

# International Conference on **AQUATIC RESOURCES AND AQUACULTURE FOR SUSTAINABLE DEVELOPMENT** (ICAR-AQUA 2019)

**Theme: New Strategies for Aquaculture Development**



## *Book of Abstracts*



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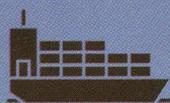
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10-12<sup>th</sup> January 2019**

**BOOK OF ABSTRACTS**

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Department of Biology  
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**Invited Paper - Abstract: 11**

**MOLECULAR TOOLS FOR MANAGING AND SUSTAINING FISHERIES AND AQUACULTURE IN ETHIOPIA**

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Out of the estimated 10-30 million species in planet Earth, about 2 million species are known to science now. This enormous treasured biodiversity is an essential provider of ecosystem goods and services to mankind. The fish genetic resources (including all finfish, aquatic invertebrates and plants that have actual or potential value for capture fisheries, aquaculture and culture-based fisheries) form the integral part of aquatic biodiversity and human beings have long been dependent on these resources for food, medicines and materials as well as for recreational and commercial purposes such as fishing, sport fishing and tourism. These genetic resources are also the source for candidate species for aquaculture diversification and genetic diversity for improvement of domesticated species.

Ethiopian natural and man-made water bodies support a diverse aquatic life including about 183 fish species. Fish production is mainly by wild capture of tilapia (*Oreochromis niloticus*), followed by catfish (*Clarias gariepinus*), Nile perch (*Lates niloticus*) and *Barbus* species. The total fish production potential is estimated to be 51,481 tonnes/year. Of these, approximately, 50% of this is currently exploited annually. Stock depletion in some lakes has been reported. The demand for fish has increased recently. The total expected demand for fish in 2025 is estimated to be 118,000 tonnes, which is greater than the capture production potential. This calls for an increased focus on stocking and enhancement of water bodies based on sound genetic principles and development of aquaculture to produce fish to meet future demand.

Application of genetic tools hold great potential not only to enhance production and improve aquaculture to meet the increased demand of fish, but also conserve and sustainably utilize capture fisheries. Development of molecular marker methods have revolutionized the way fish genetics research is conducted in areas such as molecular systematics, population genetics, evolutionary biology, molecular ecology, conservation genetics, and food safety monitoring. The present paper discusses scope for application of molecular genetic methods as tools in fisheries management and aquaculture of aquatic germplasm of Ethiopia. Also glimpses in to future opportunities in research for sustainable fish production in Ethiopia are outlined.

**Key words: Molecular tools, Ethiopia, Aquaculture, Sustainability**

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