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Statement of support for the Shanghai Declaration

Aquaculture is important for meeting the challenge of growing global food and nutritional requirement (SDG Zero hunger). With diversified culture prospects, it can open new vistas to provide livelihood security, social empowerment, local entrepreneurship to youth with a potential of global trade. Aquaculture can imbibe technological advancements which can make it environment friendly and sustainable. Among food production systems, aquaculture has minimal carbon footprints. It can reduce pressure on natural resources and help sustainable managment the wild Aquatic Genetic resources (AqGR). Aquaculture can support developing bio-economy based models and more suitable for Asia-Pacific which are rich in biologic diversity including aquatic ecosystems.

To enhance food availability, aquaculture will need intensification. However, aquaculture intensification face challenges due to limited critical inputs, emerging disease, availability of safe and certified inputs and produce. There is a need for technological interventions for enhancing productivity, managing diseases, including early warnings and predictions, and environment friendly approaches. The aquaculture is using very low proportion of species genetic diversity and still has wild relatives of aquaculture species. Though on the one hand, it has large potential for diversification and improvement but at the same time there is need for conserving the wild resources and strategies for their sustainable utilization, in order to safeguard from permanent extinction.

By 2030, approx., 30 million tons of seafood is required, over and above today's consumption. Aquaculture need to serve the palate with the food diversified tastes and interests. It should reach to the levels of producing 80% of the seafood consumed by human populations. It should safeguard its wild relatives from extinction and genetic contamination, produce minimal environment discharges in its total value chain. It will be least dependent upon the fish-based diets and produce safe food and change the quality of life of fisherfolks and primary producers.

National Bureau of Fish Genetic Resources (NBFGR), under the aegis of Indian Council of Agricultural Research is an institution dedicated to Aquatic Genetic Resource management and works on addressing researchable issues to provide scientific inputs for informed policy level decisions. ICAR-NBFGR has consistently supported the aquaculture sector, through its research in the area of cataloguing of genetic diversity, genomics, ex situ conservation, risk assessment of exotics, disease diagnostics, surveillance program and technical backstopping for effective implementation of prevention of disease outbreaks and accurate reporting of diseases. Research on biosecurity, disease diagnosis and antimicrobial surveillance needs to be further strengthened for preparedness to mitigate risks associated with intensified and diversified aquaculture with transboundary flow of the species and products. Risk and benefit assessment model that suits needs of India, is to be established and validated for future use in assessment of exotic introductions. The institute works in collaborative mode, with stakeholders such as ICAR fisheries institutes, other Government of India departments which represent as focal points to international treaties such as CBD, FAO, WTO, OIE etc. These national level actions are in line with global relevance and planning process led by UN agencies like CBD and FAO etc. The institute continue to work with International organizations like CGIAR, FAO, CEFES and

regional level NACA and APAARI etc. for the purpose of implementation of programs, exchange of information and capacity building of peer-researchers in the Asia-Pacific region. Majority of these important programs comply to Delhi declaration with relevance to the overall agrobiodiversity, an outcome of 1st Agrobiodiversity Congress.

Specific to fisheries and aquaculture, Shanghai declaration will be an important milestone to address the needs of development of the sector and provide food security to the global population. The research programs implemented by the organization commit to the Shanghai declaration which is spearheading the global commitments in the challenging scenario of climate change, conservation of genetic diversity and one health etc. To meet these challenges and need to comply with international obligations by the countries in Asia-Pacific, the capacity building in research and relevant technologies is important. The cooperation enabled through FAO guided regional bodies such as NACA, APAARI, CIRDAP, BOBP etc among the member nations has significant future role to play. The Shanghai declaration, an outcome of FAO's Global Conference on Aquaculture Millennium +20, is a milestone to develop future action plan of aquaculture synergized with SDGs.

The future action plan will need to focus and strengthening research and development in the areas as specified below:

Group 1:	**Knowledge and Information systems on diversity inherent in the aquatic genetic resources, at inter and intra-specific levels, for evaluation and sustainable utilization.**
Group 2:	**Sustainability of farmed genetic diversity, development of improved strains and knowledge of trait specific germplasms and relevant genomic resources.**
Group 3:	**Aquaculture is compliant to One Health and produce safe and certified food which improves producer income and feed the growing population.**
Group 4:	**Aquaculture support conservation, contribute to improving quality life of fisherfolks, women empowerment, co-management of resources and support implementing Nagoya protocol.**
Group 5:	**Need for harmonized framework of exchange of genetic resources, policies, procedures, tools and monitoring mechanisms.**

ICAR-NBFGR will continue to commit its programs in these lines, support capacity building of the researchers from countries in Asia-pacific. This will be enabled through working closely with the regional cooperation organizations such as FAO and NACA. This will set the process of mutual hand-holding, optimum utilizing of resources and improving aquaculture productivity and mainstreaming genetic diversity while the environment is conserved. Let us look forward to an era of bio-economy with reduced dependence on fuel-based economy.

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