGENT

IPGRI's involvement in COGENT, established in 1990, is part of its focus on the use of PGR. IPGRI has provided the secretariat since 1992, following a recommendation from TAC, since there was no internationally coordinated research effort in place for this important commodity, and given IPGRI's expertise in networking. IPGRI also contributes to COGENT's operations with critical technical expertise, financial and administrative resources, and by providing the network a profile attractive to the international community.

International coconut genebanks have been established in Indonesia, India, Papua New Guinea, and Côte d'Ivoire, to conserve and evaluate 200 accessions from all over the world. Negotiations with Brazil are continuing. Field genebanks require large areas; one hectare per accession with 3 to 5 replications. In addition to international field genebanks, there are also important national ones. Passport and characterization data for a large number of accessions have been stored in an international database. Trials have been established to evaluate 30 hybrids under farmer conditions, in six countries. COGENT partners have conducted research on biotechnology, germplasm conservation and IPM. COGENT has also provided training, graduate scholarships, technical assistance, feasibility studies and other support. There is evidence of benefits to communities, including increased income and employment opportunities as a result of better marketing practices, and the introduction of higher yielding varieties, high value coconut products, and better system based agricultural practices.

2.2.3.5 Cocoa

The project on cocoa germplasm conservation and use is being implemented in 12 countries. It aims to link cocoa breeding programmes with genebanks and quarantine centres to improve planting materials for resistance to pests and diseases. The activities include international clone trials, germplasm enhancement and population breeding, conservation, characterization and evaluation, and distribution and exchange of information. The project has focused on resistance to pests and diseases. Since 1998 approximately 80 hectares of new field trials have been established and 5000 accessions have been evaluated for resistance

against major pathogens. Hundreds of potential new sources of resistance have been identified and participating countries have exchanged accessions.

2.2.4 Performance

Results from *in situ* conservation and development research outputs include 103 publications (not all co-authored by IPGRI staff), five dissertations, and a considerable input to group and individual training. The Project on ‘Locating and monitoring genetic diversity’ produced 55 scientific papers (again not all IPGRI co-authored) as well as a set of training materials. The Panel **suggests** that IPGRI strengthen efforts to further transfer the acquired experience and insights through training materials to a constituency not traditionally reached by IPGRI, in particular NGOs and CBOs.

The CCER on methodologies and strategies did not provide an overall assessment of IPGRI’s work on crop oriented PGR research. However, the Panel considers the overall quality of the output to be high. The Panel also notes IPGRI’s major contribution to the development of a knowledge base in the area of on-farm management of PGR. There are no studies on the impacts of these activities.

The Panel commends the quality of the newly initiated project on *in situ* conservation of wild relatives and is confident that lessons learnt from the *in situ* conservation on-farm will be helpful to make further progress in this new area. A major question that needs to be addressed is how many activities and protected sites at the minimum, and at which locations, are essential for safeguarding wild crop relatives.

Ex situ conservation research has the highest publishing record among IPGRI activities and staff for the period under review, including 60 peer reviewed articles. The publications have a bias towards cryopreservation and ultra-dry seeds, the traditional strongholds of IPGRI. Less has been produced on germplasm management strategies and germplasm documentation methodologies as far as publications and other outputs are concerned. Publications on *ex situ* research were of generally high quality. IPGRI organized six training courses and participated in 13 more on *ex situ* conservation themes. It also organized three scientific meetings on ultra-dry seed storage, cryopreservation and germplasm management.

The Panel is convinced that IPGRI has advanced well in the relatively unexplored area of complementary conservation and use strategies. According to the CCER on conservation and use, substantial results have been achieved on analysing patterns of PGR use in different countries. Distribution *per se* often does not appear to be a limiting factor, but rather the ability of the recipient to use the germplasm. Other main achievements in the area of promotion of PGR use include identifying specific descriptors for highly desirable traits, developing tools for safe international exchange of samples, and through SGRP with other Centres, establishing SINGER as means of accessing data on desirable traits in the in trust collections of the CGIAR.

2.2.5 Overall assessment

2.2.5.1 Modus operandi and institutional linkages

Regarding COGENT, the Panel feels that its sustainability and resource needs may be issues that require attention. COGENT has now 38 country members and an independent

Steering Committee, with more interest in development than research. Due to dispersion of partners, meetings and coordination are expensive. There appears to be no obvious alternative to IPGRI in its coordinating role. The conservation and safe movement of coconut germplasm is very expensive and the COGENT Steering Committee would like to explore the possibility of GCT support.

2.2.5.2 Strategy and priority setting

The Panel **suggests** that IPGRI identify a number of topical research areas in which progress is lagging, where few others are active at the international and national level, and in which IPGRI has a comparative advantage. The Panel **suggests** that IPGRI take a holistic approach in deciding which topics it will invest in, in order to excel.

Potential topics that IPGRI has identified and should further explore include: new roles of genebanks and new collection concepts in the area of genomics; the possible impact of GMOs on the conservation and development of genetic resources; complementary germplasm management strategies; economics of *ex situ* and *in situ* genetic resources management; coping strategies to combat genetic erosion; cultural practices associated with genetic diversity; nutrition and health; and the role of non-domesticated and semi-domesticated biodiversity in rural communities, including forest products.

The new questions being asked in the area of *in situ* conservation and on-farm management ‘What is the impact of PPB, of new seed networks, and of new policies on on-farm management?’ are highly relevant and IPGRI is commended for carefully formulating such research questions.

Upscaling project activities and enhancing the effect of project interventions is identified as a major bottleneck, and the Panel agrees that this issue requires substantial attention by IPGRI. The Panel is of the opinion that IPGRI should play a leading role in this area, realising that this challenge exceeds the research questions mentioned above and calls for the development of on-farm management practices that are really implemented at the community level. One contribution to the development of a strategy to realise such implementation would be to convene (physically or virtually) the various initiatives in on-farm management of diversity globally, and to play a coordinating and facilitating role in strategy development aimed at enlarging the outreach and impact of such projects across the globe.

The CCER on *ex situ* conservation mentioned the lack of a critical mass of scientists devoted to *ex situ* conservation technologies as a constraint, and recommended a shift in the research on *in vitro* technologies to the regions. The capacity at HQ has been reoriented. Priority will be given to germplasm collection management and documentation methodologies, and research into *in vitro* technology will only be pursued through commodity linked project activities in the Regions. This will also be the case for research on germplasm health. The CCER section on Future Directions states that unless external funding can be obtained or regional priorities result in the selection of *in vitro* conservation activities or germplasm health research, IPGRI should discontinue investments in these areas and concentrate on the documentation and dissemination of progress reported by others. This would allow IPGRI to invest adequately in germplasm management strategies and germplasm documentation methodologies. The Panel supports this shift and would encourage IPGRI to proceed in this direction.

Three proposals for *ex situ* conservation research were submitted to donors but not accepted in the period 1998 – 2000. This demonstrates that it has become increasingly difficult to obtain restricted funding for *ex situ* conservation research, to the extent that most of the funding for IPGRI activities in this area now comes from unrestricted funding. As a result, this activity has considerably decreased in scale. The CCER indicated that an increasing amount of staff time should be dedicated to developing research proposals.

The Panel supports the need to allocate staff time not only to writing proposals in this area but also to soliciting the interest of donors for these less politically popular research areas, and recommends adequate action, in order to make optimal use of staff time.

It is recognized that IPGRI gives specific attention to the need for additional targeted collecting activities, in particular concerning NUS, and takes into account the complementarity of *in situ* and *ex situ* conservation strategies. As a first step, an inventory of the willingness and capacity of countries to undertake such collecting activities, in the light of their obligations to give priority to the maintenance of existing collections, should be undertaken.

Whereas the CCER poses the question whether IPGRI and/or genebanks should engage in evaluation activities, it does not answer this question. The Panel is of the belief that users, whether researchers, breeders or farmers, are in a better position to undertake evaluation and that IPGRI itself should not undertake or fund evaluation, except in its commodity chain research.

The Panel strongly supports the notion that IPGRI should attempt to strengthen the broadening of the genetic base of populations that can be used in crop improvement and other genetic enhancement initiatives including prebreeding. However, the Panel agrees that IPGRI should only undertake genetic enhancement and prebreeding activities in collaboration with other partners, since this activity requires a long term and sustained effort as well as substantial crop specific expertise.

The CCER also makes a plea for IPGRI's involvement in the exploration of new roles for genebanks as a result of emerging biotechnologies. The Panel highly commends this position and **suggests** that it should be adopted as one of the major issues of IPGRI's work on germplasm management strategies. IPGRI could really play a pioneering role in organising and continuing a discussion in this area since national genebank capacities to deal with this far reaching issue are generally very limited.

In the framework of the cocoa project IPGRI has started to address the development of complementary conservation strategies, of a core collection, and of the use of molecular markers and GIS. IPGRI is commended for this approach and encouraged to continue along this road to cover commodity crops on IPGRI's agenda.

2.2.5.3 Technical aspects

The CCER on 'Locating and monitoring genetic diversity' mentions as a priority the development of survey instruments that allow for rapid prediction of the risk of genetic erosion. The Panel concurs with this suggestion that has remained outstanding since 1999, and suggests that it should be implemented with priority.

This CCER also rightly concludes that an analysis of passport, characterization and evaluation data to inform the conservation process has not been tackled. The Panel **suggests** that this area in the core of IPGRI's mandate takes precedence over investments in further development of GIS technology that can be undertaken in collaboration with a range of external partners.

Furthermore, the document argues that The Registry of Base Collections may need to be revisited in the framework of creating a rational global system. The Panel is of the opinion that IPGRI should trace germplasm that was collected with IPGRI support and endeavour to have the collection holder place this germplasm under the FAO/CGIAR in trust agreement. However, establishing long term storage responsibilities for specific germplasm by identified collection holders that was not obtained through IPGRI support, as attempted by IPGRI in the early nineties, should no longer be IPGRI's objective. The situation is politically complex and, in any event, any such agreement is probably not enforceable. In fact, this area of activities may soon be taken over by the GCT (see Section 5.2). The Panel **strongly suggests** that an agreement on the status of acquired germplasm is part of all contracts on collecting activities involving IPGRI. Such agreement would preferably result in placing the acquired germplasm under the FAO/CGIAR in trust agreement.

The Panel notes IPGRI's leadership role in the 'Unlocking genetic diversity in crops for the resource poor' Challenge Programme and its involvement in several other CP proposals. The former proposal uses IPGRI's coordinating role in SGRP, its capacity in bioinformatics, including SINGER, its molecular marker technology and its involvement with networks. The Panel is sure that IPGRI will take the initiative with all appropriate future CPs.

2.2.6 Recommendation

1. The Panel recommends that IPGRI position itself clearly by focussing on a number of topical research areas in which progress is lagging, where few others at the international and national level are active, and in which IPGRI has a comparative advantage. The Panel recommends that IPGRI take a holistic approach to decide in which topics it will invest further in order to excel. Potential topics that IPGRI may further concentrate on include: new roles of genebanks and new collection concepts in the area of genomics; bioinformatics and association genetics; the possible impact of GMOs on the conservation and development of genetic resources; complementary germplasm management strategies; economics of genetic resources management (*ex situ* and *in situ*); coping strategies to combat genetic erosion; cultural practices associated with genetic diversity; nutrition and health; and the role of non-domesticated and semi-domesticated biodiversity in rural communities, including forest products. The Panel believes that IPGRI should not spread itself too thinly.

2.3 Forest genetic resources research

2.3.1 Introduction

IPGRI started working on Forest Genetic Resources (FGR) in 1993. The scope and activities of the FGR Project (FGRP) were defined following a joint exploration and agreement on an international forestry and agroforestry genetic resources agenda with ACIAR, CIFOR, ICRAF and FAO. A strategic action plan was developed for 1993-1995 in consultation with national and international partners and was used as a basis for later activities. By the time of the 4th EPMR, the FGRP was still at its early stages of

implementation. Nevertheless, the EPMP panel recognized IPGRI's achievement in securing credibility in the extremely complex field of conservation linked to sustainable FGR utilization in a relatively short time. The EPMP also noted the relevance and the logic of the FGRP approach.

2.3.2 Changes over the evaluation period

The FGRP strategy was revised in 1998 to focus on advancing scientific knowledge and generating broadly applicable methods from practical experiences gained through collaborative work. Areas of IPGRI comparative advantage were identified. These included: 1) intra-specific genetic diversity to complement efforts on ecosystem level forest management; and 2) development of a holistic approach and global perspective which recognizes the importance of maintaining biodiversity at genetic, species and ecosystem levels, and of integrating considerations of genetic diversity in forest management. Within this agenda, FGRP sought to achieve two broad objectives: (1) to develop a strategic and coordinated framework for research on conservation, sustainable use and management of forest species; and (2) to contribute to capacity building of scientists worldwide through national forest programmes and networks. Activities were clustered as follows: facilitating the development of national and regional programmes for PGR; development of methods and criteria for ranking ecosystems, species and populations for conservation priority setting; tropical forest diversity assessment and integration of genetic and socio-economic information to develop criteria and indicators for actual and potential threats of genetic erosion; screening key forest species to define their storage capacity for *ex situ* conservation; and leading the development of a global information system on FGR.

The CCER endorsed the overall concept, objectives, strategies and direction of FGRP and was impressed by the comprehensive approach adopted by the programme. It made ten recommendations. A major recommendation pertained to consolidation of the FGRP's thematic focus on development of methods, tools and strategies for conservation for impact from local to regional levels, combined with consolidation of geographical focus in a few tropical locations in Asia, Africa and Latin America to attain concrete results that can be applied elsewhere. Other recommendations pertained to partnership strengthening; development of national and regional plans; intensification of donor contacts; allocation of human resources in HQ and regional offices; publication in peer reviewed journals; communication of important results to international conservation agencies; use of internet technology and existent database in providing updated relevant information; keeping abreast of international political processes relating to FGR; and better coordination of efforts with CIFOR and ICRAF.

The Panel agrees with the CCER recommendations. The Panel also commends FGRP for its integrated analytical framework that accommodates complex interactions linking reproductive biology, conservation ecology, socio-economic, cultural and institutional analysis in testing options for forest genetic resource management and conservation. Apart from its conceptual sophistication, the framework offers important insights into different dimensions of scale, how they interact, and their practical implications, for example, in determining the boundaries of analysis (from genes and species to ecosystems), in clarifying appropriate types of diversity for investigation (allelic, genetic, phylogenetic, etc), and in locating critical points for information flow and required levels of management intervention (local level, national, regional, etc). Such insights are important since the mismatch between the scale of the problem and the necessary institutional and decision making scale often render resource management and conservation efforts ineffective. While the scope of analysis

has been considerably broadened, consistent and disciplined application of this framework should help IPGRI to prioritise based on its comparative advantage *vis à vis* other institutions and actors.

2.3.3 Achievements

The Panel recognizes FGRP's considerable outputs and achievements during this evaluation period. FGRP has made major strides in refocusing efforts, in response to the CCER. FGRP has continued research on complementarities between *in situ* management and *ex situ* conservation methods, and intensified studies on links between FGR and sustainable livelihoods of forest dependent communities.

IPGRI's collaboration since 1995 with the DFSC to study the physiology of tropical tree seeds and identify ways to prolong their life in storage is among FGRP's most successful projects. In addition to the successful screening of more than 50 important tropical tree species, the training of staff from 24 participating partner institutions on procedures and protocols developed by the project has enabled partners to carry on the work in their regions. Data and research results have been freely exchanged through a project newsletter received by over 500 partners, and are accessible through DFSC's website with links to the IPGRI homepage.

FGRP also made major progress in establishing and strengthening regional forest genetic networks to stimulate FGR work in these regions. The programme is beginning to capitalise on the established European networks and capacity of EUFORGEN, particularly in contributing to the strengthening of SAFORGEN, a FGR network established in Sub-Saharan Africa in 1999. A similar network, APFORGEN, has been initiated in APO.

As the regional data systems are developed, there will be increasing opportunities for more creative meta-data analysis across regions. This could involve examination of larger scale patterns of gene flow, rates of erosion, etc., and how these translate into general hypotheses that could be tested in different regions. The Panel **strongly suggests** that the FGRP explore opportunities for optimising use of network databases through meta-analyses and other methods that would contribute to understanding of general FGR patterns and dynamics.

FGRP has been conducting research on criteria and indicators of genetic diversity. The Panel endorses the continuation of this work, but **strongly suggests** greater emphasis on developing simple tools, methods and indicators of genetic diversity that would be readily applicable in the field using minimal lab facilities.

Findings from FGRP's *in situ* research are generating important lessons with general application beyond the region of study, and contributing to strengthening intra and inter-regional collaboration among partner institutions. Findings from studies on *Araucaria araucana* in Argentina provide insights on how genetic diversity is affected by climate changes, in particular by El Niño Southern Oscillations, and the timing of seed collection by humans. *In situ* studies in Costa Rica suggest possibilities for restoring *Swietenia macrophylla* (mahogany) populations to their significant initial levels of genetic diversity despite high levels of disturbance. IPGRI is currently working with the Smithsonian Tropical Research Institute in Panama and has made substantial progress in collection of DNA samples from widespread neotropical trees for sequencing and analyses of major phylogeographical patterns. In Malaysia, research initiated in 2001 with the Forest Research

Institute Malaysia examines tree species (*Shorea lumutensis*) with narrow habitat specificity and limited seed dispersal, to determine, among others, the breeding unit area required for *in situ* conservation. These findings have considerable value and application in framing resource management policies and institutions at different scales.

The Panel commends FGRP for these notable contributions to IPGRI's overall goals and research agenda. Nevertheless, within IPGRI, FGRP has remained peripheral to the Institute's agricultural crop focus. As IPGRI moves to an agrobiodiversity framework as the umbrella concept for its programmes, it will be essential to clarify how FGR will fit. For practical purposes, it is important to define the conceptual and operational links between IPGRI's FGR and agrobiodiversity programmes. The exclusion of 'forests' in the CBD definition of 'agrobiodiversity' should not be allowed to hinder communication.

2.3.4 Assessment

During the evaluation period, FGRP produced a number of publications including journal articles, newsletters, guides, workshop proceedings, training manuals and technical protocols. In addition, FGRP conducted training workshops and conferences. Publicly accessible websites with links to the IPGRI homepage have also been developed to more widely communicate FGR information and research results. The Panel commends FGRP for this achievement and recognizes the relevance, usefulness, reach and overall high quality of these publications. However, the Panel also strongly encourages FGRP to further increase its efforts to publish with partners in peer reviewed journals to enhance its visibility and influence in the mainstream scientific community.

Within the CGIAR, IPGRI has continued to collaborate to varying degrees with ISNAR, ICRAF and CIFOR as well as with CATIE. However, the terms of IPGRI's collaboration and definition of roles, particularly in relation to CIFOR and ICRAF, should be reviewed in light of changes in programme structure and staff turnover in all three Centres since 1993. The Panel is of the opinion that IPGRI should proactively engage with CIFOR and ICRAF to review and update the 1993 agreement on their shared agenda, redefine roles as appropriate and implement mechanisms to facilitate regular interactions necessary for effective collaboration and information sharing.

IPGRI sees its role as primarily generating and providing information related to within species genetic diversity in forest ecosystems, which could be applied to agroforestry, forest ecosystem restoration, and genetic conservation through *in situ* and *ex situ* approaches. This is a good starting point in discussions with CIFOR, ICRAF and other key institutional partners. By focusing on the link to genetic diversity IPGRI can more effectively build on and exploit its areas of comparative advantage.

2.3.5 Recommendations

2. **The Panel recommends that IPGRI explore opportunities for optimising use of forest genetic resources network databases through meta-analyses across regions and other methods that would contribute to understanding of general global forest genetic resources patterns and dynamics.**
3. **The Panel recommends that IPGRI proactively engage with CIFOR and ICRAF to review and update the 1993 agreement on their shared agenda, redefine roles as**

appropriate and implement mechanisms to facilitate regular interactions necessary for effective collaboration and information sharing.

2.4 The *Musa* Programme

2.4.1 Introduction

The International Network for the Improvement of Banana and Plantain (INIBAP) was created in 1985, to promote *Musa* breeding activities after a dramatic spread of black Sigatoka disease, particularly in Africa. The network approach was considered more suitable than a conventional research centre, given the fragmented nature of ongoing research, distinct regional differences and limited available resources. INIBAP's headquarters were established in Montpellier, France. Later four regional offices were added. Two of these, Uganda and Cameroon, became operational in 1997. In 1991 INIBAP became a member of the CGIAR, and in 1994 it became a programme within IPGRI. Today INIBAP is one of IPGRI's three Programmes.

INIBAP's mission is to increase the sustainable productivity of banana and plantain grown on smallholdings for domestic consumption and for local and export markets. Its specific objectives are: (a) to organize and coordinate a global research effort on banana and plantain, aimed at the development, evaluation and dissemination of improved cultivars and at the conservation and use of *Musa* diversity; (b) to promote and strengthen collaboration and partnerships in banana related research activities at the national, regional and global levels; (c) to strengthen the ability of NARS to conduct research and development activities on bananas and plantains; and (d) to coordinate, facilitate and support the production, collection and exchange of information and documentation related to banana and plantain.

The Programme is currently organized in four projects, i.e. *Musa* genetic resources management, genetic improvement of *Musa*, *Musa* information and communications, and regional support to *Musa* research. The second and last projects are substantially larger than the other two. The CCER on the four *Musa* projects resulted in 19 recommendations. Most of these have been implemented.

2.4.2 Major changes over the evaluation period

Networking has remained a constant feature of the global *Musa* Programme. In 2001, the Global *Musa* Genomics Consortium (GMGC) was launched and added to the Programme. Otherwise, the Programme's scope has altered little, although its budget has more than doubled from US\$ 2.7 million in 1995 to US\$ 6.2 million in 2002. Nearly 90% of the operational resources of the Programme in 2002 and 2003 came from restricted funds.

2.4.3 Priority setting process and identified priorities

No single strategy document for the *Musa* work is available. However, the Global Programme for *Musa* Improvement PROMUSA has outlined a strategy and medium term plan. PROMUSA aims to involve all the major players in *Musa* improvement. It was developed as a means to link work for problems of export banana producers with those directed towards improving banana and plantain production at the subsistence and smallholder level. It focuses specifically on genetic improvement and supportive research and priority is given to research with a global or regional significance.

The GMGC has also outlined a strategy. The consortium aims to develop freely accessible resources for *Musa* genomics. Its efforts will focus on access and application of markers and genes in the short term. It will then build in genetic and physical maps, BAC and EST libraries, novel genetic transformation technology and haploid plants available for breeding. The long term deliverables include the ambitious goal of the complete sequence and identification of each gene of the *Musa* genome at a total cost of US\$ 50 million. INIBAP provides the secretariat to the Consortium.

2.4.4 Activities

2.4.4.1 Ex situ conservation

The ITC unit at KUL continues the rejuvenation process of its *Musa* collection (the world's largest with over 1,100 accessions); 68 accessions were placed in cryopreservation; 97% of the collection has completed virus indexing, with 64% in the Health Status Category 1, i.e. no virus particle found. Achievements include: a number of techniques developed to clean virus contaminated stocks; a protocol developed for freeze-drying leaf samples for long term storage; work continued on the characterization of *Musa balbisiana*; and the ploidy analysis of the ITC collection. MGIS contains passport data for over 4,000 accessions from 15 collections; training on this technology has been offered.

In 2002 a *Musa* diversity survey was carried out in Egypt, Oman and Jordan. During the period under review germplasm, some of which may be unique, has been collected and is being characterised in Indonesia, Vietnam, India, China and Tanzania. Security considerations have restricted further collecting missions in Indonesia and northern India.

2.4.4.2 In situ conservation and development

There has been considerable activity in the *in situ* area: (1) An IDRC funded project was conducted on conservation through use of bananas and plantains in the Great Lakes region of East Africa. One site includes 180 households and 'scaling up' is being attempted through exchanges with a similar site in Tanzania. A second phase has been requested by the farmer conservation associations. A farmer participatory IPM project will be continued in East and Southern Africa. (2) The third phase of the IMTP has started with the participation of 35 countries in Latin America, Africa and Asia. Funds were obtained from CFC to finance a 'Farmer participatory evaluation and dissemination of improved *Musa* germplasm' project that is conducted by local institutions of seven countries with INIBAP coordination. (3) A new project was approved by USAID, to conduct germplasm evaluation in four African countries, in the framework of the TARGET/Future Harvest programme, as a joint initiative with IITA which would complement a similar project funded by CFC. A VVOB associate researcher is carrying out work on nematode control at CARBAP in collaboration with IITA.

2.4.4.3 Biotechnological tools and applications

Banana qualifies as a priority crop for the use of some molecular breeding technologies. Genetic modification can overcome many of the difficulties of breeding a sterile, clonally propagated crop. Furthermore, since banana varieties do not generally produce seeds or fertile pollen, gene flow to other varieties and species is a remote probability. Improved resistance against major pests and diseases is a priority in some developed countries. IPGRI support should go beyond biotechnology and also involve legal and policy expertise. This will also constitute an opportunity for IPGRI's experts to obtain

hands-on experience in the implementation of agreed policy and legal principles at the national level. A similar collaborative advantage stems from legal and policy inputs in the programme's approaches to deal with IPR through the introduction of germplasm acquisition agreements and material transfer agreements. As elaborated elsewhere, this may root IPGRI's policy and legal activities and expertise development firmly in hands-on experience and in the technical expertise acquired in IPGRI's commodity chain crops.

The biotechnology tools being developed in the *Musa* programme are many. They include all the GMGC products and: *in vitro* culture developed at KUL and the ITC to serve medium term, slow growth storage; cryopreservation of a considerable number of accessions; development of virus diagnostics at CIRAD and virus therapy at Gembloux; cell culture technologies for genetic transformation using either biolistics or *Agrobacterium tumefaciens* at KUL; the development of native banana promoters and candidate genes to protect against black Sigatoka. Transformants have been produced and await field testing. Work on banana weevil resistance has also been started in Africa.

Two segregating populations provided by CIRAD-FLHOR have been planted at CORBANA in Costa Rica, to facilitate the identification of genes of interest; another three are being developed by CIRAD. New tools from molecular biology are shared with FHIA, which has produced some hybrids with wide acceptance using conventional breeding methods.

