

**Proceedings of the 3rd meeting of the National Advisory Board on Management of Genetic Resources (NABMGR), held on March 05, 2013 at the National Bureau of Animal Genetic Resources, Karnal**

The 3<sup>rd</sup> meeting of the NABMGR was held on 5<sup>th</sup> March 2013 at the National Bureau of Animal Genetic Resources (NBAGR), Karnal. The meeting was chaired by Dr. R. S. Paroda, Chairman, National Advisory Board on Management of Genetic Resources (NABMGR), Chairman, Trust for Advancement of Agricultural Sciences (TAAS) and Chairman, Farmers' Commission of Haryana, and Co-Chaired by Dr. S. Ayyappan, Director General, ICAR and Secretary, Department of Agricultural Research and Education (DARE), New Delhi. The list of participants is given in Annexure I.

At the outset, Dr. B. K. Joshi, Director NBAGR welcomed the Chair and other members. In his welcome address, he mentioned that the Animal Genetic Resources Bureau was envisioned by the Hon'ble Chair, Dr. R. S. Paroda and with his continued support and guidance; it has bloomed as a unique institution in the world. He highlighted some of the achievements made by NBAGR during the recent years including registration of 144 breeds of livestock and poultry; characterization of more than 95 per cent of registered breeds both at phenotypic and genotypic level; development of some unique products like parentage verification kits for cattle, buffalo and camel; kit for verification of breed purity of Murrah buffaloes; DNA test for differentiation of cow and buffalo milk as well as meat; and the patents have been applied for some of these. Characterisation, evaluation and registration have added value to the breeds and have given recognition to the livestock keepers and helped in formation of breed societies/self help groups (SHGs) for conservation of animal genetic resources. The project on whole genome sequencing of buffalo and characterisation of various candidate genes of different farm animal species has revealed desirable alleles which highlight the value of native breeds. He then requested the Chair to release the **Portal on Farm Animal Genetic Resources** and publications on '**Sindhi Donkey**', '**Purnea Cattle**' and '**Madras Red Sheep**'.

The Chairman, Dr. R. S. Paroda, in his opening remarks, welcomed all the distinguished members, other participants and expressed his pleasure and appreciated the presence of Dr. S. Ayyappan, DG, ICAR and Dr. K. M. L. Pathak DDG (Animal Science) in the meeting, particularly focussing on management of animal genetic resources. He requested all Bureaux to speed up the implementation of the recommendations made in earlier meetings. He mentioned that the institutional set up of all Bureaux in the ICAR is unique, and most countries do not match up with this kind of infrastructure.

Noting that many stalwarts for PGR like Dr. S. Mahadevappa, Dr. P. L. Gautam, Dr. R. S. Rana, Prof. Swapan Datta and all concerned DDGs are members of this esteemed committee, their role in coordination, convergence and networking of all activities related to management of genetic resources should lead to better management, and the concerns raised can be addressed in a much better way. High priority should be given to implementation of National Action Plan for Plant, Animal and Fish Genetic Resources, and other Bureaux can also set up

their priorities and plans accordingly. There is also a need for balancing of activities at the Bureaux since these were established for a specific and defined purpose. These activities should not be ignored while doing research. The main task of the scientists at the Bureaux should be more service oriented. It was suggested that the role of Bureaux should be strengthened for coordination at bilateral, regional and global levels. For facilitation of this, a representative of DARE (Director, DARE) may also be included as a Member in this Advisory Board, besides Secretary DARE being the Co-chair. Legal aspects also need to be strengthened.

The Chairman also reiterated the need for sharing information on genetic resources through websites of all Bureaux and the need to take quick actions on access and benefit sharing (ABS) issues in the implementation of the International Treaty and the use of standard material transfer agreement (SMTA). In view of our national interest and taking advantage of the ITPGRFA, he emphasised that efforts should be made to procure what we do not have and we need to recognise the importance of “give and take” for both information and germplasm. Citing the example of oil palm, it was mentioned that the oil palm did not originate in Malaysia but it is the largest exporter of oil palm today in the world and India is its largest importer. Malaysia had planned explorations in the past every year from the West African continent to collect germplasm of oil palm in order to improve germplasm and to sustain the industry. India should emulate such activities in horticultural crops. Regarding germplasm conservation, examples of Svalbard and Nordic gene banks were cited for cost effective storage in India, where seeds are conserved at permafrost conditions or in deep freezers. The Chairman emphasised that the Gene Fund in India should be used to help saviours of genetic resources and to support research on assessment of climate change on genetic resources on lines similar to the Global Crop Diversity Trust (GCDT). Regarding the impact and use of genetically modified crops on biodiversity, the Chair mentioned that systematic evaluation of germplasm held in field genebanks (*in-situ*) and *ex-situ* genebanks must be undertaken.

