

NATIONAL FISHERIES POLICY

1998

MINISTRY OF FISHERIES AND LIVESTOCK

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1 Introduction

The role of fisheries resources in the national economy is very important. According to the 1996-97 statistics, about 60% of the animal protein we consume comes from fish. The Fisheries sector alone contributes about 5% of the total national income, and 16.7% of the income from agriculture resource. . In 1996-97 the fisheries sector ranked third with respect to national export earnings. This accounted for about 8-10% of the export income. About 1.2 million people are engaged full-time and another 10.2 million are engaged part time in this sector for their livelihoods.

1.1 Fisheries Resources of Bangladesh

Bangladesh is rich in water resources. Inland and marine waters are the main sources of fisheries production and exploitation. The area of total inland water bodies is 4.337 million ha; of which 4.047 million ha is open water bodies including floodplains and 0.29 million ha is closed water bodies including coastal shrimp farms. The area of marine water is 0.166 million km² including the exclusive economic zone which extends up to 200 nautical miles along the coastline (480 km). In inland waters of Bangladesh, there are about 260 species of indigenous fish, 12 species of exotic fish and 24 species of prawn. Besides 475 species of fishes and 36 species of prawn, there are many economically important species of turtles, oysters, crabs and algae in the marine area. In 1996-97, Bangladesh produced about 1.373 million mt of fish, of which 0.606 million Mt was from the inland open waters, 0.473 million mt from the inland closed waters and 0.294 million Mt from the coastal shrimp farms and marine waters.

In spite of the great potential and importance of the fisheries sector in the economy, national efforts for the development of the fishery resource has been limited. During the Third Five-Year Plan, only 1.58% (Tk.3500 million) of the total government and 24.8% of the total agriculture sector allocation was provided for the development of the fisheries resources. The target for fish production was 1 million tonnes. In the Fourth Five-Year Plan (1990-95), 1.78% (Tk.7500 million) of the total government allocation was allotted for the fisheries sector. During 1994-95 fiscal year, production target was 1.2 million Mt and the production was about 1.17 million mt.

The target of fish production of the country in the last year of the Fifth Five-Year Plan (2001-2002) was about 2.075 million mt.

Fish is the principal source of animal protein in our daily diet. The main deficiency diseases due to lack of balanced protein intake in the human body are the lack of disease resistance and recovery, improper development of the brain in infant's, and increased rates of child mortality. There is an acute shortage of food in the country for the ever-expanding population. Furthermore, due to limited facilities, expansion of livestock production in the country is not bright. Therefore, the dependency on fish for animal protein-rich food will increase day by day. There are possibilities for the present contribution of fisheries resources to be enhanced through provision of nutrition, employment opportunities, foreign currency earnings and the establishment of different industrial organisations and other socio-economic activities.

To retain and conserve water for increased fish production and harvest, the rivers, canals, beels and other water bodies of the country require to be excavated by dredging.

There are many obstacles to the development of the fisheries sector. The main drawbacks to the development of the fisheries sector are: different developmental activities against fish conservation, many natural and man-made unfavourable alterations, lack of proper management, lack of knowledge of modern technology and technically skilled manpower or improper use of available manpower, academic weakness, lack of funds, limitation of administrative and financial powers and above all lack of a fisheries policy. By removing these obstacles the National Fisheries Policy has been formulated for the overall development of fisheries resources.

2 Objectives of the National Fisheries Policy

- a) Enhancement of the fisheries resources and production;
- b) Poverty alleviation through creating self-employment and improvement of socio-economic conditions of the fishers;
- c) Meet the demand for animal protein,
- d) Achieve economic growth and earn foreign currency by exporting fish and fisheries products;
- e) Maintain ecological balance, conserve biodiversity and improve public health.

3 Legal Status of the National Fisheries Policy:

- 3.1 All the government and autonomous organisations, multi-national institutions, various non-government organisations, voluntary organisations, and persons who are working within the geographical territory of Bangladesh for the development of fisheries resources, harvesting and preservation, export-import or other businesses, related to the fisheries sector will be included in the National Fisheries Policy.
- 3.2 All the water bodies suitable for fisheries production, and the issues of conservation, development and management of these resources will be under this policy.

