

Harnessing biotechnologies for food security in the Asia-Pacific region: Summary report of the ABDC-10 parallel session¹

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Convenor: Dr. Jawahir L. Karihaloo, APAARI

1. Two presentations were made that provided background to session topic:

- Harnessing Crop Biotechnology for Food Security in the Asia-Pacific Region by Dr. Karihaloo
- Biotechnologies in Livestock, Poultry, Fisheries & Aquaculture in the Asia-Pacific Region by Dr. Nimbkar (on behalf of Prof. Oswin Perera and Dr. Nimbkar)

These highlighted some successes on the field level application of biotechnology in crops, livestock, and fish and aquaculture in the region. These include application of micropropagation, marker aided selection, mutation and haploidy breeding, and GM technology in crops with proven benefits to farmers and other stakeholders. Similarly, in livestock sector, cryopreservation and artificial insemination have been adopted with success in several countries and have resulted in improved milk yields. Biotechnological tools are being used extensively in the production of vaccines and diagnostics.

During the discussion, the participants recounted more success stories, also mentioning that there are considerable strengths in biotechnology R&D in some Asia-Pacific countries, including region-based international centres, which need to be harnessed for the benefit of the entire region. Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis revealed following constraints:

- Policy support not very conducive in many countries
- Limited and unsustainable funding for biotechnology R&D
- Limited capacity (technology, technology adaptation and adoption, regulatory & intellectual property (IP) issues, communication) in many countries, especially in small Island nations
- Less attention being paid to livestock and fishery biotechnology
- Limited public awareness and difficulty in dealing with IP issues
- Regulatory management systems need streamlining

¹ This is the summary report of the parallel session organized by the Asia-Pacific Association of Agricultural Research Institutions (APAARI) on the third day of the FAO international technical conference on Agricultural Biotechnologies in Developing Countries (ABDC-10) that took place in Guadalajara, Mexico on 1-4 March 2010 (<http://www.fao.org/biotech/abdc/parallel/en>). An Issue paper was also prepared for this session - see ABDC-10/APAARI at <http://www.fao.org/biotech/abdc/backdocs/en/>

2. Based on an in-depth analysis of the SWOT's, the following recommendations were made for priority action:

- *Creating enabling environment:*

- Extend and enhance policy and funding support to biotechnology R&D
- Adopt need-based biotechnology tools and techniques, and integrated strategies and package of practices to improve small farm-level productivity and profitability
- Adopt IP and benefit sharing policies appropriate to the need to protect farmers' and consumers' interests

- *Building capacity:*

- Strengthen, with support from FAO and other donor agencies, some existing national institutions to serve as Regional Hubs for sustained capacity building, especially in education
- Collaborate in regional and interregional capacity building through support of national agricultural research systems (NARS), CGIAR (Consultative Group on International Agricultural Research) centres, ICGEB and regional fora like APAARI

- *Improving regulatory management:*

- Adopt biosafety regulatory systems based on robust science and transparent approval processes
- Facilitate transboundary movement of biotechnology products through bilateral and regional arrangements including agreed biosafety information requirements and data acceptance

- *Enhancing awareness through education and communication:*

- Develop educational tools, status reports and web-based information systems
- Include biotechnology and agriculture oriented courses in school syllabi
- Train scientists not just in the field of biotechnology but also on issues of agriculture and food security, environment safety and in communication skills
- Organize dialogues between scientists, civil society organisations, farmers organisations and consumer groups

- *Strengthening linkages:*

- Regional linkages within the Asia-Pacific region; south–south linkages; north–south linkages; public–private linkages; public–public linkages
- Draw on existing regional fora like APAARI, the Association of Agricultural Research Institutions in Near East and North Africa (AARINENA), Forum for Agricultural Research in Africa (FARA) and networks to develop linkages
- Conduct workshops to define available resources and needs, followed by mutually agreed work-plans