The Chairman appreciated the publications brought out by the NBAGR which would help to protect our unique animal genetic resources. He encouraged the scientists to bring more such publications on all valuable animal breeds of India.

Finally, the Chair asked all concerned to act fast and implement the recommendations of NABMGR.

The Co-Chair, Dr. S. Ayyappan, in his opening remarks welcomed all the members and complemented the Chair for his keen interest and guidance on all genetic resources management matters and emphasized his commendable role in setting up the Bureau on Animal, Fish, Insects and Microbial Genetic Resources fifteen years ago. The Co-Chair assured that the Bureaux are committed to their service role and the same has been reflected in the ‘Performance Indicators’ specially prepared for the Bureaux. He also mentioned some of the actions already taken at the ICAR level on the recommendations of the Board, such as all Bureaux have been declared as the repositories, vacant positions of scientists in the

Bureaux already stand advertised, and the Agro-biodiversity Platform proposed in the XII Plan sanctioned. A special mention was made on the Global Consultation on Genebank Managers organised jointly by ICAR, NBPGR and Bioversity International during 12-14 February, 2013. The Consultation meeting was attended by 60 representatives from 32 countries and CG Centres. The Chairman also complemented ICAR and Bioversity International for successfully organising the Global Consultation.

Dr. R.S. Rana, representing the National Biodiversity Authority (NBA) Chairman briefed the Board Members about the recommendations of the EC on Agro-biodiversity on the matters referred by the DARE/ICAR to NBA. These recommendations were duly considered and approved by the NBA-26 meeting held on 16 January, 2013 and conveyed by the NBA Chairman to DG, ICAR through his letter on 28 January, 2013. A copy of these recommendations, along with the approved follow-up actions, was tabled by Dr. Rana for ready reference while adding that all the four major and four other related issues were fully addressed through specific actionable recommendations. Both the Chairman and the Co-Chairman welcomed this development and appreciated the role played by Dr. Rana, as Chairman of the Sub-Committee constituted by NBA for this purpose.

In this context, they also commended the initiatives and timely positive actions taken by Dr. P.L.Gautam, the former Chairman of NBA & Former Chairperson, Protection of Plant Varieties and Farmers Rights Authority (PPVFRA) and Dr. Balakrishna, the present Chairman, NBA for resolving the outstanding issues. The recommendations made by NBA were then duly linked to those of the Committee set-up by the National Advisory Board on this subject under Dr. Gautam's Chairmanship.

The Chairman then requested for the adoption of the agenda for the meeting and approval of the Minutes of the 2<sup>nd</sup> meeting of NABMGR held on 13<sup>th</sup> August, 2012. Accordingly, the Agenda was adopted and minutes were approved unanimously. The Action Taken Report (ATR) was then presented by the Member Secretary, Dr. K. C. Bansal, Director, NBPGR. The follow-up recommendations on the ATR are as follows:

### **Follow-up on the recommendations of the I and II meetings of NABMGR**

<b>Agenda 1: Preparation of a Guideline Document for Management of Genetic Resources</b>		
<b>Action</b>	<b>Recommendations made at the 3<sup>rd</sup> meeting on 5.3.2013</b>	<b>Actions to be taken before the 4<sup>th</sup> meeting</b>
Core committee was constituted to finalize the guideline document including all aspects of genetic resources with Dr Bhag Mal, Former Regional Coordinator, Bioversity International as Chairman and members from all Bureaux. The draft guidelines finalized and submitted to Chairman of the Core Committee.	The Chairman appreciated the efforts made by all Bureaux and members of the Core Committee in finalizing the document. It was recommended that the final document should be brought out by the next meeting, after review by all Directors collectively.	<b>Action: Chairman, Core Committee and Directors of all Bureaux</b>

**Agenda 2: Policies and Procedures for Exchange of Plant Genetic Resources**

Five meetings of the Sub-Committee were held and draft proposals prepared. It was suggested to organize a national consultation with all stakeholders on this agenda. **(presented as a separate Agenda for the 3<sup>rd</sup> Meeting at V.a)**

