

Final Report on the
Establishment of the National Information
Sharing Mechanism on the
Implementation of the Global Plan of
Action for the Conservation and
Sustainable Use of Plant Genetic
Resources for Food and Agriculture
in Ghana

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Introduction:

Policy makers, development agencies, researchers and others dealing with PGR need precise and reliable information for decision-making.

Ghana signed and ratified the Convention on Biological Diversity (CBD) since 1992. Ghana has a national plant genetic resources (PGR) programme in place. A National PGR Strategic Plan is in the final stage being drawn up. There are several major stakeholders in the management of Ghana's PGR. There is no legislation backing pgr activities in Ghana though Ghana has been involved with several regional and international activities in connection with agro-biodiversity management. A National Biodiversity Strategy for Ghana has been drawn up.

Ghana participated in the fourth International Technical Conference on Plant Genetic Resources in Leipzig, Germany in June, 1996 and adopted the Global Plan of Action (GPA) which agreed that monitoring the implementation of the GPA and its related activities was essential for establishing priorities, developing future plans and for effective use of financial resources available at national and international levels for implementing the GPA. Efficient mechanisms are needed to exchange information derived from PGRFA research and development at the national level.

Overview of the Establishment Process

The National Focal point organized a workshop in 8th May 2003 to discuss and finalize National PGR Strategic Plan for Ghana and to sensitize representatives of key stakeholder Institutions on the national information sharing mechanism on the implementation of the GPA. The drawing up of the National PGR Strategic Plan for Ghana was supported by IPGRI and FAO. Some institutions which were identified as key stakeholders failed to honour the invitation.

This was followed by a technical visit to Ghana by Dr. Fundora Zoila from Cuba and the IPGRI Co-ordinator for West and Central Africa, Dr. Raymond Vodouhe. Dr. Zoila was sent by the FAO and She was very helpful in guiding the Ghana Focal point team through the processes of information gathering, how to use the GPA computer application and filling of the common tables. Visits were paid to some key stakeholder institutions in Ghana and the CSIR Secretariat.

There was another technical visit to the Ghana Focal point by Stefano Diulgheroff to assist in the use of the GPA Software and to clarify some points on the use of the Software and to guide the information sharing mechanism. Visits were also made to some key stakeholder institutions.

A stakeholder workshop to train key stakeholders in the use of the electronic reporting format was organized at Bunso, 10-11 November, 2003. We had technical support from FAO in the person of

Stefano Diulgheroff who provided the needed technical assistance in the use of the electronic reporting format. He was also very helpful in encouraging the PGRC to set up a LAN by assisting to get some equipment from FAO to PGRC and demonstrated the usefulness of LAN by setting one up during the workshop which was very useful. CDs were prepared with the data and distributed to key stakeholders to answer the questions in the priority activity areas and return them to the focal point. Some stakeholders have difficulty in answering the questions because they do not have the required facilities. The process took longer than envisaged.

A workshop to collate and discuss the national information sharing mechanism and the way forward was held in March, 10-12, 2004 at Bunso.

Participating Stakeholders and their roles and agreed responsibilities.

The Ghana establishment project had eight key stakeholders:

Crops Research Institute, Kumasi,

Cocoa Research Institute of Ghana, New Tafo-Akim,

Oil Palm Research Institute, Kade-Kusi,

Forestry Research Institute of Ghana, Kumasi,

Plant Genetic Resources Centre, Bunso,

Savannah Agricultural Research Institute, Tamale,

University of Ghana, Botany Department, Legon,
Kwame Nkrumah University of Science and Technology,
Department of Horticulture, Kumasi.

(a) Crops Research Institute (CRI)

Is the largest institute within the CSIR with about 80 scientists in various fields. The institute carries out research aimed at developing improved varieties and production practices that enhance agricultural productivity in the country. They produce breeder seeds of certain crops in the country. They are mainly involved with genetic enhancement and base broadening activities. They have a tissue culture facility which they use to multiply disease free planting materials for certain crops.

