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University of Lucknow

**CODE OF CONDUCT FOR RESPONSIBLE FISHERIES**

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Some facts:

- With an annual growth rate of 1.4 % World population is expected to grow 8,039 million by 2025. Asian countries need to increase their fish production by 11 million to 19 million metric tones depending upon growth rate of population (2.5-4%).
- To supply adequate fish protein to such a rapidly growing population, it is imperative to raise several million tones of fish either through capture or culture techniques or both.
- Scope for increase in production through capture fisheries is limited, only alternate way left with us to raise fish production is by intensive aquaculture which will be of complex nature and may generate several problems, viz,
 

✦ Supply vs. Demand	Social issues
✦ Biological issues	Environmental issues
✦ Ethical issues	Economic issues

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*AFOREMENTIONED ISSUES MUST BE SORTED OUT AND RESOLVED WITH A MINIMUM CONFLICT AND WASTE OF RESOURCES, PARTICULARLY IN THE SPRIIT OF SOCIAL HARMONY AND ENVIRONMENTAL SUSTAINABILITY.*

*Answer is*

***Sustainable System of Aquaculture***

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**SUSTAINABLE AQUACULTURE**

Sustainable aquaculture includes following principles –

- Maintenance of ecological systems .
- Improvement in economic and social well-being .
- Inter- generational equity.
- Intra- generational equity.
- Adoption of precautionary approach .

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- It is now essential to maintain increased rate of growth of aquaculture to ensure food security for burgeoning population all –over the world particularly in developing nations.
- To augment aquaculture development, there is an urgent need to evolve proper strategy so that sustainability of the system and nutritional security could be ensured .
- It is now well known that fisheries, including aquaculture, provide food security, employment recreation, trade and economic well being of the people throughout the world, and therefore this responsible task should be done in a responsible manner.
- Considering above facts the FAO recommended formulation of a Global code of Conduct for Responsible Fisheries (CCRF).

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**WHAT IS CCRF ?**

- CCRF is non-mandatory and establish principles and nominations applicable to conservations , management and development of all fisheries .
- It contains 12 articles :
- Article 1: Nature and scope of Code .
- Article 2: Objective of the Code

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Article 3: Rules covered under international laws of seas as reflected in United Nation Convention on the Laws of Seas (UNCLOS ,1982)

Article4: Aspects of implementations , monitoring and updating.

Article5: Special requirements for implementing Code for developing countries .

Article6: General principles of codes in elaborate manner

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- Article 7: Fisheries management.
- Article 8: Fishing operations .
- Article 9: Aquaculture Development.
- Article 10: Integration of fisheries in coastal areas.
- Article 11: Management , post –harvest practices trade.
- Article 12: Fisheries research.

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AMONG AFORESAID 12 ARTICLES ART. 09 IS MOST IMPORTANT

- Article 09 of the CCRF covers following four areas
- **9.1 Responsible development of aquaculture, including culture-based fisheries in areas under national jurisdiction.**
- **9.2 Responsible development of aquaculture including culture-based fisheries within trans-boundary aquatic system.**
- **9.3 Use of aquatic genetic resources for the purposes of aquaculture including culture-based fisheries.**
- **9.4 Responsible aquaculture at production level**

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**9.1 RESPONSIBLE DEVELOPMENT OF AQUACULTURE, INCLUDING CULTURE-BASED FISHERIES IN AREAS UNDER NATIONAL JURISDICTION**

- 9.1.1 States should establish, maintain and develop an appropriate legal and administrative frame work which facilitates development of responsible aquaculture.
- 9.1.2 States should promote responsible development and management of aquaculture, including and advance evaluation of effects of aquaculture of development on genetic diversity and ecosystem integrity, based on the best available scientific information .
- 9.1.3 States should produce and regularly update aquaculture development strategies and plans, as required, to ensure that aquaculture development is ecologically sustainable and to allow rational use of resource shared by aquaculture and other activities.

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9.1.4 States should ensure that livelihoods of local communities , and their access to fishing grounds are not negatively affected by aquaculture development .

9.1.5 States should establish effective procedure specific to aquaculture to under take appropriate environmental assessment and monitoring with the aim of minimizing adverse ecological changes and economic and social consequences resulting from water and land use, discharge of effluent use of drugs and chemicals and other aquaculture activities.

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**9.2 RESPONSIBLE DEVELOPMENT OF AQUACULTURE INCLUDING CULTURE-BASED FISHERIES WITHIN TRANS-BOUNDARY AQUATIC SYSTEM**

- 9.2.1 States should protect trans-boundary aquatic ecosystems by supporting responsible aquaculture practices within their normal jurisdiction and by cooperation in promotion of sustainable aquaculture practices.
- 9.2.2 States should, with due respect to their neighbouring states and in accordance with international law, ensure responsible choice of species, citing management of aquaculture activities which could affect trans-boundary aquatic ecosystems .
- 9.2.3 States should consult with their neighboring states, as appropriate, before introducing non-indigenous species into trans –boundary aquatic ecosystems.

