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Agricultura
y la
Alimentación

COMMISSION ON GENETIC RESOURCES FOR FOOD AND AGRICULTURE

Tenth Regular Session

Rome, 8 – 12 November 2004

STRENGTHENING SEED SYSTEM

Table of Contents

	Paragraphs
I. INTRODUCTION	1 - 6
II. THE IMPACT OF SEED SYSTEMS ON CONSERVATION AND SUSTAINABLE USE OF PGRFA	7- 16
<i>Impact of market-oriented seed systems</i>	8- 10
<i>Impact of community-based seed systems</i>	11 - 16
III. SEED SYSTEMS IN THE GLOBAL PLAN OF ACTION	17- 19
IV. THE GPA AND THE INTERNATIONAL TREATY ON PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE	20 - 21
V. SEED SYSTEMS AND THE CARTAGENA PROTOCOL ON BIOSAFETY	22 - 26
VI. SEED SYSTEMS AND THE INTERNATIONAL PLANT PROTECTION CONVENTION	27 - 28
VII. FAO' S PROGRAMME AND FOLLOW UP	29 - 32
VIII. CONCLUSIONS	33 - 34
<i>Annex 1: Main considerations and recommendations of technical Workshop on Seed: Seed emergency and Relief and Quality Declared Seed</i>	

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I. INTRODUCTION

1. Effective seed systems are dynamic repositories of plant genetic resources for food and agriculture (PGRFA). They prove essential to ensure farmers' access, particularly resource-poor farmers and farmers in sub-optimal crop environments, to high quality seeds of a wide range varieties that best fulfil their requirements. In the case of disasters, restoration of the systems to deliver pre-existing germplasm is also crucial to maintain farmer's livelihoods.
2. The relevance of strengthening seed systems is fully acknowledged in the Global Plan of Action for the Sustainable Conservation and Use of Plant Genetic Resources for Food and Agriculture (the *Global Plan of Action*). Specific recommendations are contained in priority activity area 13 "promoting seed production and distribution, and in priority activity area 3 "Assisting farmers in disaster situations to restore agricultural systems". Other activity areas have a strong impact in seed systems development, in particular priority activity area 2 "supporting on farm management and improvement of plant genetic resources for food and agriculture", priority activity area 11 "promoting sustainable agriculture through diversification of crop production and broader diversity of crops, and priority activity area 14 "developing new markets for local varieties and diversity-rich products".
3. The Commission agreed at its ninth regular session that its Inter-governmental Technical Working Group on Plant Genetic Resources (the Working Group) should meet to examine among others; issues related to plant genetic resources for food and agriculture use through strengthening germplasm conservation, plant breeding capacities, and seed systems. For this purpose, a document on strategies to strengthening seed systems was prepared for the consideration of the Working Group at its second session. The document built on three expert workshops organized by FAO on seed policy, seed emergency and relief, and updating Quality Declared Seed standards. The Working Group welcomed FAO's initiatives on seed relief and stressed that FAO's work on regulatory and policy issues in the seed area should not overlap with the work currently being undertaken in other fora, and expressed the need for further information on regulatory processes of relevance to the seed sector in Member Countries.
4. The Working Group requested the Secretariat to revise the document, prior to its submission to the Tenth Regular Session of the Commission, in order to incorporate information on the impact of seed systems on the conservation and sustainable use of plant genetic resources for food and agriculture, and identify gaps, and the implications of the entry into force of the Cartagena Protocol on seed systems. The Working Group also agreed that the document should also provide specific recommendations for action by FAO to strengthen seed systems, without duplicating action taken by other relevant organizations.
5. Following the recommendations of the Working Group, this document provides a deeper analysis of the impact of seed systems on PGRFA conservation and use. It reviews the possible implications of recent international developments including the entry into force of the International Treaty, the Cartagena Protocol on Biosafety and the International Plant Protection Convention. Specific guidance of the Commission is requested in working paper
6. Conclusions and recommendations of the three expert workshops included in annex 1, were also used as background information for a document on "Seed Policy and Regulations in the Light of the International Treaty on PGRFA and the Cartagena Protocol on Biosafety". This document was presented for discussion at the third session of the Agriculture and Land and Water Use Commission (ALAWUC) for the Near East, which was held in Doha, Qatar, from 9 to 11 March 2004. Recommendations of the ALAWUC Commission have also been included in this document for the consideration of this Commission.