**Agenda 3: Implementation of International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)**

<ul style="list-style-type: none"> <li>• Self contained note/ proposal was submitted for obtaining the approval of Secretary, DARE and DAC</li> <li>• Approval from DARE has been received for designating 26,563 accessions of Indian germplasm of nine crops for the MLS of the Treaty. The list of germplasm has been sent to DARE and DAC for approval and for further notification to Treaty Secretariat, FAO, Rome.</li> </ul>	<p>DAC being the nodal department to implement the Treaty needs to notify these crops and their designated accessions. The Board appreciated the action and recommended that DAC should notify 26,563 accessions of nine crops within a month (Latest by 30<sup>th</sup>April, 2013); Secretary, DARE to kindly intervene and have the matter speeded in consultation with Secretary, DoAC.</p>	<p><b>Action: Director, NBPGR; DARE</b></p>
<ul style="list-style-type: none"> <li>• Approval accorded for Gazette notification u/s 40 of <b>Biological Diversity Act 2002</b> for exchange of Annex I crops and adoption of SMTA as also agreed to by the NBA. Accordingly, a draft of Gazette notification has been sent to DARE for onward submission to DAC/ MoEF.</li> </ul>	<p>The Chairman appreciated the action and suggested that DARE should pursue the notification with DAC/MoEF within a month (latest by 30<sup>th</sup>April, 2013); Secretary, DARE to kindly intervene and provide needed support.</p>	<p><b>Action: Director, NBPGR;DARE</b></p>

**Agenda 4: Strategies for Sharing Information in Public Domain**

<p>PGR Portal was launched by DG, ICAR on 06.12.2012. Information available on NBPGR website include:</p> <ol style="list-style-type: none"> <li>a) Passport information</li> <li>b) Characterization and evaluation data</li> <li>c) FAO designated material (to be indicated after notification by DAC)</li> </ol>	<p>The efforts for launching the PGR Portal were appreciated and it was suggested to generate linkages with other genetic resources websites and portals. A user should be able to retrieve accession-wise information as well on its unique features. Some outsourcing can also be done keeping in view the Global Portals such as GENESYS, GRIN- Global, etc</p>	<p>A committee with DDG (CS) as Chair, Dr. R S Rana, Dr. Indu Sharma (Project Director, DWR), Dr. Prem Mathur (Bioversity International) and Director NBPGR may review the contents of PGR Portal and suggest expanding its scope</p>
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		through linkages, so that accession-wise data on evaluated traits including information on some well known land races and varieties can also be retrieved easily. <b>(Action: Director NBPGR)</b>
<b>Agenda 5: Exploration and Evaluation of Horticultural Crops</b>		
<b>(Presented as separate Agenda for the 3<sup>rd</sup> Meeting at II)</b>		
<b>Agenda 6: Conservation at Permafrost location in collaboration with DRDO</b>		
Joint team of ICAR-DRDO scientists and engineers was constituted. A meeting of the joint team was held at NBPGR on 22.2.2013 and various issues were discussed.	It was recommended that the site suggested by DRDO must be visited by the joint team. NBPGR should provide technical inputs related to storage/conservation of seed material. It was also recommended to review the MoU to define the joint ownership of the 'Permafrost Gene Bank' and also allocate some funds from ICAR side, in the XII Plan for maintenance of the facility. The facility should have a double lock system and the key should be available with both DRDO and ICAR.	<b>Action: Director NBPGR, and ICAR-DRDO Joint Team</b>
<b>Agenda 7: Appointment of Taxonomists at NBPGR</b>		
Options are being explored for the appointment of taxonomists at NBPGR through: deployment, deputations and/or training of scientists (Economic Botany) at BSI and other Universities with experienced taxonomist of selected groups.	Keeping in view the problem associated with appointment of taxonomists, it was suggested to seek need based services of some retired taxonomists as consultants or through out-sourcing.	<b>Action: All Bureaux</b>
<b>Agenda 8: Drive to recruit scientists at the Bureau to fill the vacant posts-Action has already been taken at ICAR level.</b>		

