

**Proceedings of the 2<sup>nd</sup> meeting of the National Advisory Board on Management of Genetic Resources, August 13, 2012 held at NBFGR, Lucknow**

The 2<sup>nd</sup> meeting of the National Advisory Board on Management of Genetic Resources (NAB) was held at the National Bureau of Fish Genetic Resources, Lucknow on August 13, 2012 and was attended by members of the Board, Scientists from NBFGR, NBAIM and NAB Secretariat from NBPGR (List of participants given in Annexure I).

At the outset, **Dr. J. K. Jena, Director NBFGR**, welcomed the Chairman Dr. R. S. Paroda, Co-Chairman Dr. S. Ayyappan and other members of the Board and expressed his gratitude for choosing NBFGR as the venue of the 2<sup>nd</sup> meeting of the Board. He also welcomed and appreciated the valuable support of Dr S. Soloman, Director, IISR, Lucknow and Dr. Ravi Shanker, CISH, Lucknow in organizing this meeting. Dr Jena requested the Chair to release two books, viz., 'Fluorescence *in situ* hybridization (FISH) in fishes: A practical approach' authored by Ravindra Kumar, Basdeo Kushwaha, Naresh S Nagpure and 'Macroflora and Fauna of Gulf of Mannar: A Checklist' authored by A Gopalakrishnan, P R Divya, V S Basheer, T rajaswaminatan, A Kathirvel Pandian, K K Dineesh, Rahul G Kumar, J K Jena. He then requested the Chairman to conduct the proceedings.

**Dr. R. S. Paroda**, Chairman, NAB in his opening remarks congratulated the Director and Staff of NBFGR for receiving the Best Institute Award for the year 2012. He was pleased that NBFGR is also ICAR's first ISO 9001:2008 Certified Institution. He was pleased with and wished that this institute will be nurtured under the able leadership of Dr. S. Ayyappan, Secretary, DARE and Director General, ICAR. He also opined that the system needs at least tripling of resources during the XII Plan.

While emphasizing the importance of genetic resources, Dr. Paroda mentioned that they are the building blocks for further progress in any sector. ICAR is unique in having a number of institutes catering to research on genetic resources. He recalled the admirable role of Dr. B. P. Pal, Dr. M. S. Swaminathan, Dr. Harbhajan Singh, Dr. A. B. Joshi and others who envisioned and supported these institutions. The five genetic resources Bureaux have unique technical and scientific strength, and they can learn more from each other. NAB, constituted by Dr. Ayyappan, provides both coordination and convergence mechanism for creating required linkages and synergies. Capacity building is required in bio-safety issues and the leadership role of NBPGR in providing trainings through its "Centre of Excellence" programme (in collaboration with Bioversity International and APAARI) can be followed by other Bureaux. Cost effective conservation strategies and alternative methods of storage of genetic resources, like the one adopted by NORDIC Genebank need to be adopted suitably. The newer institutions like the National Bureau of Agriculturally Important Microbes and National Bureau of Agriculturally Important Insects need to be supported and further strengthened. He also informed that the focus for the first meeting was on Plant Genetic Resources and for this second meeting, the focus is on Animal Genetic Resources. Dr. Paroda suggested that

NBAGR should develop its own National Action Plan on Animal Genetic Resources in line with Global Action Plan adopted in Interlaken.

**Dr. S. Ayyappan**, the Co-Chair of the Board in his opening remarks congratulated NBFGR for receiving the ICAR's Best Institution Award. He mentioned that the building of the NBFGR was inaugurated by the Prime Minister along with Dr. R. S. Paroda. Regarding the importance of genetic resources, he mentioned that many states are under severe to moderate drought this year and the need for climate resilient germplasm is our current priority. He mentioned about the meeting organized by ICAR/ DARE with Chairman NBA during May, 2012 to discuss germplasm exchange and issues related to export of germplasm for research use. He expressed his concerns regarding divergent interpretations of provisions of BDA at different levels. Since the 11<sup>th</sup> Conference of Parties meeting is being held in India during October 2012, ICAR and its Bureaux need to participate to highlight prominently their role in Biodiversity conservation. He mentioned about other initiatives at ICAR like the Bio-informatics GRID for documentation of all information related to bio-resources. He expressed his concerns over the issue of movement of animals across neighboring countries. It leads to serious concerns of trans boundary diseases. Thus, substantial efforts are required to tackle such issues.