II. THE IMPACT OF SEED SYSTEMS ON CONSERVATION AND SUSTAINABLE USE OF PGRFA

Seed systems are complex and dynamic. The two main types of seed systems are briefly reviewed: market-oriented and local or community-based seed systems. Their main characteristics are summarized and their impact on PGRFA conservation and use is analyzed, identifying main gaps where possible. However, there is a need for a more in depth analysis of the effectiveness and resilience of local seed systems related to the loss of agricultural biodiversity as agriculture becomes more intensive or market oriented. Based on this analysis appropriate strategies for PGRFA conservation and use of major and minor crop diversity can be developed for different farming systems.

Impact of market-oriented seed systems

7. Market-oriented seed systems operate as an inter-linked “chain” and encompass the elements of varietal improvement, seed production, seed conditioning, seed storage and distribution and seed quality control, often in form of seed certification schemes. Public and private sector participate throughout this chain although their roles vary among countries. In most countries market-oriented seed systems are subject to government regulation.

8. Market-oriented seed systems require varieties that meet high quality standards. Genetic resources are utilized as a fundamental input to develop new improved varieties, often adapted to intensive and medium-intensive input agriculture. For example, wheat and rice in many of the production systems in South and South East Asia. It is debated that the replacement of local varieties by commercial varieties has reduced the genetic diversity in farmers’ fields. This is evident when there is an outbreak of a new disease. However, commercial seed markets are very dynamic. The number of varieties eligible for OECD certification has doubled between 1994 and 2001, exceeding in 2002 a total of 26,000 entries for 185 species.¹ It is argued that spatial diversity is being replaced in formal seed systems by diversity over time.

9. The commercial world seed trade is estimated at approximately US\$ 30 billion per year, with the international seed trade component having grown from about US\$ 1.4 billion in 1985 to about US\$ 3.6 billion in 1998². However, market oriented seed systems rely on well established infrastructure, have limited crop coverage and supply seed of varieties poorly adapted to low input and marginal areas, thereby strongly limiting their penetration in developing countries.

Impact of local or community based seed systems

10. Local or community-based seed systems provide the locus of on farm PGRFA management, since PGRFA conservation and crop variety evolution take place as part of farmers’ production systems. This is particularly relevant in centres of origin, where food crops and their wild relatives co-exist in farmers’ fields.

11. In general, local seed systems are largely based at the farming community level. Farmers obtain seed from surrounding communities or local markets to breed and select improved local

¹ See Summary Record of the Annual Meeting of Rerepresentatives of the National Designated Authorities of the OECD Schemes for Varietal Certification of Seed Moving in International Trade, 25-27 June, 2002, document AGR/CA/S/M(2002)4. Section 21.1.

² <http://www.worldseed.org/statistics.html>

seed. In this way the local adaptive fitness and productivity is maintained through the contribution of new genes to this dynamic process. Seed is typically produced on farm, though seed is also obtained through other mechanisms, such as seed exchange, or purchase in local markets. In community-based seed systems the varietal selection process, seed production and seed exchange are part of the farming system and integrated into the socioeconomics of the farming communities.

12. PGRFA diversity deployed by farmers in local seed systems is particularly important in marginal and low input areas as compared to market-oriented farming where the diversity is less. In these marginal and low input areas, farmers cultivate a larger number of crops, a greater number of varieties and it is argued that even at the variety level, the genetic diversity of local varieties is generally larger. Local variety selection favours more diversity and less uniformity.

13. In most cases, local or community-based seed production activities take place outside the framework provided by national seed regulations. Rather, they are guided by traditional technical knowledge and standards set by local social structures.

14. The community-based seed system is currently the primary source of seed for small farmers, particularly in developing countries. Yet it suffers from many constraints: lack of appropriate policy environment to facilitate access to improved varieties adapted to local conditions, insufficient infrastructure to multiply quality seed, lack of adequate quality standards and poor post-harvest management and storage facilities. These constraints require attention in many countries.