<b>Agenda 9: General : Presentation on IPR issues</b>	
Regarding the presentation on IPR issues, it was decided that the procedures and policy of CG Centres on IPR issues related to genetic resources may be examined with the help of some legal experts from TIFAC and come up with ICAR Strategy for protection of India's diverse genetic resources.	<b>Action: ADG (IP&amp; TM); Director, NBPGR</b>
It was also suggested that ICAR/India being partner and also represented in the Governing Board of CGIAR, should emphasize for a greater role of CGIAR Institutions in capacity building activities such as characterization, evaluation and management of genetic resources.	<b>Action: Director, NBPGR; DDG (CS); DDG (Hort), ICAR</b>
It was also suggested to review the work plans and bilateral MoUs of CGIAR centres to make these compliant with BDA, Ministry of Environment and Forests (MoEF)/ NBA guidelines and ICAR manual for collaborative research projects. In the next meeting, a review on the status of bilateral cooperation with different countries and CGIAR institutions should also be presented. It was also decided that a proposal be prepared by ICAR for broadening the scope of the MoEF Guidelines on collaborative research, to include the germplasm exchange with International Agricultural Research Centers (IARCs) and with other international organizations under bilateral MOUs for collaborative research within the purview of Section 5 of Biological Diversity Act.	<b>Action: Director, DARE / Director, NBPGR</b>
The above-mentioned proposal may also cover the exchange of genetic resources provided under work plans of bilateral agreements on scientific and technical cooperation and MoUs approved by the Government of India with other countries for this purpose.	<b>Action: NBPGR/ DARE</b>

**ATR from NBAGR: On recommendations of 3<sup>rd</sup> meeting of NABMGR**

<b>Agenda II (a): National Plan of Action (NPA) for Management of Animal Genetic Resources.</b>		
<p>The chairman emphasized that in the context of climate change the world would look towards India for unique climate resilient germplasm such as kharchia wheat and indigenous livestock breeds such as Rathi producing milk during high ambient temperatures up to 50°C in Rajasthan. The National Plan of Action for the Management of Animal Genetic Resources should be developed on priority with a mission mode approach.</p> <ul style="list-style-type: none"> <li>• Expert opinion wherever required should be sought through electronic consultation by placing the draft NPA document on website of NBAGR in next 15-20 days.</li> <li>• Organize peer group meeting for finalization of NPA. Invite some progressive farmers and members of Government and non-government organizations (NGOs) in this meeting.</li> <li>• Submit final document to DHAD&amp;F for endorsement by the Govt. of India and also to forward the same to FAO.</li> </ul>		<p><b>Action: Director, NBAGR</b></p>
<p>All Animal Science Institutes/SAUs/SVUs should maintain a nucleus herd of at least one indigenous breed in the respective breeding tract for improvement and conservation.</p>		<p><b>Action : Director NBAGR/DDG (AS)</b></p>
<p>NBAGR should be empowered on the pattern of NBPGR for import / export of animal germplasm. The matter should be taken up with DAHD&amp;F for delegation of powers.</p>		<p><b>Action : Director NBAGR/DDG (AS)</b></p>
<b>Agenda II(c): Legal frame work on farm animal breeding policies, registration of breeds and protection of farm animal breeds and livestock keeper's rights</b>		
<p>The issues related to legislation, policies, institutions, capacity building, etc. emphasizing their current status, gaps and suggested actions are covered in the draft NPA.</p>	<p>DDG (AS) proposed to draft a law for registration of animal breeds similar to that of the PPV&amp;FR Act of registration (protection) of plant varieties.</p>	<p><b>Action : Director NBAGR/DDG (AS)</b></p>

**ATR from NBAIM, Mau: On recommendations of 3rd Meeting of NABMGR**

<b>Agenda V (e): Initiating linkages with the global microbial biodiversity conservation institutions and other agencies in the world</b>	
<p>IDA membership needs to be applied for after completing the essential criteria <i>viz:</i> 5000 accessions. At present, NBAIM culture collection has approximately 4300 accessions. It was suggested that this target number be achieved by the end of 2013 for submitting the application to IDA.</p>	<p><b>Action: Director NBAIM</b></p>

## **Agenda and Recommendations of the 3rd meeting of NABMGR**

**Agenda I:** Presentation by Director NBFGR on:

### **I (a) Harmonising procedures pertaining to endemic and protected species for future conservation**

The research is required to generate information on protected species to develop their conservation strategies. However, the species protected under various schedules of wildlife protection act cannot be accessed for sampling. Many times the efforts to procure approval of wildlife department also have not been fruitful. There is need for having procedures by which such species can be accessed for the purpose of sampling for research.