(b) Cocoa Research Institute of Ghana (CRIG)

They carry out research aimed at improving the production of cocoa, coffee, cola, she nut and recently cashew. They also try to add value to the raw materials by establishing a new product division. They also have field genebanks.

(c) Oil Palm Research Institute (OPRI)

They have the responsibility to provide scientific and technological support to the production of palm fruits and coconut as well as provide healthy planting materials to farmers. Both local and introduced germplasm have been used in their plant improvement activities.

(d) Forestry Research Institute of Ghana (FORIG)

They have the mandate to conduct research into forestry management, utilization and sustainable use of forest genetic resources. They also conserve forest seeds and maintain arboreta which are being developed into an eco-tourist site.

(e) Plant Genetic Resources Centre (PGRC)

Collect and conserve the plant genetic resources of Ghana. The Centre is responsible to co-ordinate pgr activities in the country. It serves as the national genebank for most food crops of the country.

(f) Savannah Agricultural Research Institute (SARI)

This institute is mandated to carry out agricultural research in food and fibre crops of the savannah region so as to improve agricultural productivity and food security in the northern sector of the country.

(g) University of Ghana, Botany Department, Legon (BD)

This department is a teaching and research organization. It trains students from graduate to postgraduate levels. It has tissue culture laboratory for conservation and rapid multiplication of yam, cocoyam, plantain, pineapple among others. It also maintained a botanic garden for teaching, learning, recreational

and aesthetic purposes. The herbarium of Ghana is located in this department.

(h) Kwame Nkrumah University of Science and Technology, Department of Horticulture, Kumasi (KNUST)

This department is a teaching and research institution. It trains students in horticulture from graduate to postgraduate levels. It also deals in floriculture and pomology. It maintains working collection of certain crops.

The following follow up actions were agreed on at the final workshop for all the stakeholders

Regular updating of the data-sets and their maintenance and forwarding of the updates to the National Focal point by all stake holders.

The National Steering Committee would be formed by the key stakeholders and a national capacity built to collect, maintain and update the datasets.

The National Steering Committee would organize regular meetings at least once a quarter to help move the process forward.

The information gathering process would be formalized in the various stakeholder institutions to facilitate the release of information.

The national focal point should as much as possible rope in other stakeholders who might not be part of the initial process in consultation with the key stakeholders.

Budget lines should be made for the National Information Sharing Mechanism by all stakeholders in their annual budgets.

Networks should be developed or strengthened with all stakeholders by linking members with common interest and problems. This was to allow the sharing of resources, experiences and technologies. The National Focal Point should make the information gathered available to policy makers and members of parliament in a form they will easily appreciate.

Overview of the national information gathering system and its establishment/strengthening

This information gathering system started on a very slow note because people were not ready to release information readily. It took sometime and some explanation for stakeholders to appreciate the importance of the exercise. Dr. Zoila from Cuba assisted us to draw a national strategy for the national information sharing mechanism in the implementation of GPA.

PREPARATORY PHASE:

- To check the inventory of key SH that should be involved in the National Information Sharing Mechanism
- To identify technical assistance needs, and for participating in the establishment of the National Information Sharing Mechanism in the Monitoring of the Global Plan of Action Activities

To define the function and commitments of the Stakeholders involved in the establishment of the National Mechanism.

- To define the functions and commitments of the curator(s) of the national Mechanism for sharing information
- To build capacities of key stakeholders on the use of the Electronic Reporting Format

- To elaborate a time schedule for compiling information and sending it to the Mechanism
To assess the process of compiling and sending of information by the SH, and to assess them in entering the data for the activity areas in the GPA
- To compile the data from the SH and to prepare a Final Report

MONITORING PHASE:

- To establish compromises for the sustainability of the Sharing Mechanism
- To update every year the Electronic Reporting Format by the NFP and the key SH involved, through a National Meeting, and also through technical assistance.

Some stakeholders were not certain on what kind of information was required. The selection of the representatives of the stakeholders also had effect on the information gathering system. There were suggestions that there would be the need to undertake fund raising to support and maintain the information gathering and sharing mechanism in the country.