4 Range of the National Fisheries Policy:

For integrated fisheries resources development and management, the following policies shall be updated:

- a) Policy for conservation, management and exploitation of fisheries resources of the inland open water bodies;
- b) Policy for fish culture and management in inland closed water bodies;
- c) Policy for Coastal shrimp and fish culture
- d) Policy for exploitation, conservation and management of marine fisheries resources
- e) Other related fisheries policies are –
 - 1. Establishment of hygienic fish landing centres;
 - 2. Transportation and marketing of fish;
 - 3. Processing and quality control of fish;
 - 4. Export of fish;
 - 5. Policy for fisheries education;
 - 6. Policy for fisheries training
 - 7. Policy for fisheries extension;
 - 8. Policy for fisheries research;
 - 9. Policy for Institutional framework for fisheries sector;
 - 10. Policy for fisheries environment;
 - 11. Policy for fisheries credit;
 - 12. Policy for fisheries co-operatives
- f) Other related aspects of fisheries

5 Policy for Conservation, Management and Exploitation of fish from the Inland open water bodies

Rivers, canals, beels, haors, and floodplains are the main source of fish production in the inland open water bodies. Areas of inland open waters are about 4.047 million ha. From inland water bodies a total of 1.079 million mt of fish was produced during 1996-97 fiscal year. Of these, 56% come from the open waters. During the last few years, the production of fish from this source has been gradually declining because of a number of natural and man-made factors. These are construction of flood control, drainage and irrigation projects; indiscriminate capture of brood fish and their juveniles, revenue-based fisheries management through leasing, excess removal of water from fish habitat for crop cultivation; discharge of harmful municipal and industrial waste into rivers and other water bodies; pollution of water through the use of insecticides and chemical fertilisers in the agricultural fields; reduction of areas of rivers, beels and haors due to siltation; and excess harvesting of fish to meet the demand of growing populations. To address the above issues the following policies shall be taken into consideration for enhancement of fisheries production in open waters:

- 5.1** Damage done to fish and fish habitats during the implementation of all development activities such as flood control, irrigation and drainage (FCD/I) projects, agriculture, industries, road and urban projects, shall be kept at a minimal level and programmes for mitigation of such loss shall be undertaken.
- 5.2** Production based management in the interest of genuine fishermen shall be introduced instead of the existing lease based management system to promote the conservation of openwater fisheries resources. Harvesting of fish shall be kept at the maximum sustainable level
 - 5.2.1** To increase production and to conserve biodiversity, part or the whole water bodies/jalmohals shall be converted into fish sanctuaries
 - 5.2.2** Department of Fisheries will be liable for the operation and management of the declared fish sanctuaries with the help of fishers' societies and local government. Waterbodies identified as fish sanctuaries shall be transferred from the Ministry of Land with their permission.
 - 5.2.3** Jalmohals or part of it designated as fish sanctuaries will be transferred to the Department of Fisheries.
- 5.3** Integrated rice cum fish culture shall be extended through the release of fish and shrimp fry in the beels, haors and other floodplains, especially in the areas encircled by dams in flood control and irrigation projects.
- 5.4** Priority will be given to fish culture in the low-lying lands of the country where 50 cm or more of water is retained or can be retained during rainy season for more than three months.
- 5.5** Steps will be taken to control the harvesting of gravid fish and fingerlings in order to enhance their breeding and propagation.
- 5.6** Breeding grounds of fish and the freshwater giant prawn will be conserved.
- 5.7** Capture of the banned size of hilsa and other species shall be prevented through the implementation of the Fish Act.

- 5.8 Water bodies are damaged and the environment is polluted due to the unplanned discharge of wastage. Therefore, discharge of harmful municipal and industrial wastes directly into the water bodies will be considered a punishable crime and measures will be taken to control and limit the use of harmful chemical fertilisers, insecticides and other agrochemicals in the agricultural fields.
- 5.9 Import, manufacture, sale, storage and use of current net (mono-filament net) and other such nets harmful for the fisheries resources will be banned.
- 5.10 In addition to the existing enforcement agencies, the local government council in co-operation with the fishermen organisations shall be vested with the responsibility of implementing the Fish Acts. Steps will be taken to create awareness of the Fish Acts at the village level.
- 5.11 After survey fish culture will be promoted in waterbodies that have become closed as a result of flood control, and irrigation projects or natural causes.
- 5.12 Lakes, beels, ditches-canals and other open water bodies should not be completely de-watered.
- 5.13 Water bodies such as haor, baor and beel will be renovated and declared as areas for fish culture and these water bodies will not be reduced in sizes.
- 5.14 All water bodies of the country will be identified and their primary use as areas of fish production ensured.
- 5.15 Genuine fishermen and fish farmers will be given priority in gaining the lease of Government khas water bodies.
- 5.16 Arrangements will be made to conserve and propagate of the threatened and endangered fish species.
- 5.17 Cage and pen culture will be encouraged through successful demonstrations.