#### **Recommendation:**

*NBFGR through Secretary, DARE should approach the Secretary, MoEF and the Environment Division of Wild Life Department for procedures to streamline the access to Forest areas in order to collect the fish genetic resources (FGR) for sampling and research purpose.*

**(Action: Director, NBFGR)**

### **I (b) Strategies for use of Exotic Fish Genetic Resources:**

Some promising Exotic fish species need to be popularized for consumption in India. Strategies and culturing techniques for their enhanced utilization need to be developed, particularly *Hilsa, Tilapia* etc.

#### **Recommendation:**

*Regarding the use of exotic fish genetic resources, it was proposed that action needs to be taken to prioritize the potential fish species available in the region and evaluate them as a proactive measure for future introductions. With regard to cultivation of Tilapia, it was informed by DDG (Fisheries) that the cultivation of Tilapia now has been approved by the Government, but its cultivation needs to be done in cages or protected ponds due to its prolific breeding habit*

**(Action: ICAR/ Director, NBFGR)**

**Agenda II:** Presentation by Dr. A S Sidhu, Director IIHR, Bangalore on: **Strategies and Priorities for Management of Horticultural Genetic Resources.**

During the second meeting of the Board the management of genetic resources of horticultural crops was discussed at length and it was decided that: IIHR should be declared as nodal institute for PGR activities on horticultural crops by the ICAR. In the next meeting of the Board, a presentation from IIHR, Bangalore be made on the collection/ explorations abroad or introduction of specific germplasm of horticultural crops The presentation highlighted these issues.

## **Recommendation:**

*It was recommended that NBPGR and IIHR should work in a partnership mode and delineate the responsibilities. Emphasis should be given on active involvement and strengthening of all the horticultural crop-based National Active Germplasm Sites (NAGS) as recently reviewed by NBPGR under the ICAR Agro-biodiversity Platform for effective collection, introduction and management of horticultural genetic resources. The NBPGR would act as the nodal service provider with single window system for exchange of all PGR including horticultural crops. The activities of conservation and maintenance of seed propagated horticultural crops will also remain with NBPGR. The IIHR could be the lead institution for developing strategies on collection and introduction of germplasm, maintenance of working collections, and both conservation and evaluation of vegetative and clonally propagated horticultural crops. The specific role of the horticultural crop based institutes, most of them being NAGS for these crops in the Agro-biodiversity Platform may be reviewed by DDG (Horticulture). It was also decided that IIHR would act as the lead institution for partnership and coordination of activities of all the Horticulture related NAGS. Hence, the confusion about the overlapping roles of NBPGR and IIHR regarding the PGR of horticultural plants could be properly addressed. It was pointed out by Dr. Rana that the Horticulture related NAGS, designated by NBPGR, are the institutes/National Research Centers (NRCs) and coordinated projects under the Horticulture Division of ICAR and, hence, it will be the lead role of IIHR, in partnership with NBPGR, to monitor and strengthen their activities further.*

*It was resolved to revive/reconstitute the Crop Germplasm Advisory Committee for Horticultural Crops under DDG (Hort.) as done in the past by ICAR/ NBPGR.*

**(Action: Director, NBPGR; Director, IIHR, DDG (Hort., DDG (CS) ICAR)**

### **Agenda III:** Presentation by Dr R K Singh, Director, NRCE, Hisar on Veterinary Type Culture Collections (VTCC)

The VTCC at Hisar is the Coordinating the activity of maintaining the type cultures of microbes of animal origin. Besides the cultures from NRC on Equines, the other collections contributing to the repository are Dairy Microbes at NDRI, Karnal and for Rumen Microbes at NIANP, Bengaluru. There are many cooperating centers identified throughout the country in order to fulfill the mandate of the VTCC. The VTCC coordinates the work of all the cooperating centers. The facilities available at the respective institutes are utilized to achieve the proposed objectives. Being a relatively new scheme, it needs aggressive efforts for further strengthening and overall expansion in terms of scientific and technical manpower, supporting staff, works and equipments.