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9.2.4 States should establish appropriate mechanisms, such as databases and information networks to collect, share and disseminate data related to their aquaculture activities to facilitate cooperation on planning for aquaculture development at national, sub regional, regional and global levels.

9.2.5 states should cooperate in development of appropriate mechanisms, when required, to monitor the impacts of inputs use in aquaculture.

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### **9.3 USE OF AQUATIC GENETIC RESOURCES FOR THE PURPOSES OF AQUACULTURE INCLUDING CULTURE-BASED FISHERIES**

9.3.1 States should conserve genetic diversity and maintain integrity of aquatic communities and ecosystems by appropriate management. In particular, efforts should undertaken to minimise harmful effects of introducing non-native species or genetically altered stocks used for aquaculture including culture based fisheries into waters, especially where there is significant potential spread of such non- native species or genetically altered stocks into waters under the jurisdiction of other states as well as waters under the jurisdiction of state of origin .States should, whenever possible, promote steps to minimise adverse genetic, disease and other effects of escaped farmed fish on wild stocks.

9.3.2 States should cooperate in elaboration, adoption and implementation of international codes of practices and procedures for introductions and transfers of aquatic organisms.

9.3.3 States should, in order to minimise risks of disease transfer and adverse effects on wild and cultured stocks, encourage adoption of appropriate practices in genetic improvement of bloodstocks', the introduction of non-native species, and in production, sale and transport of eggs, larvae or fry, broodstocks or other live materials. States should facilitate preparation and implementation of appropriate national codes of practice and procedures to this effect.

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9.3.4 States should promote use of appropriate procedures for selection of brood stock and production of eggs, larvae and fry.

9.3.5 States should, where appropriate, promote research and, when feasible, development of culture techniques for endangered species to protect, rehabilitate and enhance their stocks, taking into account critical need to conserve genetic diversity and endangered species.

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### **9.4 RESPONSIBLE AQUACULTURE AT PRODUCTION LEVEL**

9.4.1 States should promote responsible aquaculture practices in support of rural communities, producer organizations and fish farmers.

9.4.2 States should promote active participation of fish farmers and their communities in development of responsible aquaculture management practices.

9.4.3 States should promote efforts which improves selection and use of appropriate feeds, feed additives and fertilizers including manures.

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9.4.4 States should promote effective farm and fish health management practices favouring hygienic measures n vaccines. Safe, effective and minimal use therapeutants, hormones and drugs, antibiotics and disease control chemicals should be ensured .

9.4.5 States should regulate use of chemical inputs in aquaculture which are hazardous to human health and environment .

9.4.6 States should ensure that disposal of wastes such as offal, sludge, dead or diseased fish, excess veterinary drugs and other hazardous chemical inputs does constitute a hazardous to human health and environment.

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9.4.7 States should ensure food safety of aquaculture products and promotes efforts which maintain product quality and improve their value through particular care before and during harvesting and on-site processing and in storage and transport of products.

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#### AIMS AND OBJECTIVES OF CCRF

- The code sets out principles and international standards of behavior for responsible practices with a view to ensure effective conservations , management and development of living aquatic resources with due respect for the ecosystems and biodiversity .
- The code also take care of nutritional, economic, social ,environmental and cultural importance of the people.
- It accounts for biological characteristics of resources and their environment and interest of consumers and other users as well.
- It also covers capture, processing and trade of fish and fishery products, fishery operations, aquaculture and fisheries research.
- It provides avenues for integration of fisheries into costal area management.

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#### MAJOR RECOMMENDATIONS OF THE CCRF

- States and users of living aquatic resources should conserve aquatic ecosystems . The right to fish must be done in a responsible manner so as to ensure effective conservation and management of trading aquatic resources .
- States should prevent over-fishing and excess fishing capacity and rehabilitate population as far as possible .
- Selective and environmentally safe fishing gear and practices should be developed and applied so as to conserve biodiversity.
- All initial fish habitats in marine and freshwater ecosystems should be protected and rehabilitated as far as possible.

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- It is most essential that the states and all those involve in fisheries profession are encouraged to apply the code and give effect to it.
- All initial fish habitats in marine and freshwater ecosystems should be protected and rehabilitated as far as possible.
- While taking into account multiple uses of the coastal zones, states should ensure fisheries interests including need of the conservation of resources.
- Harvesting, handling , processing and distribution of fish and fishery products should be carried out in a manner which will maintain nutritional value, quality and safety of the products and reduce work and minimize negative impacts on environment.