15. Strategies to strengthening linkages and interaction between market-oriented and community-based seed systems are essential to close an increasing innovation-absorption gap. Incentives for farm-level breeding (including participatory plant breeding) need to be enhanced in order to safeguard the long-term on-farm maintenance of plant genetic resources and local level seed multiplication. Appropriate training of farmers in the principles of seed production and storage to improve traditional methods and to create small scale local commercial seed producers as well as increased resources are needed to support these efforts.

III. SEED SYSTEMS IN THE GLOBAL PLAN OF ACTION

16. The *Global Plan of Action* notes the gaps described above in its priority activity area 13 “Strengthening Seed systems”, that calls for an increase in the availability of good quality seed of a wider range of plant varieties to maximize both agricultural biodiversity and productivity. The *Plan* defines specific policies and strategies that address this task, which include, among others:

- i) develop appropriate policies in, seed production, and seed distribution, to help focus efforts of government supported initiatives on the varietal needs of resource-poor farmers;
- ii) strengthen linkages between genebanks, plant breeding organizations, seed producers, and small-scale seed production and distribution enterprises;
- iii) consider seed quality control schemes particularly those appropriate to small scale enterprises;
- iv) consider legislative measures which allow distribution and commercialization of landraces/farmers' varieties and obsolete varieties, if they meet the same distribution and

commercialization criteria for disease, pests, health and the environment, as conventional or registered varieties;

17. The *Global Plan of Action* indicates that these measures should meet established quality standards, in accordance with national legislation or applicable regional agreements, as appropriate.

18. In relation to seed emergency and relief, priority activity area 3 of the *Plan* “Assisting farmers in disaster situations to restore agricultural systems” calls for “support (to) farmers' and rural peoples' livelihoods and sustainable agriculture options through the rehabilitation of agricultural systems based on locally adapted plant genetic resources, including the restoration of pre-existing germplasm in cases of disaster-induced loss of plant genetic resources for food and agriculture.” The *Plan* specifically recommends the establishment of capacity to deliver seed of adapted local varieties as needed to help re-establish indigenous agricultural systems in areas affected by natural disasters, war, and civil strife.

IV. THE GPA AND THE INTERNATIONAL TREATY ON PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

19. The Treaty provides, in Article 5, for the conservation, exploration, collection, characterization, evaluation and documentation of plant genetic resources for food and agriculture. Article 6 deals with the sustainable use of these resources, and specifically provides that “Contracting Parties shall develop and maintain appropriate policy and legal measures that promote the sustainable use of plant genetic resources for food and agriculture. The sustainable use of plant genetic resources for food and agriculture may include such measures as (...) reviewing and, as appropriate, adjusting breeding strategies and regulations concerning variety release and seed distribution”.

20. With the adoption by FAO Conference in 2001 of the International Treaty on PGRFA as a legally binding instrument, the Global Plan of Action acquires a renewed dimension as an element that contributes to the objectives of the Treaty. Article 14 of the IT recognizes that “the rolling Global Plan of Action for the Conservation and Sustainable Use of Plant Genetic Resources for Food and Agriculture is important to this Treaty,” and “Contracting Parties should promote its effective implementation, including through national actions and, as appropriate, international cooperation to provide a coherent framework, inter alia, for capacity building, technology transfer and exchange of information (...)”.

V. SEED SYSTEMS AND THE CARTAGENA PROTOCOL ON BIOSAFETY

21. The Cartagena Protocol on Biosafety was adopted by the Conference of Parties to the Convention on Biodiversity, in January 2000 with the aim of providing an international regulatory framework for biosafety and safe movement of living modified organisms (LMO) which are the products of biotechnology. The objective of the Cartagena Protocol stated in Article 1 is as follows: “In accordance with the precautionary approach contained in Principle 15 of the Rio Declaration on Environment and Development, the objective of this Protocol is to contribute to ensuring an adequate level of protection in the field of the safe transfer, handling and use of LMOs resulting from modern biotechnology that may have adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health, and specifically focusing on trans-boundary movements.”