**Recommendation:**

*It was recommended that linkages with NBAIM should be explored for the role of VTCC at national level; NBAIM being mandated with the management of agriculturally important microbes should be linked as partner with VTCC for their collections. The sustainability of VTCC should be analyzed for its role at the national level and presented in the next meeting.*

**(Action: Director, VTCC, NBAIM)**

**Agenda IV: Presentation by Dr. Vibha Ahuja, General Manager BCIL, New Delhi  
on: Capacity Building on Bio-safety of GM Crops**

The development of a genetically engineered plant typically follows a step-wise process. ICAR, as a developer of genetically engineered plants, needs to understand each of these steps and ensure that it has the necessary human, financial, institutional resources and capacity so that the GE products being developed by ICAR can be safely commercialized for the benefit of Indian farmers. Unlike conventionally bred crop plants, GE plants are subject to specific bio-safety regulations, rules and guidelines under the Rules, 1989 of the Environment (Protection) Act, 1986 and the Food Safety and Standards Authority of India Act, 2006. This requires ICAR management, scientists and other laboratory, greenhouse and field personnel to be cognizant of the responsibilities associated with the development of GE crops in the country.

**Recommendation:**

*It was felt that further strengthening of public sector in genetically modified (GM) Crops development is needed to achieve the desired results. Also, it was felt that there is a need for public awareness, prioritization, networking and partnership with private sector for faster development of such crops. It was also emphasized that awareness and capacity building on biosafety is a must since it would remove doubts in people's minds and give responsibilities to all stakeholders. Role of ICAR in pre-release tests and post-release surveys would generate confidence to help release GM Crops and build public confidence in the use of GM crops. Food biosafety is already a mandate of Indian Council of Medical Research (ICMR) and environmental safety is being dealt by the Ministry of Environment and Forests (MoEF). The ultimate aim of public sector research (for instance in ICAR system) should be to develop technologies/GM crops for small farmers in order to reduce their input costs. It was so felt that a GM trait in traditionally bred varieties will be more cost effective as against hybrids and would be easily accepted by small farmers. Support to scientists is also required to instil ethical practices in view of the multiple IPRs involved in generation of such technologies.*

**(Action: DDG, CS)**

**Agenda V: Agenda from NBPGR****Agenda V (a): Sharing of plant germplasm with private seed companies**

A Sub-Committee was constituted by the Board at its first meeting to come up with specific guide lines for sharing germplasm with the private sector and develop required MTA for the purpose. The committee met five times during June- December

2012, and developed some proposals for sharing germplasm with private sector including a draft MTA, placed at Annexure I, along with a modified MTA at Annexure II. However, after the proposals were sent for comments to private sector, some members raised many issues such as, opening of genebank collections to private sector, National Gene bank collections “held in trust” for farmers, IPR issues on the derivatives of germplasm shared etc. Also, no response in writing was received from the private sector. The Sub-Committee, therefore, proposed to hold a national consultation on the issue involving all stakeholders to deliberate on the issue and arrive at a policy for sharing germplasm with private sector. The Board is requested for advice on the issue.

**Recommendation:**

*The proposal for sharing germplasm with private seed companies, as proposed by the Sub-Committee constituted by the Board, was presented in the meeting. Access based on the twin principles of transparency and reciprocity was also emphasized by the above Sub-Committee. The suggested sharing of germplasm with Indian private seed sector companies was considered as per the provisions of the Biological Diversity Act 2002 and the mandate of NBPGR, ICAR to provide germplasm for research purpose only. However, an undertaking from the private seed companies must be included in the proposals requiring that they would inform the NBPGR promptly of any change in their status from a wholly Indian company to a non- Indian (after mergers/acquisitions, etc.) as and when it happens. The Board, therefore, approved the proposal and asked the Director, NBPGR to fine tune the procedure and the MTA in consultation with the DDG (CS) and members of the Sub-Committee and submit the proposal to ICAR/ DARE for approval and notification of the same.*

**(Action: Director, NBPGR/ Chairman Sub-Committee)**

**Agenda V (b): Modifications required in the MTA for bilateral exchange of germplasm with different countries**

India being signatory to the International Treaty for Plant Genetic Resources for Food and Agriculture, needs to implement the Treaty in the country by to fulfil the obligations as a contracting party.

This includes:

- Designation of germplasm of Annex I Crops for exchange under the MLS of the Treaty. *This has been approved by ICAR/DARE and is under notification by Department of Agric. and Cooperation (DAC), Ministry of Agriculture.*
- Use of Treaty approved Standard Material Transfer Agreement (SMTA) for such exchange.