This is an exciting area that is benefiting remarkably from the INIBAP approach, which is leveraging major inputs from researchers in ARI's across the world.

2.4.4.4 Institutions and capacity building

PROMUSA aims to develop knowledge and tools for improved conventional and molecular banana breeding. The GMGC brings together 27 publicly funded institutions from 13 countries, which have agreed to share materials and resources, including sequence data and enabling technologies. Any new varieties will be freely available to small farmers.

The *Musa* Programme also invested in the building of a literature database. There are 7,000 bibliographic abstracts in three languages under MUSALIT; and the aim is to add 600 new records each year. MUSALIT was provided to the Agri2000 web site of the CATIE library in Costa Rica, and it was included in the MUSADOC 2002 CD-ROM together with the updated BRIS data. The database will be expanded in the future, including organic production.

The INIBAP web site has been redesigned; its promotion has been broadened through the dissemination of bookmarks elaborated at IPGRI Headquarters and the creation of cross linkages with main partners; it has been visited over 250,000 times since it was created in April 2000. Two trilingual issues of INFOMUSA are published together with two issues of the PROMUSA section, each year.

The networks (MUSALAC in Latin America and the Caribbean, BAPNET in Asia and the Pacific, BARNESA in East and Southern Africa, and MUSACO in West and Central Africa) have been strengthened or relaunched. These revitalised networks now have broad representation of key stakeholders in research and development, share information on germplasm evaluation, black Sigatoka control, biotechnology and other projects, and participate in training events sponsored by the programme. The networks have their own

steering committees with a clear sense of ownership of network activities. *MUSALAC* is building its modest “seed money” to become self sufficient; it is publishing a series on technological offer in the region. Due to language barriers, English speaking countries are not well served in this network.

These are all successful developments appropriate to IPGRI’s mission.

2.4.5 Performance

There were a total of 125 LoAs signed by INIBAP, for a total of US\$ 2.2 million, during the period 1997 – 2001. INIBAP’s support to research programmes in partner institutions have been crucial to obtain funding from international donors.

In a case study on the IMTP, conducted by IPGRI during 1997-98 as part of its agenda on impact assessment, 72% of the respondents of a survey considered their acquisition of improved germplasm and so as to be able to respond to farmers’ needs for varieties with improved performance to be very important. In 41% of the trial sites, the IMTP was the sole mechanism in the country for evaluating improved varieties. The programme’s main role was to provide information on improved varieties, and virus indexed planting materials to national programmes together with training and information on evaluation techniques.

KUL has played a very important role as a strategic research partner for the *Musa* Programme in several subjects, including management of the *Musa* ITC collection, development of technologies for conservation and safe movement of germplasm, and genetic modification to control black Sigatoka and nematodes. Another important strategic partner has been CIRAD, with a history in banana research that goes back to 1949 in Ecuador. It has its own breeding programmes in Guadeloupe for bananas and in Cameroon for plantain and cooking bananas. It has a strong interest also in IPM, environmental impact and technology delivery. CIRAD has been instrumental for obtaining grants from the Government of France, including one for the Montpellier office. More partners like CIRAD and KUL are desirable.

The impact of INIBAP supported activities, at the household level, is currently being technically assessed in Africa with IFPRI assistance, as a leading pilot project in the CGIAR. In other parts of the world, there has been wide adoption of improved varieties tested in *Musa* networks. For instance, in Cuba there are more than 11,000 ha planted to FHIA hybrids and yet would be in place if there had been no recent hurricanes.

The preparation and distribution of a substantial amount of high quality technical publications has been much appreciated. However, peer reviewed publications are still few. From 1996 through 2002, over 50 articles by programme staff have been published in peer reviewed journals, most of them co-authored by an Honorary Research Fellow from KUL. Additionally a number of other publications have been offered, both in printed and electronic versions.

2.4.6 Overall assessment

2.4.6.1 INIBAP in IPGRI

Undoubtedly INIBAP has contributed greatly to IPGRI over the nine years of merger. Considerable integration has been achieved. However, the Panel believes that there is room

for significant further integration that will result in more strategic use of IPGRI's regional offices and more effective use of the Montpellier facility. Rationalization within Regions will provide increased regional coordination and opportunities for more scientific synergies by not restricting *Musa* and other researchers to INIBAP and IPGRI offices respectively. New consistent, single reporting lines from the Regions to HQ will improve communication between *Musa* activities and other IPGRI activities. Similarly new scientific opportunities will be possible by further opening up the Montpellier site to IPGRI staff other than from the *Musa* programme. For example some other commodity work, in addition to the cocoa work already there, might benefit from closer proximity with *Musa* scientists and the organization could benefit from exposing INIBAP's present main collaborators in CIRAD and KUL to more of IPGRI's science.

The Panel is impressed with INIBAP's contribution to IPGRI and it firmly believes that the time is overdue when its science programme, regional networks and offices overseas and in Europe should be an integral part of a single seamless institute. (See Recommendation 4)

2.4.6.2 IPGRI and IITA

The 4th EPMR commented on the unsatisfactory nature of the relationship between IITA and INIBAP. The Centre responded appropriately by completing an IPGRI-IITA MoU in 1998. The MoU clearly defines the responsibilities of the two Centres in SSA, with IPGRI focusing on genetic resources and IITA on breeding. A key component is an annual joint planning meeting.

Great strides have been made with a newly created 'Future Harvest *Musa* Programme for Africa', in addition to which two other projects are being jointly implemented, involving a joint IITA-INIBAP staff position established at the Cameroon office in 2002. A recent co-authored journal article³ describes the division of labour between INIBAP and IITA in relation to banana and plantain research.

However, the reality of collaboration is still sub-optimal. Communication between the two organizations tends to be factual and *post hoc* in nature. The instigation of the new IPGRI transgenic breeding programme in Uganda also did not help matters because IITA itself has an alliance for transgenic breeding which competes with the INIBAP-KUL link. The time must be right for both parties to adhere more strongly to the spirit of the MoU rather than just the word. The Panel **strongly suggests** that the two institutes collaborating in their activities concerning banana in SSA describe an optimal sharing of tasks in line with the MoU, and it hopes that the new Head of IPGRI's *Musa* Programme will continue to make harmonization with IITA a priority.

2.4.6.3 Other strategic issues

Genetic modification - The Review document prepared by INIBAP for the 2000 INIBAP CCER highlights a number of strategic issues. Development and testing of genetically modified bananas as well as access conditions for banana breeding materials contain major policy issues (biosafety and IPR). IPGRI has arranged for collaboration between the *Musa* Programme and the IPGRI policy group. IPGRI's policy work in general

³ Ortiz R., E. Frison and S. Sharrock 2002, GCIAR – Future Harvest Programme for *Musa* in Africa. *Chronica Horticulturae* 42:18-24.

will obviously benefit if it can be rooted in practical decision making in the framework of IPGRI's own commodity work. The IPGRI *Musa* Programme should be an international leader in the testing of genetically modified bananas in the field. (See Recommendation 5)

Development assistance - IPGRI's largest grant, quoted more than once in this review is the US\$ 1.8 million, 'Rehabilitation and modernization of Alto Beni organic banana production for export market', funded by OAS, which was initiated in Bolivia to support organic banana production for export markets. The Panel is concerned that this project, essentially a development project, is overly distracting the Regional Office in Costa Rica from its other activities, particularly its network activities and focus on research and breeding in the Region. A further complication is that objectives of this project have to be reached within two years, starting from scratch. It is clear to the Panel that IPGRI's role in such projects should be to underpin PGR activities, while working with one or more strategic partners, with more appropriate experience and expertise for the developmental aspects.

Scope of the Musa Programme - There are also suggestions that the *Musa* Programme's future agenda could be broadened further, e.g. to include post harvest and processing technologies, marketing, socio-economic studies, consideration of banana based production systems and nutrition, all of which could improve the impact. The present budget is such that any major additions to the Programme will involve sacrificing existing activities. However it should be possible to explore how to incorporate these aspects within the current agenda, possibly by identifying new strategic partnerships and new donors.

Impact studies - There is concern in the *Musa* Programme that, in some instances, lack of yield advance in farmers' fields may reflect poor local and national distribution processes rather than a lack of access to improved germplasm by NARS. The Panel therefore commends the priority given to impact studies in this area. The results will provide guidance as to whether IPGRI should actively broaden its range of partners to include NGOs and CBOs which have more direct linkages with the end-users thereby enhancing impact. This would be in line with current thinking to increasingly work on-farm and use participatory approaches. The establishment of regional multiplication centres, already part of some *Musa* activities, fits with this approach and is commended.

Collecting activities - The narrow genetic base of *Musa* is a well identified constraint that curtails the available options of sources of resistance against major pests and diseases of the crop. A concern was articulated in the CCER that major gaps in *ex situ* collections exist and that additional collecting missions are needed, particularly to increase coverage of wild relatives in the collections. The *Musa* Programme was encouraged to play a key role in coordinating efforts to collect, characterise and distribute additional materials from the wild. The Panel reiterates this encouragement.

The Panel notes that IPGRI's Board and staff accepted the CCER recommendations to investigate the issue of somaclonal variation, the occurrence of miss-identification and the intricacies of rejuvenation, and encourages implementation of these recommendations. The Panel also reiterates the recommendation for the establishment of a duplicate field collection of the ITC *in vitro* collection.

DNA collections - The Panel concurs with the CCER's suggestion to build up DNA collections. However it also notes that genomic DNA has utility for analysis and gene discovery, thus it should be regarded as a secondary, but complementary, conservation activity.

International standards - As IPGRI's *Musa* Programme becomes increasingly central in the delivery of goods and services, it may be convenient for the organization to obtain a certificate of quality, such as ISO 9001, to keep and improve its credibility in the business world.

2.4.7 Recommendations

4. The Panel recommends that IPGRI review the position of the *Musa* Programme with a view to completing full integration of INIBAP into the Centre. Options considered should include:

(a) removing use of the INIBAP acronym (this might accompany a 'rebranding' of the entire Centre);

(b) establishing the *Musa* work, possibly together with other IPGRI commodity work, as a new grouping. The head of the group could be at Group Director level, with appropriate reporting lines;

(c) rationalizing use of the Montpellier facility to optimise scientific synergies and administrative function with IPGRI headquarters; and

(d), rationalizing use of the regional facilities to achieve maximum scientific synergy and efficiency, again with an appropriate reporting structure.

5. The Panel recommends that IPGRI's Management develop, and obtain Board approval for, the Institute's policy and guidelines on research and breeding, including field trials, of genetically modified bananas and other crop products. The policy should articulate a clear strategy for obtaining public support for any introduction and field testing of genetically modified crops in the environment.

CHAPTER 3 - POLICY AND SOCIO-ECONOMIC RESEARCH ACTIVITIES

3.1 Context and strategy

Since the last EPMR IPGRI's focus and activities on socio-economic and policy aspects of PGR have evolved in response to developments in both international and national contexts. In the early to mid-1990s IPGRI worked mainly on scientific and technical aspects of conservation and had a limited focus on socio-economic, policy and legal issues. This has changed. The Institute has increased its focus on socio-economic and policy issues. This is mainly because of the increased awareness of the important roles that social and economic institutions, policies and laws play in the conservation, enhancement and sustainable use of PGR. IPGRI's focus on socio-economic, policy and legal research has also been stimulated and guided by the negotiations and adoption of the CBD, the ITPGRFA, the TRIPS Agreement of the WTO and recently the outcomes of the WSSD.

IPGRI has developed an explicit strategy to enable it to consolidate and focus its work on policy and law. The strategy, endorsed by the Board in 2002, outlines the objectives and issues to be covered by the Institute⁴. It lays out principles that should guide the design and implementation of policy research and related outreach activities. The Panel commends IPGRI for this effort. There are, however, three issues or points that emerge from a review of the strategy. These relate to priority setting, balancing a focus on legal issues with policy development and enhancing the integration of scientific and technical aspects into policy research.

3.1.1 Priority setting

There are many important policy and legal issues associated with PGR conservation and sustainable use. They range from patenting of life forms, protecting community and farmers' rights, sharing of benefits arising from the use of genetic resources, economic incentives for conservation and sustainable use, to issues of regulation of trade in GMOs. These issues are being treated differently in different international policy forums or processes. For example, while the CBD and the ITPGRFA provide a certain measure of flexibility to ensure that community and farmers' rights are protected, the TRIPS Agreement seems to extinguish these rights or at least makes their recognition and protection by law difficult. IPGRI does not possess financial and human resources to conduct research on all these issues. The Panel is aware that IPGRI is conscious of the huge agenda on socio-economic, policy and legal issues associated with PGR conservation and sustainable use. It encourages the Institute to carefully cluster, prioritise and select issues that will constitute its research agenda over the next five years or so.

In setting priorities IPGRI should be guided by the following principles: (a) it should focus on those research issues and questions for which there is pronounced demand from governments and other stakeholders. Unlike academic institutions that tend to have the luxury

⁴ IPGRI's Genetic Resources Policy Strategy 2002, Supporting the Conservation, Use and Exchange of Genetic Resources for Food and Agriculture in A Changing World: New Rights, New Partners, and New Fora.

to engage in research for its own sake, IPGRI has to respond to clearly articulated or anticipated research problems; (b) the Institute should focus on research issues on which it has prior experience or on which it is able to utilise its existing scientific and technical expertise; (c) it should also focus on issues and processes that will enlarge its comparative advantage, at least in terms of gaining new experience while at the same time meeting the needs of its clients; (d) it should focus on countries in which governments and other stakeholders show interest and commitment to policy change or where such interest and commitment are relatively easy to secure; and (e) IPGRI should identify and target policy processes in countries where there is demonstrable ownership by and engagement of government, farmers' groups, local NGOs, industry and other stakeholders.

3.1.2 Balancing emphasis on policy and law

The second issue that a review of IPGRI's policy research strategy raises relates to the distinction between policy and law. While the distinction is increasingly becoming blurred, it is crucial to note that policy focuses more on the normative aspects of governance while law revolves around rule making. Given the nascent nature of formal PGR conservation and sustainable use institutions in many countries, particularly developing ones, and the absence of adequate capacity to enforce law, it is important that more attention is placed on promoting the evolution of and experimentation with norms. The development of norms requires more than the deployment of legal studies and skills. Economics, sociology, anthropology and other social sciences also play major roles in policy development.

IPGRI strives to develop and use multidisciplinary approaches in its policy and law research. It has made significant effort to use economic analysis in PGR policy. For example, in 2000 IPGRI conducted a study that analysed the flow of genetic material from the CGIAR Centres to developing countries⁵. The economic analysis demonstrated that over 90% of the transfer of pigeon peas and chickpeas, and close to 100% of the groundnuts, went to developing countries. This study contributed to narrowing differences between developing and developed countries in the negotiations of the ITPGRFA.

IPGRI's Genetic Resources Policy Strategy makes reference to the importance of interdisciplinary approaches in the Centre's work. However, it puts most of the emphasis on PGR law and should give more explicit attention to social and economic dimensions of PGR policy development. The absence of economic analysis and data on the costs and benefits of various legal options is often an impediment to building political constituencies for new PGR legislation in many developing countries.

The Panel encourages IPGRI to more explicitly address economic and social issues in its PGR policy strategy. These issues should encompass gender considerations in access to genetic resources and benefit sharing, economic impacts of PGR guidelines and laws, and participatory approaches in regulating access to on-farm PGR systems. This is consistent with the first recommendation of the CCER 1999 on IPGRI's work on human and policy aspects of plant genetic resources. In particular, the Institute should give more attention to the need "to conduct systematic research planning exercises to identify broad conceptual frameworks based on social, economic, and ecological patterns, for priority setting and determination of different types of social science and policy research activities."

⁵ Fowler, C., Smale, M. and Gaiji, S. 2001, Unequal exchange? recent transfers of agricultural resources and their implications for developing countries. *Development Policy Review* 19: 181-204.

3.1.3 Strengthening science and policy interface

The third set of issues emerging from the review of the policy strategy is related to the science-policy/law interface. As noted above, a major challenge that the international community now faces is how to ensure that provisions of the CBD and the ITPGRFA are translated into concrete actions at national and local levels. As countries start addressing this challenge they will be faced with growing demand for scientific and technical knowledge. For example, national policies aimed at implementing Article 5.1(e) of the ITPGRFA should be adequately informed by sound science and technical knowledge on regeneration and evaluation of PGR.

Scientific knowledge on PGR conservation and sustainable use is critical for national policies and laws. IPGRI recognizes this and has for the past years endeavoured to ensure that its policy and legal research work interfaces with and is informed by its scientific and technical work. As IPGRI starts to focus at national and local levels, particularly to support the implementation of the CBD and the ITPGRFA, it needs to strengthen further the interface and ensure that science is an integral part of its policy and law research. This is not just a structural reform challenge of adjusting its organizational structure but one that has to do with overall cognitive outlook, particularly conceptual frameworks that it will develop and use to conduct policy research. The Panel encourages the Centre to further explore and develop systemic and evolutionary approaches to policy research and development. It should eschew reductionist policy and legal research that often tends to consider and use natural/biological sciences only to validate preformed decisions. With its considerable expertise in biological sciences and growing capacity in social sciences, including economics, law and sociology, IPGRI is well placed to design policy research frameworks that are responsive to the systemic nature of conservation and sustainable use problems.

3.2 Socio-economic research: Examples of activities and achievements

IPGRI's direct involvement in research on socio-economic aspects of PGR dates back to 1995. It established the Project on 'Ethnobotany and human aspects of plant genetic resources conservation and use'. During the past years the Institute has worked on a range of activities, for example:

(a) Development of concepts and tools for documentation and promotion (including protection) of indigenous knowledge. IPGRI has worked with various organizations including farmers' associations and NARS to explore and develop the concept of "indigenous knowledge journals". The concept is gaining currency in a number of countries. For example, it is being used in Yunnan to advocate for recognition of indigenous knowledge as an important part of conservation and sustainable use systems. Several publications, including at least one journal article⁶, have been generated by this activity. IPGRI has been actively involved in international dialogues on the protection and promotion of indigenous knowledge. As a result of this work the Institute has established close collaboration with such leading professional associations as the International Society on Ethnobotany. Its publications have been cited and used internationally. For example, the CBD's Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) has used IPGRI's publications on ethnobotany as background material for discussions on indigenous knowledge and rights.

⁶ Jianchu, X. *et al.* 2001, Genetic diversity in taro (*Colocasia Esculenta* Schott, Araceae) in China: An ethnobotanical and genetic approach. *Economic Botany* 55: 14-31.

(b) Conservation and sustainable use of Africa's leafy vegetables. This activity has focused on strengthening the capacity of national programmes in Sub-Saharan Africa to use ethnobotanical information in the identification, selection, conservation and improvement of leafy vegetables. Using participatory research approaches the project staff has worked with NGOs, women's groups and researchers in Cameroon, Botswana and Kenya among other SSA countries to identify economically important species. The CCER concluded that the Centre's "practical work on traditional leafy vegetables in Africa provided the first important case to link the conservation and use of PGR to the income and food needs of the poor". IPGRI scientists working on this activity have also published several papers and a book⁷.

(c) Economics of PGR. This activity focused on the application of economic research to develop methodologies and tools to support decision making by farmers, PGR managers and policy makers for both *in situ* and *ex situ* conservation. In collaboration with IFPRI, IPGRI has been able to develop economic concepts for designing policies for *in situ* and on-farm PGR conservation. It has also organized at least one workshop to promote the testing and use of the concepts⁸. IPGRI and IFPRI have also conducted economic analysis on the demand of crop genetic resources and the international use of genebanks⁹.

IPGRI's work on socio-economic aspects of PGR has grown and there have been significant outputs generated during the past five years. The Institute has also actively disseminated information from this work widely to policy makers. Its collaboration with IFPRI, though at its early stages, has enabled it to work on economics of PGR. The Panel commends IPGRI for initiating this collaboration and encourages it to strengthen its partnership with IFPRI by developing more joint activities on PGR economics. The Panel is, however, concerned that with the growing demand for IPGRI's engagement in socio-economic work, particularly on the economic aspects of PGR, the Institute will not be able to adequately respond to the needs of its clients. IPGRI does not have a full time in-house economist, but relies on a half time staff based at IFPRI. IPGRI needs to build its capacity in this aspect. (See Recommendation 6)

3.3 Policy research at IPGRI

As already observed above, PGR conservation and sustainable use have increasingly moved from the confines of scientific discourse to the centre of public policy. Issues that were 20 years ago considered as purely scientific, have acquired political, social, economic and legal dimensions. There is global agreement that policies, laws and institutions are required to orchestrate the development and application of science and technologies—whether modern or traditional—for PGR conservation and sustainable use. IPGRI recognizes this and has over the past five years or so made deliberate efforts to conduct research on policy and legal issues. Most of its policy and legal work has been focused on international negotiations on the CBD and the ITPGRFA.

IPGRI's work on PGR policy has largely focused on the analysis of policy and legal options, generating empirical data and assisting governments to consider policy options through more analytical rigour. For example, IPGRI was instrumental in preparing some of the background papers that guided the evolution of and negotiations on the ITPGRFA. IPGRI's engagement in and contributions to the negotiations are well appreciated. The head

⁷ e.g. Chweya, J.A. and Eyzaguirre, P.B. (eds.) 1999, The bio diversity of traditional leafy vegetables. IPGRI, Rome.

⁸ e.g. Smale, M. *et al.* (eds.) 2002, The economics of conserving agricultural biodiversity on –farm. IPGRI, Rome.

⁹ e.g. Smale, M. and Day-Rubenstein, K. 2002, The demand for crop genetic resources: International use of the U.S. national plant germplasm system. *World Development* 30: 1639-1655.

of Ethiopia's delegation to the ITPGRFA negotiations described the Institute's contributions as "monumental". It played two major roles in these processes, first as a representative of the CGIAR System and second, though with observer status, it served as a source of scientific and technical advice to the negotiators. It was a leading source of information and data on the international flow of PGR and was instrumental in advocating for a multilateral system of access and benefit sharing. It provided scientific and technical data that convinced most government delegations of the political and economic advantages of the system. The study IPGRI prepared on germplasm flows (see Section 3.1.2) was widely used by delegations during the negotiations on the need for and governance of a multilateral PGR system. The Panel reviewed this paper and found it to be empirically rich and a source of information on why international exchange of PGR is critical for the long term conservation of the resources.

An assessment of IPGRI's role in the negotiation of the ITPGRFA¹⁰ showed that, through the provision of technical input, IPGRI was able to support and influence policy makers in the negotiations. Political neutrality and reliability were seen as crucial to IPGRI's influence. The study found that IPGRI had improved the general understanding of the issues being dealt with in the negotiations, and that it shed light on the nature of the inter-linkages between issues, especially those between access and benefit sharing. IPGRI was most influential when it concentrated on clarifying technical issues that were not fully understood by the negotiators. Some of the aspects that IPGRI helped clarify during the negotiation process included: (1) the nature of plant varieties improvement and the difficulties involved with tracing who contributed to the value of a particular material, as well as to the eventual distribution of benefits among all those who contributed over time; (2) the possible scope and architecture of a multilateral system for the exchange of PGRFA; and, (3) the implications of intellectual property protection and alternatives available for the *sui generis* protection of plant varieties. IPGRI's experts also suggested some of the possible legal solutions to particular issues, such as payments to the multilateral system to be made by those who acquire IPR that limit the further use of received materials for breeding and research.

IPGRI has also actively participated in the CBD. Senior IPGRI staff has participated in all meetings of the Conference of Parties (COP) to the CBD and many of the SBSTTA sessions. In addition to making interventions at formal plenary sessions, IPGRI has worked with other CGIAR Centres and jointly organized seminars to build awareness of the importance of agrobiodiversity. For example, it mobilised expertise through the SGRP and organized a well attended seminar at the 4th meeting of the COP. A number of the Institute's publications have been used in the CBD negotiations. For example, IPGRI's study on options for multilateral exchange¹¹ has been extensively cited by at least five of CBD's official papers on access to genetic resources.

PGR policy and legal issues are also being addressed in IPGRI's science projects. For example, the *Musa* Programme has started addressing issues associated with the development and field testing of genetically modified bananas. IPGRI has also been involved in providing legal advice on the development of a material transfer agreement and related policies for the exchange of germplasm within the APO region.

¹⁰ Sauv , R. and Watts, J. 2003, An analysis of IPGRI's influence on the International Treaty on Plant Genetic Resources for Food and Agriculture. *In: Agricultural Systems*, forthcoming edition. Horton, D. and Mackay, R. (eds.), Learning for the future: Innovative approaches for evaluating agricultural research.

¹¹ Hawtin G. *et al.* 1996, International plant germplasm collections under the Convention on Biological Diversity - options for a continued multilateral exchange of genetic resources for food and agriculture. *In: Proceedings of the Beltsville Symposium XXI, Global genetic resources - access, ownership, and intellectual property rights.* Beltsville Maryland USA, May 19-22, 1996.

IPGRI's policy and law research activities have grown in number considerably over the past 5 years and are likely to grow more as the international community starts to focus more on national implementation of the conventions, protocols and the ITPGRFA. To ensure that there is intellectual coherence in and adequate administrative oversight of these activities, the Centre has organized its policy and law work into a new Project entitled 'Laws and policies affecting the conservation, use and exchange of genetic resources for food and agriculture'. Activities to be implemented under this Project during the period 2003-2007 include: training to build expertise in analysing policies and laws; conducting research on cross-cutting issues that affect the conservation, use and exchange of genetic resources; developing options for national and sub-regional PGR policies and laws, particularly on access to genetic resources and benefit sharing; and, ensuring harmonization of positions regarding laws and policies.

The GRPI is one of these activities under the new Project. A project coordinator has been recruited and was posted to IPGRI-SSA office in March 2003. He is responsible for overseeing the implementation of activities in the first six selected countries and three regions. This project is designed in such a way as to ensure that IPGRI utilises its accumulated policy research experience and knowledge base to stimulate national PGR policy development. It is innovative in the sense that it focuses on research on, and analysis of, the policy processes as opposed to the conventional PGR policy research approach which is dedicated to research for policy processes. If well implemented the project will generate a body of information and knowledge on how to organize and manage PGR policy processes in developing countries.