22. The Cartagena Protocol also regulates the trans-boundary movement of LMO seeds among Parties as implied its Article 3 on Use of Terms. Countries that have ratified the Protocol,

or countries exporting LMO seeds to countries where the Protocol is in force, have to consider the requirements specified in this legally binding agreement in terms of the necessary legislative, institutional and technical measures that will need to be adopted to establish a national biosafety regime in compliance with the provisions stated in the Protocol. The Cartagena Protocol also calls for establishing a Biosafety Clearing House and for Capacity Building, to facilitate the exchange of information and strengthening human resources and institutional capacities in biosafety.

23. At the moment of preparation of this document³, ninety-nine countries had ratified the Cartagena Protocol. As a result, the number of countries developing biosafety legislation has greatly increased. It is essential to bear in mind that the development of a national biosafety system needs to be consistent with, and support the development of, a strong effective seed policy. Relevant stakeholders need to be represented in official national biosafety decision-making fora to ensure that this complementarity is achieved.

24. There is no detailed information regarding LMO seed movement among countries. Some countries of The Working Group expressed their concern that government policies regarding genetically modified seeds needed to be respected in the context of seed relief. The opinion was expressed that the specific principles to guide seed relief operations indicated in the annex to this document were adequate to address this concern. Current FAO procurement procedures for seed in the context of seed relief projects required seed to be LMO free.

25. The FAO, in coordination with UNEP and other stakeholders, is providing assistance to member countries to develop national biosafety systems, and helping countries to increase their institutional and technical capacity at national level. FAO also provides technical and legal assistance upon request to assist countries in this endeavour. When doing so, regional and sub regional approaches have proven to be most cost effective. Recent activities initiated by FAO in this area are the following:

- i. The organization of regional training courses on Biosafety in Latin America and Near East ;
- ii. The establishment of a regional network (BIONET), supported by the Japanese government, with the aim to provide relevant biosafety expertise to responsible staff in national biosafety institutions, as well as the development of regional collaboration in this area; and
- iii. The organization of regional training courses in Latin America, Africa, Asia and the Pacific, in cooperation with the International Seed Testing Association (ISTA), and subregional organizations such as the Asia Pacific Association of Agriculture Research Institutions (APAARI), on the use of biotechnological tools for varietal identification and the identification of adventitious genetically modified seeds.

VI. SEED SYSTEMS AND THE INTERNATIONAL PLANT PROTECTION CONVENTION

26. The International Plant Protection Convention (IPPC) is a technical multi-lateral agreement, with its Secretariat at FAO, which facilitates the safe trans-boundary movement of healthy plants and plant products, including seeds. The IPPC was revised in 1997 to ensure compatibility with the World Trade Organization's Agreement on the Application of Sanitary and Phytosanitary Measures (SPS-Agreement).

27. There are three primary areas of activity under the IPPC relevant to the seed trade;

³ June 2004

- i) development and implementation of International Standards for Phytosanitary Measures;
- ii) exchange of official phytosanitary information to facilitate trade; and
- iii) a substantial technical assistance programmed to assist developing countries in developing national capacity to meet their international phytosanitary obligations under the IPPC and SPS-Agreement, and to facilitate trade. There are ca. 55 countries that either currently have an active phytosanitary technical assistance project, or have completed such a project in the last two years,

VII. FAO's PROGRAMME AND FOLLOW UP

28. From 2001 to date FAO has provided technical assistance to countries, at their request, in the areas of seed sector review, seed policy development, formulation of seed legislation and regulations, capacity building for seed production and seed security. At regional and sub-regional level, FAO, in cooperation with stakeholders, including UEMOA and SADC, is currently implementing sub-regional projects to improve harmonization of seed rules and regulations in West and Southern Africa, including the development of sub-regional information systems to improve exchange of varieties. At the national level, FAO has provided technical assistance for seed sector development and in support to on-farm management of PGRFA and seed, to more than 20 countries, and projects are underway in Albania, Afghanistan, Angola, Argentina, Belize, Burkina Faso, Democratic Republic of Congo, East Timor, Jamaica, Iran, Myanmar, North Korea, Sierra Leone, and Sri Lanka. Community seed security projects are operating in Ethiopia, Malawi, Myanmar, and Afghanistan. FAO has implemented more than 400 seed emergency and relief projects. Specific activities in relation to seed in the context of the Cartagena Protocol on Biosafety and the International Plant Protection Convention are identified in sections V and VI of this document respectively.