6 Policy for Fish Culture and Management in Inland Closed Water Bodies

In Bangladesh, there are 1,46,890 hectares of ponds and dighis and 5,488 hectares of ox-bow lakes (baors). In 1996-97, average fish production in ponds and dighis was about 2,400 kg/ ha and in baors only 540 kg/ ha. Fish production in these water bodies will be increased through the adoption of scientific culture methods. The following policies will be taken to increase fish production using modern technologies:

- 6.1 Fish culture will be encouraged in all ponds, dighis and other water bodies. Appropriate studies shall be undertaken to assess the impact of the introduction of exotic fish on our native species and the environment. Only those exotic fish exhibiting positive results will be promoted for culture.
- 6.2 Union based demonstration farms will be established with the assistance of the private sector, for the dissemination of aquaculture technologies. Fish farmers will be trained with the assistance of the local government and through DoF's own programme.
- 6.3 Females will be encouraged in fish culture and trained accordingly.

- 6.4** Priority will be given to the government owned ponds, baors, and other suitable water bodies for fish culture as a means of alternative earning source for the floating poor fishers.
- 6.4.1** Government owned khas ponds and other water bodies will be leased out on long-term basis to the poor marginal farmers, fishermen, trained jobless youth (male and female) and target people. Earnings from the tender will be deposited in accordance with Government rules in the government or union parishad fund.
- 6.5** Proper arrangement will be taken to produce fish feed by using local ingredients and private entrepreneurs will be encouraged.
- 6.6** Ponds lying derelict due to multiple ownership or other such problems will be brought under fish culture through the implementation of the Tank Improvement. Act
- 6.6.1** Besides this, measures for the renovation of derelict ponds and other water bodies will be taken under prevailing laws.
- 6.7** After mapping of soil quality of potential aquaculture regions, a manual describing appropriate use of lime and fertiliser in fish ponds shall be developed and distributed.
- 6.8** The use of Baors for fish production will be ensured. Proper arrangement will be initiated to develop water control and drainage system for sustainable fish production in the baor.
- 6.8.1** Local fisher communities will be given priority for fish culture in baor, and technical and socio-economic support will be provided.
- 6.9** Integrated prawn and fish culture along with rice will be encouraged in rice fields in coastal areas with slightly saline waters.
- 6.10** Proper steps will be taken to produce fry of different fish species in both government and private farms for stocking in open water bodies and culture in closed water bodies.
- 6.11** The private sector shall be responsible for the commercial production of fish fry. The private sector will be encouraged to establish more hatcheries for fry production.
- 6.12** Arrangements will be made to transfer the improved technologies for aquaculture through regular training in the government fish farms and training centres. Brood banks shall be established in the government farms for distribution of quality brood to the private hatcheries. The government hatcheries/ farms will also be used as centres for training farmers and entrepreneurs in fish culture management, fish breeding and fry production technologies.
- 6.13** Spawning of freshwater giant prawn and production of post-larvae will be undertaken in all government hatcheries after feasibility studies.
- 6.13.1** Monoculture of freshwater giant prawn or polyculture with carps will be encouraged in ponds all over the country.
- 6.14** Through creation of various aquaculture packages, private entrepreneurs will be developed.
- 6.15** Technical training programmes at field level for the fish farmers and entrepreneurs interested to invest in the fisheries sector will be strengthened.

- 6.16 Jobless youth (male and female) will be trained for fish culture and financial assistance will be provided for their post-training fish culture activities.
- 6.17 The water bodies under different organisations will be renovated and fish culture will be ensured by mid-term lease to the target people.