On the whole, IPGRI's work on policy and law is evolving rapidly. The Institute is designing measures to build in-house capacity. For example, in 2001 it employed a lawyer and has now three full time staff dedicated to policy and legal research. It is strengthening the capacity of its regional offices by organising training workshops on PGR policy issues for regional staff. However, given the wide range of issues emerging from the CBD, ITPGRFA, TRIPS and many other international conventions, IPGRI needs to focus on a set of priority policy questions that it will seek to respond to and work to support the implementation of a manageable number of conventions. IPGRI should not spread its resources thinly in many international conventions or treaties by directly getting engaged in their negotiations and implementation but should seek to work through other competent research institutions to promote PGR conservation and sustainable use goals. (See Recommendation 7)

3.4 Recommendations

6. The Panel recommends that IPGRI recruit a full time staff member with the necessary academic qualifications and experience in environmental and agricultural economics, preferably with a focus on PGR.

7. Given the increasing number of international fora in which PGR policy and legal issues are being negotiated and the growing demand on IPGRI's limited core policy and legal expertise, the Panel recommends that over the next 5 years the Institute focus most of its resources for international policy work on supporting the national institutions with the implementation of the ITPGRFA and related provisions of the CBD.

CHAPTER 4 – REGIONAL ACTIVITIES

4.1 Overview

IPGRI maintains five Regional offices and a number of strategically located sub-offices. Three of the Regions also have INIBAP offices dedicated to *Musa* work. The Regions are: the Americas with the IPGRI-AMS office at CIAT in Columbia and the INIBAP-LAC office at CATIE in Costa Rica; Asia, Pacific & Oceania with the IPGRI-APO office in Kuala Lumpur in Malaysia and the INIBAP-AP office at IRRI in the Philippines; Sub-Saharan Africa with the IPGRI office at ICRAF in Kenya and INIBAP-ESA and WCA offices in Uganda and Cameroon respectively; Europe with the IPGRI-EUR office at HQ in Rome; and Central Asia and North Africa with the IPGRI-CWANA office at ICARDA in Syria.

The Regional groups are the main institutional links between national programmes and IPGRI. The Regional groups derive their strategic foci from local needs, priorities and modes of operation as they map onto the Institute's overall strategy. They also provide a route whereby generic PGR research and development activities may be linked to IPGRI HQ-based thematic groups.

The Panel was aided by CCERs for each of the Regions and for INIBAP.

4.2 The Americas

4.2.1 Introduction

The Americas Region comprises 36 independent countries and territories but IPGRI's primary focus is on Latin America and the Caribbean. The Region contains two centres of ancient civilizations and agricultural systems in the Mesoamerica and Andean regions. In addition the Americas have a tremendous variety of climates and topographies. The result is a rich storehouse of agrobiodiversity.

The thrusts of IPGRI's work in the Americas are the establishment and support of sub-regional PGR networks and, to a lesser extent, work on selected crops, such as the tropical American fruits. Networks operate independently but have been established in collaboration with IICA which has its headquarters in Costa Rica, and which is the agricultural cooperation arm of OAS. IPGRI's main function in the networks is to support research, documentation, and training. IPGRI identifies sources of funding for the networks, interacts with donors, and retains a part of the overheads. IPGRI also provides technical support to projects developed within the networks, manages project funds, and prepares reports to donors.

Because IPGRI has no legal status in Colombia the IPGRI-AMS office operates under the CIAT umbrella. In Costa Rica, pending final ratification of an agreement between IPGRI and the Government, the INIBAP office operates under the IICA/CATIE umbrella. Professional staff numbers at IPGRI-AMS have remained constant at ten which includes

IPGRI's molecular genetics expert. Two professional INIBAP staff are located at CATIE. A CCER of the Americas programme was carried out in 1999.

4.2.2 Strategy and priority setting

AMS have not yet completed a formal separate strategy document, although elements of the strategy were prepared for the CCER in 1999. An annually updated Regional logframe is the main strategic document. The key strategy of the Americas project is to work with and through the six well established sub-regional networks in collaboration with IICA: REMERFI in Central America, REDARFIT in the Andean region, TROPIGEN in the north east of South America, RESURGEN in the Southern Cone of South America, CAPGERNET in the Caribbean, and NORGEN in the north and including Mexico. In principle each network has an annual meeting where priority setting is done and joint activities are planned. Projects are selected by consensus of the members and submitted to donors for external funding. Many are funded through the AMS office.

The INIBAP-LAC office has strengthened its *MUSALAC* network. Some strategic activities are supported by INIBAP, e.g. work at CATIE to investigate natural fungicides and the placement of an internship student at CORBANA. INIBAP-LAC is very active in generating and servicing other external grants. An example is the FONTAGRO project on training and technology transfer for black Sigatoka management. In other cases funding is raised by INIBAP but administered elsewhere, as with the USAID grant supporting banana breeding at FHIA in Honduras. These approaches to support PGR are consistent with the CGIAR regional strategy. It is necessary to recognize, however, that national capacity to undertake research varies enormously within this Region, which includes both developed and developing countries. Also there are major differences in the available PGR facilities and capacity among the different developing countries. The networking and linkage approach works better in those countries that already have reasonable research capacity.

4.2.3 Activities and outputs

In addition to servicing the networks, AMS coordinates other activities: a biotechnology project focussing on molecular marker characterization of *Capsicum* in several countries, with input from the IPGRI molecular geneticist; a project on the conservation and use of tropical fruits, of which a remarkable 1100 species have been listed so far; and, documentation, information dissemination and public awareness in the Region. Finally, as part of the Global *in situ* project, AMS hosts a project to study and strengthen seed supply systems at sites in two countries.

The *in situ* studies in Mexico are coordinated by CINVESTAV and involve five other organizations in their study of five crop species throughout the Yucatan and in particular on a Mayan 'slash and burn' farming site. A major output, in addition to publications arising from collaborator meetings, has been the successful bringing together, apparently sustainably, of neighbouring institutes that have not collaborated before. The inability of the Mexican collaborators to find secure seed storage for their valuable, already two year old collections of maize, beans, squash and chilli is, however, disappointing.

In addition to the Americas Regional newsletter, published in English and Spanish, AMS provides a range of information on tropical American fruits. GIS information and models have been developed in collaboration with CIAT and CIP. Genebank documentation software has been developed with USDA, and technical support and training in its use has

been provided. AMS has a remarkable record in training, with 53 short courses organized and 1733 NARS staff trained.

One of INIBAP's activities is to organize *MUSALAC* steering committee meetings. CORBANA has established a site for segregating banana populations for molecular mapping and future QTL studies. FONTAGRO sponsored workshops were among various INIBAP supported courses that catered to over 500 participants in 2001. Successes arising from the FHIA programme include large fungicide free acreages of FHIA's *Musa* hybrids growing in Cuba. The FHIA breeding programme was very active up to 2001 and INIBAP is now assisting the restarting of the programme with a new breeder.

4.2.4 Assessment

The financial health of the sub-regional networks varies tremendously. RESURGEN has Brazil as a member and was well funded for a number of years, but has recently lost the support from PROCISUR. REMERFI has no funds but its annual meeting last year was supported by IPGRI. Weak groupings like the Caribbean CAPGERNET appear not to have enough activities to sustain the network. Some of these problems may reflect donors' current focus on Africa rather than Latin America. The AMS office nevertheless disbursed over US\$ 3 million for LoAs over the period.

The Region appears also to be characterised by NARS that need policy advice. The responses to the EPMP's questionnaire revealed mixed perceptions with regard to satisfaction with support for policy formulation. The Panel hopes that the recommendation concerning the balance between project work and technical assistance is especially noted in the Americas (see Recommendation 9). The Panel also notes the high expectations for GRPI in the Region. The questionnaire revealed good NARS perceptions for training, dissemination of information and networking.

Staff publications, both for AMS and LAC staff, have focussed particularly on tropical fruits. Papers on other topics, co-authored with NARS partners, are few.

4.3 Asia, Pacific and Oceania

4.3.1 Introduction

The IPGRI-APO Region consists of 45 countries and is home to about half of the world's population. The Region has the world's highest concentration of poverty and malnutrition. Its varied agroecological conditions, diverse cultures and long history of intensive agriculture are reflected in a high genetic diversity in crops, forest species and their wild crop relatives. IPGRI started working in the APO Region in 1974. IPGRI-APO currently operates through its regional office in Malaysia and its sub-offices in Beijing and New Delhi, and has an out-posted staff member in Nepal. Honorary Fellows and Associate Experts, especially in social science disciplines, coming from collaborating universities in the Region have significantly added to APO's capacity. The INIBAP-AP office hosted by IRRI in the Philippines has been operational since 1991 and today has two staff members.

IPGRI-APO continues to work with national systems and regional networks towards: (1) strengthening national capacities, particularly in developing countries, to conserve, access and use genetic resources; (2) international collaboration in the conservation and use of PGR; and (3) generation and use of knowledge and technologies relevant to improved conservation

and use of PGR. INIBAP-AP similarly has objectives to: (1) develop a regional *Musa* strategy, (2) promote partnerships at regional and national levels, (3) strengthen the capacity of BAPNET (the successor to ASPNET), (4) provide up-to-date information and support training, and (5) coordinate all *Musa* activities in the Region.

Under the Regional PGR project IPGRI-APO has five major activities: supporting national PGR activities; regional collaboration and human resources development; work on underutilised crops; work on tropical fruit trees; and documentation, information management and public awareness. In addition, activities as part of other IPGRI thematic and commodity programmes are carried out. The most prominent of these commodity programmes are on coconut, coordinated through COGENT, and on banana and plantain, which is coordinated through BAPNET at the INIBAP office.

Since the last EPMR, the APO Project has remained largely unchanged, although some new components have been added, including national information support, work on medicinal plants, policy and the expansion of work on tropical fruits. Work on bamboo and rattan has been ongoing but focus on forest trees started relatively recently when IPGRI became a collaborator in the APAFRI network in 2000. This collaboration continues with the initiation of the APFORGEN network that is currently in its early stages of establishment.

The Panel was aided by two CCERs on the APO Regional programme, one from 1997, and a second one completed in September 2002.

4.3.2 Strategy and priority setting

In 2000, IPGRI-APO developed a Region specific Strategic Plan (2002-2007) articulating its vision, goals, and operational strategies as well as planned outputs, impact assessment criteria, and resource requirements. Its vision for the Region is that, through the collective action of all stakeholders, plant genetic diversity will be harnessed to enhance food and nutritional security, reduce poverty and protect and improve the environment. The Plan document was developed through a two-year consultative process involving regional partners. IPGRI-APO and partners have been using the document as a tool for monitoring, activity tracking and priority setting. Annual mid-year "course correction" discussions are scheduled to determine progress and changes needed to jointly planned activities. Based on Plan priorities, IPGRI-APO staff has started to plan collaborative activities with colleagues in the CWANA Region on areas of common interest.

In response to the 1997 CCER recommendations, IPGRI-APO has developed indicators and put in place mechanisms and processes for information collection to facilitate measurement and assessment of project impacts. APO staff is in discussion with HQ regarding general, institution-wide indicators under which their local and regional indicators could fit. The Panel concurs with the recent CCER and encourages IPGRI-APO to proceed with full implementation of the Strategic Plan, monitoring and evaluation with partners, and overall impact assessment at the end of the Plan period.

The Panel also urges IPGRI-APO to explore further avenues for stakeholders' input into agenda setting for research, training and outreach. Despite the overwhelmingly positive assessment of IPGRI's contributions to the region, more than half of those who responded to an EPMR survey of stakeholders indicated that there were less than adequate opportunities to participate in IPGRI's agenda setting.

4.3.3 Activities and outputs

The national programmes in the Region, which are IPGRI's primary partners, vary greatly in strength, capability and needs. Hence, IPGRI's role has varied from country to country and from project to project. IPGRI-APO currently concentrates its efforts on the least developed national programmes, particularly in the Pacific area, to develop essential skills and to build self-reliance through staff training, technical assistance and direct funding. About 90% of funding for IPGRI-APO activities have been mobilised from the Region. The Panel strongly supports this strategy for capacity building and regional resource mobilization.

IPGRI has been working closely with APAARI, a network consisting of NARS, CGIAR Centres, ARIs and other networks operating in the APO Region. There are four sub-regional networks under the APAARI umbrella (East Asia, South Asia, Southeast Asia and the Pacific). IPGRI's collaboration with APAARI, which also includes INIBAP, was formalised through a MoU signed in 1999. Joint activities have included research, training and exchange of information and expertise. Currently, only 17 NARS are members of APAARI. This low membership constrains the network's reach and scope for impact.

During the period under review, IPGRI-APO increased its engagement with NGOs (e.g. LIBIRD, ATREE, MS Swaminathan Research Foundation in South Asia) especially in its projects with pronounced livelihood development components, such as the 'In situ conservation and development'. Overall, however, collaboration with NGOs remains patchy and could be expanded. Acceptability and credibility of NGO partners with NARS institutions and limited NGO technical capacity have been major impediments to collaboration.

As part of the FGRP, IPGRI-APO is facilitating the establishment of a forestry network, APFORGEN, for 13 countries in the Asia Pacific Region. IPGRI-APO collaborates with INBAR on genetic diversity research on bamboo and rattan, two of the Region's most important non-timber forest resources. IPGRI's *ex situ* activities have focused on developing *in vitro* collecting techniques for Dipterocarps, slow growth techniques for citrus and sweet potato, and cryopreservation techniques for selected fruit trees and vegetatively propagated crops. The Panel strongly endorses the CCER recommendation to incorporate an ecosystem approach to IPGRI-APO's work on sustainable management and use forest genetic diversity in natural and agroforests.

The INIBAP-AP office has two projects ongoing in the Philippines and undertakes virus indexing work in Taiwan. Activities include collections in north-eastern India and establishment of a national genebank. Scholarships have been obtained for Vietnamese researchers, including one in KUL on nematology. INIBAP also links with COGENT on coconut-banana intercropping systems.

4.3.4 Assessment

Stakeholders gave an overwhelmingly positive assessment of IPGRI's contribution and credibility in research, technical assistance, information provision, training, networking and in virtually every aspect of its work. This is an indicator to IPGRI's achievements and performance in the Region. Outputs have included a number of publications, including peer reviewed articles, technical reports, workshop proceedings, manuals and newsletters. IPGRI-APO also conducted a number of short courses and individual training sessions (see Section 6.1.4) and has had significant continuing focus on capacity building in the Region through the

MSc courses and curricula on PGR developed with UPLB (Philippines), UKM (Malaysia) and IARI (India).

INIBAP training on banana virus management strategies, using expertise from Taiwan, has benefited more than 100 scientists in Sri Lanka, Bangladesh and Philippines and facilitated transfer of antibodies for virus indexing from Taiwan to these countries. Coconut embryo culture protocols developed through COGENT have raised efficiency of seedling establishment.

Work on agrobiodiversity conservation since 1997 in Nepal and Vietnam, primarily through NARS and agricultural universities, generated and refined the application of innovative participatory research tools, e.g. community biodiversity registers, and approaches, e.g. biodiversity fairs and farmers awards. Output indicators include increased public awareness on agrobiodiversity, greater appreciation of the role and contribution of farmers to genetic conservation, capacity building for NARS and farmers, and enhanced livelihood opportunities. The incorporation of banana, coconut, forest species and other crops into the home garden system is creating space for mutual learning across IPGRI's programmes and partners.

Collaboration with the CAAS has resulted in techniques for establishing core collections of germplasm, e.g. of sesame, which are now being extended to other countries in the APO Region. Findings from studies on optimal seed water content to improve longevity in *ex situ* gene banks with ICRISAT, NSSL (USA) and ICGR (China) have yielded considerable potential for the use of ultra-dry methods for long term storage of various species.

The Panel commends IPGRI for its record of performance in the Region and notes the important role played by IPGRI staff in the Region as facilitators, technical advisers, and active partners to achieve these outputs.

4.4 Europe

4.4.1 Introduction

IPGRI's activities in Europe date back to 1974 when IBPGR identified the Mediterranean as a priority area for addressing problems of PGR loss due to the almost total replacement of many traditional crops by newer, high-yielding commercial varieties. Over the years, IPGRI-EUR's activities have expanded and now cover 54 countries, including Eastern Europe and the former Soviet Union. IPGRI-EUR activities are conducted in close collaboration with two inter-regional PGR programmes, ECP/GR and EUFORGEN, as well as with national programmes, particularly in Eastern Europe. ECP/GR has established thematic groups for inter-regional collaboration and for *in situ/on-farm* management of PGR. It has also considerably expanded its number of working groups for specific crops. ECP/GR's and EUFORGEN's membership has expanded to 35 and 31 member countries respectively. The networks are constituted through country membership and member countries fund their activities.

A CCER was conducted in September 1998. It made 15 recommendations most of them focusing on measures to strengthen cooperation between Europe and other Regions (particularly CWANA), and increasing resources and activities in Eastern Europe and the former Soviet Union. The recommendations have largely been implemented.

4.4.2 Strategy and priority setting

Both regional networks undertake priority setting, with the regional staff participating in this process. However the Europe Group has developed its own national support priorities by focusing on the Caucasus and the Balkan areas, as well as Russia. The justification is that these countries are most in need of support in establishing their own national programmes, and – in the case of Russia – the global importance of the collections of the Vavilov Institute.

Currently, ECP/GR is going through a new round of priority setting in preparation for its VIIth phase. EUFORGEN is in its second five year phase (2000 – 2004).

4.4.3 Activities and outputs

IPGRI-EUR provides the international coordinating secretariat for ECP/GR and EUFORGEN and many of their activities. The networks focus on developing inventories, descriptor lists, shared databases, joint characterization of collections, and technical guidelines, amongst other activities. ECP/GR operates through 10 networks, of which seven are crop specific and three have a thematic focus. Major outputs of the networks include the European Central Crop Databases (currently 34), and the core collections developed on the basis of these databases. EUFORGEN is coordinated by IPGRI in collaboration with FAO. The network operates through five sub-networks. Inter-regional collaboration is taking place with North African countries on *Quercus suber* (cork oak).

The Europe Group also continues to provide direct support to national systems through promoting and participating in national workshops. The Group helped prepare project proposals with partners in the countries of the Caucasus, reflecting the Group's priority for Eastern Europe and the independent states of the former Soviet Union.

The Group has also promoted alliances among countries. From 1998 to 2000, six ECP/GR initiated projects worth €1.5 million were funded by the EU. In particular, the project for a European PGR Information Infrastructure, which is now resulting in the launch of the pan-European database, EURISCO, was developed within ECP/GR with support from the IPGRI-EUR and other IPGRI staff. Likewise, EUFORGEN has been able to secure EU funding for the evaluation of cork oak GR. A Pan-European strategy has been developed on elms and was EU funded.

IPGRI has provided major assistance to the Vavilov Institute in St. Petersburg that houses one of the world's most important *ex situ* collections and has been suffering from the political and economic changes in Russia. IPGRI also provided emergency assistance to the Romanian National Genebank where storage facilities appeared no longer adequate.

In the area of forest genetic resources, national programmes in Romania, Bulgaria and Moldova were supported in the conservation and sustainable use of genetic resources of broad-leaved forest trees, which are of major economic importance to those countries.

4.4.4 Assessment

IPGRI-EUR has produced more than 40 publications to disseminate the results of ECP/GR. The Programme has led to a high degree of harmonization of characterization activities over different crops, facilitating the preparation of international descriptor lists.

The Panel recognizes that the two major European genetic resources networks have acquired a large degree of autonomy, thereby reducing IPGRI's own role in contributing to regional priority setting. However, IPGRI-EUR's role remains extremely relevant for the continued commendable support for the Balkan and Caucasus countries and of Russia. The Vavilov Institute, in particular, requires continued support.

A substantial number of European countries have not developed national PGR programmes. This situation may have a negative impact on institutional mandates, in-country and international collaboration, policy development and sustainability of funding of national activities, in particular of *ex situ* genebanks. The Panel can only reiterate the recommendation of the CCER that IPGRI-EUR continue to support the building of strong national programmes.

A clear trend is the increasing demand from ECP/GR members for IPGRI-EUR to play a facilitating role in obtaining additional funding from the EU and a variety of other sources, for inter-regional collaboration in particular. IPGRI-EUR is encouraged to increase its efforts in this area, even though other network activities may receive less attention as a result.

With the advanced level of European agriculture, very little traditional genetic diversity remains in farmers' fields. However, hobby gardeners and NGOs may conserve and maintain old landraces and farmers' varieties on a small scale and there is a clear need to develop strategies and methodologies to manage such diversity. Such a need may also have surfaced in other Regions, where home gardens are receiving increasing attention.

The Panel commends IPGRI-EUR for providing support for and establishing collaboration between the European and other regional networks. Continued collaboration between the European networks and IPGRI's activities in the CWANA Region is encouraged, given the many crop interests in common. IPGRI is also encouraged to re-evaluate IPGRI-EUR's potential as a partner for other Regional groups. In addition, the experiences of EUFORGEN in the establishment of inventories and conservation strategies, as well as experience of analysing and understanding the collected genetic data may form a foundation for the development of forest genetic resources networks in other Regions. SAFORGEN and APFORGEN are the first of such Regional networks and IPGRI is invited to consider the needs and options for other such initiatives. In this respect, due attention should be given to potential benefits stemming from a closer collaboration between the IPGRI-EUR and GRST in the area of forest genetic resources.

4.5 Sub-Saharan Africa

4.5.1 Introduction

IPGRI's activities in Sub-Saharan Africa cover a diverse region comprising of 48 sovereign states in Eastern, Western, Central and Southern Africa. This Region is endowed with a rich base of PGR and its national economies are heavily dependent on the use of PGR in agriculture, industry and other sectors. However SSA is also experiencing increasing loss of genetic resources, caused by interrelated factors including rapid growth of human population, policies that lead to deforestation following agriculture extensification, and neglect of traditional PGR. The situation is exacerbated by the declining financial and administrative capacities of governments to manage *ex situ* PGR collections.

IPGRI's work in the Region is dedicated to help stem the loss of PGR and improve the capacity of countries to sustainably use PGR. With the main regional office in Kenya (established in 1982) and a sub-regional office in Benin (established in 1996), the Institute works mainly through networks at national and sub-regional levels. Since the last EPMP, IPGRI's activities in the Region have evolved from a focus on supporting PGR collection and the establishment of national *ex situ* conservation programmes to a range of *in situ* conservation, socio-economic and policy work.

The last CCER of IPGRI-SSA activities was carried in September 2001. It concluded that the "SSA group is one of IPGRI's largest Regional groups, and is involved in an enormous range of activities", but raised the concern that IPGRI-SSA was spreading itself too thinly. It recommended that additional financial resources be sought for the work in the Region, and if it is not possible to secure such resources, IPGRI should focus on priority activities. However, the CCER also recommends that IPGRI-SSA activities should be expanded, specifically to: (a) support the establishment of a sub-regional genebank for Western Africa, (b) enhance links to Southern Africa programmes by posting staff to the sub-region, (c) strengthen the capacity of African policy makers to address PGR policy issues, and (d) increase support to post graduate training in PGR science and assist African universities to develop courses on PGR.

INIBAP's presence and activities in the Region have grown over the past five years. There are two staff members in Cameroon (INIBAP-WCA established 1997) and seven in Uganda (INIBAP-ESA established 1997), including the INIBAP's Regional coordinator who is also the coordinator of BARNESA. Likewise, the regional coordinator for West and Central Africa is the coordinator of MUSACO.

4.5.2 Strategy and priority setting

Work in the Region is largely guided by the overall IPGRI strategy. A 2001 workshop resulted in an IPGRI-SSA strategic plan, with the following components: (a) promoting the institutionalization of PGR as a key component of national efforts for food security and environmental management, and supporting national PGR programmes to build effective strategies, (b) supporting and building the capacity of regional PGR networks, (c) developing strategies, approaches and methodologies for the conservation and use of PGR, (d) raising awareness and building the capacity of stakeholders in policy analysis, especially in relation to proprietary rights related to PGR, (e) strengthening capacities of universities and other educational institutions to develop and offer courses on PGR, and (f) supporting the development of computer based germplasm documentation and management systems as well as facilitating the flow of information to improve decision making.

4.5.3 Activities and outputs

During the period under review, IPGRI-SSA has been engaged in the implementation of a wide range of activities within the framework of the Project on 'Support to national plant genetic resources programmes in Sub-Saharan Africa'. Most of these activities were reviewed by the CCER. This EPMP concurs with the findings and recommendations of the CCER. As noted above, the activities of IPGRI-SSA have expanded and overall the Institute has made considerable impact on national PGR conservation and sustainable use efforts.

IPGRI-SSA has provided financial and technical assistance to national programmes to organize workshops. It provided documentation on various aspects of PGR conservation and

sustainable use, and information on the GPA and ITPGRFA. These workshops, which were organized in 15 of the 48 countries, were well attended. For example, 47 participants drawn from NGOs, farmers' groups, government departments and academic institutions attended the national workshop held in Gambia in 1999, which led to the creation of a high level committee to oversee the establishment of a national PGR centre.

IPGRI-SSA also assisted national programmes to improve conservation facilities. It provided deep freezers, seed containers and scales to programmes in Benin, Cameroon, Congo, Ghana, Guinea, Mauritania, Niger, Nigeria, Senegal and Togo. The Institute has also worked with local communities to assist them in restoring agricultural systems in Somalia, and in the documentation of on-farm conservation practices for leafy vegetables in Botswana, Cameroon, Kenya, Senegal and Zimbabwe.

IPGRI-SSA works mainly through ASARECA, CORAF/WECARD and SACCAR. IPGRI's role is to provide advice on PGR issues to these networks. In collaboration with FAO, IITA, WARDA, ICRISAT and CORAF, IPGRI provided administrative and technical support to establish GRENEWECA in 1998, and worked well with ASARECA to establish EAPGREN in 2001 with funding from SIDA. IPGRI-SSA also played a leading role in the creation of a regional forest genetic resources network, SAFORGEN.

IPGRI has worked with a number of universities and networks to develop and provide training courses on PGR conservation. With GRENEWECA, it developed and provided training on *in vitro* conservation at the University of Ghana. IPGRI has also awarded MSc scholarships to national scientists.