29. FAO has more recently revised its Medium Term Plan 2004-2009 in light of the renewed commitment of countries to meeting the objectives of the World Food Summit: *five years later*. The revision addresses specific seed issues and main expected outputs include:

- Support to on-farm management, exchange and improvement of PGRFA, and national seed systems ensuring complementarity between private and public systems;
- Improved and harmonized regulatory frameworks for PGRFA, seeds and variety release;
- Due attention given to seeds and PGRFA in disaster preparedness, relief and rehabilitation;
- Improved access to, and transfer of PGRFA and seed related technologies, including biotechnology.

30. In the development of the FAO Medium Term Plan for the years 2002-2007 and its revision for the years 2004-2009, and in preparation of the document requested by the Commission on strategies to strengthening seed systems, FAO organized a series of three expert workshops on seed policy, seed relief, and on updating the seed Quality Declared Seed standards. Main conclusions and recommendations of those workshops, included in the annex to this document for information, were submitted for information to the twenty-seventh FAO Regional Conference for Asia and the Pacific⁴, held in Beijing, China, from 17 to 21 May, 2004. They were also considered at the third session of the Agriculture and Land and Water Use Commission (ALAWUC) for the Near East, held in Doha, Qatar, from 9 to 11 March 2004.

⁴ APPRC/04/INF/5 "Seed Policy and Regulations in the Light of the International Treaty on PGRFA and the Cartagena Protocol on Biosafety". Annex 1.

31. The ALAWUC Commission noted the document⁵ and Recommended to Member Countries of this Commission to:

- i. Pay due attention that seed systems are dynamic and complex and should be linked to plant genetic resources for food and agriculture conservation and use, particularly on farm;
- ii. Consider when developing national seed regulations all international developments such as the entry into force of the Cartagena Protocol on Biosafety, the revision of the IPPC and the impending entry into force of the International treaty on PGRFA;
- iii. Consider the recommendations of the expert workshops organized by FAO in 2003 on seed policy, seed emergency and relief and quality declared seed, as means to contribute to the objectives of the Global Plan of Action and the International Treaty on PGRFA⁶.
- iv. The ALAWUC Commission also recommended to FAO and other organizations to:
 - Assist in identifying opportunities to build partnerships between public and private sectors in seed systems;
 - Assist in promoting participatory processes in the development of seed regulatory frameworks and gather information on existing seed regulatory models in various countries;
 - Help Member Countries in collecting and sharing accumulated experiences including best practices and country case studies;
 - Help Member Countries in the implementation of the Global Plan of Action (GPA) for the Conservation and Sustainable Utilization of Plant Genetic Resources for Food and Agriculture;
 - Manage information related to seeds in emergency relief operations and work closely with relevant regional and international organizations and agencies as well as NGOs and local institutions in project implementation;
 - Finalize and revise the quality declared seed (QDS) document and promote implementation of QDS in the Near East Countries;
 - Provide a forum to discuss compatibility of seed regulatory issues to facilitate the movement of seeds among countries.

VIII. CONCLUSIONS

32. Seed systems are dynamic and complex. Their effectiveness depends primarily on their capacity to fulfil farmer's needs in terms of agricultural biodiversity and productivity. Strong linkages are needed between PGRFA conservation and use, particularly on-farm. At the same time, seed systems have to be dynamic to adapt to an increasingly globalized scenario resulting in increasingly competitive conditions and new international rules governing agricultural markets. Strategies to strengthening linkages between market-oriented and community-based seed systems are essential to safeguard the long-term on-farm maintenance and use of plant genetic resources. Incentives for farm-level breeding (including participatory plant breeding) need to be enhanced

⁵ Document ALAWUC/NE/04/6 "Seed Policy and Regulations in Light of the International Treaty on Plant Genetic Resources for Food and Agriculture and Cartagena Protocol on Biosafety", Annex.