7 Policy for Coastal shrimp and Fin Fish culture

Shrimp occupies a special position in the economy of Bangladesh. Among the non-traditional export commodities, fish and fisheries products have the highest foreign currency earning. Of these products, shrimp alone constitutes about 86%. Presently, more than 0.14 million hectares of land are under shrimp culture. However, the production is only about 200kg/ha. In order to ensure higher production through advanced technology, the following policies will be adopted:

- 7.1 At national and other levels, necessary committees will be established. These committees operating according to government policies will take appropriate measures for the development of shrimp production, implement laws related to shrimp culture and mitigate other related problems.
- 7.2 In order to conserve biodiversity in the coastal region necessary steps for co-ordinated fish-rice or shrimp-rice culture will be undertaken.
- 7.3 Arrangements will be made to conserve the ecological balance within the polders and embankments in which a suitable environment shall be created for rice and shrimp production.
- 7.4 Highest priority will be given for the culture of shrimp by improved traditional method. However, eco-friendly semi-intensive culture systems shall be encouraged in controlled and feasible areas. The expansion of shrimp culture by mangrove destruction or by methods of shrimp culture that are harmful to the mangroves will be prohibited. In order to ensure ecological balance, tree plantation will be compulsory for owners of shrimp farms in the shrimp culture areas around the polders and on the land in between the polders and rivers.
- 7.5 Demonstration shrimp farms will be established according to local conditions in the private sector with government assistance. Farmers will be given proper training.
- 7.6 Shrimp farming will be considered as an exportable industry and like other industries, shrimp industry will be given equal opportunities.
- 7.7 Appropriate scientific measures shall be taken and proper training shall be given to the fry catchers to ensure that other organisms are not destroyed during the collection of shrimp post-larvae from the wild and to reduce mortality during transportation. In light of this adequate infrastructure facilities will also be created.
- 7.8 Private entrepreneurs will be encouraged to establish commercial shrimp hatcheries in order to reduce the dependency on natural shrimp post-larvae.
- 7.9 Harvesting of shrimp will be banned during the peak breeding season to ensure natural breeding in the sea. Some selected breeding grounds of the sea will be declared as shrimp sanctuaries.

- 7.10 Private entrepreneurs shall be encouraged to establish shrimp and prawn hatcheries.
- 7.11 Infrastructure facilities will be developed with government support in the existing and potential areas of shrimp culture. Appropriate security measures will be put in place during the shrimp harvesting and marketing period.
- 7.12 Emphasis will be given to increase shrimp production by developing appropriate technology. Big farms will be encouraged to convert into smaller more manageable units by improvement of water supplies and drainage facilities.
- 7.13 Shrimp feed will be produced using local ingredients. Fishmeal, vitamin, mineral premix, food binder, and other important shrimp feed ingredients will be imported, wherever necessary.
- 7.14 Hygienic conditions will be ensured during farm management and post harvest period. To improve quality, necessary training will be conducted and infra-structural facilities will be created.
- 7.15 In order to get a good foreign market, marketing sectors will be strengthened.
- 7.16 To ensure high quality of exportable fish and shrimp products, laboratory facilities for Quality Control will be expanded and modernised.
- 7.17 The Central Shrimp Cell will be extended up to the field level in order to provide services for shrimp culture management. Different facilities along with the trained personnel will be increased to ensure better service of the shrimp cell.
- 7.18 Coastal areas will be demarcated for shrimp farming. Consultation will be made with the Ministry for Environment and Forests to ensure increased shrimp production and maintain the ecological balance.
- 7.19 Joint ventures with foreign countries and their institutions with improved shrimp culture technology shall be encouraged to promote environmentally friendly semi intensive shrimp farming
- 7.20 Insurance system will be adopted in fish and shrimp culture.

8 Policy for Conservation, management and exploitation of Marine Fisheries Resources.

Presently marine fisheries resources contribute about 25% of the total annual fisheries harvest. Of the total marine harvests, about 95% come from small-scale fishery sector. The exploitation of marine fisheries is mainly confined within 40-meter depth. Seventy-three trawlers approved by the Cabinet Division are engaged in the exploitation of marine fish. Total annual harvest of the marine sector is about 12,000 tonnes, of which the contribution of shrimp is about 5,000 tonnes. The main objective of marine fisheries resource policy is to have a proper management system and to maintain the marine harvest at a sustainable level.