IPGRI has been instrumental in assisting countries to collect, document and conserve neglected crops. For example, between 1998-99, technical support was provided to collect germplasm of Eguis (*Cucumeropsis* spp, *Lagernaria siceraria*, *Citrullus* spp and *Telfairia occidentalis*)

In addition to provision of equipment, IPGRI-SSA has worked with a number of national programmes to develop and improve conservation technologies. Since 1998 IPGRI-SSA scientists have been working with the National Genebank of Kenya to investigate the effects of sun and shade drying on the quality of maize, finger millet and groundnut. Similar research is being conducted with the Agricultural Research Corporation of Sudan on sorghum.

In the policy and law area IPGRI has organized a number of workshops. In 1999 it organized a regional workshop on PGR policy and law in Eastern and Southern Africa. In 2000 IPGRI-SSA facilitated the organization and management of an electronic conference to raise awareness and discuss provisions of the OAU model legislation on access to genetic resources and community rights, and in 2002 it organized an Africa-wide round table to promote the integration of PGR policy issues into the programmes of OAU and NEPAD.

INIBAP has focused its activities on improvement of *Musa* genetic conservation and enhancement. It supports the on-farm conservation of banana germplasm in East Africa. In Uganda, INIBAP collaborates with NARO to develop IPM technologies. In collaboration with IITA in Cameroon, where the Centre initiated a joint position in 2002, IPGRI organized training workshops on *in vitro* techniques for farmers and scientists from West and Central Africa.

In Uganda, INIBAP supervises a field gene bank at Mbarara and transgenic breeding facilities at Kawanda station. Its scientists at the breeding station are engaged in DNA analysis to develop virus resistance varieties.

4.5.4 Assessment

Generally, IPGRI's work in SSA has grown in scope. It has taken on PGR modern policy and law research and advocacy, expanded its activities into West Africa, and is engaged with three new networks. Demand for the Institute's support is increasing as many countries become aware of the ITPGRFA and the CBD and start to implement the GPA.

IPGRI-SSA's scientific staff complement has grown. Since the last EPMR IPGRI's new Senior Training Officer, a Documentation/Information Officer, two Scientific Assistants and a Senior Fellow on policy have been recruited. In addition, a Visiting Researcher was at IPGRI-SSA for one year between 2001 and 2002, and very recently the GRPI office has been established under the wings of IPGRI-SSA. The group also hosted several interns during the review period. Though its staff capacity has grown, the Panel is concerned that IPGRI-SSA is still taking on too many activities, as identified by the last CCER. Also some expertise required for working on some of the new areas and activities is not available in the SSA office. For example, IPGRI-SSA only had access to expertise in economic analysis through IPGRI-HQ prior to starting work on a range of policy and legal issues that require knowledge of and information on economics of PGR.

To improve its capacity to manage LoAs, IPGRI-SSA recruited an Administrative Officer in Nairobi and Accounts/Administrative Assistant in the Cotonou office in 1999. The Panel noted that this has freed some of the Regional Director's time for scientific and technical work. The Director is also now spending more of his time strengthening links to IPGRI-HQ and identifying new institutional partners.

SSA staff is undertaking some research, e.g. on *in situ* conservation, wild rice, ethnobotany of gourds and recalcitrance in forest species seed. The Panel is nevertheless concerned that IPGRI-SSA runs the risk of under-investing in science projects and tilting the balance too much to support for workshops and facilitating networking. While this is crucial given the mandate and mode of operations of IPGRI, active participation in scientific and technical research should be strengthened. The Panel recognizes that the Regional Director has been taking initiatives in this direction; for example all professional staff have now identified and prioritised publications to be written up.

IPGRI-SSA's publication output is low. SSA generated about 5% of the total number of publications and many of these are workshop reports.

In summary, IPGRI-SSA is doing a commendable job with a relatively limited staff and financial resource base. The Panel **suggests** that, in order to avoid spreading itself thinly, IPGRI-SSA develop and follow clear guidelines for priority setting and engage more in scientific and technical activities.

The *Musa* Programme has been extremely active in the Region. The Panel commends the collaboration with NARO in setting up the transgenic banana breeding programme, the establishment of a joint post with IITA in the Cameroon, the *in situ* work in Uganda, and particularly the plans to carry out an impact assessment of this work. Publications, particularly involving joint authorship with NARS researchers, are also good. As noted

earlier the Panel was pleased that a new MoU had been signed with IITA, but was still convinced that there was room for further improvement in the working relationship between the two Centres.

4.6 Central & West Asia and North Africa

4.6.1 Introduction

The Region includes 28 countries in three sub-regions, 18 in West Asia, five in North Africa and five in Central Asia. It covers an area of about 19.5 million km² and has a total population of more than 600 million inhabitants. In 2001 seven countries in the Region had developed national PGR programmes. Arable land is limited in most parts of the Region due to the presence of large dry or desert areas. Many key crops were domesticated in the Region, including wheat, barley, food legumes, and many fruit trees.

The number of staff at the CWANA office has grown from four in 1995 to 14 in March 2001. The activities in Central Asia have added a major component to IPGRI's regional mandate. A sub-office was established in Uzbekistan. More recently IPGRI has established a project office in Tunisia and also has a staff member out-posted in Morocco.

A CCER of the CWANA Group was carried out in September 2000. This CCER contained 22 recommendations that were all accepted.

4.6.2 Strategy and priority setting

The CCER recommended the development of an overall five year strategic plan to fit the regional objectives, and set a clear agenda for the Central Asian sub-region. The CCER also recommended cross-sector analysis in establishing regional priorities. The CWANA Group responded favourably. While the regional strategic plan is not yet available, priority setting took place at CWANA Regional Priority Setting Conference in Aleppo to prepare for the new D-series Project. This meeting identified fruit trees, vegetables, forage and rangeland species, and medicinal and aromatic plants as priorities for the coming five years. The CCER also recommended the establishment of an IPGRI wide thematic group with inputs from all Regions on the socio-economic and participatory content of IPGRI's work.

4.6.3 Activities and outputs

The date palm project has a substantial share in CWANA's project portfolio (approximately 30% of D Project 05 budget, US\$ 3.5 million, 5 years, GEF UNDP funded). It is implemented in the three Maghreb countries: Morocco, Algeria and Tunisia. Date palm forms the major component of the oasis ecosystem and dates are the major source of income for farmers and sources of foreign exchange to the countries. The project was established in 2001 to counter the threat of genetic erosion in date palm diversity in the oases of the three countries. Objectives of the project are to strengthen and restore genetic resources of date palm in the oases, to improve income for farmers and to raise public awareness on the value of and threats to date palm diversity.

Further highlights of recent work in the Region include the molecular characterization of pistachio, pomegranate and wild *Vicia* taxa, and studies on market-related quality traits of recently collected almond and pistachio varieties. Diversity surveys were done for laurel, pistachio, and olives, as well as a wild relative of pomegranate. Baseline studies were

undertaken on medicinal plants. A new externally funded project was started on *in situ*/on-farm conservation of agrobiodiversity with a focus on horticultural crops and wild fruit trees in Central Asia.

4.6.4 Assessment

IPGRI's focal point for NUS is based in CWANA, which is reflected in the activities of the Group. This work includes such species as pistachio, pomegranate, traditional vegetables, medicinal plants, date palm, and other fruit trees. It is unclear to what extent the CCER recommendation of the delegation of responsibilities for some of these species to national programmes has been realised.

Through the date palm project the Group has further embarked on work in desert ecosystems. The Panel is of the opinion that the present work on date palm is well designed and well implemented with the right balance between research and technical assistance, and that it represents a strategic IPGRI investment. However the project is expanding further into desert ecosystems and exemplifies an issue that IPGRI is confronted with in general: how to strike the right balance between genetic resources and community development oriented project components, while always, for the PGR component, maintaining an appropriate balance between research and technical assistance issues. The date palm project should remain focussed on genetic resources issues. However initiatives by third parties, whether NGOs, CBOs or government agencies, to undertake complementary activities necessary to improve the impact of the IPGRI project should be supported by IPGRI staff by identifying potential funding sources and helping in project formulation. IPGRI should not itself invest in such related non-PGR activities in the date palm oases.

Finally with regard to CWANA's project portfolio in general and the date palm project specifically, it was clear to the Panel that assistance from IPGRI HQ in the development of a clear IPR policy was becoming pressing.

More generally and most importantly, the Panel visit to the Region identified a need for increased contact and communication between staff in the different Regions and with the thematic groups at HQ. An annual workshop, for example, for all regional projects is **strongly** suggested. This would improve knowledge amongst regional staff of IPGRI's wider project portfolio and the expertise available within IPGRI. In general, local staff often feels that IPGRI HQ is far away. This suggestion follows up on and extends a CCER Recommendation that personal communication, with electronic support, should be the backbone of the networks.

For CWANA more specifically the Panel suggests that the Group explore ways to increase collaboration with the IPGRI-EUR, and to improve collaboration between the CWANA and European networks on crops that are of mutual interest, particularly in the Mediterranean area. The CCER recommendation to increase work on olive tree, forest trees, forages and grasses, is relevant.

With regard to priority setting, the Panel strongly urges CWANA to complete a publicly available strategic plan. The Panel agrees with the CCER suggestion that strategic research into the use of PGRFA in desertification control should receive strong attention.

Finally, the Panel concurs with the CCER in commending the CWANA group for its substantial efforts on public awareness in Central Asia under difficult political and economic circumstances.

4.7 Overall assessment of IPGRI's regional activities

IPGRI's regional groups have witnessed increased demand for their activities. Their networks have increased in numbers and expanded in terms of coverage. IPGRI has also responded by increasing the numbers of offices maintained, e.g. by the INIBAP programmes in SSA. Generally, capacities to engage in strategic planning and project development have improved. Two Regions, APO and SSA, have adopted formal five-year strategic plans.

There are similarities in the priorities of all the groups. For example, all of them have identified the implementation of the ITPGRFA and the GPA, strengthening of networks and increased focus on *in situ* conservation as some of their foci over the next years. To achieve these strategic goals, the Panel believes that the regional groups can benefit from increased collaboration in both design and implementation of activities. Inter-regional staff exchange and sharing of experiences on how well they are achieving their goals is also desirable. At present there are no established mechanisms to promote inter-regional (particularly of bilateral nature) workshops and research activities. The Panel would like to see specific opportunities put in place for Regional Directors and Coordinators to interact, in addition to those provided by MC and PPRC meetings. These could take the form of Regional Directors hosting, on a rotational basis, inter-regional meetings to explore and develop common activities and share experiences in implementing their respective activities. It was clear to the Panel that there was a similar lack of formal opportunity for INIBAP regional coordinators to interact, either among themselves or with the IPGRI Regional Directors.

The Panel also became aware that the level of project-related activity – proposal preparation, donor consultation, oversight, report writing, etc. – was, for some regional staff, so high that there was little time left for technical assistance activities. The Panel felt that it would be timely to review staff workloads and whether appropriate balance, for instance, between project maintenance and technical assistance was being struck.

The 4th EPMP recommended that “IPGRI define more precisely the role and responsibilities of the Regional Groups in their interaction with the headquarters based Thematic Groups in order to contribute to more efficient and effective operation of the Regional Groups and to more closely integrate Rome based and Regional activities”. IPGRI Management has made efforts to implement the recommendation. Interaction between the HQ and the Regional groups has improved considerably during the period under review. IPGRI has increased its administrative support to the Regions in a variety of ways.

4.8 Recommendations

8. The Panel recommends that IPGRI establish specific mechanisms to promote collaboration between the Regions at the Regional Director level.

9. The Panel recommends that Management review staff time allocation between research work and technical assistance, particularly in the Regions.

CHAPTER 5 – IPGRI'S SUPPORT ACTIVITIES

5.1 Documentation, Information and Training

5.1.1 Introduction

The Documentation, Information and Training (DIT) Group at IPGRI HQ has the main responsibility for the implementation of three Institute wide Projects, as well as external and internal services. The projects are: (1) 'Capacity building and institutional strengthening' which provides training databases, methods and procedures, decision making and management tools, and other training materials to support and complement training and capacity building efforts in other IPGRI projects; (2) 'Information management and knowledge sharing' which incorporates institutional publications, library and information services, capacity building in information and communication technology, and research on germplasm documentation and information; and (3) 'Understanding and communicating the value of plant genetic resources', which covers activities aiming at increasing awareness and understanding of plant genetic resources among both the general public and policy makers. It also covers activities to increase the capacity of the plant genetic resources community in designing and implementing effective project activities including impact assessment, which is discussed in Chapter 10.

A CCER was conducted in March 2002 to review the DIT activities, which focussed particularly on strategy development. It was preceded by a staff self-assessment exercise, which the staff considered to be a useful exercise with positive outcome.

IPGRI has four information related committees that make recommendations for management decision-making on different aspects of information management. They are the Publications committee, the information technology committee, the information oversight committee, and the marketing committee.

5.1.2 Developments

DIT now has 18 staff members. These include a senior training officer with global responsibilities based in Nairobi, reporting to the Director of SSA and co-supervised by the Director of DIT. Funds for this position have largely become available by reducing library staff costs, which have been reduced from 2.5 to 1.5 FTEs. The library budget, excluding staff costs, has remained stable from 1997 to 2002 at about US\$ 100,000. The number of staff responsible for various aspects of information systems management institute-wide has increased significantly from three in 1996 to the current nine at HQ and another six in the regions and INIBAP. From a high point in the mid-to-late 1980s when 15-18% of the total core budget was allocated to training, this has dropped to 4-5% in recent years. However, training has benefited substantially from additional support from restricted sources.

There have been major and rapid technology developments relating to information management. As a result, the options for applications have increased considerably and IPGRI

needs to take these into account when considering its activities in all aspects of documentation, information and training.

5.1.3 Priority setting process and identified priorities

The CCER recommended that IPGRI develop a new strategy and a five year plan for its training activities, and that it focus particularly on building capacity in the Regions to provide technical assistance for institutional strengthening. Development of a strategic framework for IPGRI's training and capacity development is well advanced. This framework offers a sound basis for the establishment of priorities. New strategies on PGR documentation, media, and communications are also being developed, in response to additional recommendations by the CCER that the Centre develop a formal knowledge management strategy.

The CCER does not specifically address the area of methodological work on data modelling or tools for database development and improvement, which are also DIT activities. However, the new PGR documentation strategy under development will allow a more structured process for priority setting in these areas of research as well. The strategy document focuses on normative issues and provides mechanisms for situation analysis, which is important when relevant technology is in a constant state of flux.

5.1.4 Activities

IPGRI's training activities include short term courses, opportunities for MSc and PhD research, support for PGR curriculum development, study tours, on-the-job training, fellowships, internship schemes, and the development of training materials. The production of reference manuals and training materials, and the development of management and decision making tools for national programme development are major activities related to training. During the five year period 1997 – 2001, 53 short courses were organized in the Americas, 51 in APO, 12 in Europe, 37 in SSA, and 13 in CWANA. The total number of trainees over this period amounted to 1,738 for the Americas, 736 for APO, 160 for Europe, 749 for SSA, and 190 for CWANA. The large number of trainees in the Americas resulted from substantial external funding raised specifically for this purpose. The training courses covered the full range of characterization, evaluation and use of PGR, *in vitro* technologies, on-farm management, participatory approaches, molecular tools, GIS, statistical analysis, policy analysis, the use of documentation software, scientific writing and project proposal development.

IPGRI supports three long term fellowships, the Vavilov-Frankel Fellowships since 1993, the Italian-funded Research Fellowships and a recently launched Abdou-Salam Ouédraogo Fellowship, in memory of a late IPGRI scientist.

Information management includes many very different activities, ranging from managing the major information and communication processes and systems that support IPGRI's business operations and decision making, to developing and managing scientific information systems. The Sharepoint Portal institutional document management system is an example of a mechanism in the business operations category, whereas the development of SINGER and EURISCO fall in the latter category. The Information Action Plan is a planning tool for institute-wide information management in both categories. Bioinformatics research to develop data models, and strategies and tools to deal with ever growing, incomplete and incongruent datasets is also active. The use of open-source software is increasingly promoted

at IPGRI, since it seems to be the only sustainable and affordable option for many users in developing countries.

Preparation and delivery of IPGRI's publications is a major activity and output for DIT. This activity contributes to IPGRI's staff publication output, since about half of staff contributions appear in the form of IPGRI's own publications. Since 1997 the library has, in collaboration with CABI, distributed PGR Abstracts to some 400 subscribers in developing countries for free, an activity that absorbs most of the library's budget. DIT is considering transition from hard copy editions to CD-ROM editions.

5.1.5 Performance

The CCER was impressed by the quantity and quality of the activities that take place in the DIT coordinated projects, but also noted that efforts still appeared to be fragmented and that more coordination is needed among related activities in other projects across the Institute. This Panel concurs with this view but notes that DIT has recently made a major effort to develop strategies that are likely to ensure better focus in the future. The management and information systems and databases in place and being developed are essential to support IPGRI's increasingly complex operations.

IPGRI recognizes the implications of a digital divide within and between institutions and Regions, and this is reflected in the PGR documentation strategies and communications as well as in the Board endorsed document, 'Some key issues, opportunities and challenges facing IPGRI'. The Panel commends IPGRI for addressing this issue.

The Panel believes that IPGRI's own publications, which are also available on the Institute's website, have been widely recognized by its own constituency as being of a high quality. IPGRI can indeed be regarded as one of the leaders within the CGIAR system in client directed documentation and information services. Of all 6800 internet publication downloads over the period September 2001 – March 2003, only 40% were crop specific. There is obviously interest in both technical information and information of a more strategic nature.

Only about 25% of approximately 600 non-peer reviewed publications appeared as non-IPGRI publications. This demonstrates the importance of IPGRI's publications for disseminating its own work. The quality of IPGRI publications is discussed in Chapter 10.

IPGRI has carried out two impact assessment studies on training, one on the Vavilov-Frankel and Italian-funded fellowships¹² and one on training in Ghana¹³. Both studies provide evidence of sustainable benefits to the fellows/trainees and their institutes in the form of supporting further career development, engagement of the home institutes in new areas of research and implementation of new technologies, and awareness of PGR in the countries. In addition to these targeted impact case studies, IPGRI applies, as appropriate, an impact monitoring tool, the Participant Action Plan Approach, in its training activities. The Panel commends the Centre for these kinds of measures to monitor the training activities for ensuring its effectiveness in sustainable capacity strengthening.

¹² Watts, J. and Battaglini, C. 2003, Evaluating IPGRI's fellowship programmes: An analysis of the Vavilov-Frankel Fellowships and the Italian-funded Research Fellowships 1993-1998. IPGRI, Rome.

¹³ Bennett-Lartey, S. *et al.* 2002, Capacity development in the Plant Genetic Resources Centre, Ghana: An evaluation. IPGRI, Rome.

5.1.6 Overall assessment

5.1.6.1 Modus operandi

The Panel endorses DIT's strategy to increasingly engage partners in the production and delivery of training materials to a significant extent, and to function more as a focal point for information and a node of support and advice on PGR training activities including IPGRI staff and others. The Panel also supports IPGRI's policy towards centralised information storage, particularly of institutional information, coupled to decentralized access, and the adoption of common data standards, as befits a highly dispersed organization.

The Panel notes that collaboration between staff at HQ and Montpellier on issues of documentation, information and training is still suboptimal and that there is room for improvement. Strengthened collaboration and integration should allow benefits resulting from economies of scale, in particular in the areas of systems management, translation, and public relations and awareness raising.

The CCER recommended that impact assessment and public awareness should be independent activities, as they potentially undercut each other. The former requires objective data gathering and information analysis, the latter has a strong element of advocacy. Impact assessment can be a valuable tool to influence and convince donors of the relevance of IPGRI's activities. Public awareness activities, on the other hand, aim at influencing donor representatives and policy makers, and also a much more widely distributed target, namely the general public. Of course this, in turn, may reasonably be hoped to have a more lasting impact on policy makers. The dual faceted nature of this work is recognized in the document 'Some key issues, opportunities, and challenges facing IPGRI'. The general public is today increasingly concerned with a range of agrobiodiversity related issues, including traditional foodstuffs and dishes, the need to increase resilience in our crop production, a reduction of pesticide use, and the importance of landscape management. It is important that the impact assessment work at IPGRI should not be influenced by the public awareness campaign's requirements. The Panel concurs with the CCER that the activities on impact assessment and public awareness raising at IPGRI should be separated.

IPGRI's scientific work also contributes to raising public awareness in an indirect way. It produces material for IPGRI's training programmes and is a foundation for the technical assistance provided by IPGRI on the management of plant genetic resources to groups that have a professional interest in the subject, such as universities, research institutions, extension services, NGOs, CBOs and farmer groups. These groups, in turn, may substantially influence both the general public and policy makers. Indirect means of raising awareness offer important opportunities.

5.1.6.2 Knowledge base

The Panel regards the development of a training knowledge base a priority to allow ready access by IPGRI staff and others to sources of training materials, research results, opportunities for training, and guidelines for training and publishing. IPGRI is in a good position to offer this knowledge base service on training to the entire global PGR community. The Centre is therefore encouraged to open up this service to third parties through the internet, which would enhance its leadership role in this area. IPGRI may often be the only supplier of formal and informal training at the national level. Therefore internet should increasingly be used as a communication mechanism in developing new training strategies.

Development of interactive course materials, that fit IPGRI's networking and participatory approach should also be promoted and supported.

The Panel recognizes the risk that IPGRI could become data-rich and information poor. The Panel believes that IPGRI should continue to contribute to the development of strategies and tools that will allow further improvement and use of PGR databases. In particular, molecular datasets and information from on-farm management of PGR, including indigenous knowledge, should be integrated into PGR documentation databases.

5.1.6.3 Institutional issues

The senior scientist for PGR information systems management is well located in DIT at HQ, since this allows a focus on the development of long term documentation strategies, and direct participation in the strategy development for institutional information systems.

The location of the training officer in Nairobi is, however, not without its drawbacks. Arrangements with the regional offices require the staff person to be available on at least a part time basis for regional activities. The advantages, which include the strengthening of the regional offices function and the exposure of the staff person to the field, may outweigh the disadvantages. Nevertheless, the strategy of posting senior staff with global responsibilities to regional offices deserves careful monitoring.

5.1.6.4 Conclusion

DIT is a pivotal group at IPGRI as the interface between the research and the Centre's target audience, particularly in developing countries. This imposes constraints on the new technologies that can be absorbed into IPGRI's communication and distribution systems. DIT's recent work in developing clear strategies for its many functions allow for appropriately measured progress. The Panel considers the group well served by recent internal evaluations and is itself pleased with DIT's performance and continued development.

5.2 The CGIAR genetic resources support programme

5.2.1 Introduction

This CGIAR support programme has two main components, the enhancement of the System's work on genetic resources, and the provision of advice and services to the CGIAR system in the area of genetic resources policy.

5.2.2 Systemwide Genetic Resources Programme

5.2.2.1 SGRP support

SGRP does not undertake research as part of its own agenda. It promotes, facilitates and coordinates, rather than executes. It does not offer funding. The operation of the SGRP is based on one annual meeting of the Steering Committee composed of Centres' representatives. An Executive Committee (EC) (Chair plus two members) ensures continuity of work between Steering Committee meetings. The necessary technical and policy work is undertaken, on a permanent basis, by IPGRI in interaction with the EC.

As the convening Centre, IPGRI is responsible for facilitating, coordinating and representing the SGRP. IPGRI seeks to ensure that the CGIAR Centres develop a consistent

approach to the policies that shape their relationships with national partners. IPGRI provides, through the SGRP, a leadership role in policy and legal matters within the CGIAR system. IPGRI also seeks to improve, through the SGRP, the scientific and technical aspects of the System's conservation activities, and oversees collaborative initiatives between Centres, such as the development and management of SINGER.

Through SGRP, IPGRI has contributed effectively to developing and sustaining CGIAR Systemwide collaboration in the area of genetic resources. It has assisted the Centres in meeting their 'in trust' commitments for PGR, and supported the Centres' activities aimed at enhancing the management of the 'in trust' plant germplasm collections. It has helped to develop strategies and techniques for managing crop species, and helped develop coherent Systemwide policies for the CGIAR in a rapidly changing environment, such as in the areas of IPR, negotiations of the ITPGRFA, and conditions for the transfer of materials held by the Centres.

SGRP has also shown leadership in furthering ecosystem approaches to genetic resources management, by promoting the integration of genetic resources within natural resources management strategies. The vision provided by IPGRI in this area has helped to underscore the strategic importance of PGR conservation and use within an ecosystem approach.

In 2003 the IPGRI SGRP Secretariat succeeded in planning, coordinating and negotiating, together with an independent USDA consultant, the equitable distribution of \$14 million made available at short notice from the World Bank for upgrading CGIAR Centre *ex situ* collection facilities. Again, particularly because IPGRI itself was a recipient for the *Musa* ITC collection at KUL, the respect that the SGRP Secretariat commands as an honest broker was a vital component of the interaction.

5.2.2.2 Policy formulation

Policy formulation is one of the areas where the work of IPGRI, as convening Centre of SGRP, has been most effective and important from a Systemwide perspective. This is referred to in Chapter 3.

IPGRI's DG has been mandated by the CGIAR Chair to represent the System in issues related to policy, such as through participation in the ITPGRFA negotiations. IPGRI has, on the basis of work made within the SGRP, ensured appropriate CGIAR representation in and reporting to important PGR fora. The existence of SGRP has legitimised, rather than simply enabled this activity. IPGRI's policy group has played an important role in developing consensus and in pushing the implementation of agreed policies forward.

5.2.2.3 Conclusion

SGRP, under IPGRI's guidance, is developing the 'gold standard' for germplasm and information management strategies as well as policy issues related to germplasm. The Panel commends the group for its work. Furthermore the Panel **suggests** that SGRP consider ways in which its activities and deliberations can be opened up to a larger audience, including for example NARS policy makers and genebank curators.

5.2.3 SINGER

The SGRP, under IPGRI's guidance, has led and provided institutional and technical support for the development of SINGER, which is now available on internet and on CD-ROM. 90% of passport data of Centres' *ex situ* collections has been incorporated. Though the impact of SINGER has not been systematically examined, there seems to be general recognition of the Systemwide importance of this effort and the high quality of available data. This database has been valuable for compiling information for the Information Technology negotiations on, for instance, germplasm flow.