It may be mentioned here that SMTA is to be used for exchange of designated material only. However, the SMTA may not be applicable for for all exchanges of Annex I Crops, on a bilateral basis, since the SMTA is applicable only for multilateral exchange i.e. all contracting parties can access such material, thereby implying that the benefits arising out of commercial utilization of product(s) developed after sharing of such germplasm, will flow to the Treaty Trust Fund

which will be used for funding support to conservation activities including farmer's rights implementation, through project proposals submitted by countries on invitation.

It is suggested to develop a modified MTA which would include relevant IPR and benefit sharing clauses of Indian MTA (DARE approved) and other clauses as applicable from the SMTA of the Treaty. This modified MTA would be used for bilateral exchange by India. The revised MTA would be prepared with inputs from legal experts, and submitted for consideration of the Board by the next meeting.

**Recommendation:**

*The issue of use of standard material transfer agreement (SMTA) for bilateral exchange of germplasm was considered by the Board. It was suggested to develop a modified material transfer agreement (MTA) which would include relevant IPR and benefit sharing clauses of Indian MTA (DARE approved) and other clauses as applicable from the SMTA of the Treaty. This modified MTA would be used for bilateral exchange by India. The modified MTA would be prepared with inputs from legal experts and submitted for consideration of the Board in its next meeting.*

**(Action: Director, NBPGR)**

**Agenda V (c): Other issues:** Some Board Members were not able to attend the meetings of the Board and Sub-Committees constituted by the Board

**Recommendation:**

*The Board felt that there is a need to include some new members in the Board, as some of the key Departments and Ministries are not duly represented, such as DARE, DAC, MoEF, etc. It was also pointed out that some members were not able to attend the meetings regularly. It was, therefore, decided that by the next meeting of the Board, a proposal for additions/ reconstitution of the Board may be put up for consideration by the Board.*

**(Action: ADG (Cdn); Director, NBPGR)**

## General recommendations

1. The Board felt the need to develop offshore quarantine facility at CARI, Port Blair (Andaman & Nicobar Islands) for all Agro-biodiversity components imported for research in India for specific high risk components.  
**(Action: ICAR)**
2. Registration of all genetic resources with potential defined value including soil microorganisms to be taken up on priority.  
**(Action: All Bureaux)**
3. Verify all Murrah breeding bulls in Haryana with the kit developed by NBAGR and preserve semen of pure Murrah bulls.  
**(Action: NBAGR)**
4. The International Training Programme at NBPGR on '*In-vitro* Conservation and Cryopreservation Techniques' should be held regularly. New support under Indo-African programme and APAARI may be explored for continuation of the programme  
**(Action: NBPGR)**
5. NBAGR should develop strong linkage with ILRI and get itself designated as Centre of Excellence by ILRI or other such international organizations for imparting training in animal genetic resources (AnGR).  
**(Action: NBAGR)**
6. The network of Custodian Farmers must be strengthened in collaboration with PPV&FRA. The NBAGR can join for Custodians of Animal Breeds. The program should also be linked to the "Farmer First" programme of ICAR.  
**(Action: Director, NBAGR; NBPGR, PPV&FRA)**

In his concluding remarks, the Chairman expressed his satisfaction over the progress made on different items of the Agenda and the actions taken thereof. The need to move forward with greater zeal was emphasised for the unfinished tasks. The Chairman reiterated the need for continuous exchange of genetic resources which has led to an expanded food basket in the past. We need to be worldly wise and strengthen agro-biodiversity agenda with a human face for the benefit of the society.

The next meeting of the Board was decided to be held in September 2013 at National Bureau of Agriculturally Important Insects (NBAII), Bangalore. The date can be finalized in consultation with the Chairman, NABMGR.

The meeting ended with a vote of thanks to the Chair and the Board Members.