8.1 Analysis and utilisation of the results from previous fisheries surveys:

- 8.1.1 Critical analysis of the previous surveys will be done with the help of local and foreign specialists to formulate specific recommendations to measure the nature and extent of the marine resources.

- 8.1.2 Results of the analysis of the past surveys will be interpreted and extended to the owners of the marine trawlers, mechanised boats and fisher's communities. .
- 8.1.3 Information collection will be continued through surveys and if necessary, surveys will be conducted in new fishing grounds. For this purpose manpower will be developed. Emphasis will also be given to gather information, data and statistics from fishers. Based on the analysis of this information, booklets with, recommendations on the status and trends of the resource, its conservation needs and techniques, and improved harvesting methods shall be prepared and distributed.
- 8.1.4 Research studies will be undertaken to collect information regarding the presence and abundance of pelagic fish, like tuna, mackerel, etc., in the exclusive economic zone of the country.
- 8.1.5 Harvest of fish and shrimp by the trawlers in the shallow coastal areas (within 40-meter depth) will be banned.
- 8.1.6 Measures will be taken for deep-sea surveys and depending on the information collected, consideration will be given to carry out joint venture exploitation activities with foreign countries.
- 8.1.7 Necessary research activities will be taken for the development of the marine fisheries resources.

8.2 Conservation of marine biological resources

- 8.2.1 According to the previous surveys, the exploitation of fish and shrimp has reached the maximum harvestable yield (MHY). . To save the marine resources from further decline strict measures will be taken against increase in mechanised or non-mechanised boats engaged in fish harvest in the marine zones. The size of the fleet of fishing trawlers will be fixed and controlled in accordance with the present status of the fisheries resources.
- 8.2.2 Behundi nets (set bag net) are destructive to fry and juveniles of shrimp. The exact number of these nets and the quantity of shrimp harvested by them shall be determined and on the basis of this information, conservation measures shall be taken. Spawning grounds will be conserved to ensure natural breeding in the sea.
- 8.2.3 Large quantities of shrimp fry are produced in the sea from undisturbed spawning and the coastal rivers and canals become rich in shrimp fry. Therefore, bans will be imposed to harvest bagda, chaka and horina shrimps from their breeding grounds and migration routes during the specific breeding season. Areas will be selected in the marine zone as sanctuaries where fishing will be banned so that spawning can continue undisturbed.
- 8.2.4 Practical approaches will be extended to harvest, collect and utilise trash fish.
- 8.2.5 Measures will be taken to protect marine fish stocks from indiscriminate fishing.
- 8.2.6 Appropriate preventive measures will be taken against dumping of hazardous chemicals and nuclear wastes into the sea.
- 8.2.7 Appropriate technologies will be adopted to conserve fisheries resources and to increase production.

8.3 More priority on small-scale fisheries sector:

- 8.3.1** Small-scale fisheries contribute about 95% of the total fish harvested from the marine water. Privilege will be given to the small-scale fisher folk communities in the coastal areas for fishing.
- 8.3.2** Fishing in the coastal areas will be conserved for small-scale fisheries sector. Areas will be demarcated for small-scale and large-scale fishing determined from results of research, surveys and information of commercial harvest and regulated by updated laws. The conservation of coastal and deep-water marine resources will be considered with importance on the basis of research results.
- 8.3.3** Research and surveys will be conducted under regional and international programmes to develop capacity for using modern fish harvest techniques. ,
- 8.3.4** Special emphasis will be given to secure the life and resources of the fishers' communities to improve their socio-economic condition. For this reason, the following programmes will be undertaken-
- a) Life and property such as boat, engine, nets, fish, etc. of the fisherman shall be protected by insurance policies.
 - b) Each fishing-boat must keep life saving equipment and radio on board.
 - c) Necessary measures will be taken to stop piracy at sea.
 - d) To increase working efficiency and family income of the fisher community members, appropriate training programmes will be developed on the new and modern fish harvest techniques, fish conservation, distribution, processing and preservation.
 - e) Supervised credit system will be developed instead of the present security based credit system.
 - f) Infrastructure facilities of the coastal fisheries landing centres will be developed to reduce the spoilage of fish harvested by the poor fishermen and also to ensure a fair price for their catch.
 - g) Prior permission will be required from the Ministry of Fisheries and Livestock for the construction of fish landing centres and establishment of retail fish markets by the private sector.