SINGER receives more than 10,000 queries per month, and an increasing number of requests come from outside the CGIAR system, including the private sector. SINGER has been cited by the FAO Commission on PGRFA as a model information network for a multilateral system for PGR exchange. SINGER also served as a model for the soon to be launched pan-European database of crop genetic resources collections. SINGER is viewed by Centres as an effective source of information and its development has led other Centres to harmonise their databases so as to make them compatible with SINGER. This has been a major development. It has also helped create awareness outside the CGIAR of the importance of genetic resources and related issues, and the roles, responsibilities, activities and impact of the CGIAR Centres. The Panel commends SINGER for its progress and looks forward to its further extension beyond its immediate CGIAR clients.

5.2.4 Funding

Funding of the SGRP has been problematic and its prospects remain a particular area of concern for IPGRI, although recent *ad hoc* funding may have temporarily alleviated this concern. The Panel feels that the broad work of the SGRP that generates Systemwide public goods relating to genetic resources is under-funded. An evaluation of the cost-effectiveness of SINGER and its impact in different sectors should be carried out to sustain and increase external support for this activity.

5.2.5 Global Conservation Trust

Since 2000, IPGRI, as convening Centre of the SGRP, together with FAO, has led the development and launch of a campaign to raise resources that will address these concerns through a "Global Conservation Trust" (GCT). The idea of a Trust first arose from an external review of the CGIAR genebanks organized by the SGRP.

The GCT will be a mechanism for implementing some of the goals of the GPA and the ITPGRFA. Its mission would be to conserve key collections of PGR over the long term (both CGIAR collections and collections under national sovereignty) so that they remain freely available to improve crops for the benefit of all people. The Trust would do this by raising, in the first instance, an endowment of US\$ 260 million and using the income to finance plant collections that meet certain eligibility criteria and internationally agreed standards of management. The Trust would also support efforts to reach those standards. The creation of the Fund has been "universally" supported by the FAO Commission on PGRFA (October 2002). It will not be part of the CGIAR and will probably be set up as an independent entity.

The Panel believes that IPGRI's work for the GCT campaign has been highly appropriate and effective.

CHAPTER 6 - INSTITUTIONAL RELATIONSHIPS

6.1 Introduction

More than any other Centre within the CGIAR, IPGRI relies on partnerships and networks to carry out its research, capacity building and related activities. As a scientific research institute without laboratories or experimental fields, IPGRI has had 'by necessity' to work through partners using partners' facilities to achieve its goals. IPGRI has employed partnerships and networking as means of leveraging additional financial and other resources, thus multiplying the efficiency of investment of its own resources.

Networks are generally expected to deliver results more efficiently and effectively than any partner operating alone. However, working through networks also has drawbacks. Transaction costs can be high. Negotiated decision making takes more time and often results in compromise solutions. Coordination of international networks can be expensive and, after the project funding ceases, networks can be unsustainable.

A study conducted by IPGRI in 2002:¹⁴ analysed three well-established partnerships in its own portfolio COGENT; *in situ* conservation of agricultural biodiversity in Nepal; and traditional leafy vegetables in SSA. The results underscored three important lessons. First, very tight coordination on the part of IPGRI may not be sustainable or desirable in the long run. Second, partners must be carefully selected to ensure maximum benefits. And third, costs of partnership must be carefully weighed against benefits. Partnerships are worthwhile where they are likely to deliver desired outcomes cost effectively.

Nevertheless, partnerships conducted and managed through networks are often better able to achieve multiple goals simultaneously. If carefully planned with a view towards sustainability, they can serve as important conduits for long term, scaled up impact. IPGRI considers potential for sustainability, multiplier effect and excellence as a major part of their criteria for partner selection.

6.2 Partnerships and networks

IPGRI's key institutional partners continue to be NARS agricultural research institutes, genebanks and universities, international organizations, regional centres of excellence, PGR research organizations and networks, (formal and informal). To a more limited extent, IPGRI also has collaborative relations with NGOs, private companies and farming communities. In most cases, collaborations with these latter groups have been designed as part of multi-stakeholder implemented activities that often also involve NARS partners. Among IPGRI's projects, the *In situ* project has presented the most opportunities for this type of collaboration, which has slowly increased in recent years.

Around the time of the last EPMP, IPGRI had significant involvement in 11 regional networks and nine international commodity focused networks. IPGRI continues to be

¹⁴ Robinson, J. and Watts, J. 2002, Nature and effectiveness of partnerships across several IPGRI coordinated projects. IPGRI, Rome.

engaged with these. During the period under review, several new regional and sub-regional PGR networks and commodity specific networks have been created with varying degrees of IPGRI engagement. Consistent with the recommendations of the GPA, IPGRI has given priority to facilitating the establishment of new PGR networks in regions where they did not previously exist. Likewise, increased effort has gone into strengthening existing networks or integrating countries not presently served by them. These networks, particularly the newly established ones, will continue for some time to require technical assistance and capacity building support.

However, unlike in the past when IPGRI assumed direct responsibility for network coordination and management, e.g. in COGENT and even funding, IPGRI now mostly provides only technical backstopping support, e.g. in APFORGEN and EAPGREN. Primary responsibility for assisting these networks is increasingly being assumed by regional centres of excellence or leading network members. This strategy of mobilising strong partners to assist weaker partners not only reduces the demand on IPGRI, but also elevates the profile of local centres of excellence and promotes greater collaboration among partners in the region. Such an approach is expected to instil a greater sense of ownership, responsibility and participation in network activities among partners, which are of key importance to future network sustainability. Thus the Panel commends IPGRI for adopting this approach and strongly endorses its continuation. The Panel also recognizes IPGRI's remarkable contribution to the implementation of the GPA recommendation on PGR network strengthening during the period under evaluation.

6.3 Letters of Agreement

Letters of Agreement (LoA) are the principal legal instruments through which IPGRI engages other organizations or individuals for partnership in research and research related activities. Despite the contractual arrangements, the relationship of IPGRI with LoA partners typically goes beyond simple outsourcing or hiring external research capacity. Under these arrangements, partners make contributions based on their core competencies. In return, as well as from LoA funding, they receive capacity building support, access to data and information, and links to IPGRI's extensive network of local and global partners. Although LoAs do not encompass all of IPGRI's partnerships, they are a good indicator of the Institute's work programme and of the profile of its collaborators.

A consultant's evaluation¹⁵ conducted in 2003 on IPGRI's LoA profile reveals striking trends and implications for managing IPGRI's partnerships. Between 1996 and 2001, IPGRI issued 1,222 LoAs to 630 different partner institutions in 127 different countries around the world. Total funding made available through LoAs during the period amounted to US\$ 18.9 million, an average of more than US\$ 3.0 million per year. This corresponds to around 15% of IPGRI's total annual expenditure. The number of LoAs increased while the average amount per LoA decreased from an average value of US\$ 29,460 per LoA in 1996 to US\$ 15,478 in 2001 (Table 6.1).

¹⁵ Groenewold, J.P. 2003, Evaluation of the IPGRI Letters of Agreement Database for the years 1996-2001. IPGRI, Rome.

Table 6.1 - IPGRI LoAs resources by partner and period 1996-2001

Partner Category	1996 (US\$)	2001 (US\$)	Total funding for the period (US\$)	Average funding per (US\$)	Share of LoA funding	LoAs signed
CGIAR	512,597	67,670	2,053,838	26,331	11%	78
Individuals	212,959	23,137	641,715	6,054	3%	106
National research institutions	686,064	1,709,004	9,216,805	13,455	49%	685
Non-governmental organizations	280,300	315,989	1,166,429	15,763	6%	74
Private companies	61,146	15,576	322,637	11,950	2%	27
Regional networks or associations	104,800	84,664	417,981	11,297	2%	37
United Nations		1,010	268,510	89,503	1%	3
Universities or other educational institutions	1,353,288	456,867	4,799,878	23,076	25%	208

More than half of LoAs signed and about half of the funds expended during the review period were directed towards partnerships with national research institutions while universities and other educational institutions received 25% of the funds. Increasingly, LoA funding was also directed towards lower and lower-middle income countries with annual per capita GNP below US\$ 3125, and away from higher income countries which in the past received the major share of LoA contracts (Figure 6.1). LoA contracts to individuals dropped dramatically. The shift towards smaller contracts to lower income countries, usually with less developed capacity, demonstrates IPGRI's strategy of using LoAs as mechanisms for delivering funds and targeted assistance where they are most needed. However, this raises questions about quality of the research output and intensity of IPGRI staff time commitment to ensure that products from these collaborations meet quality standards.

The Panel fully appreciates this difficulty. More attention to selection of LoA partners based on a realistic assessment of their requirements and potential could facilitate closer matching of partner institutions with IPGRI's output expectations and capacity development objectives. Mobilising strong regional partners to provide technical support to needy countries, as already planned, could also mitigate this difficulty. Where resources allow, the Panel **suggests** that IPGRI also consider posting additional regional staff to more effectively fill gaps, help keep staff work load within reasonable bounds, and ensure that research quality standards are maintained (also see recommendation 9).

IPGRI's use of the LoA mechanism is also contributing to the production of outputs targeted by the CGIAR system. During the period under review, around 21% of LoA funding was used to enhance NARS capacity. However, the bulk of funding, almost 60%, supported germplasm collection and improvement, 15% was used for activities to promote sustainable production systems, and the rest was used for policy studies (Table 6.2).

The number of collected accessions and collection activities undertaken by IPGRI's national and regional partners is one indicator of the effectiveness of this approach. Data from IPGRI regional offices reported a total of 9962 accessions during the period from 1996 and 2002. About two thirds of these accessions, 6571, were from APO, of which 5067 were coconut samples. Through its regional offices, LoA contracts also supported courses, internships and individual training (see Section 5.1.4).

Figure 6.1 - Development of LoA funding by recipient countries' income groups

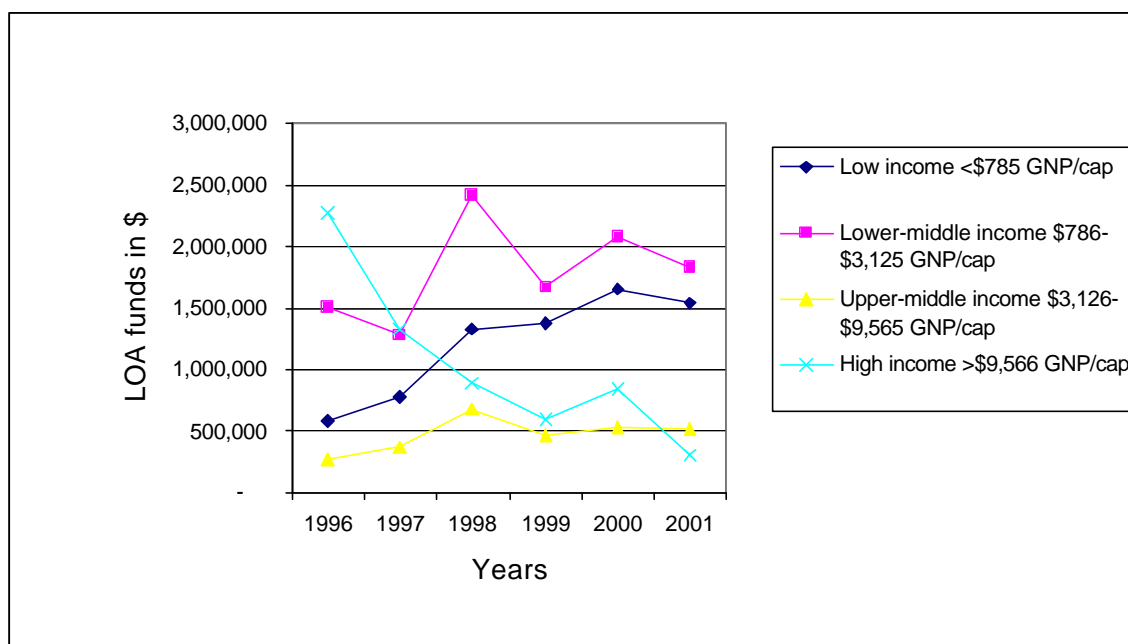


Table 6.2 - LoAs assessed by CGIAR output categories

Type of activity	LoA Funding (US\$)	CONTRIBUTION TO CGIAR OUTPUTS (US\$)				
		Germplasm improvement	Germplasm collection	Sustainable production	Policy	Enhancing NARS
Collecting	381,141		381,141			
Consultancy (*)	212,075					
Ex situ conservation	488,539		488,539			
Germplasm characterization and evaluation	2,897,934	2,897,934				
Germplasm health	1,309,060	1,309,060				
Germplasm utilization	2,733,588			2,733,588		
In situ conservation	4,616,909		4,616,909			
Policy and legislation	763,461				763,461	
Publications and public awareness	833,092					833,092
Purchase (*)	136,394					
Research, unspecified (*)	378,668					
Seed technology	633,638	633,638				
Software development, data management and dissemination	937,994	468,997				468,997
Training	1,312,413					1,312,413
Workshop/meeting	1,278,888					1,278,888
Totals	18,913,793	5,309,629	5,486,588	2,733,588	763,461	3,893,390
Contribution LoAs to CGIAR outputs		29%	30%	15%	4%	21%
Comparison with IPGRI Research Agenda, 1999-2001 averages (in million US\$)		3.1	8.1	2.8	2.9	6.6
Shares of CGIAR Outputs		13%	35%	12%	12%	28%

The Panel recognizes the significant outputs generated through IPGRI's collaboration with national and regional partners. The Panel endorses IPGRI's continued use of LoAs in the manner and direction already described. However, the Panel **strongly urges** IPGRI to guard against unproductive LoA partnerships and to take appropriate steps to ensure that the research and related outputs emanating from these partnerships are of sufficiently high quality.

6.4 Relations with institutional partners

6.4.1 Other CGIAR Centres

Apart from its leadership role in the SGRP (see Section 5.2.2), IPGRI has a wide range of collaborative arrangements with other CGIAR Centres. IPGRI staff is hosted by seven other Centres: ICRAF (SSA office in Nairobi); IITA (WCA office in Benin); ICARDA (CWANA office in Syria); CIAT (AMS office in Colombia); ICRISAT (APO office in New Delhi); ICARDA (CWANA office in Tashkent); and IRRI (INIBAP-AP office in Manila). IPGRI also shares staff with IITA and IFPRI. IPGRI has an Honorary Fellow at ILRI. In addition, IPGRI participates in several Systemwide initiatives coordinated by other Centres.

IPGRI has been formally collaborating with CIFOR and ICRAF on forest genetic resources since 1993. With recent programme restructuring and staff changes in these Centres, the terms of collaboration need to be reviewed (see Section 3.2 and Recommendation 3). The Rainforest Challenge Programme initiative and other nascent forestry focused programme developments within CGIAR provide fertile areas for further IPGRI collaboration with these Centres.

Collaboration with IFPRI, primarily through shared staff, has focused on economic and policy dimensions of *in situ* and *ex situ* PGR conservation. The relationship appears to be working although IPGRI could take greater advantage of IFPRI's recognized strength in socio-economic and policy analysis.

Relations with CIP, CIAT, ICRISAT, ICARDA and other Centres have been largely project or activity driven, or in the context of their common participation in crop specific networks. IPGRI has also worked in partnership with ISNAR on training and has been in consultation with ISNAR on impact assessment tools and methods. In recent years, IPGRI has been providing assistance on an *ad hoc* basis to other institutions in framing and designing impact assessment processes and instruments. IPGRI's budding expertise in this area is beginning to be recognized within the CGIAR.

Feedback from other Centres in response to a Panel survey for this EPMR indicates a high regard for IPGRI's contribution to the CGIAR system, especially its leadership role in the SGRP.

6.4.2 Food and Agriculture Organization

FAO has been, and continues to be, one of IPGRI's most important partners. Since 1990, IPGRI has collaborated with FAO on agricultural PGR under the terms of their MoU on Programme Cooperation and their joint programme on forestry. FAO is represented as a non-voting *ex officio* member on IPGRI's Board and Executive Committee (see Section 7.2). IPGRI-FAO joint activities have included research and training, co-sponsorship of meetings

and workshops, and preparation and dissemination of publications. The development, negotiation, and now the monitoring of implementation of the GPA have been the major focus of IPGRI-FAO collaboration over the past decade. Through a letter of agreement with FAO, IPGRI has developed and is currently pilot-testing the GPA National Information Sharing Mechanism in Kenya and Ghana. FAO and IPGRI have worked in partnership to establish the GCT and FAO has offered to temporarily host the Trust until it moves to its permanent location. (See Section 5.2.5.)

FAO views its relationship with IPGRI since the last EPMP to have been excellent. FAO is also of the view that its future collaboration with IPGRI should focus on monitoring the implementation of the GPA, and on assisting countries in the implementation of the provisions of the ITPGRFA and, during the interim period until its entry into force, on providing information that will facilitate rapid ratification. In addition, FAO expressed interest in possible collaboration with IPGRI on animal genetic resources. (See Chapter 11.)

6.4.3 Non-Governmental Organizations

Currently, IPGRI has limited formal collaborations with NGOs although IPGRI-NGO partnerships are gradually expanding especially on a few *in situ* activities. IPGRI is to be commended for having gained acceptance and credibility among some sections of the global NGO community through its balanced and skilful role in the Information Technology negotiations. However, IPGRI remains unknown throughout most of the sector. Partnership with carefully selected NGOs would greatly add value to IPGRI's work, especially in national projects that have very explicit development objectives (see Section 2.4). This would help IPGRI set reasonable bounds on its involvement in development activities, and therefore concentrate its energies on research, technical assistance and related activities that it is best configured and able to undertake. If IPGRI takes on work related to biosafety issues and genetic technology related risk assessment, it would be important also to have NGOs involved in this exercise. NGOs can provide alternative perspectives and add to the credibility of IPGRI's efforts in this area.

6.4.4 Private sector

IPGRI is slowly developing collaborative relations with the private sector, primarily with small entrepreneurs and private companies that cater to domestic markets. While private companies and entrepreneurs are seldom directly concerned with conservation, they are often important users of PGR. As IPGRI adopts a production to consumption commodity chain approach in its field projects, the participation and involvement of the private sector will be increasingly necessary. Much of the research and development on genetic modification of the major crops is done by the private sector, particularly the large companies. Hence, they are an important player in PGR research. Thus the Panel **suggests** that IPGRI continue to proactively engage with their target segments of the private sector where this is in keeping with its goals and ethical standards¹⁶.

6.4.5 Host country

IPGRI was established as a legal entity under international law in October 1991 and recognized as such by the host country, Italy, through the parliamentary ratification of IPGRI's Establishment and Headquarters Agreements in January 1994.

¹⁶ IPGRI's Statement of Ethical Principles, BOT 14 papers.

The Government continues to be very supportive of the Institute. Strong links have been established with many Italian institutions. In 1999, the Government provided special financial support towards the cost of moving IPGRI's Headquarters to Maccarese, near Rome, which were inaugurated by the President of the Republic of Italy. Strong and very productive links have been established with the Ministry of Foreign Affairs. Italy, as one of the world's leading countries when it comes to PGR, has increasingly recognized the crucial role IPGRI is playing in this area.

Recently, IPGRI submitted a request for an additional annual contribution towards the cost of operating IPGRI's Headquarters in Italy. The request is based on the fact that other international organizations with headquarters in Italy (such as FAO, WFP, IFAD and IDLO) have this provision built into their host country agreements. IPGRI's request is being given positive consideration at a very high level. However, the process of legalising such contribution is likely to be complex. If approved, it would be of enormous strategic importance to IPGRI.

6.5 Stakeholders' assessment of IPGRI's performance

As part of this EPMP, the Panel used a survey to get partners' and stakeholders' assessment of IPGRI's performance. The Panel received 103 responses out of over 500 questionnaires that were sent electronically to IPGRI's institutional partners and PGR contacts. Despite the relatively low response rate and the uneven responses across regions, the respondents represented a good approximation of IPGRI's partnership profile. Around 37% were from NARS and PGR networks, 22% from universities, 15% from genebanks, 12% from international organizations, 7% from governments, and 7% from NGOs. Although the results can only be interpreted with caution, they strongly suggest broad patterns that IPGRI would do well to follow up.

The survey consisted of four questions. The first question asked the respondent to assess IPGRI's global contribution through research, training, technical assistance, networking, policy and legislation and its other regular activities. The second question asked whether or not IPGRI meets expectations of the respondent's organization with respect to these activities. The third question asked the respondent to assess IPGRI's credibility and reputation among different stakeholder groups. And, the fourth question asked whether or not the respondent's organization has adequate opportunity to participate in setting IPGRI's research, training and outreach agenda.

Responses to the first question indicate a highly positive assessment of IPGRI's global contribution, (Table 6.3). Overall, assessment of IPGRI's contribution through its regular activities is seen to be significant or very significant. However, interestingly, respondents who have not collaborated with IPGRI, and hence have little first hand experience with the Institute, tended to have less favourable assessments. IPGRI's contributions in research, technical assistance, training, workshops and information provision were especially highly rated. IPGRI's contribution to policy and legislation, while also seen as very positive, was assessed to be relatively less significant. IPGRI's contribution was similarly very positively assessed in all regions, although less so in the Americas. NGOs gave the least positive assessment; where 40% assessed IPGRI's global contribution as not significant.

Table 6.3 – IPGRI Stakeholder Survey; Responses to Questions 1 and 2 by Region and by Stakeholder Group (%)

	Region					Stakeholder group					
	Americas	Africa	APO	CWANA	Europe	Gene banks	NARI	NGOs	Univ.	Int. Org.	Govrn.
Question 1: What is IPGRI's global contribution?											
Very significant	29.9	30.7	56.0	40.0	49.8	58.3	45.5	12.5	47.2	52.8	25.9
Significant	48.5	58.4	35.2	48.0	43.6	35.8	40.3	50.0	48.4	43.1	65.5
Not significant	21.6	10.9	8.8	12.0	6.6	5.8	14.2	37.5	4.4	4.2	8.6
Question 2: Does IPGRI meet your organization's expectations?											
Yes	61.0	81.6	72.4	77.2	79.6	84.6	71.4	63.0	77.6	94.0	47.8
No	39.0	18.4	27.6	22.8	20.4	15.4	28.6	37.0	22.4	6.0	58.2

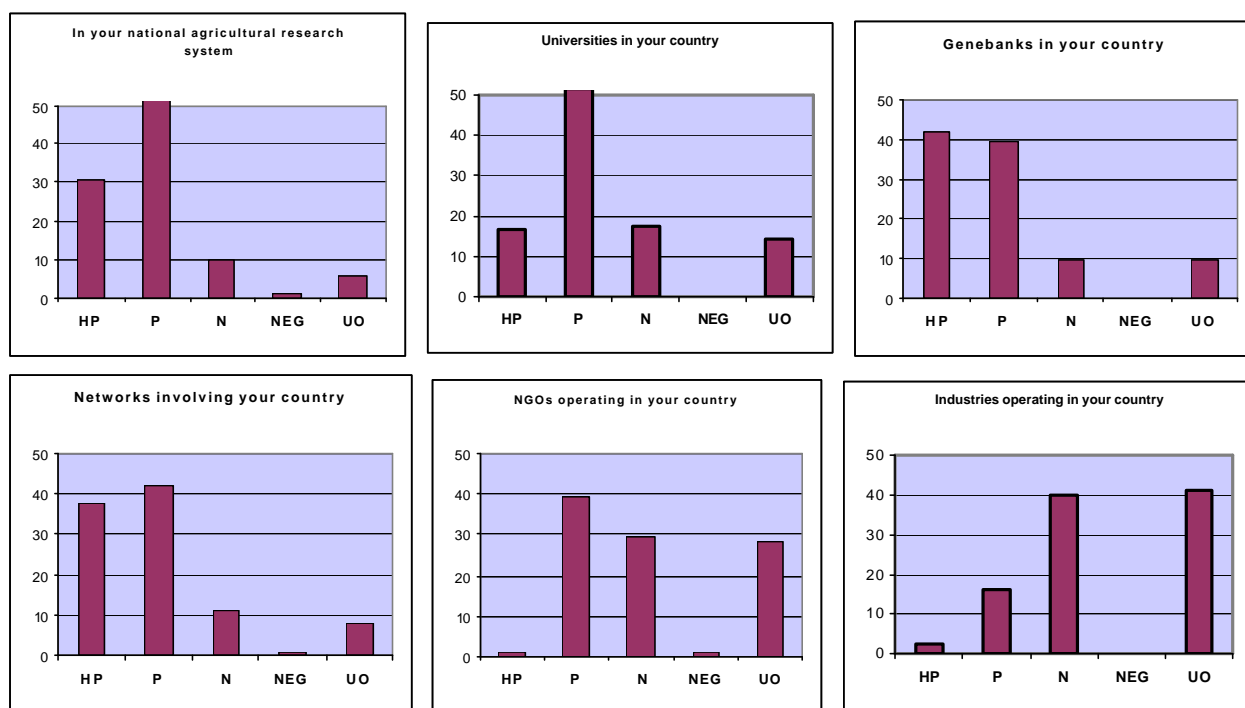
Based on responses to the second question, IPGRI appears to meet expectations, particularly those of its main partners. However, governments and partners in the Americas appear less satisfied. Responses suggest that this may be due in part, to unmet expectations regarding funding. Responses from NARS also indicated some unmet expectations with respect to research and technical assistance.

Responses to the third question strongly indicate that IPGRI has credibility and enjoys a positive, or non-negative reputation among most stakeholder groups (Figure 6.2). Not surprisingly, IPGRI seems to be relatively unknown among the private industrial sector and, to some extent, among NGOs. Thus, the Panel **suggests** that IPGRI's public awareness efforts try especially to reach NGOs and the private sector, as discussed above.