## Annexure-I

### List of Participants in the NABMGR meeting held on 05.03.2013 at NBAGR, Karnal.

S.N	Name	
1.	<b>Dr. Raj S. Paroda,</b> Chairman, Trust for Advancement of Agricultural Sciences (TAAS) and Chairman, Farmers' Commission of Haryana, Former Secretary, DARE & DG, ICAR, Executive Secretary (APAARI), IARI Campus, New Delhi	Chairman
2.	<b>Dr. S. Ayyappan,</b> Secretary, DARE & DG, Indian Council of Agricultural Research (ICAR), New Delhi	Co-chairman
3.	<b>Dr. P. L. Gautam</b> Former Chairperson, Protection of Plant Varieties and Farmer's Rights Authority, Vice Chancellor, Carrier Point University, Hamirpur (Himachal Pradesh)	Member
4.	<b>Prof. S. K. Datta,</b> DDG (CS), ICAR, Deputy Director General (CS), ICAR, Krishi Bhawan, New Delhi	Member
5.	<b>Dr. N. K. Krishna Kumar</b> DDG (Hort.), ICAR, New Delhi	Member
6.	<b>Dr. K. M. L. Pathak,</b> Deputy Director General (Animal Science), ICAR, New Delhi	Member
7.	<b>Dr. (Mrs.) B. Meenakumari,</b> DDG (Fisheries), ICAR, New Delhi	Member
8.	<b>Dr. R. S. Rana,</b> Chairman, RAC, Former- Director, NBPGR and Member, NBA, D-43, Indraprastha Apartments, Sector 14, Rohini, Delhi	Member
9.	<b>Dr. P. N. Mathur,</b> Regional Coordinator, South and South East Asia, Bioversity International, NASC Complex, DPS Marg New Delhi 110012	Member
10.	<b>Dr. M. Mahadevappa,</b> Former Chairman, ASRB, Chairman, Advisor & JSS Rural Dev. Foundation. Mysore, Karnataka	Member
11.	<b>Dr. Sushama. R. Chaphalkar,</b> Director, Vidya Pratishthan's School of Biotechnology, Vidyanagari MIDC, Baramati, Distt. Pune, Maharashtra	Member
12.	<b>Dr. B.K. Joshi,</b> Director, National Bureau of Animal Genetic Resources, Karnal	Member
13.	<b>Dr. J. K. Jena,</b> Director, National Bureau of Fish Genetic Resources, Lucknow	Member
14.	<b>Dr. Arun Kumar Sharma,</b> Director, National Bureau of Agriculturally Important Micro Organisms, , Mau Nath Bhanjan UP	Member
15.	<b>Dr. B S Bhumannavar</b> Director, National Bureau of Agriculturally Important Insects.	Member

	Bangalore Karnataka	
<b>16.</b>	<b>Dr. S. Mauria</b> ADG (IP&TM), ICAR, New Delhi	Member
<b>17.</b>	<b>Dr. K. C. Bansal,</b> Director, NBPGR, New Delhi	Member Secretary
<b>18.</b>	Dr. S. C. Gupta, ADG (AP&B), ICAR, New Delhi	Special Invitee
<b>19.</b>	Dr. V. Bhasin Principal Scientist, ICAR, New Delhi	Special Invitee
<b>20.</b>	Dr. A.K. Srivastava Director, NDRI, Karnal	Special Invitee
<b>21.</b>	Dr. D. K. Sharma, Director, CSSRI, Karnal	Special Invitee
<b>22.</b>	Dr. R. K. Singh, Director, NRCE, Hisar	Special Invitee
<b>23.</b>	Dr. Vibha Ahuja, General Manager, Biotech Consortium India Ltd., New Delhi	Special Invitee
<b>24.</b>	Dr. Debasis Pattanayak NRCPB (IARI Campus), New Delhi	Special Invitee
<b>25.</b>	Dr. Indu Sharma Project Director, DWR, Karnal	Special Invitee
<b>26.</b>	Dr. S. S. Atwal, Head, IARI Regional Stn, Karnal	Special Invitee
<b>27.</b>	Dr. A. S. Sidhu, Director, IIHR, Bangalore	Special Invitee
<b>28.</b>	Dr. S. Ganeshan, IIHR, Bangalore	Special Invitee
<b>29.</b>	Dr. Pratibha Brahmi, Principal Scientist, NBPGR, New Delhi.	Member NABMGR Sect.
<b>30.</b>	Dr. D. K. Sadana, Principal Scientist & I/c AGR Divn, NBAGR, Karnal	Special Invitee
<b>31.</b>	Dr. R.K. Vijn, Principal Scientist & I/c AG Divn, NBAGR, Karnal	Special Invitee
<b>32.</b>	Dr. P. K. Vij, Principal Scientist & I/c Computer Unit, NBAGR, Karnal	Special Invitee
<b>33.</b>	Dr. S. P. Dixit, Principal Scientist & I/c DNAF Unit, NBAGR, Karnal	Special Invitee