With constant interaction between the various stakeholders the information gathering system could be established and what is expected of each stakeholder would be clearer as well as the role of the focal point.

Some of the stakeholder representatives seemed to be too busy with other activities so much so that they do not have the time to see to the information gathering process.

The Heads of the institutions showed commitment but it seemed some of their representatives do not report regularly to them the stage they have reached in the information gathering process from their colleagues and other stakeholders.

A periodic reporting mechanism would be in place for the exchange of information and ideas to move the process forward. Most participants agreed on the usefulness of the GPA information sharing mechanism as it exposed/pointed out gaps, areas of high or low concentration in research as well as weakness and strengths. It also pointed out duplication of efforts by different organizations.

Institutions with obvious missing information were surprised about the power of the GPA pilot project in pointing out that to them.

All agreed that the National Information Sharing Mechanism could be used to set priorities for research as financial resources are getting scarce day in day out. The National Information Sharing Mechanism was captured in the National PGR Strategic Plan for Ghana at a workshop in May 2003. The Strategic PGR Strategic Plan has been drawn for 2004-2008.

Seminars and workshops would be organized in the various stakeholder institutions to present the results of the GPA pilot project to them to see the outputs and solicit their support as well as demonstrate the usefulness of the GPA software. This process will be supported by the National Focal Point. The National Information

Sharing Mechanism also showed the on-going projects in PGRFA in the various stakeholder institutions and those that have been completed. The pilot project also made it possible for us to access our capability in managing PGRFA information and how to meet international reporting arrangements.

It also helped in the development of partnerships among stakeholder institutions as well as collaboration in certain areas.

Funding Mechanism was discussed at length and it was suggested that all stakeholder institutions should make some budgetary contribution from their annual budgets for National Information Sharing Mechanism. These amounts would be used by the stakeholder institution concerned for its activities.

The National Focal Point would source from funds through the National PGR Strategic Plan funding mechanism for the coordination of the activities in the National Information Sharing Mechanism in the monitoring of the Implementation of the GPA.

The National Focal Point should also strive to link up through a network on the website to let information flow more easily.

Highlights of findings from the data gathering, analysis and reporting

A total of 221 contact persons were entered in the database and a total of 331 projects were entered in the database from the eight (8) stakeholder institutions.

111 projects were recorded to have address GPA priority activity areas in **In Situ Conservation and Development;**
Ex Situ Conservation ;(93 projects listed)
Utilization of Plant Genetic Resources ;(246 projects listed)
Institutions and Capacity Building. (89 projects were recorded)

For each of the groups the priority activity areas were listed and some of the responses.

In Situ Conservation and Development

1. Surveying and Inventorying PGRFA. (35 projects)

Name of priority areas include Northern Ghana and Southern Ghana.

Major Threats include Diseases and pests, bushfires, food crop farming, fuelwood.

Constraints and opportunities for further action mentioned were a single body should be set up to link up with all research institutions and co-ordinate all PGRFA activities in the country. If possible a central genebank on the model of the Kew gardens of the U.K. for all crops/plants of interest, and responsible directly to the body could be set up. This will then serve as a source of materials for the genebanks of the various research institutions.

2. Supporting on-farm management and Improvement of PGRFA. (66 projects)

Major limitations to on-farm management of PGRFA include inadequate incentives provided to farmer;

Insufficient number of staff;

Insufficient skills and staff training;

Insufficient financial support;

On-farm management and improvement of PGRFA are not a national priority.

Comments on ways of Improving on-farm management were, the benefits to the farmer should be such that he/she will be encouraged to fully participate in and strictly adhere to all the rules of the programme.

ii. there should be a clearly defined training programme for all categories of staff involved.

iii. agencies set up to oversee PGRFA

activities must be up and doing. Monitoring and evaluation schedules should be well spelt out and strictly

3. Assisting farmers in disaster situations to restore agricultural systems. (20 projects)

No organization has the mechanism to assist farmers to immediately restore the agricultural system in disaster situations in the country.