9 Fisheries Related Auxiliary policies:

9.1 Establishment of hygienic fish landing centres:

- 9.1.1** All fish landing centres of the country will be made hygienic and modern.
- 9.1.2** Establishment of fish landing centres by the private sector will be encouraged, provided the infrastructure is in accordance with the Quality Control Regulations set out by the Government. Licenses for the construction of such facilities must be taken from the Department of Fisheries.
- 9.1.3** It will be made obligatory to land fish in hygienic fish landing centres.

9.1.4 Road, electricity, pure water and ice supply will be ensured in each fish-landing centres in the coastal or inland areas.

9.2 Transportation and marketing of fish:

9.2.1 Fish or shrimp transportation by open van, truck or other such vehicle will be banned. Only insulated or refrigerated fish van should be used for fish transportation.

9.2.2 Fishers will be encouraged to keep fish in cold storage prior to marketing.

9.2.3 After harvest, use of sufficient quantity of ice shall be ensured during preservation, transportation and marketing of fish.

9.2.4 Hygienic and modern facilities will be ensured in each fish market. Fish marketing should not be done in open, debris filled and muddy areas.

9.2.5 Cold-chain system will be established in fish marketing. Entrepreneurs will be encouraged to establish marketing of frozen fish.

9.2.6 Fish used for marketing should be free from germs and deterioration. Legal actions will be taken against marketing of fish, which are rotten, have bad odour and are unsuitable for human consumption.

9.2.7 Operators of all wholesale and retail markets shall be obliged to abide by the approved Government regulations for human health and fish quality control

9.2.8 Adequate power will be given to fisheries quality control officers to inspect fish landing centres and wholesale markets and to take punitive measures against the sale of degraded and poor quality fish.

9.3 Fish Processing and Quality Control:

9.3.1 Traditional technologies for fish processing, such as drying, salting, brining, etc., will be improved.

9.3.2 Value added products of frozen fish will be strengthened for local and international marketing.

9.3.3 All fish processing plants, fish exporters, persons and entrepreneurs of cured-fish industries will be required to collect license from the Department of Fisheries and should abide by provisions of the Inspection and Quality Control rules of fisheries products.

9.4 Fish Export

9.4.1 Government will encourage and provide facilities to the private sector engaged in fish and shrimp export as 100% exportable commodities.

9.4.2 To increase earning through fish export, the views of the private sector and export-related associations or organisations will be given priority consideration.

9.5 Fisheries Education

Personnel with appropriate technology and practical knowledge will be required to lead development opportunities in the fisheries sector. Considering the present limitations of universities for delivering appropriate practical knowledge and experience-based education, a new syllabus will be developed based on field level research and extension experience. Based on this, the following education policies will be considered:

- 9.5.1** In science textbooks, fisheries related theoretical and practical aspects would be incorporated in both primary and secondary education.
- 9.5.2** In university education, the fisheries syllabus will be rearranged based on appropriate theoretical and practical knowledge.
- 9.5.3** In the universities, it will be mandatory for fisheries students to obtain practical knowledge on fish culture through hands-on experience. In this regard, university authorities can take co-operation from the government, autonomous and private bodies.
- 9.5.4** Exchange programmes will be arranged between universities and other agencies related to fisheries programme implementation.
- 9.5.5** In higher fisheries studies undertaken in country or abroad, priority shall be given for research as far as possible on national fisheries issues.

9.6 Fisheries Training

Training will be provided at different levels to the fishers, fish farmers, businessmen and other interested persons on resource conservation, development, management, culture, exploitation and marketing.

- 9.6.1** Selected hatcheries, nurseries and production farms will be considered as training centres. Practical training will be provided on aquaculture, business management, fish conservation, etc.
- 9.6.2** Fishers, fish farmers and other related persons depending on fisheries for their livelihood will be targeted for training. However, emphasis will be on vocational training for unemployed youths, school and college students.
- 9.6.3** Special training courses will be formulated and implemented for the newly recruited persons in the fisheries sectors of both government and private organisations.
- 9.6.4** Besides the training during probationary period, current professional training or reorientation education on fisheries will be given to the officials periodically.
- 9.6.5** Development of the fisheries research infrastructure, extension, training, demonstration and other activities influencing fisheries programme shall be run by both private and public sector agencies. Activities like production, harvesting and marketing of fish and the running of related industries shall be the primarily carried out by the private sector.