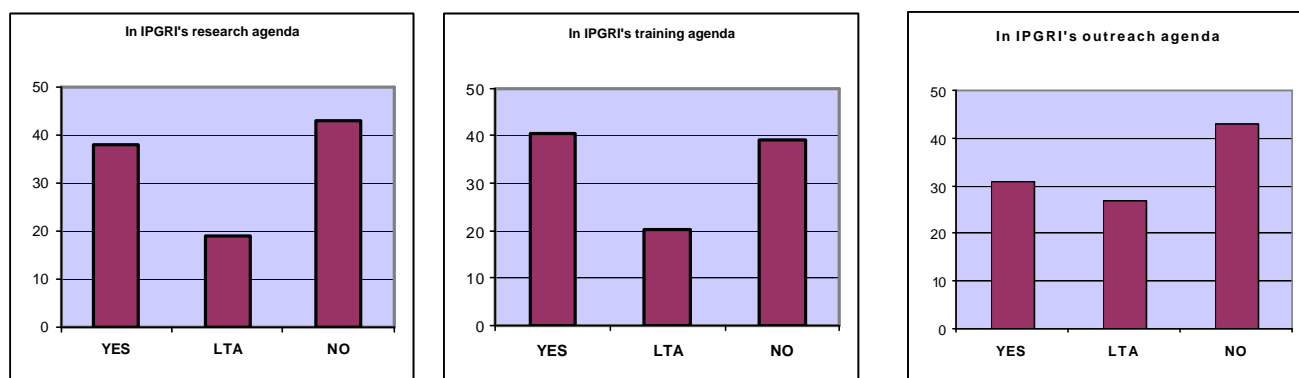
Responses to the fourth question are disappointing. Sixty percent or more of the respondents indicated that they had less than adequate or no opportunity to participate in IPGRI's agenda in research, training and outreach. The Panel **strongly suggests** that IPGRI follow up these responses, particularly from NARS, who should have the opportunity through their involvement in regional networks. IPGRI relies principally on partnership and collaboration as its *modus operandi*. It is possible that the avenues for greater participation by partners need to be provided or strengthened.

Panel believes that IPGRI needs to review its planning and priority setting practice and mechanisms to facilitate greater participation by partners and stakeholders in setting the agenda for its research, training and outreach.

Figure 6.2 - IPGRI Stakeholder survey responses

Question 3: What is IPGRI's credibility and reputation?

HP = Highly positive; P = Positive; N = Neutral; NEG = Negative; UO = Unheard of

Question 4: Does your organization have adequate opportunity to participate in setting priorities?

LTA = Less than adequate

6.6 Summary

In summary, the Panel commends IPGRI for its performance and contributions that its partners and stakeholders evidently regard very highly. That IPGRI has managed to build its credibility and to maintain a positive, or at least non-negative, reputation in an increasingly contested area of work is also quite remarkable. However, IPGRI needs to increase its engagement with NGOs and the private sector. Where appropriate and consistent with the Institute's ethical principles, IPGRI could also benefit from greater links with the private sector.

CHAPTER 7 – GOVERNANCE AND THE BOARD OF TRUSTEES

7.1 Introduction

The Panel reviewed the organization and functioning of the Board of Trustees. Particular attention was paid to its role in fulfilling its governance obligations with respect to i) its interaction with management; ii) its internal management and selection procedures; iii) in particular its oversight of the financial and scientific management at IPGRI; and iv) the use of CCERs as a management tool and external review procedure.

7.2 Organization

The Board consists of 15 members who meet twice a year, once in Rome and once at a Regional Office. The Board membership since the last EP MR is shown in Table 7.1., excluding the DG who is an *ex officio* but voting member. About one third are female, including the Chair, who is Thai. There is a wide and valuable selection of professions, disciplines and nationalities represented.

The Board has four permanent Task Groups, the principal ones being those that cover Financial Issues (FITG), Programme Oversight (POTG), and Nominations (NTG), which meet when the Board meets. There is an Executive Committee of the Board that is comprised of the Chair, the DG, the FAO appointee, and the leaders of the Task Groups on Financial Issues and Programme Oversight. This is convened by electronic means and meets face to face at the time of Board meetings. *Ad hoc* Task Groups are set up to deal with particular issues as and when they arise, for example a Search Task Group for a new DG was constituted. A Board Policies and Procedures Manual sets out the *modus operandi* which is largely adhered to. New Board members are given an orientation at a Board meeting where they attend as observers prior to the first meeting they attend as a voting member.

7.2.1 Functioning

Two members of the Panel attended a Board meeting and formed the opinion that it operates in an open and participatory manner. Membership of the Task Groups is decided prior to each Board meeting by the Board Chair in consultation with the DG, and members are revolved in order that all rotate between the Task Groups during their service on the Board. It is stipulated in the Board Manual that Task Group Leaders rotate each year but, in practice, there has been an attempt to retain the Leader of the FITG for longer. An analysis of the membership of the three important Task Groups since the last EP MR, tabulated in Table 7.2, shows that in the case of both the FITG and NTG there has been at least one member who has chaired the group for a considerable number of meetings. In the case of the FITG the same board member chaired seven consecutive meetings and while it assures continuity and familiarity with the issues and personalities if the Leader continues for more than one year an appropriate term is probably three years for the Leader of the FITG.

Table 7.1 - Composition of IPGRI's Board of Trustees

Name	Country	Speciality	Gender	'97	'98	'99	'00	'01	'02	'03
C. Cano	Colombia	Finance	M						X	X
G.Castillo	Philippines	Social Sciences	F	X	X					
W. Collins*	USA	Plant Breeding	F	X						
T. Cottier	Switzerland	Law	M		X	X	X	X	X	X
N. Demir	Turkey	Agr. Economics	M	X						
A. Gregson	Australia	Chemistry/Farmer	M							X
M. Hazelman	Samoa	Adult Education	M	X	X	X	X	X		
L.B. Holm-Nielsen	Denmark	Botany	M	X						
M. Lefort	France	Genetics	F				X	X	X	X
O. Linares	USA/Panama	Anthropology	F							X
M. de Miranda Santos**	Brazil	Genetics	M	X	X	X	X	X	X	
L. Monti	Italy	Plant Breeding	M	X	X	X	X	X	X	X
S. Miyazaki	Japan	Genebank Management	M						X	X
M. Nakagahra	Japan	Plant Genetics	M	X	X	X	X	X	X	
G. Namkoong	USA	Forestry	M	X	X	X	X	X	X	
I. Nielsen	Denmark	Botany	M	X	X	X	X	X	X	X
J. Noolan	Australian	Management	F	X	X					
M. de Nuce de Lamothe	France	Agronomy	M	X	X	X	X			
N. Pombo de Junguito	Colombia	Finance	F	X	X	X	X	X	X	
R. Salazar	Philippines	Sociology	M			X	X	X	X	X
T. Sengooba	Uganda	Pathology	F	X	X	X	X	X	X	X
B. Shinawatra***	Thailand	Agricultural Economics	F		X	X	X	X	X	X
S. Smith	U.K.	Plant Genetics	M							X
F. Wambugu	Kenya	Biotechnology	F				X	X	X	X
M. Worede	Ethiopia	Plant Breeding	M	X	X					
M.S. Zehni	Libya	Plant Physiology	M	X						
M. Duwayri	Jordan	Plant Breeding	M		X	X	X			
M. Solh	Lebanon	Genetics/Plant Breeding	M					X	X	X
Number of Board Members			M and F		16	16	16	14	15	14
Number of Board Members			F		5	3	5	5	5	5

*/**/*** indicates Board Chair

The FITG is charged with maintaining close contact with the Director of Finance and Administration; meeting with the external auditors to review the annual accounts and plans for forthcoming audits; and reviewing the internal audit reports at each Board meeting. The POTG is charged with oversight of the Centre's programme activities and for providing appropriate policies for the development of the programme, and for communicating with the DDGP on this issue.

Table 7.2 – Membership of Board Task Groups (March '98 to March '03)

Description	Finance	Programme	Nomination
Av. number of meetings chaired by same person	2.2	1.8	2.5
Most meetings chaired by same person	7	3	5
Av. Number of members	3	5	3.5
No. of Task Group Chairs during period	5	6	3
No. of Task Group Chairs with prior experience	2	2	2

Board members give the Centre, on average, about 12 days a year. This does not include travel time but does include the time of the Chair who also attends the CGIAR AGM and the CBC meeting.

7.2.2 Relationship with Management

The Chair sets the style of a Board's interaction with senior management. At IPGRI it is open and supportive. The DG, the Assistant DG who functions as Board secretary, and other senior staff members all appear to interact easily with Board members. CCERs are used as a routine management review tool so Board members interact with thematic and regional staff at CCER Board presentations. About half of the Board at any time participate in field trips arranged at the time of Board Meetings. However, while interaction between the five most senior of the Institute's staff and the Board is good, it is disappointing that other senior staff appears unaware of the depth of experience and expertise in the Board and therefore do not avail themselves of this source of advice more.

There is no formal framework for contact between the Board Chair and the DG during periods between the two Board meetings, though the present incumbents are in continual electronic contact. They normally meet during the year at the CGIAR AGM and at the two IPGRI Board meetings. Furthermore there is no Board approved authority on spending limits or written agreement on matters that require prior discussion or approval with the Chair and Board. The Panel noted, for example, that the recent decision to lend a sister CGIAR Centre US\$ 1 million was taken by the DG in consultation with the MEC, and on a non-objection basis, with less than a week's notice being given, by the Chair and Leader of the FITG. The Panel believes that norms of good practice require that the relationship between the Board and management be more formally structured and that the Board, and in particular the Chair, have the means to perform their oversight role in an independent and focused manner. For example, the Chair should have and be seen to have the ability to investigate at any time the Board's concerns without recourse to Management, which might even include hiring experts to advise the Board on a particular issue where there is a disagreement with Management. A number of changes would assist in this process, including regular interactions between the Chair and the DG; sharing the deliberations of the MEC with the Chair; making clear the issues and expenditure levels on which management has to inform and seek approval from the Board; and, providing the Chair with a discretionary budget.

7.2.3 Effectiveness

At the time of its meetings the Board fulfils its functions effectively and with due regard to governance issues. The large majority of Board members are in full employment, including one being a Cabinet Minister, and they give enough of their time to ensure the effectiveness of the Board at Board meetings. However they operate very much on a reactive rather than proactive basis. This is particularly so of the Task Group Leaders for Financial Issues and Programme Oversight. Board members do play some part in assisting in fund raising from their home governments and, on occasion, interact professionally on joint projects. But by and large and compared to international NGOs outside of the CGIAR, the DG and the senior management manage the Institute with relatively little oversight by the Board of Trustees outside of the semi-annual Board meetings.

The Board's own self evaluation for the last five meetings ranked the lack of financial expertise on the Board consistently as the lowest score out its ten evaluation criteria. This is not surprising as during the last seven years there have only been three Board members with a financial background. At a time when the budget of IPGRI is growing very quickly and when more emphasis is being placed on policy work and the function of *in situ* conservation and conservation through use, the Board should ensure that two of the next three members have a financial background and one a development economics background. This will enlarge the number of Board members who potentially could lead the FITG. The Panel **suggests** that the universe from which Board members are selected is widened to include more of the private sector.

7.3 Selection procedures and performance

The Nominations Task Group accepts recommendations from all parties and, at the present time, has a list of some 20 candidates. It is not clear, however, how proactive the NTG and the Chair are in identifying and encouraging candidates with the appropriate background to submit their résumés. The staff is encouraged to put names forward.

The selection of the present Chair was by caucus rather than by open selection. Nevertheless each member of the Board expressed satisfaction with the outcome and the present Chair, who was a member of the Board and had served on two of the Task Groups including chairing the POTG for a year, has proved very competent and committed. Most importantly she has overseen a transparent and efficient selection process for the new DG, the first to be hired since the creation of IPGRI.

Nevertheless the rules regarding the composition of a quorum need to be reviewed and, in particular, the voting rights of the DG. It is theoretically possible in the present situation that the incumbent DG could have a deciding vote on the choice of their successor.

7.4 Cost effectiveness

The direct costs of operating the Board, out of unrestricted funding, were about US \$170,000 in 2002 and are budgeted at US\$ 250,000 in 2003, which includes the cost of the selection process of the new DG. In a normal year this is about one half of one per cent of the total budget and, while reasonable, this should be seen in context. The total of the discretionary budgets of all Group Directors is of the same order. This is therefore a considerable expense and use of unrestricted funding. It is therefore very important to make effective use of the Board. At the present time there is little ongoing interaction between

professional staff and Board members – who barring the FAO appointee sit in their personal professional capacity – except at the time of Board meetings and associated field visits. Nevertheless it is important to emphasise here that the Panel is not proposing that the Board concern itself with the day-to-day management of the Institute. What is being proposed is a sufficiently great degree of engagement to ensure that IPGRI gets full value from the Board and that it fulfils its oversight responsibilities for an increasingly complex and decentralized Institute.

7.4.1 Meeting schedule

The meeting schedule is set well in advance and Board meetings are well attended. In addition all Board members, except two (one because of sickness and the other because of Cabinet duties), attended the weeklong interview and selection process in January 2003 for the new DG. However all Board members professed to a very busy schedule, most being in full time employment, and therefore unable to commit more than two to three weeks a year to IPGRI. There are at least two members who never go on field trips and therefore miss learning more about some of the practical issues faced by IPGRI, as well as forgoing the bonding exercise with colleagues and staff. The former is a particularly important learning experience because IPGRI is committing substantial resources to understanding the role diversity plays at the farm level in setting its research agenda.

7.5 Governance issues

There is a clear and appropriate set of procedures and policies set out for the Board in a manual dated August 1998. This followed a review by the Board of its own policies, and the Manual was further updated in 2000. The rules are followed to a reasonable and practical degree. Although the annual rotation of the Leader of each of the Task Groups is recommended, that of the FITG, in practice, is not. Given the few members with financial expertise (see Table 7.1) this is sensible.

The FITG meets with the external auditors without staff present and reviews the reports of the internal auditor. This is good practice. In addition, because the Board operates in an open manner and because members rotate between the three key Task Groups, the Panel believes that the oversight function of the Board is carried out well and transparently, and that it fulfils its governance role credibly.

However it is not clear that the POTG is sufficiently conversant with the Centre's scientific programme. Although the Leader is on the Executive Committee (EXCO) and therefore approves the annual Budget, the Leader does not attend the weeklong project review process in November and therefore has little opportunity to question the details of the programme in general and individual activities. For example, while the POTG has addressed the issue of development projects in general, it has not reviewed the specifics of the Bolivian project and its associated risks (see Section 8.2.2). Part of the problem is that the leader rotates too often.

7.5.1 Financial oversight

The Financial Issues Task Group is charged with interacting on a continual basis with the Finance Department. In practice there has only been interaction at the semi-annual Board meeting. This is not sufficient. The traditional role of the head of a commercial Board's audit committee involves a continual though not intensive interaction. In a situation when

IPGRI's budget is expanding fast; where the balance between unrestricted and restricted funding is changing; and the general environment of funding bodies is deteriorating, there should be more regular contact between the Leader and the DFA to ensure the oversight of the FITG. There has recently been change in the leadership of FITG and it is understood that the new Leader envisages such a relationship.

7.5.2 Use of CCERs

CCERs are used by IPGRI management as a routine external evaluation tool. Senior management and the Board aim to evaluate all aspects of IPGRI's work through a CCER at least once every five years. The details of the schedule are based on IPGRI's capacity to manage and pay for one or two a year. Apart from this regular process, if there is a particular concern on past performance or the future of a programme or, higher order strategic issues that might, for example, engage an EPMP, the Board may initiate additional reviews or request management to prepare discussion papers. Examples are 'People, plants and DNA' and 'Resource mobilization'. This instrument might be used more frequently.

7.6 Recommendation

10. The Panel recommends that a more formal relationship between the Board and the Institute's management is required to ensure that the Board's governance role as overseer is effectively exercised. To this end there should be:

- (a) a regular monthly interaction between the Chair and the DG;**
- (b) the agenda and minutes of the MEC made available to the Chair on a timely basis;**
- (c) Board approval of a schedule of issues and expenditure levels on which management has to inform and seek approval from the Board;**
- (d) a discretionary annual imprest account of, say, US\$ 50,000 for the Chair;**
- (e) an Executive Committee-MEC conference call at least once between scheduled Board meetings;**
- (f) an invitation to the Leader of POTG to the November project review meeting;**
- (g) more regular interaction between the Leader of the FITG and the DFA;**
- (h) a strengthening of the financial and economic oversight by the Board through appropriate selection of the next three Board members; and**
- (i) a review of the Board procedures, particularly as they relate to the composition of Board quorums and the voting rights of the DG.**

CHAPTER 8 - PROGRAMME ORGANIZATION AND MANAGEMENT

8.1 Introduction

IPGRI's organizational structure is reviewed in this chapter, bearing in mind IPGRI's orientation to networking and the considerable geographic dispersal of its activities and offices. It is the only CGIAR Centre with a direct interest in Western and Eastern Europe.

The budget and staff complement have increased substantially since the 4th EPMR. The organization of IPGRI has not changed markedly which is unsurprising as the DG has remained in post. The most significant change is that the Regional Directors of the PGRP and the coordinator of the SGRP report directly to the DG, while being co-supervised by the DDGP. The Directors of DIT and GRST continue to report directly to the DDGP.

8.2 Senior Management

IPGRI is organized into three programme groups, which are supported by the Finance, Human Resources and Administration Department as shown in the Organogram in Figure 8.1.

The DG is both head of the Institute and leads the SGRP. At the same time he has two other key responsibilities. He leads the GCT initiative and is Secretary of the CGIAR Genetic Resources Policy Committee. The Deputy Director General Programmes, the Assistant Director General, the Director of INIBAP and the Director of Finance and Administration all have the similar seniority and make up the most senior internal committee, the Management Executive Committee (MEC). MEC is formally the executive branch of the Management Committee (MC) and is charged with the responsibility of overseeing the management of the Institute.

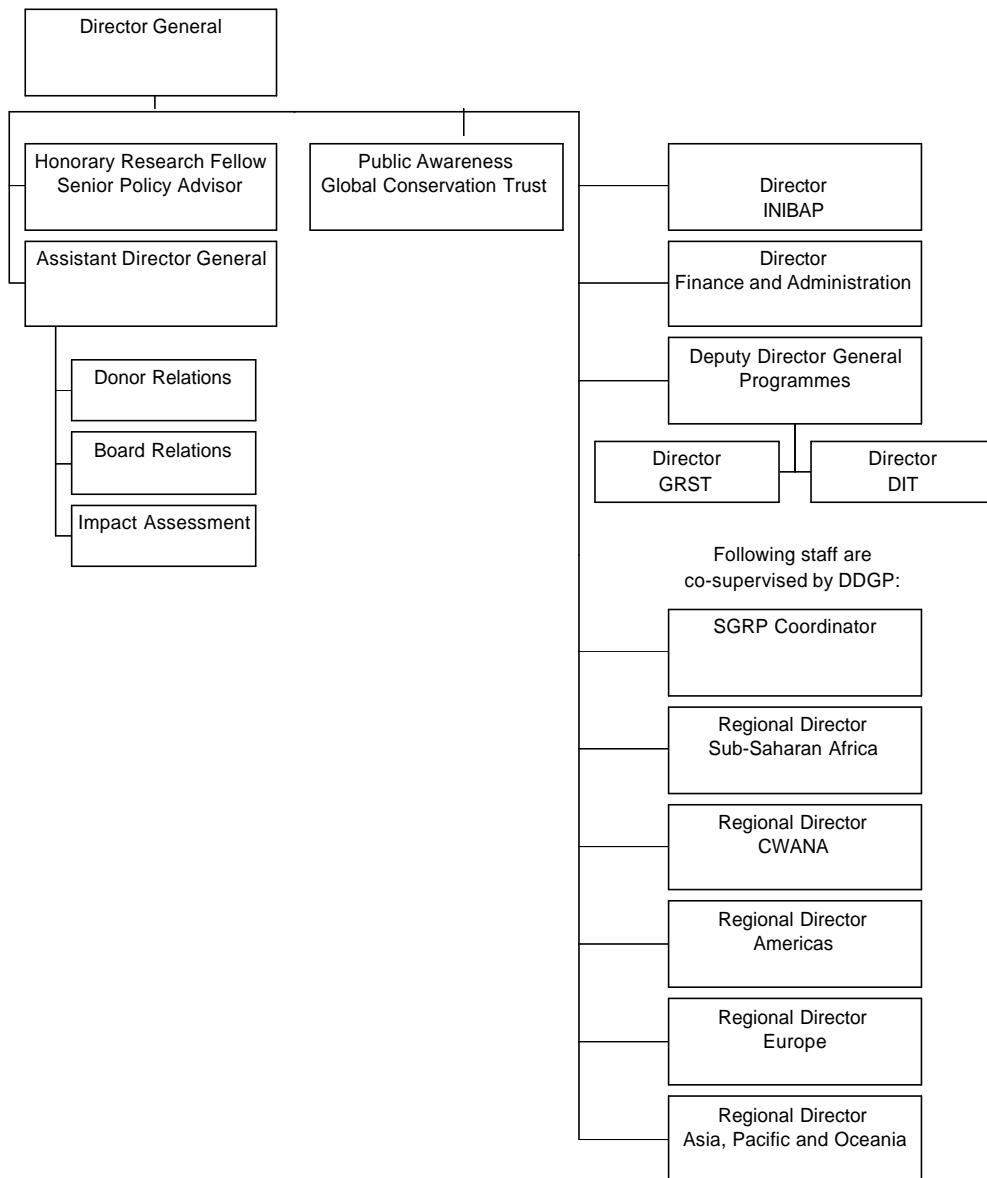
The DDGP has line responsibility for the quality of science in the Institute and for programme oversight, has specific responsibility for managing the PGRP, and chairs the Programme Planning and Review Committee (PPRC). She is also an important resource person in the external communications activities of IPGRI, for example, by playing an important and visible part in the World Summit on Sustainable Development in 2002.

The ADG has line responsibility for Board relations, impact assessment studies, and donor relations. The latter involves monitoring project reports by staff to donors, identifying new donors, and assistance with preparation of new project proposals. This has become a considerable task as the number of individual projects is now over 250 and the number of donors over 150.

The Director of INIBAP operates from Montpellier where he is responsible for both the day-to-day operations of the global *Musa* Programme and the project preparation and fund raising activities specifically relating to INIBAP. As a member of MEC he is also accountable for the overall management of IPGRI.

The DFA operates from Rome and has line responsibility for finance, human resources, information technology, and office administration. The regional administrators and the financial manager of INIBAP in Montpellier report to him on functional issues, and through their principle reporting line to their respective Regional Director and the Director of INIBAP.

Figure 8.1 - IPGRI Organogram



The Regional Directors of PGRP are responsible for the operations of the regional offices of PGRP. They are not responsible for the INIBAP offices in their regions, which report directly to the Director of INIBAP. There are two Thematic Group Directors, for GRST and DIT. They exercise responsibility for overseeing the quality of the programme in

their areas of expertise that, in the case of the Director of GRST, includes line responsibility for policy research and related research at the Institute.

8.2.2 Functioning

There are three internal standing committees. The MEC meets on average once a month on an irregular schedule. Last year MEC met twelve times and the Director of INIBAP attended only four times, once by phone. The MC and the PPRC meet regularly respectively twice and once a year. The MC, which is chaired by the DG, is responsible for developing and overseeing the implementation of institutional strategies, mechanisms, frameworks and processes required for the effective functioning of IPGRI as a publicly funded science based organization. The members of MC are the Regional and Thematic Directors, the SGRP coordinator and members of MEC. The PPRC is the driving force in the detailed planning and monitoring of projects. The PPRC meets once a year, in November, to review Project proposals, annual budgets and work plans of Projects, and Project reports. It also discusses key programme related policies and strategies and makes recommendations to the MC on resource allocation for programme activities and other management issues relevant to the conducting of an effective scientific programme. Members of the PPRC are the DDGP, the Thematic Directors, the Project Coordinators, the Director of INIBAP, and the coordinator of SGRP - some 24 in all.

The programme of the Institute is organized into 20 multidisciplinary projects. Their objectives reflect the mandate of the Institute. Each project is composed of a number of separate activities, which together, under the project coordinator, produce the output from that project which goes towards fulfilling the Institute's mandate. It is expected that most new initiatives would be a component part of an existing project, and thus in IPGRI terminology, constitute a new Activity. New activities can be proposed by any staff member, and with the approval of the relevant Project Coordinator and the relevant Thematic and/or Regional Director, may be submitted to the DDGP or Director of INIBAP for approval, if funding has been identified. The modified Project workplan will be submitted to the following PPRC for endorsement. The DDGP operates a discretionary fund from which such activities can be funded. If restricted funds are required the ADG is involved. Ideas for a new institutional Project, on the other hand, would be brought as a first step to the PPRC, and if approved will be formulated by a task force appointed by DDGP. The formulated proposal has to be approved by PPRC, in which case a detailed work plan and budget and suggested project staffing submitted to the DG for approval, in consultation with MEC.

An Innovation Fund was set up in 2001 to stimulate new ideas. The staff is invited to submit ideas to a panel headed by the DDGP, which includes a Board member. Those selected are awarded US\$ 25,000, if necessary, to hire outside consultants to work up a proposal for further work. These are considered by the PPRC and MC. The staff is encouraged to think 'outside the box' and a range of ideas have been put forward ranging from prospects for ecotourism in *in situ* conservation, to IPGRI's relationship with the UN's International Year of Mountain. In the first year four awards were made, but due to restricted funding only two awards were made in 2002. The Panel was impressed with this innovative effort to stimulate debate and ideas at all levels in IPGRI.

In sum, at the present time no committee is formally charged with the mandatory approval of new projects and activities. Activities can, in themselves, be of a significant size. The present formal approval process does not require the largest single Activity being undertaken by the Institute, namely the 'Rehabilitation and modernization of the Alto Beni

organic banana production for export market' project in Bolivia, with a budget of nearly one million dollars in 2002, to be approved by MEC. In practice it was. But the Panel believes that the present system is too discretionary and not sufficiently transparent. It is not structured in a manner that is designed to ensure a necessarily cost effective use of resources or lead to a consistent and coordinated focus of IPGRI's scientific programme. In addition, because of the lack of a transparent 'paper trail' the present system can engender confusion with scientific staff and this effectively reduces the clarity of the Institute's programme.

8.2.2.1 Internal communications

With the growth of staff and improvements in communication systems a number of improvements have been effected to internal communications since the last EPMR. These include the recent installation of a comprehensive and institutional archive for managing documents. In addition IPGRI coordinates, with other CGIAR Centres, standards for information technology, in particular regarding email infrastructure and desktop software. IPGRI uses Microsoft for email, databases and document management, as well as Web Publishing. The Integrated Voice Data Network (IVDN) is being moved to "voice over ip" and multi-site videoconferencing capacity has been installed at Maccaresse. APO and INIBAP are already connected and the AMS, SSA and CWANA will be linked by mid-2003.