⁶ ALAWUC/NE/04. Report. Section E.

as well as local level seed multiplication. Appropriate training of farmers in the principle of seed production and storage to improve traditional methods and to create small scale local commercial seed producers. There should be improved policy and increased resources to support these efforts.

33. International developments such as the entry into force of the Cartagena Protocol on Biosafety, the revision of the IPPC, and the entry into force of the International Treaty on PGRFA are being considered by countries in the development of their national seed policy regulatory environment, as discussed in sections III to VI of this document. FAO may provide technical and legal assistance upon request by Members, at the time of developing or reforming their national seed policies and for developing national biosafety regime that will contribute to fulfil their national needs and international obligations. Countries members of the Commission may note relevant recommendations provided by the ALAWUC Commission for countries and FAO and other organizations.

ANNEX 1

Main Considerations and Recommendations of Technical Workshops on Seed Policy and Regulation

A. Expert Worksshop on Seed Policy (26-28 May 2004)

General Considerations

National seed policy development must be placed in a wider context of agricultural policy development, while at the same time ensuring synergy and consistency with environmental, trade and socio-economic policies at national, regional and international level.

Seed policies need to contribute to increase access to good quality and safe seed of a wide number of adapted varieties and crops, with the objective to increase productivity and ensure sustainability. Other measures may be required to achieve these goals.

The role of the public and private sector in seed systems

The public and private sector have a dynamic complementary role to play in the seed system. Development of policy and regulations are the realm of the public sector. Certification may be implemented by the public sector or by duly accredited private entities. Other areas for public sector intervention include strengthening capacity building of farmers, particularly for small scale seed production, and breeding programmes of crops of interest for marginal areas of limited commercial interest, in particular when there are no other market forces to take this role.

Different models can be efficient in different scenarios. In terms of policy development, each country needs to assess who is better placed to undertake a specific role in order to build an efficient seed system. Specific distribution of roles may vary among countries, depending on their particular situation and needs, and among species. However, the involvement of farmers' organizations and the private sector should be encouraged.

Countries engaged in transitional processes of liberalization and privatization of seed systems should do so on the basis of the development of long term planning. The process should involve the participation of all stakeholders, and allow for transitional periods and appropriate time frames, so that different players can adapt to the new scenarios. Capacity building and information sharing will be key to facilitate this process.

Building effective partnerships between private and public sectors requires sharing common objectives.

Partnerships can be established when the role of partners is complementary in achieving the common objective, and competition is avoided.

Complementarity among seed systems/building linkages with PGRFA

Seed policies should encourage fair competition and facilitate collaboration between seed systems, while promoting diversity in the markets to increase farmers' choice. Effective and diverse product markets are imperative to promote seed market development and farmers' access to good quality seed of a wide range of crops and varieties. Co-ordinated interventions – such as

establishing appropriate policies, developing infrastructure and providing market information – could contribute to achieve this goal. Seed policies should also promote the conservation of agrobiodiversity through its use.

In strengthening linkages between all seed systems, appropriate rules are needed to ensure a “healthy” seed system, considering in particular fair competition and more flexible variety release procedures to allow coexistence of all seed systems for specific crops at local level.

Seed relief interventions, such as seed vouchers, seed fairs, and community-based seed security stocks have proven to be useful mechanisms to address access to seed and rehabilitate seed supply after disasters in many countries. Scale-up of such approaches in seed emergencies could be explored as an additional mechanism to promote seed market development without disrupting existing market arrangements and socio-cultural linkages. Detailed consideration of seed relief strategies is given later in this section.

Improving seed rules and regulations

Development and modification of national legislation for seeds should follow a national policy development process which addresses local, national and international needs of the country. In doing so, development of diversity-rich seed markets, good quality control systems, and IPR legislation should be considered.

Countries, particularly developing countries, sometimes find it difficult to implement their national legislation. While national capacity needs to be considered when updating and developing seed regulations, regional approaches could contribute to fill this gap.

There are different models for variety release, with different degrees of public intervention. Regulations in this area should be developed with the involvement of all relevant players across systems, ensuring independency of bodies through the different steps of the regulatory process.

Towards compatibility of seed regulatory frameworks

Common approaches are required to facilitate the movement of seeds among countries. Yet consistency of national legislation dealing with different aspects of seed supply must also be ensured to fulfil the objectives of the national policies.