9.7 Fisheries Extension Programme

Sustainable fish/ shrimp production and management could be achieved through transfer of production technologies, and expansion of appropriate processing and preservation methodologies among the fishers and fish farmers. In this regard, the following policies will be followed:

- 9.7.1** Economically feasible and successful fish demonstration farms in the public places will be established in the private sectors through government assistance to motivate and encourage people to undertake fish culture.
- 9.7.2** Demonstration farms will be established in contact farmers' ponds. Contact farmers will be trained on fish culture. Emphasis will be given to ensure timely input supply. Fisheries extension officers will visit these ponds regularly and provide advice and conduct in-situ training. Likewise demonstration ponds will be established in all unions where fish culture is possible.
- 9.7.3** In extension programme, all concerned persons in the union level will be involved.
- 9.7.4** Interested fish farmers will be organised by the extension officers and workers.
- 9.7.5** Training programme will be conducted for the fish farmers, fishers and fish/shrimp fry catchers by the extension officers/workers on a regular basis.
- 9.7.6** Aspects of open water fisheries conservation and fish culture will be promoted attractively in different public media to strengthen fisheries extension programme.
- 9.7.7** Private voluntary organisations interested in poverty through fish culture, production and management shall be engaged in the fisheries extension programme. NGOs will be encouraged to participate in fish-related activities.
- 9.7.8** Private entrepreneurs will be encouraged to make available the inputs required in shrimp culture and management.
- 9.7.9** Organisations engaged in fisheries resource development, extension, management and technology development would be co-ordinated.
- 9.7.10** Assistance shall be provided for the establishment of different societies, such as fish farmers associations and shrimp farmers associations etc for the development of fisheries resources.
- 9.7.11** Emphasis will be given for extension of rice-cum-fish culture.

9.8 Fish research

Fisheries Research Institute and a number of universities are conducting research on different aspects of fisheries in the country. But a large number of fishers, fishing communities, fish processors, fish traders, fish exporters, etc. are not aware of their research and survey. To address this issue, the following policies will be followed:

- 9.8.1** Specific Policies for linkage and mutual co-operation will be established between the research institutes and the user groups of the research. Emphasis will be given

for research on basic fisheries in the universities and on applied aspects in other organisations.

- 9.8.2 For the optimum utilisation of the infrastructure and facilities developed for fisheries research in different government and private organisations, co-ordinated survey and research programmes shall be drawn up and implemented in partnership by these organisations.
- 9.8.3 Research will be based on the development needs of the fisheries to reflect problems and identify possible solutions.
- 9.8.4 Bangladesh Agriculture University and other universities, through mutual co-operation, will be given the opportunity of using the experimental ponds and other facilities of the Bangladesh Fisheries Research Institute.
- 9.8.5 Open Research Policy where possible will be followed for fisheries research. Emphasis will be given on field and practical productive research activities in addition to institutional research.
- 9.8.6 Arrangement will be made to conduct research jointly by the government and private organisations. Commercial fish and shrimp farm owners will be encouraged to invest in research.
- 9.8.7 Relative productivity of different water bodies, the employment, opportunities and economic profitability will be critically assessed to determine the priority of fisheries research.

9.9 Institutional issues in fisheries sector

- 9.9.1 The Ministry of Fisheries and Livestock will control all development, , and other management aspects of fisheries resources and fish habitats and Ministry of Land will be involved in taking effective steps in this respect.
- 9.9.2 Respected ministries and/or departments will be reorganised, and strengthened to support a meaningful national plan for fisheries development, by evaluating the past activities and the needs of the fisheries sector.
- 9.9.3 Inter-ministerial committee will be formed to ensure the proper management of the government khas jalmohals.
- 9.9.4 Inter-institutional co-ordination will be established between different government, autonomous, private and voluntary organisations.

9.10 Fisheries environment

Fish production is being impeded due to environmental imbalances. Adverse environmental impacts can be expected due to improper implementation of fish culture and management programmes. The following policies will be taken for this purpose:

- 9.10.1 Shrimp and fish culture will not be expanded, by damaging mangrove forests in the coastal region.
- 9.10.2 Biodiversity will be maintained in all natural water bodies and in marine environment.
- 9.10.3 Chemicals harmful to the environment will not be used in fish and shrimp culture.