**Dr. K. L. M Pathak** (DDG, Animal Sciences) mentioned that Animal Husbandry Department, especially Dr. R.K. Singh of Veterinary Type Culture Collection Centre (VTCC), may also be invited for the Board meetings. He mentioned about the meeting held at NBFGR, on 12.08.2012 where conservation aspects were discussed and the importance of local diversity conservation and food value of fish and other aquatic species was discussed. He also mentioned that the progress made by countries like Japan and Korea, which harness considerable "food value from sea" has to be simulated.

**Dr B. Meenakumari**, DDG (Fisheries) thanked the Board members for organizing the meeting at NBFGR. She expressed that the conservation of aquatic genetic resources should be taken care of at the regional level by giving it utmost importance.

### ***Discussion on Agenda Items***

#### **Agenda I: Confirmation of the Minutes of the First Meeting and Presentation of ATR**

The Board confirmed the minutes of its first meeting held on December 13, 2011 at NBPGR. This was followed by the presentation of ATR by Dr. K.C. Bansal, Director, NBPGR. Following detailed discussion on the report, decisions and time lines were agreed upon for further follow up as a matter of priority:

**Follow up action to be taken by NBPGR on the implementation of Recommendations of the Ist meeting of NABMGR as per defined time frame below:**

Action	Time Line
<b>Agenda 1: Preparation of a Guideline Document for Management of Genetic Resources</b>	
<p>A core committee to be identified with all the Bureaus representatives to finalize the guidelines document related to management of genetic resources including IPR issues and national/ international treaties.</p> <p style="text-align: right;"><b>(Action: All Bureaux)</b></p>	<b>31st March, 2013.</b>
<b>Agenda 2: Policies and Procedures for Exchange of Plant Genetic Resources</b>	
<p>The Sub-Committee constituted by the Board would come up with specific guidelines for sharing germplasm with the private sector and develop required MTA for the purpose.</p> <p style="text-align: right;"><b>(Action: Director, NBPGR)</b></p>	<b>31st October, 2012</b>
<b>Agenda 3: Implementation of International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)</b>	
<p>The proposed SMTA for Annex - I crops of ITPGRFA in the national system needs to be adopted urgently.</p> <p>NBPGR would send the self contained note regarding the designation of material for the MLS of the ITPGRFA within the next week to DARE and for onward submission to DAC and FAO.</p> <p style="text-align: right;"><b>(Action: Director, NBPGR)</b></p>	<b>15th October, 2012</b>
<b>Agenda 4: Strategies for Sharing Information in Public Domain</b>	
<p>It was decided that all available information be put on the website for open access policy, including the FAO designated material available with NBPGR genebank.</p> <p style="text-align: right;"><b>(Action: Director, NBPGR)</b></p>	<b>31st October, 2012</b>
<b>Agenda 5: Exploration and Evaluation of Horticultural Crops</b>	
<p>It was decided that IIHR should be declared as nodal institute for PGR activities on horticultural crops by the ICAR. Also the germplasm exchange unit at NBPGR be strengthened with respect to exchange of horticultural crops. 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.</p> <p>IIHR should also have its own Gene Bank for horticultural crops in the XII Plan.</p> <p style="text-align: right;"><b>(Action: Director, NBPGR; Director, IIHR)</b></p>	<b>Next Board Meeting</b>
<b>Agenda 7: Conservation at Permafrost location in collaboration with DRDO</b>	
<p>A joint team of NBPGR and DRDO be established to discuss the suitability of location technically and to design permafrost/high altitude gene bank for safety duplication.</p> <p style="text-align: right;"><b>(Action: Director, NBPGR)</b></p>	<b>31st October, 2012</b>
<b>Agenda 8: Appointment of Taxonomists at NBPGR</b>	
<p>More Taxonomists should be appointed at NBPGR and in</p>	<b>Required positions to</b>

other Bureaux (Action: Director, NBPGR and other Bureaux)	be redeployed with permission of the Council.
<b>Agenda 9: Drive to recruit scientists at the Bureaus to fill the vacant posts</b>	
Drive to recruit scientists in all the Bureaux to fill the vacant posts (including legal experts) be taken up by ICAR/ASRB (Action: Director (Personal), ICAR)	Next Board Meeting
<b>Agenda 10: General</b>	
A presentation on IPR issues related to genetic resources be made including the procedures which are internationally accepted, and those adopted by CG centres, and to decided on ICAR strategy to protect our genetic resources.  A legal cell at NBPGR and all other Bureaux is required to be put in place. Also the IPR Cell in ICAR to have competent legal expert. (Action: All Bureaux and ICAR)	Next Board Meeting

### **Agenda II: Discussion on Animal Genetic Resources**

The Agenda related to National Bureau of Animal Genetic Resources were presented by Dr. B.K. Joshi, Director NBAGR.