Special attention is needed regarding the harmonization of phytosanitary measures within the framework of the International Plant Protection Convention (IPPC) and the WTO SPS-Agreement, as well as variety release mechanisms, although other areas may also need specific effort, including seed certification and customs requirements.

A pragmatic approach calls for harmonization of technical specifications and procedures and compatibility of seed regulations, including through mutual recognition, particularly at regional level.

Criteria that may be considered when initiating regional approaches include trading blocs, existence of effective science and research networks, climatic and agro-ecological similarities and the mutual benefit of the countries participating in the process.

Seed associations can play an important role in facilitating compatibility of seed rules and regulations and to facilitate dialogue among stakeholders at national and regional level. This could be facilitated by the existence of a seed industry in the country.

Recommendations for FAO's action

FAO can assist in identifying opportunities to build partnerships between public and private sector in seed systems.

FAO could play a role in promoting participatory processes in the development of a seed regulatory framework, assisting countries to match their regulations to their needs, and their local

capacity, in line with their national seed policies. FAO has a role in gathering information on existing seed regulatory models in various countries, to provide options to countries.

In order to facilitate transitional phases in policy development, FAO could also assist in collecting and sharing accumulated experiences, including best practices and country case studies illustrating transitional processes in developing countries.

FAO can play a key role providing a forum to discuss compatibility of seed regulatory issues to facilitate the movement of seeds among countries and promote political will, while ensuring participatory approaches. To this purpose, FAO can also gather and disseminate existing case studies. Existing work from CG centres, universities and NARS can contribute to this process, with a particular emphasis on cost/benefit analysis and assist countries in developing institutional capacity.

The monitoring mechanism for the implementation of the GPA could be extremely useful to gather relevant information at country level from a wide number of stakeholders. The information gathered could also contribute to give more concrete information on seed systems, which could be relevant for the second State of the World Report on PGRFA. It could also be distributed through the Global Information System foreseen in Art. 17 of the International Treaty on PGRFA and/or WIEWS.

B. Expert Workshop: Seed Emergency and Relief (21-23 May 2003)

General Considerations

1. The overall aim of seed relief activities is to contribute to food and livelihood security by ensuring that farmers, especially vulnerable farmers, have access to seed (planting material) of adequate quality. This does not mean that seeds must necessarily be directly supplied from outside. Instead the emphasis is on facilitating farmers' access to seeds, by direct distribution or through other means. Seed relief is to be seen within the broader context of supporting food and livelihood security.
2. Seed relief activities should (a) meet the immediate needs of farmers for access to planting material and (b) contribute to long term restoration, rehabilitation or improvement of agricultural systems. By supporting food production, seed relief should decrease dependence on repeated food aid.
3. These aims are nested within the broader aims of strengthening food and livelihood security consistent with the broader aims of FAO's Strategic Objective A3: "Preparedness for, and effective and sustainable response to, food and agricultural emergencies". Specific recommendations are also included in Priority Activity 3 of the GPA "Assisting farmers in disaster situations to restore agriculture systems".
4. The overall goal and guiding principles recommended for seed relief interventions :
 - a. Needs assessment should underpin any decisions to undertake seed relief and guide the choice among possible interventions. Such needs assessment should be holistic, putting seed security in the context of livelihood security;
 - b. Seed relief interventions have to be clearly matched to the context (for example, a crisis caused by drought may require very different actions from a crisis caused by war). By supporting food production, seed relief should decrease dependence on repeated food aid;
 - c. Seed relief activities should aim to both (i) be effective with the immediate objective of facilitating access to appropriate planting material; and (ii) contribute to the restoration, rehabilitation or improvement of agricultural systems in the longer term;