There are no mechanisms in place to facilitate the reintroduction of locally adapted germplasm to assist farmers in the restoration of agricultural systems following disaster.

There is the need to strengthen the conservation of locally adapted germplasm as well as provision of facilities for the rapid multiplication of germplasm.

International organizations should assist research institutions to rapidly acquire, multiply and restore materials in case of a disaster.

4. Promoting *in situ* conservation of wild crop relatives and wild plants for food production. (18 projects)

There are no well defined policies on promoting the in-situ conservation of wild crop relatives and wild food plants in the country.

There is therefore the rationale for a coherent policy direction in the in-situ conservation of wild crop relatives and wild food plants.

Development of capacities to manage in-situ conservation of wild crop relatives and wild food plants are required.

Ex Situ Conservation

5. Sustaining existing *ex situ* collections. (69 projects)

Coordination, collaboration and networking among policy developing institutions and policy implementation institutions.

Removal of overlaps, duplication, conflicts and unhealthy competition.

Developments of capacities of various institutions involved in sustaining ex-situ collections.

Provision of adequate logistics and financial support.

Periodic administrative and technical reviews should be undertaken to assess the effectiveness of the activity.

International Organizations should assist on-going conservation of collections of PGRFA to be secured.

6. Regenerating threatened ex situ accessions. (24 projects)

Provision of the requisite facilities should be high on the priority list.

Inadequate financial resources are a big constraint. Development of capacities to regenerate threatened ex-situ collections

7. Supporting planned and targeted collecting of PGRFA. (26 projects)

Develop capacities in planned and targeted collecting of PGRFA. Support is needed in the provision of financial and technical services.

Strong links should be established between regional and crop networks and users of PGRFA.

8. Expanding ex situ conservation activities. (65 projects)

Assessment of the priorities for the expansion of the ex-situ conservation

Define appropriate regulation, management and monitoring system.

Development of coherent policies on ex-situ conservation activities.

Provision of adequate financial resources by policy makers and the international community.

Utilization of Plant Genetic Resources

9. Expanding Characterization, Evaluation and Number of Core Collections to facilitate Use. (78 projects)

Adequate and long term funding plus well trained and motivated staff

10. Increasing Genetic Enhancement and Base-Broadening Efforts. (85 projects)

Inadequate funding

Lack of special equipment to use of biotechnology in breeding.

Inadequate breeders to handle the number of crops.

Non-functional irrigation equipment.

Erratic power supply for cold storage.

Opportunities: Germplasm exchange and scientific visits to advance breeding institutions.

11. Promoting Sustainable Agriculture through Diversification of Crop Production and Broader Diversification in Crops. (197 projects)

Policy/legal obstacles

Marketing/commercial obstacles

Obstacles to officially release heterogenic material as cultivars

12. Promoting Development and Commercialization of Under-utilized Crops and Species. (23 projects)

13. Supporting Seed Production and Distribution. (106 projects)

There are no incentives for quality seed production of local varieties and under utilized crops.

There are no policies to support the organization and expansion of local seed growers' associations.

There should be awareness creation on seed policy.

There should a policy on subsidy for seed.

Poor seed storage facility.

More seed outlets should be provided in the farming communities.

14. Developing new Markets for Local Varieties and 'Diversity-Rich' Products. (20 projects)

Financial support be given to those going into the ventures. They must also be assisted in finding market for their products both nationally and regionally.

Institutions and Capacity Building

15. Building Strong National Programmes. (36 projects)

There should be total commitment of governments to PGRFA activities. There should be a network of all the various PGRFA activities nationwide to avoid duplication and thus cut down cost. The national activities should also be strongly linked with international organizations especially IPGRI so that sourcing of long-term funding could be channeled through that body.