#### **Agenda I1 (a): National Plan of Action for Management of Animal Genetic Resources.**

##### **Recommendations:**

1. SWOT analysis be undertaken in the National Action Plan to evaluate the Strengths, Weaknesses/Limitations, Opportunities, and Threats involved in the conservation and utilization of animal genetic resources.
2. Initiate dialogue and group meetings with various govt. and non-govt. agencies, stakeholders, especially CSOs and farmers involved in the management of breeds etc. to discuss the draft NPA on AnGR on a wider platform and take feedback/suggestions for further improving it.
3. Include in the National Action Plan earlier Brain Storming Workshop, recommendations on conservation and management of farm animal genetic resources declared as 'Ranchi Declaration'.
4. Organize a brain storming session/ consultation meeting for further refinement and finalisation of the National Action Plan for Management of Animal Genetic Resources.
5. The final document on National Action Plan for Management of Animal Genetic Resources after thorough deliberation with different stakeholders should be ready by end of 2012 and submitted for endorsement by the Govt. of India

#### **Agenda I1(b): NBAGR to act as active network partner with international bodies for effective management and conservation of animal genetic resources**

**Recommendation:**

1. NBAGR should take initiative to become active partner and develop bilateral/multilateral collaborative research programmes, capacity building and training programmes with international organizations like ILRI, FAO and other ARIs.

**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**

**Recommendation:**

1. The provisions be covered on these aspects in the draft NAP on AnGR to be discussed in the consultative meetings/brain storming sessions already proposed.

**Agenda II (d): Show case activities and exhibition on conservation and management of farm AnGR during CoP-11 meeting to be held in India during 2012.**

**Recommendation:**

1. Space requirement and booking, etc. for the exhibition on conservation and management of agrobiodiversity should be organized jointly by all the Bureaux. This has to be coordinated by NBPGR.

**Agenda III : Discussion on Fish Genetic Resources**

Dr. J. K. Jena, Director, NBFGR presented the agenda items on fish genetic resources:

**Agenda III(a):** Collaboration with SAARC countries for formulating conservation measures: as these countries share common water bodies.

**Recommendations:**

1. Collaboration among SAARC countries is a sensitive issue though it is very much needed at present. However, it was proposed to initiate the efforts on bilateral issues with neighbouring countries, like ICAR with BARC (Bangladesh Agricultural Research Council) and similar organizations in Nepal, and Sri Lanka for capacity building and sensitization.

**(Action: ICAR/NBFGR)**

2. NBFGR should take up quickly some capacity development programmes involving World Fish Centre, Malaysia and some other international organizations having stake in the region.

**(Action: NBFGR)**

**Agenda III (b):** Biopiracy of fish germplasm: in the form of export of ornamental fishes and value added products.

**Recommendations:**

1. The issue of biopiracy concerns should be brought to the notice of NBA for necessary action, through a well documented paper.

**(Action: NBFGR)**

2. Research on indigenous ornamental fishes including their collection, documentation and conservation should be strengthened.

**(Action: ICAR/NBFGR)**

**Agenda III(c): Accreditation of NBFGR as National Repository of Fish Genetic Resources**

**Recommendations:**

1. The Board recommends for accrediting NBFGR as National Repository of Fish Genetic Resources and ICAR may issue required notification in this regard.

**(Action: ICAR)**

2. The Board suggested a special drive to recruit some good taxonomists as well as personnel's trained in museum related work.

**(Action: NBFGR/ICAR)**

3. Scientists/personnels should be sent for training to world renowned centres.

**(Action: ICAR/ NBFGR)**

**Agenda III(d): Genetic resources of Indian major carps (IMCs) and their management**

**Recommendations:**

1. It was agreed that collection and characterization of Indian major carps is of high priority for which state departments should also be involved as partners. Also, inter-institutional collaboration in this field be further strengthened.

**(Action: NBFGR/ICAR)**

2. National policy guidelines on River/Reservoir should be formulated to address the issues of stock-based ranching programmes.

**(Action: NBFGR)**

**Other Recommendations:**

1. The Board recommended prioritizing of economically important fish species and diversifying to ornamental fishes and provide leadership for capacity building at the national level.

**(Action: NBFGR)**

2. NBFGR should conduct regular training programmes on conservation of fish genetic resources, in partnership with best institutions abroad.