- d. Ideally, considerations of seed system sustainability should be built into seed interventions from the beginning. As a minimum, seed aid should do no harm to farming systems. Thus emergency relief activities should support local seed system development, ideally by integrating long term needs into the design of the project;
 - e. Seed relief activities should be built upon a solid understanding of all the seed systems farmers use and the role they have in supporting livelihoods. The local system is usually more important to farmers' seed security and has been shown to be quite resilient. Depending on the context, the focus in case of an emergency should normally be on keeping the local seed system operational. One practical problem is that seed systems are often not sufficiently understood, especially in emergency situations. Hence there is a need for more emphasis on understanding seed systems, their role in supporting livelihoods, and needs assessment;
 - f. Seed relief interventions should facilitate choice by farmers of crops and varieties. Seed relief interventions should aim to improve, or at least maintain seed quality, and aim to facilitate access to crops and varieties that are adapted to environmental conditions and farmers' needs, including nutritional needs;
 - g. Monitoring and evaluation should be built into all seed relief interventions, to facilitate learning by doing and thereby to improve interventions;
 - h. An information system should be put in place to improve institutional learning and as a repository of information gained from cumulative experience. Such information systems should be institutionalized at national levels, to the possible extent;
 - i. A strategy to move from the acute emergency response to a capacity building or development phase should be included in the design of the intervention;
5. These principles, endorsed by the FAO Emergency Coordination Group, have important implications for FAO in terms of formulation of project documents including needs assessment. Guidelines for needs assessment and the module on seed relief, currently both under development, will assist project formulators in their task.

Recommendations for FAO's action

6. FAO does not implement food aid, but does carry out food supply assessments jointly with WFP. The Organization implements seed aid and other interventions aimed at increasing agricultural productivity, although it has little capacity to assess needs for such interventions. It was suggested that the scope of GIEWS and FIVIMS should be broadened to include needs assessments relevant to seed security and other aspects of agricultural productivity. Ex situ gene banks can also play an important role in providing seeds when lost after disasters. Seed related information in the World Information and Early Warning System on Plant Genetic Resources should be linked to GIEWS.
7. More attention should be given to the management of information relevant to emergency relief operations in FAO to facilitate learning by doing. Needs assessments and the design of emergency operations require an inter-disciplinary approach and should draw more effectively upon data and expertise in various FAO departments and other institutions.
8. Administrative procedures, including procurement procedures should be reviewed to facilitate emergency operations and allow for innovative approaches.
9. FAO should promote greater attention to preparedness among its partners, including the development of seed system profiles or baseline seed security assessments for disaster-prone countries, and should explore how to scale up the use of seed fairs and vouchers, inter alia, building upon the Organization's experience in scaling up farmer field schools.

10. The workshop recognized that there are many opportunities for strengthening partnerships between FAO and other organizations. FAO should work more closely with NGOs and local institutions in project implementation, and promote a two-way learning process between NGOs and the Organization. Greater recognition should be given to NGO contributions.

C. Expert Workshop on Quality Declared Seed (5-7 May 2003)

General Considerations

1. In order to consider new technical developments, and continue with the previous FAO work on Quality Declared Seed (QDS), technical experts agreed that attention should be given to the following issues:
 - a. The need to clarify the potential users of QDS and how they may implement it to the benefit of the seed system and ultimately the farmers for whom that system exists;
 - b. The ultimate objective of QDS should be to facilitate the assurance of seed quality to farmers;
 - c. The changing status of seed quality assurance in developing countries. It was highlighted that in principle, QDS is more relevant today because of the diversification of the seed system and sources in many countries to facilitate the involvement of more and different suppliers in providing seeds to farmers;
 - d. QDS could be a very useful alternative system to classical seed certification, especially for crops, which are not covered by the commercial seed sector, and for new innovative varietal development methods such as participatory varietal selection;
 - e. The relevance of QDS for national and cross-border movements of seed and the need to promote the scheme in sub-regional initiatives such as the compatibility of seed rules and regulations;
 - f. The need to take advantage of the opportunities afforded by QDS to apply quality control in seeds of crop species that are presently not covered by the private seed sector.

Recommendations for FAO's action

2. FAO should finalize the revised edition of its Quality Declared Seed document, incorporating new crops as well as the revised seed standards into the document.
3. FAO should take adequate action to promote the implementation of QDS at global level, particularly in developing countries where there is no quality control system in place.
4. The QDS should be made as widely available as possible, using various means including the Internet.
5. FAO should organize another Expert consultation to produce a manual aimed at issues related to a quality control scheme for clonal (asexual) crops.