16. **Promoting Networks for PGRFA.** (26 projects)
17. **Constructing Comprehensive Information System for PGRFA.** (27 projects)
18. **Developing Monitoring and Early Warning Systems for Loss of PGRFA.** (9 projects)
19. **Expanding and Improving Education and Training.** (63 projects)
20. **Promoting Public Awareness of the Value of PGRFA.** (27 projects)

STAKEHOLDER CONTACT PERSONS

CRI	42
CRIG	38
OPRI	14
SARI	42
PGRC	11
BDB	10
FORIG	9
HORT. KNUST	6
Total	172

The above table showed the number of contact persons from the key stakeholder institutions. The Crop Research Institute which is the largest has almost the same number of people as SARI. This clearly showed there are some people in Crop Research Institute which have not been captured in the database. This could be the case for other stakeholder institutions.

REFERENCES

Article	172
Booklet	3
Inbook	4
In proceedings	57
Master Thesis	9
PhD Thesis	5

Manual	8
Technical Reports	25
Books	3
Proceedings	3
Catalogue	0
Miscellaneous	4
Unpublished	19
Draft law	0
Bill	0
Law	0
Regulation	0
Total	312

The table on references clearly showed there were no Draft law, Bill, Law or Regulation on Plant Genetic Resources for Food and Agriculture captured in the database.

INSTITUTIONS PROJECTS

cri	41
crig	56
sari	60
pgrc	32
Opri	19
department of botany	30
Knust	10
Mofa	44
Total	292

CATEGORIES OF FUNDING SOURCES

National Programme	149
Participating Organizations	17
Associated Networks	27
Coordinating Organizations	40
Total	233

STATUS OF PROJECTS WITH FUNDING BY CO-ORDINATING INSTITUTION

Completed	16
Ongoing	22
Approved	2
Proposed	0
Total	40

The status of projects funded by the coordinating institution is shown above. A total of 40 projects were funded by co-ordinating Institutions out of which 16 have been completed and 22 are on-going. Only three coordinating institutions funded the 40 projects.

STATUS OF TOTAL PROJECTS

Proposed	1
Approved	2
Ongoing	227
Completed	75
Total	305

PROJECT FUNDED BY NATIONAL PROGRAMME

Completed	22
Ongoing	127
Approved	0
Proposed	0
Total	149

PROJECTED FUNDED BY ASSOCIATED NETWORKS

Proposed	0
Approved	0
Ongoing	10
Completed	16
Total	26

The Information on the costs of PGRFA management in the country is not easy to conjecture. Especially for on-farm conservation activities. Most of the stakeholders could not state the amounts that were being spent for the various projects and this makes it difficult to tell whether the projects are being under funded or over funded. This is a real difficulty for planning.

The database has an overwhelming male dominance as far as project coordination and participation are concerned. Attempts should be made to encourage female participation in more PGRFA projects.

Achievements, Constraints and suggestions for improving the Information Sharing Mechanism

The National Information Sharing Mechanism will improve our negotiation with donors for project support because we have the data gathered in the pilot project as well as periodic updates to back our position.

The level of expertise available in PGRFA in the country (Ghana) is captured by the Project. This could be used to build list of consultants in PGRFA.

The data base created could be used to promote collaborative research in and outside the country.

The Establishment of National Information Sharing Mechanism in the Monitoring of the Implementation of the Global Plan of Action has opened avenues which hitherto were taken for granted.

There was great appreciation of the value of PGRFA among the stakeholders as it contributes significantly to ways of ensuring food security and crop improvement.

The project has shown that not much is being done in the country as far as in-situ conservation activities were concerned.

The database created would be used as a one stop gap shop where useful information could be obtained on on-going, completed and approved projects on PGRFA in the country.

Planning for policy makers on PGRFA would be made easier by the data available in the pilot project as it will be useful in priority setting in Agricultural Research.

National Coordination development has been enhanced by the Information Sharing Mechanism as a forum is being created for networking.

It has brought some awareness though limited to the various stakeholders about what the others are doing in PGRFA.

The Information Sharing mechanism showed that Ghana is not in a position to restore its agricultural system in case of a major natural disaster and therefore we need to do something about this situation.

We found the indicators useful as well as the reporting format. What needed to be done is the various stakeholders ought to take their time and study them carefully to get a good understanding of what is required.

The only constraint perhaps was during which periods do we consider in reporting. Could it be before the Leipzig meeting in 1996 or after? E.g. when was someone trained in inventory and surveying? Is the person at post?