**(Action: NBFGR)**

3. There should be representation of Fisheries Institutions/NBFGR in the annual OIE meetings.

**(Action: ICAR)**

4. Harmonization of biosafety procedures/regulations should be looked into by all the Bureaux.

**(Action: All Bureaus)**

#### **Agenda IV: Discussion on Agriculturally Important Insects**

As per the agenda from NBAII, Bangalore for the second meeting of Board at NABMGR, Dr. B. S. Bhumannavar made the presentation on the need for the national repository for housing identified important agricultural insects and other arthropods including nematodes and other associated organisms. He also emphasized the need for cryopreservation of organisms like endosymbiosis, gene cell lines of insects including honey bees, silk moth and other beneficial insects. He also informed that various SAUs are keeping large number of identified insect collections which were built up by earlier efforts of taxonomists. Dr. Bhumannavar suggested that efforts be made to transfer of such collections to the national repository either at NBAII, Bangalore or at IARI, New Delhi.

Regarding biosafety, he requested for a single window mechanism linking NBAII-ICAR-Plant Protection and Quarantine for speedy clearance of exchange of beneficial insects between India and other countries. The above points were discussed in detail in the meeting and it was suggested that the SAUs be requested to share a part of their insect collections with the NBAII or with IARI.

#### **Recommendation:**

NBAII should try to network with different insect collections maintained by SAUs and ask for contingency grant for needed support by the curators. NBAIM should also create long term conservation (deep freezes) for maintenance of insect collections. Other bureaux, especially NBPGR should provide help till required facilities are developed at NBAII.

**(Action: NBAII, NBPGR, ICAR)**

#### **Agenda V: Discussion on Agriculturally Important Microbes**

The agenda items as listed below was presented by the Director, NBAIM and following recommendations were made:

**Agenda V(a):** Guidelines for information sharing regarding existing microbial accessions within and outside the country

**Recommendation:** A common guidelines may be developed for sharing information and germplasm, as proposed earlier, jointly by all Bureax Directors. Also, a notification from the headquarter may be issued that all the bureaux shall be treated as national repositories. For safety, a duplicate set of the accessions at NBAIM be immediately stored at NBPGR Cryo-bank facility in a separate tank till such facility is developed at the institute.

**(Action: NBAIM, NBPGR, ICAR)**

**Agenda V(b):** Development of regulatory framework for biosafety concerns related to microorganisms.

**Recommendation:** The biosafety is of utmost importance and a committee of experts may be constituted by the competent authority to develop biosafety guidelines for strict compliance.

**(Action: ICAR)**

**Agenda V(c):** Development of single-window clearance policies for the safer agricultural use of genetically-modified microorganisms.

**Recommendation:** Single window policy quite similar to NBPGR has to be adopted by all Bureaux.

**(Action: All Bureaux)**

**Agenda V(d):** Development of a suitable platform for the documentation, digitization and multifarious utilization of existing microbial diversity in the country.

**Recommendation:** NBAIM must take immediate initiatives to develop the database and a platform for documentation of microbial wealth. The information to developed should be shared through institute website.

**(Action: NBAIM)**

**Agenda V(e):** Initiating linkages with the global microbial biodiversity conservation institutions and other agencies in the world.

**Recommendation:** NBAIM should try to get IDA membership on priority.

**(Action: NBAIM/ICAR)**

#### **Concluding session:**

In the concluding session, Dr. Ayyappan expressed his gratitude to all Board members, especially the Chair, Dr. R. S. Paroda for his keen interest and guidance related to all aspects of management of genetic resources. In his closing remarks, the Chairman mentioned that the proceedings of this meeting and its follow up action should be taken up in all sincerity for implementation as a matter of priority. He reiterated that genetic resources of horticultural crops also need to be strengthened within the ICAR system for which defined responsibility to IIHR should help. As far as possible, scientific explorations be taken up abroad for selection and introduction of important germplasm of horticultural crops like, oil palm, cashew, mango and other tropical fruits such as rambutan, mangostein, wax apple, dragon fruit, longain etc. Evaluation of such introduced germplasm may be taken up in a network mode.

The next meeting of the Board was decided to be held on 13th February, 2013 at NBAGR, Karnal. The meeting ended with a vote of thanks to the Chair.

**Board members and other participants of for the 2<sup>nd</sup> meeting of NABMGR held on 13<sup>th</sup> August 2012 at NBFGR, Lucknow**

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17. **Dr. K. C. Bansal**, Member Secretary  
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23. **Dr. S. P. Singh**, Special Invitee  
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24. **Dr. Alok Srivastava**, Special Invitee  
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