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- International trade in fish and fishery products should be conducted in accordance with the principles ,rights and obligations established in World Trade Organization (WTO). States should ensure that their policies, programmes and practices related to trade in fish and fishery products do not result in obstacles.
- States should consider aquaculture including cultured based fisheries as the means to promote diversification of income and diet.
- States should promote awareness of responsible fisheries through education and training and ensure that fishermen are involved in policy formulation and implementation process.

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#### CONSTRAINTS IN IMPLEMENTATION OF THE CCRF

- ❖ The Indian sub-continent covers a vast region with a long coastline, diversity of resources and different ecosystems.
- ❖ Number of artisanal and small scale fisherman operate their fishing vessels from thousands of landing centers dispersed along the coast for their livelihood and survival.
- ❖ Illiteracy and lack of understanding capacity of fisherman also hinders in proper implementation of the code.
- ❖ The varied nature of inland open waters including rivers, reservoirs and lakes, estuaries and flood plain requires different regimes for their management.

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- ❖ The governance of these open water bodies, most of them, are vested with the government or public institutions and sometime under private property regimes.

- ❖ At present, the mechanized fishing vessels alone are licensed. The system of licensing needs to be extended to motorized and non-motorized crafts as well. The different types of fishing vessels have restrictions for fishing operations in their respective fishing areas with mess size of gear.

- ❖ Lack of proper monitoring/control system makes such provisions in fructuous as voluntary compliance by the fisherman to operate in the areas allocated to them is lacking and encroachment by larger vessels in the coastal waters continued.

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- ❖ To reduce post-harvest losses, no adequate facilities are available at landing and berthing places.

- ❖ Fisherman going for fishing purpose particularly on the high seas, are not adequately provided with life saving equipments.

- ❖ Environmental issues have always been the conflict in shrimps farm development.

- ❖ Repeated disease outbreak further impact on sustainability of shrimps farming inculcation of self-awareness and adoption of good management practices in shrimp culture activity is the need of the hour.

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#### PLAN OF ACTION REQUIRED FOR IMPLEMENTATION OF CCRF

- ❖ The code of conduct for responsible fisheries should be translated into vernacular languages. A simplified and concise version of the code should be provided to states/union territories on a priority basis for translation into vernacular languages.

- ❖ The code should be popularized through street-plays, comic-books, audio-visual presentations. The electronic media should be considered for speedy dissemination of the code.

- ❖ The coastal states and union territories should organize workshops/ meetings with various user groups for better understanding provisions of the code and its implementation.

- ❖ The fishing capacity should be kept at optimum levels, commensurate with sustainability. The practice of multi-agency registration of fishing vessels, prevalent in some states, should also be considered.

- ❖ The coastal states and union territories should consider formulating a clearer definition of access rights to territorial waters and harmonize their zonation policy for categories of fishing vessels.

- ❖ There should be a uniform ban on fishing during monsoon months.

- ❖ Resource enhancement programmes, such as setting up of artificial reefs and ranching with restricted access, should be undertaken, especially for species under threat or subjected to over-exploitation.

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- ❖ Every coastal state and union territory should consider setting up a resource management wing in the department of fisheries.

- ❖ The coastal states and union territory should consider setting up awareness centres to popularize the code and other activities concerning fisheries development, conservation and management.

- ❖ The Government of India (the centre) and the states/ union territories should consider laying more emphasis on the post-harvest requirements of the fisheries sector, including quality control of the fish and fish products for both domestic and export markets.

- ❖ The research institutions under the ministry of agriculture and the state agriculture universities should aim at providing adequate research support to implementation of the code.

- ❖ The centre and the states should endeavour to set up a sound information database to meet implementation requirements of the code.

- ❖ The states and union territories should be provided with special assistance for implementation of the provisions of the code.

- ❖ The centre and the states should consider laying more emphasis on fisheries endeavour to development, conservation and management aspects in the future five year plans.

- ❖ The *subsidiarity principle*, which takes management to the lowest meaningful level to enhance participation, should be encouraged.

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- ❖ The centre should consider introducing model bill(s)/ legislation with active participation of all stakeholder representatives for implementing those provisions of the code, which are presently not covered by legislation on fisheries to meet requirements of the code.
- ❖ The centre should consider bringing all fisheries matter, now provided among various ministries and departments under one administrative umbrella.
- ❖ To check poaching/ illegal fishing in Bay of Bengal, BOBP may consider setting up a mechanism to enable Bay of Bengal countries to interact regularly.