The '360 Degree' Evaluation, referred to below, suggests that the amount of communication, in particular the amount of general internal email traffic, has got out of hand. The MEC has now asked staff to evaluate the situation and make recommendations for change. The Panel agrees with this analysis and supports these initiatives.

A wide range of institutional databases have been developed in the Finance and Administration area and, with the exception of the accounting management system Platinum, these have been developed in-house. These databases remain unconnected but there are clearly opportunities to link these tools.

8.2.3 Effectiveness

It is generally felt at senior staff level that IPGRI has now grown too large to maintain the easy going atmosphere and informal communication system that sufficed at the time of the last EPMR. It is no longer possible to involve all staff in general decision making or keep them up to speed on all issues. For this reason a '360 Degree' Evaluation of Senior Management was commissioned by MEC and undertaken by an outside consultant in October 2002. The Panel commends MEC for this initiative and for the open manner in which it has communicated with staff following the evaluation. The overall sense of the evaluation is that staff has difficulty coming to terms with the increasing complexity of the Institute. This refers both to the size of the organization and the multiplicity of its tasks. The main recommendation emanating from this important exercise was the need to tighten the functioning of the MEC to improve its efficiency and effectiveness, principally by meeting more often and allocating more time to face-to-face meetings. Furthermore it is important that MEC spend more time on strategic issues, and less on routine housekeeping issues. It has also been decided to invite other relevant staff to join MEC on an *ad hoc* basis to help in some its deliberations. In order to improve efficiency the agenda will be circulated beforehand and the minutes posted on Sharepoint for all staff. In responding to the Evaluation MEC also pointed out the need to review and revise IPGRI's overall strategy document. The new DG has told the Panel he will lead this task. The Panel believes that it is important that the PPRC plays its designated role in this process.

It appears that staff has difficulty understanding the interaction of the regional and thematic groups and in particular the roles and responsibilities of the Directors of these groups as they relate to Project Coordinators and Activity Managers. The Panel believes that this reflects the fact that too many staff have dual reporting lines and that the line responsibilities of the DDGP should be clarified. The Panel also believes that there should be fewer staff reporting directly to the DG.

8.2.3.1 Resource mobilization

As IPGRI's international profile has grown and the issues with which it is engaged have become of greater concern globally, the universe of potential donors has increased considerably, and the international financial situation has become more difficult. There are now more than 250 individually funded components of the 20 Projects and over 150 donors (compared to some 70 components and some 80 donors in 1997). In addition the budget has grown from about US\$ 19 million at the time of the last EPMP to about US\$ 30 million in 2003 and the proportion of unrestricted funding has fallen from 64% to 35%. As a result the function of ensuring the successful financing of IPGRI and the husbanding of existing donors has become onerous. For example nearly 200 visits to donors and potential donors were made by management and staff in 2002 and over 80 reports were submitted to donors. The ADG has three major responsibilities and as a result there is no single senior staff member in the Institute fully committed to the function of fund raising, donor relations, and coordinating and supporting senior scientists in their interactions with donors.

8.2.3.2 Public relations

IPGRI is concerned with issues that are not only of interest to the scientific community, but to the development community as a whole, and those of the general public interested in issues relating to sustainable management of the planet, small farmers rights, and ecology. As a result it is important that IPGRI continue to position itself appropriately in the international debate, for example regarding genetic modification of organisms. This is both important for its intellectual standing, for the well being of its staff, and also for its reputation with donors and potential donors.

The public profile of IPGRI is also an important component part of the function of successful fund raising, especially where an effort is being made to tap new sources of funding, principally from non-government and non-traditional sources. The Institute has a fund raising strategy, first approved by the Board in 2001. This is regularly revised, in particular to take account of the changing external donor environment and possible new sources of finance. Part of that strategy incorporates a supportive public relations exercise. In this context it is necessary to formulate a detailed action plan to raise the public profile of IPGRI appropriately. The work of the consultants fund raising for the GCT (see Section 8.4) should provide useful lessons and pointers. At the present time IPGRI's public awareness scientist has been seconded to the GCT.

8.4 Governance of the Global Conservation Trust

A Task Force, of which the DG was Chair and which included a representative of Future Harvest, was set up in 2000 which, working with FAO, contracted with consultants to ascertain the feasibility of funding the GCT. A business plan was produced in June 2001 and funds were made available to start work on the first phase of fund raising. Costs, including IPGRI senior staff time and management costs from June 2001 to June 2002 were some US\$

1.2 million and these were fully covered by contributions from a number of donors including the World Bank, CGIAR Centres, Brazil, Colombia, Switzerland and USAID. An Interim Panel of Eminent Experts is being recruited; legal structures investigated; presentations made at such venues as WSSD; and a budget has been produced to fund the initiative as from October 2002 through 2005, running at approximately US\$ 1.5 million a year. Bids by countries to host the GCT will be called by the end of this year and a search for the Executive Director put in place. The Executive Board should hold its first meeting in June 2004.

Preliminary work on the GCT, discussed in section 5.2.5, was undertaken under the SGRP at IPGRI. The DG has been intimately involved and has been named Interim Secretary, a position he will take up when he retires from IPGRI. He will operate out of FAO Headquarters but in close collaboration with IPGRI. IPGRI, together with FAO, will jointly administer the funding until GCT is legally constituted. Costs for the second phase, from mid 2003 to end 2004, are estimated at US\$ 1.8 million and pledges of US\$ 1.6 million have already been received from, amongst others, Colombia, Egypt, the UN Foundation, and USAID. IPGRI charges the direct costs of contributions, including staff time, and overall is achieving a fully satisfactory overhead on donors' contributions, in accordance with its new rules. One member of IPGRI's staff has already been seconded to this initiative on public awareness.

8.5 Recommendations

11. The Panel recommends that a more formal and transparent planning and decision making process is required with respect to the Institute's scientific programme, whereby:

(a) an appropriate ToR for MEC should be agreed with the Board, which would include the requirement that all new projects and activities are approved by the full MEC before they are submitted to donors;

(b) MEC meet regularly once a month, and the agenda and minutes are available on the intranet to all staff in a timely manner;

(c) Regional Directors report directly to the DDGP; and

(d) all activities with an annual budget of over US\$ 500,000, and activities where IPGRI is assuming non-traditional risks, are brought to the attention of the Executive Committee of the Board.

12. The Panel recommends that, to serve the requirements of an organization of IPGRI's complexity, a key senior individual be exclusively dedicated to fund raising, working to the Board approved fund raising strategy incorporating an appropriate PR function.

CHAPTER 9 - RESOURCE MANAGEMENT

9.1 Human Resource Management

The Panel reviewed the management of the staff at IPGRI. This is a complicated function that involves staff in 28 countries. These work on international and local contracts, both on IPGRI terms and conditions, and on those of INIBAP, and various hosting institutions, some of which are CGIAR Centres and some, like IICA in Costa Rica, are regional international bodies. The reason for this is the mix of legal frameworks and agreements under which IPGRI is permitted to operate in different localities. As a result the tax and diplomatic status of staff is location specific.

9.1.1 Staffing profile

IPGRI's present staff distribution is shown in Table 9.1. Staff numbers have grown from 150 regular staff in 1997 to 220 in 2003. This includes internationally recruited staff (IRS), locally recruited professional staff, and support staff. In addition IPGRI has made imaginative use of short term and part time hires, using interns, temporary, consultancy and Honorary Fellowship positions, and has an additional 50 in these categories, bringing the total to about 270 staff world wide. Of these 45 are IRS and 12 are Honorary Fellows. Turnover is low, running at an average of about 10% per annum, and has recently fallen to as low as 4%. Fifty two per cent of regular staff is female, one third of IRS. Two thirds of regular staff is outside Rome. There is a large diversity of staff in terms of nationality, gender, and age though, as the Board and MEC noted at the last Board meeting, top management would benefit from greater diversity of nationality in Rome, and the Institute would benefit from a better gender balance in the regions.

9.1.2 Human Resources Management processes

A head of Human Resources was appointed for the first time in 1997. At the same time there was a major revision in HR policies. There are comprehensive and clearly presented Policy and Human Resources Manuals, which are regularly updated. They cover staff development issues, performance appraisal, recruitment and selection, codes of behaviour, duties and responsibilities, salaries, allowances and benefits, leave and travel, and grievance procedures. An induction video on IPGRI is distributed to all new internationally recruited staff worldwide in an effort to create a sense of belonging to the IPGRI family. All professional staff has undergone a four stage training programme in leadership and management over the last year. In addition all HQ staff and Regional directors were given a refresher course in performance appraisal in 2002.

Table 9.1 - IPGRI Staffing as of September 2002

		REGULAR STAFF							COMPLEMENTARY STAFF					
Group	Location	IRS	Ass. Exp	HQ			Reg LRS	Hon. Fell	Temp.Staff	Cons.	Interns	Seconded	TOTAL	
				LRP	HQ LRS	Reg LRP								
HEADQUARTERS														
<i>Institutional</i>														
ODG	Rome	2		2	2			2					8	
GCTC	Rome				1				2				3	
DDGP	Rome	1		1	1								3	
FA	Rome	1		6	15								22	
<i>Programme</i>														
SGRP	Rome	2		2	1								5	
DIT	Rome	4		7	7				1	1			20	
GRST	Rome	10	2	1	5			4	2	2	2		28	
REGIONS														
SSA	EUR	Rome	3		1	3	1			1			9	
	WCA	Nairobi	5	1			5	6		2	1		20	
AMS	APO	Benin					4	2					6	
		Cali	4				3	9	1		1		18	
CWANA	EAS	Serdang	3				5	11	1	3	1	1	25	
		Beijing					2	2					4	
CWANA	SAS	New Delhi					3	3	1	1			8	
		Aleppo	2	2			5	4	1				14	
CWANA	CA	Tashkent		1			3	2					6	
		Tozeur	1				4	3					8	
	INRA	Rabat					1						1	
Sub.Tot. IPGRI			38	6	20	35	36	42	10	9	8	3	1	208
INIBAP														
	Montpellier	3					8	6			1		1	19
	Los Banos	1	1					2						4
	Naguru	1	1				3	3				1		9
	Douala	1	1				1	2						5
	Turrialba	1	1				1	1	1			1		6
	Heverlee						1	4	1					6
Sub.Tot. INIBAP			7	4			14	18	2		1	2	1	49
Total			45	10	20	35	50	60	12	9	9	5	2	257
TOTAL REGULAR STAFF:							220	TOTAL COMPLEMENTARY STAFF:				37		

IRS=International Recruited staff ; LRS= Locally Recruited Support staff; LRP= Locally Recruited Professional staff

* Staff who are hired for a specific project, but not directly administered by IPGRI, are not included in these figures.

9.1.3 Performance management

IPGRI has a formal performance appraisal system that is mandatory for regular staff on an annual basis. There is both a quantitative and qualitative aspect to the evaluation, set out on the relevant form. Promotions and salary increases unrelated to cost of living increases emanate from this review. Once a year MC reviews all performance appraisals of staff and recommends to the DG promotions and bonuses. Bonuses are paid according to performance. A three year consistently superior record results in eligibility for a salary increase that is pensionable.

9.1.4 Professional development

IPGRI has been innovative in creating new staffing categories such as Honorary Fellows, Associate Experts and in using interns; and attention is now being given to providing more opportunities for interns and postdoctoral fellows from developing countries. IPGRI does offer an opportunity for Study Leave in order to help professional staff maintain their scientific connections and professionalism, but this has not been used. In addition, IPGRI is trying to encourage scientists from other CGIAR Centres to spend sabbaticals at IPGRI. As a networking organization IPGRI staff attends many workshops and conferences, which also helps scientists to remain in touch with their peers.

9.1.5 HR issues

IPGRI undertook a review on People Management Practices in June 2001. The Review was impressed with the general calibre of IPGRI's staff and management's commitment to staff and good management practices. This review made a number of suggestions particularly related to improving leadership skills at this critical stage in the evolution of the Institute, and this has now been completed.

A CCER on Resource Management, undertaken in May 2002, opined that, because of the increase in the size of the organization, what used to happen at IPGRI spontaneously now requires intentional direction and a somewhat more bureaucratic approach. It recommended a move to decentralize financial oversight of the functioning of the Institute and made some recommendations on control systems that have been taken into account. It also made recommendations on the need to manage cash resources in a manner that takes account of the growing uncertainty of funding.

The '360 Degree' Survey that followed this CCER (see Section 8.2.3) put further stress on the problems that emanate from the CCER's finding on the informal and discretionary mode of operating at senior management level.

The Panel organized a confidential survey of all staff to ascertain their views on matters relating to HR at IPGRI, their perception of working at IPGRI, and the general view of IPGRI from outside. Overall the responses, received from 30% of all staff, reflected a good working environment. However, some issues were raised related to staff training and career development, rewards for performance, workload, and, to a lesser degree, the fairness and objectivity of the performance evaluation system and level of involvement of staff on matters directly affecting their work. Similar issues also came out in the '360 Degree' Evaluation (see Section 8.2.3) and it is the Panel's view that the steps being taken as a result will enhance staff well being. Overall IPGRI appears to be a well functioning Institute,

which is a commendable achievement given the number and the wide geographic dispersal of staff.

9.2 Financial resources

In the five years prior to the last EPMR IPGRI's budget had doubled in real terms. In the last five years it has grown again by more than 50%, from US\$ 19.5 million in 1997 to an expected US\$ 30 million in 2003. This is expected to grow still further to US\$ 40 million by 2010. In other words IPGRI is expanding rapidly. This dynamic scenario means that it is critical that IPGRI's financial management systems are robust enough to cope with these changes and that management is abreast of the situation. The Panel formed the view that this is the case today and commends management for looking forward to such issues as regional control of the budgetary process which, while not a problem today, could become so.

Key financial data for the period 1997 to 2005 are shown in Table 9.2. It is pertinent to note the substantial increase in the proportion of restricted funding in overall financing, from 36% in 1997 to an estimated 65% in 2003. Management and General expenses have been kept under tight control and the amount that is not covered by overheads charged to particular projects has been reducing. Direct travel costs, to support networks and attend workshops, have not increased very much which is perhaps surprising, given the nature of the Centre, but partly reflects the fact that in 2002 and 2003 unrestricted funds were squeezed and staff were under pressure from management to cut back on spending of unrestricted funds; and from the fact that an in-house and cost effective travel office was set up in 1998/99 which is reported to have cut costs by 30%.

9.2.1 Senior financial management and budget process

IPGRI continues to have a very experienced, stable, and competent Finance department. The present DFA has been in post for six years and the Finance Manager for ten years. Together they have overseen the substantial increase in the Institute's budget and the increasing decentralization of IPGRI's staff.

A draft budget, presented by MEC, is considered by the Board and its FITG in its September meeting. The PPRC, led by the DDGP, coordinates a week long review of the Institute's 20 Projects in November, and recommends a draft budget for the scientific programme to the MC which follows the PPRC. Income projections are largely based on donor information from the CGIAR AGM in November. The financial implications are put together with the costs of supporting this programme and a final budget submitted to EXCO for approval in December. The agreed budget is then presented to the Board in its March meeting, together with an explanation of how it differs from the earlier draft.

The Board explicitly recognizes the nature of the fund raising programme and is, on occasions, willing to initially approve a budget with a deficit. The DFA manages the situation during the year in an effort to end the year with a balanced budget. As will be evident from Table 9.2 there has been a net budget surplus over the past six years. The largest deficit was in 1999 when a large donor unexpectedly defaulted on a significant payment just before the year end close which resulted in a deficit of nearly US\$ 300,000 or 1.4% of the budget.

Table 9.2 - Key financial data for the period 1997 to 2010

	Actual					Estimated		Proposed		
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2010
REVENUE										
Unrestricted	12,629	13,344	13,000	13,213	10,761	10,500	10,233	12,000	12,500	14,000
Restricted	6,080	8,269	7,123	10,248	12,401	15,161	18,692	18,000	19,500	26,000
Total Research Agenda	18,709	21,613	20,123	23,461	23,162	25,661	28,925	30,000	32,000	40,000
Non Agenda	879	49	0	0	0	0	0	0	0	0
Total Revenue	19,588	21,662	20,123	23,461	23,162	25,661	28,925	30,000	32,000	40,000
OPERATING EXPENSES										
Programme	15,170	17,025	15,643	17,562	19,332	23,405	26,289	27,007	28,756	35,126
Management & General	4,296	4,629	4,774	4,038	3,753	2,347	2,636	2,671	2,844	3,474
Total Operating Expenses	19,466	21,654	20,417	21,600	23,085	25,752	28,925	29,678	31,600	38,600
Surplus/(Deficit)	122	8	(294)	1,861	77	(91)	0	322	400	300
Allocated as follows:										
Operating fund	581	29	(1,493)	2,013	333	(82)	0	322	400	300
Capital fund	(1)	(21)	(14)	9	183	(9)	0	0	0	0
Other funds	0	0	1,213	(161)	(439)	0	0	0	0	0
Operating expenses by natural classification:										
Personnel costs	8,947	9,222	9,079	10,055	10,541	11,608	13,038	13,500	14,800	17,400
Supplies & Services	8,921	10,454	9,432	9,743	10,370	12,065	13,552	13,750	14,272	18,567
Travelling	1,291	1,592	1,502	1,356	1,733	1,671	1,895	1,944	1,995	2,047
Depreciation	307	386	404	446	441	408	440	484	532	586
Total Operating Expenses	19,466	21,654	20,417	21,600	23,085	25,752	28,925	29,678	31,600	38,600
BALANCE SHEET ELEMENTS										
Current Assets*	9,048	13,882	17,468	15,165	15,851	15,736	17,675	18,101	19,273	28,251
Non-current assets*	4,390	303	229	203	536	4,361	4,898	5,486	6,144	6,882
Fixed Assets	1,964	1,858	1,697	1,767	2,347	2,221	2,495	2,794	3,129	3,505
Total Assets	15,402	16,043	19,394	17,135	18,734	22,318	25,068	26,381	28,546	38,637
Current Liabilities	9,123	8,484	12,063	7,971	9,345	12,565	14,113	14,481	15,418	18,834
Working Capital*	(75)	5,398	5,405	7,194	6,506	3,171	3,562	3,620	3,855	9,417
Long term Liabilities	371	1,643	1,709	1,681	1,829	2,284	2,565	2,632	2,803	3,423
Fund balances										
Operating Fund	3,878	3,707	2,214	4,227	4,560	4,478	4,478	4,800	5,100	6,600
Capital fund	66	351	498	437	653	770	933	960	1,020	1,320
Special purpose funds	0	0	1,213	1,052	0	0	0	0	0	0
CASH BALANCES*										
Opening Balance	9,235	8,764	9,350	12,585	11,403	6,490	5,680	4,858	5,440	6,113
Receipts	17,023	19,306	22,311	18,493	19,372	21,927	24,716	26,700	28,480	35,600
Payments	(17,494)	(18,720)	(19,076)	(19,675)	(21,356)	(22,737)	(25,539)	(26,117)	(27,808)	(33,968)
Closing balance	8,764	9,350	12,585	11,403	9,419	5,680	4,858	5,440	6,113	7,745

-2929 (restricted cash)
6,490

*Beginning in 2002, restricted cash is no longer included in current assets. It has been reclassified as "Non-current assets" as per CGIAR instruction.

9.2.3 Overhead recovery

As the proportion of funding that is unrestricted has fallen a growing emphasis has been put on ensuring that all projects contain an element of overhead recovery in their funding. The Board has asked management to aim for an average of 20% of total project costs. Project costs have to include all directly identifiable costs of the project including staff salaries, office space, and communications. About half of the 20% is allocated by the Finance and Administration group to cover management costs and associated office expenses and the other half to directly identifiable direct costs of the project. The actual recovery rate is still well below this target. The basic cost of running IPGRI is about US\$ 6 million, which is about 20% of the total annual budget. These costs are broken down as follows.

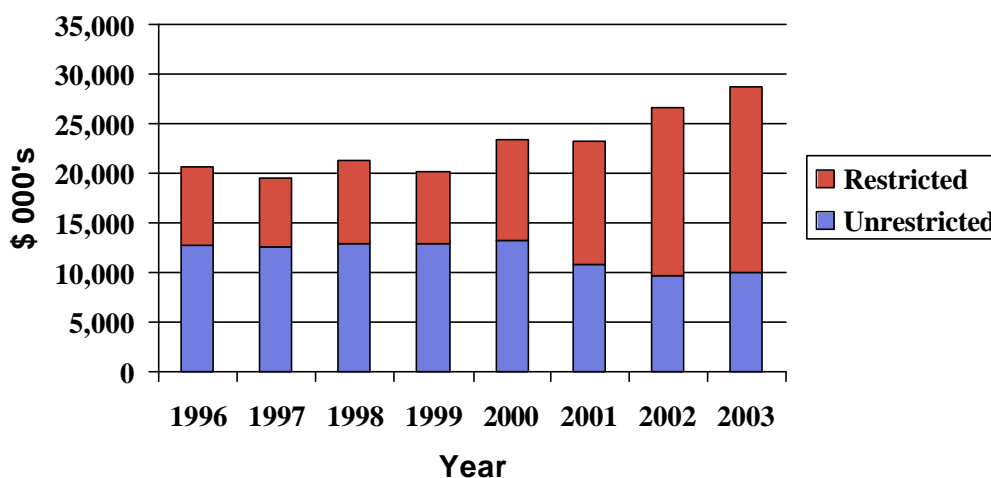
Table 9.3 - Indicative Overhead costs at IPGRI 2002

General management costs	US\$
IRS costs	748
LRS costs	1,394
Board	251
DG discretionary	189
Institutional and CGIAR memberships	50
Depreciation	440
Direct operational costs	US\$
Rome HQ operating costs	1,477
INIBAP France operating costs	319
Regional offices operating costs	932
Total Institutional costs	5,800

The average recovery rate to date has been between 10 and 12% over the past ten years, with the shortfall effectively coming out of the unrestricted pot. Senior management have recently circulated a paper on the subject to the MC and PPRC and have instructed that all new projects aim for 20% recovery of total project costs by identifying the full senior supervisory management and direct costs. Where it is simply a matter of funding that is passed through to an institution such as NARS, 4% should be charged.

9.2.4 Unrestricted versus restricted funding

Table 9.4 shows the trend in the declining proportion and absolute amounts of unrestricted funding. This is causing problems. Vacancies funded through unrestricted sources have been frozen. The number of professional staff in the SSA Regional Office may have to be reduced. As travel funds for all groups were cut by 30% in 2002 this is reducing the capacity of IPGRI staff to initiate discussions with regional entities, for example the Asia Forest Genetics Resources network, or fund the new LoA with Hungary for institutional analysis and seed policy work, or attend workshops such as that on desiccation sensitivity in South Africa, or to carry out fundraising related to the new initiative on diversity-for-nutrition-for-health work. Given IPGRI's role as a catalyst and networker, the long term effects of these cuts might not be evident for some time.

Table 9.4 - Unrestricted Funding Levels 1996-2003

9.2.5 Reserve policy

The Centre is required by the Board to maintain an operating reserve at 60 days of operating expenses, which is within CGIAR guidelines. The reserves fell in 1999, following the budget deficit in that year caused by the default by a major donor, to 39 days. They were rebuilt to 70 days equivalent in 2001. With the pressure on unrestricted funding in 2002 and 2003 they are expected to fall back to 50 days in the current year. The total liabilities to staff are about US\$ 2 million and the Panel believes that IPGRI is operating within a reasonable safety margin. However the Panel is unsure of the effect on the management of the Institute's cash flow of the recent decision to make a substantial loan to a sister Centre. The panel also questions whether sufficient attention has been given to the recommendation of the CCER on Resource Management with respect to maintaining a cash balance appropriate to a climate of growing donor uncertainty.

9.2.6 Internal audit

IPGRI is a founder member of the consortium of CGIAR Centres sponsoring the Internal Audit Unit based in the Far East. IPGRI pays US\$ 30,000 a year for the services of one sixth of the three person team who have covered a wide variety of issues at IPGRI, including, in the last three years, the management of various regional offices (APO, SSA, AMS, CWANA), LoAs, the operations of the Project Management Framework, Project financial reporting, travel expense claims, delegation of authorities to the regions, and issues relating to IP. The internal audit reports are comprehensive and detailed, and are presented to FITG and the Board. They constitute a valuable management tool and contribute to an impressively transparent relationship between senior management and the Board.

9.2.7 Management of expanding budget

A major exercise is underway to decentralize some part of financial management to the Regions. During this calendar year responsibility for: travel authorization, LoAs less than US\$ 20,000, impress claims, and purchases under US\$ 20,000 will all be taken on by the regions, based on the approved budget. In addition, with the retirement of the key finance individual in INIBAP, the financial management of INIBAP will become truly integrated into the Institute's system.

CHAPTER 10 - STRATEGIC PLANNING, QUALITY AND IMPACT ASSESSMENT

10.1 Context for strategic planning

The changing global context and the diversity, both within and between the regions in which IPGRI operates often raise many complex and sometimes conflicting interests for its work and resources. National programmes, networks, policy makers, scientific institutions, NGOs and donors have continuously changing expectations of IPGRI. For example, while scientific institutions often expect IPGRI to be engaged with them in laboratory and field based genetics research, many NGOs expect the Centre to provide technical and development assistance. Contracting parties to the CBD and the ITPGRFA have different needs and expectations in terms of IPGRI's support to their efforts to implement the treaties. Each group of donors has different and often changing expectations of IPGRI. Bilateral donors' expectations tend to be determined by their domestic political constituencies, while private foundations' decisions on funding to IPGRI are likely to be influenced by economic market forces. Depending on their peculiar domestic political and economic considerations, different groups of donors will exert different influences on the Institute.

In these changing and increasingly complex situations IPGRI is confronted with the challenge of designing its programmatic work and administrative structures to balance the many different interests while at the same time sharply focusing limited resources on specific problems. It cannot and should not respond to all of its clients' specific demands. IPGRI's leadership has the responsibility to ensure that the Institute's mission and vision are not undermined, and indeed that IPGRI stays focused and the quality and impact of its work improved. Strategic planning is the process which IPGRI uses to respond to the challenges posed by the changes in the external and internal contexts.