The computer application is useful in gathering and merging information but could not easily generate reports for dissemination.

The background materials and guidelines were adequate and comprehensive. All you needed to do is to adopt them to suit your peculiar situation because they are not to be followed to the letter. The guidelines could be adjusted to suit many situations and that was what we did.

On the strength and weakness of the technical assistance it was felt they assisted immensely to push the process forward. They quickly responded to questions and clarifications.

NEXT STEPS AND FUTURE PLANS

REPORTING

- Participants were urged to report to the Directors/Heads of their organizations about the process of establishing the National Information-Sharing Mechanism on the implementation of the Global Plan of Action (GPA) for Plant Genetic Resources for Food and Agriculture.
- Participants should go through the data provided, updating them, when necessary, and through the questionnaire included in the computer application delivered to them. Data and answers to the questionnaire will be returned to the National Focal Point ;
- Directors are to impress upon their staff in order to provide the necessary inputs for the success of the National Information-Sharing Mechanism on the GPA;

LOGISTICS

- For the most efficient data management of the computer application on the GPA a local area network (LAN) is recommended, alternatively
- A high capacity computer should be assigned to this activity (an existing computer could be upgraded to meet the specifications needs).
- Efforts are being undertaken in order to assist the National Focal Point, at PGRC, to establish a LAN.
- It has been also recognized the need to take all necessary steps in order to ensure that PGRC will be provided with sufficient communication facilities for both voice and data exchange to carry out its responsibilities as coordinator of the National Information-Sharing Mechanism on the GPA.

THE FUTURE

The workshop agreed on the following activities to be carried out to move the National Information Sharing Mechanism at a faster pace.

- Participants upon their return to their respective organizations should train other colleagues in the use of the Computer Application for the GPA with the active support of the National Focal Point.
- The National Mechanism on GPA implementation should in the future involve a larger number of stakeholders including Non-governmental organizations (NGO's); Community based organizations (CBO's), etc.
- The formation of research partnership between formal sector institutions and indigenous and local knowledge holders.
- It is recommended that future workshops on the use of the Computer Application for the GPA should be attended by both researchers and scientific secretaries.

RECOMMEDATIONS AT THE LAST GPA WORKSHOP

- The GPA steering committee should hold periodic meetings and report to all stakeholders.
- The information gathered should be 'translated' into practical, user friendly language.
- National Focal Point should package the information gathered for target groups with what suits their interest.
- Communication channels and networks should be actively maintained to transmit results from the project to politicians and decision makers, policy makers and resource users and their service organizations.

- Formalize the information Sharing Mechanism in all stakeholder institutions to facilitate information release and exchange on PGRFA.
- The Ghana Government should be encouraged to make financial commitment to the Information Sharing Mechanism on PGRFA in its budget process.
- All stakeholders must improve the efficiency of their conservation systems.
- All efforts should be made to integrate all PGRFA activities in the framework of a unified national programme.
- We should promote public awareness as much as possible in all PGRFA activities by defining target audiences, partners and tools in the country.
- Attempts should be made to integrate traditional varieties into the market to increase national food production and food security.
- The Ghana Government should be impressed upon to improve the quality of PGRFA conservation facilities.

CONCLUSIONS

The National Information Sharing Mechanism in the Monitoring of the Implementation of the GAP has been a very useful pilot project in Ghana.

The project has revealed in one step what the various institutions are doing in PGRFA. The information gathered could be used for effective planning of projects and set priorities. It will also help to eliminate duplication in efforts of the various agencies.

Gaps in PGRFA activities would be filled with certainty and not based on speculation.

As part of awareness raising and strategic development, policy makers in the country would be supplied with vital information on PGRFA relevant to political debate and interested parties would be given appropriate advice. This will help the promotion of coherence between different sectors, for example environment and agriculture and their support approaches. As much as possible the Implementation of the National Information Sharing Mechanism should be strongly dovetailed with other areas of national policy.

Appendix 1. List of Participants at the various workshops.

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