10.1.1 Strategic planning at different levels

Strategic planning has always been an integral part of IPGRI's evolution and operations. Its evolution from IBPGR involved the identification and adoption of a clear mission, vision and programme of work on PGR conservation and sustainable use. As it has made the transition from an agency that focuses on a narrow range of scientific issues of conservation to one that takes a holistic view of the problem of PGR management in its wider context, and as its constituency has expanded from national PGR *ex situ* programmes to a range of other conservation and development actors, strategic planning and priority setting have become important. Over the years it has formulated and revised its strategic focus.

IPGRI's first overall Strategy was adopted in 1993. Since the last EPMP, IPGRI has revised the Strategy and established an institute wide process of strategic planning. In the current Strategy IPGRI made 'Eight Strategic Choices' as a set of operational statements that will direct priority setting and resource allocation. These Choices, which provide the overall umbrella for IPGRI's thematic and regional Projects and activities are as follows: (1) Strengthening NARS; (2) Working with networks (regional and crop activities); (3) Improving conservation strategies and technologies; (4) Increasing use of genetic resources;

(5) Managing and communicating information; (6) Addressing socio-economic and policy issues; (7) Conserving and using specific crops; and (8) Conserving and using forest GR.

These Choices all relate directly to the Centre's Objectives and, appropriately, to the 20 Activities of the GPA (with exception of the strategic choice pertaining to FGR which is not included in the GPA). The Choices also accommodate the new commodities that have been added to IPGRI's portfolio, and those being considered, as well as new areas for socio-economic and policy work. The Institute's priority setting is largely determined within these Choices. While the Choices do not change, new priority issues are determined and adopted to constitute Projects and Activities.

Generally, strategic planning has become a continuous process in IPGRI. The staff has flexibility in the course of operations to suggest new research issues and questions that fit the Choices. This arrangement is important in the sense that it creates space for continuous creativity by staff and the Institute as a whole. To consolidate this, biannual strategic planning meetings take place. The annual strategic planning is managed within PPRC (see Chapter 8). The establishment of the new PPRC and the Innovation Fund and, more recently, the development of an Institute wide logical framework are intended to improve strategic planning in IPGRI. These mechanisms and tools are also meant to provide broad parameters for planning at the Programme, Project and Activity levels both at HQ and in the Regions.

Regional Strategic Plans have been developed and adopted by APO and SSA with considerable input of national and regional actors through workshops. A survey conducted by the Panel shows that stakeholders highly appreciate IPGRI's efforts to open its planning process in order to take their needs into account. They rated the organization and management of the process high but some noted that there is need to harmonise the IPGRI regional strategic planning with those of PGR networks.

10.1.2 Assessment

The Panel commends IPGRI for establishing the mechanisms and tools to institutionalise and improve strategic planning. However, the Panel has noted some lack of transparency in making decisions regarding the justification and relative prioritization across the strategic choices, and how these are translated into resource allocation among Projects and Activities (see Chapter 7). There also appears to be a lack of clarity in the criteria for deciding longer term resource commitments across activities and "shifts" often appear to be based on 'qualitative' judgements. With the exception of the three year rolling Medium Term Plan, longer term strategic planning documents typically make no clear mention of staff numbers, budgets or the relative shares of different research topics. The Panel **strongly suggests** that management should build more clarity into the priority setting and Project and Activity acceptance mechanism.

10.2 Quality of IPGRI's activities

10.2.1 Scientists at IPGRI

IPGRI professional staff was asked to provide the Panel with details of their 'Measures of Esteem'. These included honours, prizes, representation on key committees and boards, invited lecture and other relevant achievements, successful grant applications, students supervised and other relevant experience as well as publications. 112 responses were

obtained from Honorary Fellows and Associate experts as well as nationally and internationally recruited professional staff.

Averages for most of these measures are meaningless over the range of job descriptions and level of experience. However, the Panel has used this approach for assessing refereed publications. Honours and prizes included election to national academies of science, honorary chairs, national and international prizes for exceptional research work and services to science, agriculture and society. Forty four professional staff had received 134 such accolades. This figure was heavily influenced by IPGRI's Honorary Fellows, who are employed precisely because of their achievements and academic standing. Whereas such recognition often comes later in careers, it is also clear that many of IPGRI's younger researchers are making a significant impact in their chosen fields. Fifty six staff had sat on 209 key influential panels and committees. These ranged from Boards of Trustees at other CGIAR Centres and other such organizations, advisory panels of international scientific initiatives, national steering committees and international organising committees of influential conferences. These measures of distinction were broadly spread over staff at HQ and in the Regions. Invited lecture statistics showed that IPGRI staff is recognized. Sixty two staff has delivered 371 invited and keynote addresses since 1996. One further relevant statistic is that 34 staff members supervised (usually, and appropriately so, as co-supervisor) 134 MSc and PhD students. The Panel noted that the Honorary Fellows greatly boost the profile of IPGRI professional staff.

It is clear that, particularly at the more senior staff levels, IPGRI's research and researchers are being recognized. This recognition is being translated into invitations to further influence other research and political agendas. These results are equivalent to those expected at a successful European research organization. The Panel hopes that the Centre will follow these indicators to judge progress in future years.

The Panel did consider the figures for interaction with postgraduates students rather low. It is clear that not all research staff has the same opportunity. However these interactions do provide one of the best means for scientists without their own laboratories and research programmes to stay current in their fields.

It is clear to the Panel that, as the Institute has grown, there have been increasing pressures on staff that distract them from research and keeping up with developments in their areas. There are obvious solutions such as having line managers try to ensure that their staff attends key conferences in their area and encouraging interactions with nearby universities, particularly in delivering undergraduate or MSc course lectures and in the co-supervision of postgraduate students. The Panel was also pleased to see that there was provision for staff to take Study Leave. It is disappointing that no staff have availed themselves of this opportunity and the reasons for this should be investigated. This tool, which is used by many academic organizations use to recharge and reinvigorate hands-on researchers and their programmes, could be further tailored to suit IPGRI's particular circumstances. The Innovation Fund, which has now been operating for two years, should also provide opportunities for staff to think 'out of the box' and be given the chance to develop a new area with potential for the Centre. The proposals submitted for the 2001 and 2002 rounds do indicate that there are good possibilities here. Other opportunities are being considered, such as an IPGRI public lecture series and the organization of workshops at venues where staff can easily attend.

Undoubtedly the risk of loss of contact with new developments in science by IPGRI researchers, who were mostly recruited for their scientific achievements in the first place, is

an issue. It does not seem to be a regional problem although staff at some locations are clearly more isolated than most. Others find themselves better placed to interact with local universities than HQ-based staff.

10.2.2 Quality assurance

10.2.2.1 Ex ante assessment of projects

The key opportunity for open assessment of Projects at IPGRI is the PPRC, at which new activity priorities are presented and the previous year's progress monitored and reviewed. Necessarily discussion of each of the 260 Activities and 20 Projects over a single week can only be cursory. The size of the committee also discourages frank discussion and criticism. PPRC in its present enlarged form is probably still finding its feet and is too engrossed with administrative detail. It certainly must evolve further.

The Panel also hopes that, when MEC gets into its newly recommended mode of operation with regular formal meetings, there will be more focus on strategic questions. Moreover the involvement of other appropriate staff that are best placed to contribute to particular agenda items and with published minutes, should improve clarity and should enhance the climate of intellectual equity. This, in turn, should ensure that new and interesting ideas and activities receive the support that they deserve.

Although IPGRI itself does not apply external peer review to project proposals, the Panel notes that activities get reviewed externally by the donors before they receive restricted funding.

10.2.2.2 CCERs

A more infrequent review of IPGRI's Project activities is provided by the CCER system. IPGRI is probably the CGIAR Centre which makes most use of the CCER and this EPMP was provided with 13 CCERs and additional audits (see Appendix V). Most areas are reviewed once in a 5 year period and provide feedback on staff performance and help Project coordinators make appropriate adjustments and identify gaps. In general the EPMP had a very good impression of the value of the CCERs to Management.

The key to most reviews lies in the detail of the ToR. The Panel reviewed these and found them mostly appropriate and comprehensive. However the quality of the CCERs did vary and was closely correlated with the quality of the ToR. Examples of CCERs that have been used to improve Project scope and quality are those for DIT and FGR. The Panel **suggests** that Management revisit ToRs to ensure that future CCERs take account of lessons learnt.

A final word on the value of CCERs to the EPMP. It has become clearly evident during this process that, although it is necessary that the Panel sample the detail of the science, it cannot possibly provide the Centre with the service that the CCERs do. This Panel has used the CCERs and their recommendations heavily and has found them quite complementary to its own deliberations, which have generally been above the level of individual Projects.

10.2.3 IPGRI publications

IPGRI's mandate is in research for development, and IPGRI should not be regarded as a conventional research institute. In line with its mandate and mission, it uses two major publication channels to disseminate the results of its work and that of its partners. The first channel consists of IPGRI's own publications and of invited contributions to books published by third parties. This channel mainly serves IPGRI's own constituency, the global PGR community. IPGRI's own publications are generally categorised as original papers, manuals, handbooks, guidelines, technical bulletins, issues papers, proceedings and conference presentations. In addition, it publishes training materials. The most frequently generated publications are IPGRI Technical Bulletins and the Plant Genetic Resources Newsletter. These are produced in series. Articles published in the Technical Bulletins are often reviewed internally and target the scientific community while the Newsletter is peer reviewed and is for wider readership. Refereed journals that reach the scientific community are the second channel for publishing. These publications may influence the ideas and concepts of a wider community of researchers that somehow deal with genetic resources, and are a means to register IPGRI's scientific output and enhance its scientific standing. Approximately 75% of IPGRI's publications are delivered through the first channel, in line with its mission to serve its global PGR constituency. Therefore, usual standards regarding the number and quality of scientific publications cannot be simply applied to IPGRI staff's published output record.

The average number of articles authored or co-authored by IPGRI staff and published in refereed journals over the last six year was approximately 50 per year for some 100 IRS and LRP, and 15 Honorary Fellows. However, of the 200 peer reviewed publications over the seven year period 1996 – 2002, 76 were authored or co-authored by just three scientists. Of these two were honorary fellows and one a senior scientist. This puts a different complexion on the performance. Much of IPGRI's work is region specific and therefore it is entirely appropriate that many of the publications are not in internationally renowned journals, though these do not get a high score in an impact rating system.

The number of publications per IPGRI staff member per year is relatively low as compared to other CGIAR Centres¹⁷. However, it is interesting that IPGRI's original papers have been highly cited, which reflects a high potential impact.

The distribution of journal articles across IPGRI's Projects shows a bias towards INIBAP's activities and to the GRST projects, in particular tissue culture and *in vitro* research. The figures show that IPGRI staff is relatively more successful in publishing original papers in highly technical areas than in other areas.

The Panel **strongly suggests** that appropriate steps are taken to improve IPGRI's staff's publishing record in refereed scientific journals in order to improve the status and outreach of the Institute and to draw attention to its concepts, strategies and research results. The Panel **suggests** that the IPGRI Publications Committee develops a clear policy, work plan and annual plan for the publication of results in refereed journals. This should take into account IPGRI's strategy for raising its profile. The policy should identify conditions and mechanisms to make it attractive for IPGRI's (senior and junior) staff to publish in peer reviewed journals. Publication targets for individual staff members and time allotments to prepare for agreed publications should be part of discussions held in the context of annual performance appraisals. These targets should, of course, be tailored to the individual job

¹⁷ Cherfas, J. 2003, Towards a media strategy for IPGRI. IPGRI, Rome.

description. In many areas a low publication expectancy and record will be offset by other activities.

10.2.4 Other outputs

Networks play a major role in IPGRI's operational mode. IPGRI's contribution to the success of networks, measured in terms of rate of growth, intensity of interactions between the partners, and cost efficiency and sustainability of network operations, should be regarded as a major IPGRI output. This success rate seems to be largely dependent on the degree of structural, topical and financial autonomy of the networks. The return on investment of IPGRI's support to networks is closely related to this level of autonomy. IPGRI is advised to closely monitor network development and functioning in order to maintain a high level of effectiveness and efficiency in its network support.

The Panel obtained some measure of the success of IPGRI's network activities from an analysis of the stakeholder survey data. The analysis shows that IPGRI's research is valued as very significant or significant by stakeholders from genebanks, NARS, universities, government agencies, international organizations and NGOs. Highest scores were obtained from universities, genebanks and international organizations. IPGRI's output in information, a measure of the quality of its own publications, was valued equally high.

10.2.5 Assessment

In general, the Panel commends the quality of IPGRI's work. IPGRI obtained outstanding results in the area of conservation and storage technologies, in standardization of documentation, and in the development of inter-institutional PGR databases. In addition, its work on *in situ* conservation has attracted major attention.

The publication records, taking IPGRI's own publications and journal articles together, and the professional standing of IPGRI's scientists underpin this overall assessment.

10.3 Impact assessment

Impact studies in the CGIAR are defined¹⁸ as falling "along the continuum between academic research...and utilization-focussed evaluation." Impact assessments (IA) at IPGRI are set up to be a form of evaluation rather than fundamental research. Consequently there has been a move to using a mixture of quantitative analysis and more qualitative indicators.

At IPGRI, IA is a relatively new and small area of activity. Although IA is part of one of IPGRI Projects, 'Understanding and communicating the value of PGR', it is directly under the Office of the Director General, with supervision from the ADG. The objective of this area of work at IPGRI is to "increase awareness and understanding of PGR research and its role in development, and increasing capacity to design and implement genetic resources research projects and programmes"¹⁹, and it is closely linked to planning. In 1999 IPGRI appointed a full time evaluation and impact assessment specialist. IA work receives very limited core funding, but has been quite successful in receiving external funds. Consultants and interns, in particular, are employed for conducting the studies.

¹⁸ Mackay, R. and Horton, D. 2002, Expanding the use of impact assessment and other types of evaluation. *In: CIMMYT and SPIA (forthcoming), Watson, D.J. (ed.), Summary proceedings, International conference on impacts of agricultural research and development. San Jose, Costa Rica, February 4-7, 2002. CIMMYT, Mexico.*

¹⁹ Watts, J. *et al.* 2000, Impact assessment in IPGRI: needs, constraints and options. *In: Proceedings of a workshop organized by the Standing Panel on Impact Assessment of the Technical Advisory Committee. FAO, Rome, May 3-5, 2000.*

Research topics that nominally fall under impact and evaluation related studies range from descriptive type projects looking at institutional and organizational projects such as “The Effects of IPGRI Letters of Agreement on partner capability” or “Evaluating IPGRI’s Fellowship Programmes” to micro level production economics studies on, for example, “Economic benefits of coconut genetic diversity as a smallholder crop”. Such studies employ very different academic disciplines in their analysis. Furthermore they would appear to have very different potential value as an input in a public awareness activity.

Out of 19 impact-related case studies and reports completed by IPGRI 15 are concerned with IPGRI’s influence on institution building, policy formulation at the international level and the impact of its training and publication activities. Three deal with the use of germplasm and one on the value of on-farm diversity, and are done by the economist shared with IFPRI as part of a new research programme. The new activity aims at assessing the social and economic impact of improved banana varieties in East Africa. IPGRI sees that further economist input would be desirable for conducting studies on on-farm and commodity research. The Panel encourages this development, as there is already a great call for *ex post* assessments of *in situ* work, particularly in the regions.

The IA activities have also included development of indicators, both at the Centre level and together with project teams for activities. The new work on network indicators aims at providing a monitoring scheme and guidelines for improving network productivity and for eventually assessing impacts.

IPGRI’s IA studies that evaluate its impact on institution related matters are helpful. The study on IPGRI coordinated projects that included COGENT, the *in situ* project in Nepal and the leafy vegetables project in Sub-Saharan Africa clearly established that, without IPGRI’s involvement, these projects would not have happened and that they pulled together a wide range of players to make an effective project where the sum of the parts was greater than the whole. Another study on maximising participation in PGR networks²⁰ shed interesting light on how to influence the ability of members to participate in network decision making. It also demonstrated the problems that can occur if there is excessive external funding at the early stages of the establishment of a network.

IA work aims at providing information and analysis to IPGRI Management for conclusions and action in strategic planning at Centre and activity level. Examples of this reiterative process can be found in the new publications and training strategies which have drawn from the respective IA studies. The IA work is also closely connected to the new theoretical underpinning, the sustainable livelihoods approach, that IPGRI is exploring for its work. The IA staff is collaborating with DFID in getting IPGRI’s programmes better focused towards poverty alleviation. IPGRI is engaging in a strategic planning exercise for its IA activities in which it plans to also involve stakeholders. The Panel agrees that a bottom-up approach to IA is essential for the ownership and strong development of national programmes and for IPGRI’s success in facilitating the process of capacity building.

The Panel agrees with the CCER’s positive assessment of IPGRI’s IA work and commends IPGRI for its innovative IA activities in the early stages of this research. The Centre is at the forefront in the CGIAR in exploring new areas as far as IA methodology and

²⁰ Watts, J. , 2002 One plus one equals three: maximising participation in plant genetic resource networks. Plant Genetic Resources Newsletter 130: 28-35

approaches are concerned. The CCER recommendation that the IA function should be divorced from the public awareness function is also being taken on board.

CHAPTER 11 - CONCLUSIONS

The past five years have been characterised by considerable change both within IPGRI and in its external political and scientific environment. IPGRI has negotiated these with great skill and success. Today it has a larger and substantially redirected but still relevant PGR research programme, particularly in the Regions; it has expanded an already successful *Musa* Programme; it has extended its work into other commodities; it has remained intimately involved in the centre of the ITPGRFA negotiations while it is starting to expand its policy work in the economic arena; and it has established a state-of-the-art communications and publishing facility. Most importantly it has maintained its status as an 'honest broker' in its relationships with stakeholders. Its supporting role in the CGIAR's SGRP is a prime example. At the same time the Panel was impressed with the dedication and energy of staff of all levels and noted the tremendous staff morale in Rome, Montpellier and in the regions.

The body of this report does, of course, contain some constructive criticism as well as a number of suggestions. In general these reflect the Panel's views that would help continue to keep a larger IPGRI with an expanded research remit not only relevant, but also at the forefront of PGR science. A new name for the Centre that would more precisely capture its key position in today's world is being mooted. The Panel believes that this would be an entirely appropriate way for the Centre to start the new millennium.

11.1 Major challenges for IPGRI

The Panel draws the reader's attention to a number of key issues for IPGRI's future that reoccur time and again in the body of this report. They reflect the overarching considerations, outlined in Chapter 1.6, that the Panel bore in mind during its work.

Mandate and Scope - There are suggestions that IPGRI should take a more holistic approach to genetic resources by extending its mission beyond plants to other ecosystem components. This is an attractive idea as the interactions between animals, fish, microbes and plants will bring a new dimension to the field of genetic resources conservation. The potential for IPGRI of one option, animal GR, has already been researched. The conclusions were that (i) IPGRI's way of working with networks, particularly through SGRP, can be applied to animal genetic resources; (ii) IPGRI's policy expertise is relevant to animal genetic resources; (iii) much of IPGRI's molecular and cryoconservation technology is applicable; and (iv) appropriate and experienced institutions, such as in this case, ILRI and FAO, are available as leading partners with the knowledge of the organism itself that IPGRI lacks. Similar arguments can be made for fish genetic resources, with ICLARM as the leading partner, and even for microbial genetic resources. The Panel is therefore of the opinion that IPGRI should continue with the necessary exploratory studies to ensure that it fully appreciates the ramifications of expanding its mandate. However, if new areas can be incorporated without compromising the mission of the Institute and the quality of its existing programme then IPGRI should not hesitate to take on the new responsibilities in collaboration with appropriate new partners.

IPGRI is also under some pressure to extend its coverage, particularly within its commodity programmes, into marketing and community development work. This is also an area that should be investigated. However, the experience to date would indicate that such work can require a substantial commitment of staff over a longer period than a conventional PGR project and that such work is often site or region specific. The Panel is convinced that IPGRI should limit itself to projects with a significant PGR component where it can usefully employ its comparative advantage and that it should partner with NGOs and others who have the necessary development experience. This is particularly important because IPGRI's reputation as an honest broker must be kept sacrosanct.

Balance in Research - Successful organizations tend to get larger and richer. One consequence to be guarded against in this circumstance is imbalance in research programmes, and the opportunities for imbalance at IPGRI are many. A number of factors, including the rapid emergence of attractive and relevant new technologies; the relatively few staff in an institution with a monumental mission encompassing the whole globe; a reduction of unrestricted funds with which to maintain a solid base; and an increasing restricted funding portfolio where donor demands and preferences are more keenly felt, can all destabilise the *status quo*. For the individual scientist, there is the balance to be struck in the attention given to a substantial project workload and the giving of technical and policy advice to partners (see Recommendation 9). At the programme level attention has to be paid to the balance between *in situ* and *ex situ* work; the balance between the relatively new applications of high-tech molecular biology and GIS methods and traditional practices; and the balance between desk and field based research. The balance struck needs to take into account the Institute's comparative advantages. Formally agreement on these balances is vital, to both maintain the focus of the Institute's work programme and to keep the stress on staff under control. Imbalance creates confusion; the work of the Institute will become muddled; and the stress on staff unsustainable. The Panel believes that the measures that are being put in place to make the MEC more effective will help immeasurably. Greater clarity in IPGRI's strategies and targets will help retain the Institute's balance and relieve much of the stress and make the Institute more effective.

A final word is appropriate on IPGRI's contribution to science. IPGRI is a world leader in its field and its scientists command the respect of their peers. While not wanting to detract from IPGRI staff who do vital work maintaining networks and the like, the Panel hopes that the next EPMP will be able to review the Centre's first paper published in *Nature* or *Science*.

Governance - The Panel was impressed with the quality of senior management. However it was also clear that, sadly, the present informal decision making systems are becoming less appropriate as the Centre grows and pursues its policy of decentralization (see Recommendation 9). The Panel was impressed with the execution of Board functions. Again, however, while the manner in which these functions are carried out has not changed, what constitutes good practice and the exercise of accountability has changed. Recommendation 10 is designed to ensure that the IPGRI BoT is sufficiently engaged with the Centre to meet these new requirements.

IPGRI and other CGIAR Centres - Interactions between CGIAR Centres are always important. The value of the System is that the whole is greater than the sum of the parts. This has never been more important than at this time. IPGRI, of course, already has productive linkages with other Centres. For example its role in supporting SGRP is highly appreciated throughout the System. IPGRI has an imaginative staff appointment policy, and has three

strategic joint appointments with other Centres at the present time. Extending the Centre's scope beyond plant genetic resources and the execution of Challenge Programme collaborations offers yet more opportunities.

In areas where mandates are closely aligned harmonious and productive interactions are even more important. In the area of FGR productive links with CIFOR and ICRAF are vital (see Recommendation 3). In IPGRI's *Musa* Programme in Africa links with IITA are crucial. It is essential that links such as these are fostered sensitively. All parties stand to benefit.

Integration of INIBAP into IPGRI - Recommendation 4 encourages IPGRI to complete the important integration of INIBAP and IPGRI. The Panel is of the opinion that there are significant opportunities today for scientific synergy that are being missed both in the regions and in Europe. There are still further unexplored research opportunities involving research partnerships. A new, seamless, rational, streamlined organization with simple reporting lines and decision making processes is needed for the larger, more efficient IPGRI of the future. There will be a unique opportunity if IPGRI rebrands itself as a centre for biodiversity in world agriculture to complete the merger of two successful institutes by subsuming the two acronyms IPGRI and INIBAP into one new name.

ISNAR - A late issue of relevance to this EPMR concerns ISNAR. The options being considered at the end of March 2003 include alternatives for merger, co-location and virtual operation. IPGRI is suggested as one possible host. Although not specifically part of the ToR, the Panel feels it should comment on the complementarities between the two Centres' operations.

It is clear to the Panel that some features of the way that ISNAR works, namely through networks and with national programmes, are similar to IPGRI's. Activities like the Central Advisory Service, management of networks and the Intermediary Biotechnology Service are relevant to IPGRI's mission and complement its present operations. There are also synergies between both Centres' training and capacity strengthening activities and in impact assessment functions.

The Panel believes that relevant elements of ISNAR could, with mutual benefits, be brought under IPGRI's wing, particularly if those additional activities were largely located at a regional office. IPGRI could use its experience of the merger with INIBAP to its advantage. IPGRI's programmatic integrity should not, however, be compromised.

11.2 The future for IPGRI

The future looks bright for IPGRI. The move to Maccarese has been a masterstroke. It has helped strengthen IPGRI's own identity while maintaining close links with FAO, afforded it room to grow and provided a first class facility for its scientists and other staff. IPGRI is set to remain at the centre of one of the most important efforts mankind is making to ensure the long term sustainability of the planet. IPGRI is the honest broker in the concerted effort that encompasses countless international, regional, national and individual players to conserve the world's PGR. When IPGRI took up its mission genetic resources were firmly established as a public good available to all. Geopolitical developments and international debate have changed the situation. IPGRI's research, and that of its partners around the world, its central role in PGR policy and most of all its goodwill can ensure that the benefits of PGR are shared fairly by all people. Its role and focus must continue to be refined; its role

as an honest broker protected; and its capacity to continue to grow, to support these efforts and play a guiding role must be enhanced. The Panel is confident that IPGRI's staff and Board and its donors will continue to ensure that this happens.

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Several Panel members had an opportunity to see some of IPGRI's regional activities and partners in East Africa (Kenya and Uganda), Asia (Malaysia, China and Nepal), Europe (France and Belgium), CWANA (Morocco and Tunisia) and Latin America (Mexico and Costa Rica). The Panel expresses its appreciation to the Regional Directors, particularly Kwesi Atta-Krah (SSA), George Ayad (CWANA), Ramon Lastra (Americas) and Percy Sajise (APO), and their colleagues, for organising the field visits in these regions. Special thanks are also due to Jose Luis Chavez, Dionysious Kiambi and Abdullah Bari for assistance during field visits. Emile Frison, Director of INIBAP and the INIBAP Regional Coordinators, Franklin Rosales, and Eldad Karamura are thanked for all arrangements during visits to see INIBAP's activities. The Panel also thanks Emile Frison for attending to the Panel's needs as the DG designate of IPGRI.

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