- 9.10.4 Environment friendly fish and shrimp culture method/technology will be followed.
- 9.10.5 Control measures will be taken against activities that have a negative impact on fisheries resources or of fish culture on other resources.
- 9.10.6 Implementation of Laws will be strengthened to prevent the disposal of any untreated industrial effluents into the water bodies.

9.11 Fisheries credit

Non-institutional credit programme to alleviate poverty and generate employment will be continued. Aquaculture and natural resource exploitation in Bangladesh are mainly undertaken by rural people, poor farmers and the fishers. Institutional credit is needed to make the small fish farms effective. As equity is a prerequisite for the allocation of institutional loan, very few small scale fishers are able to benefit from institutional credit. Due to this situation, the fishers become victims of the traditional moneylenders. To improve this situation, the following policies will be followed:

- 9.11.1 Fisheries sector will be given priority for institutional loans.
- 9.11.2 Supervised credit without collateral instead of compulsory property mortgage will be provided from starting of production to marketing for small-scale fisheries sector.
- 9.11.3 The culture of shrimp and other exportable fish will be considered an exportable industry. Facilities such as credit with low rates of interest, tax rebate, and tax holiday might be offered.
- 9.11.4 Fisheries Bank may be established for extension of credit on easy terms.

9.12 Fisheries co-operatives

- 9.12.1 For the management of the large natural or artificial government khas water bodies that exist in rural areas, fishers and fish farmers will be organised into co-operatives to increase production and alleviate poverty.
- 9.12.2 Formation of any fisheries related co-operative societies will be encouraged.
- 9.12.3 Government khas water bodies will be handed over to fishermen co-operative societies on a long-term basis.
- 9.12.4 Members of fisher co-operative societies will be trained in fish culture and management.

10 Other related issues

10.1 Power to Issue Licenses

- 10.1.1 Department of Fisheries will be the authority entrusted to issue, cancel or renew licenses for all fishing vessels and other equipments for the proper management of marine fisheries resources.
- 10.1.2 All fishing vessels or units will be obliged to supply required technical information/catch data to the Department of Fisheries.

- 10.1.3** Registration system will be implemented for fish and shrimp hatcheries and nurseries to control quality.

10.2 Industry

Emphasis will be given to develop facilities of those industries that have the capacity to fulfil the increasing demand for fishing gears with compatible quality and if necessary priority will be given to the establishment of new industries.

10.3 Import

Import and sale tax will be fixed at reduced rates for the equipment used in fish harvest and culture to promote the procurement of fish at a fair price. Equipment required for export-oriented activities will be tax exempt. Priority will be given for consideration to reduce the import tax of the essential inputs required for fish culture and shrimp harvesting by the private sector.

10.4 Export

Price of Bangladeshi fish and fisheries products in the international market are low, mainly due to the lack of quality. In this regard, the following policies will be followed:

- 10.4.1** Quality control system of the Department of Fisheries will be strengthened through the effective implementation of quality control laws on processed fisheries products to improve their quality
- 10.4.2** All fish processing plants should have their own quality control systems. Severe punishment will be handed out to the exporters and owners of the plants in the event of exporting sub-standard products.
- 10.4.3** Efforts will be made to create export markets for different species of shrimp, fish, turtles and other aquatic species instead of the existing 1 or 2 shrimp species.
- 10.4.4** Diversification of the processed products of shrimp, fish, turtle, etc. and their presentation shall be promoted. Technologies related to produce different value added products should be encouraged as per international demand.

10.5 Processing plants

On average the existing processing plants are not adequately used, therefore, care will be taken to establish new processing industries until the required raw material production significantly increases.

10.6 Self-employment and improvement of livelihood

- 10.6.1** Government co-operation will be extended to lease out existing un-utilised khas ponds, lakes and water bodies to encourage the trained unemployed youths in fish production.
- 10.6.2** Adequate measures will be taken to improve livelihood of fishermen.

10.7 Inspiration for increased production

Besides providing facilities and encouragement, certificates and awards will be given to the entrepreneurs, organisers, organisations and catalysts for contributing to exceptional production in the areas of shrimp culture, fish culture and hatchery operations.

10.7.1 Development of communication and electricity supplies will be prioritised in areas of high aquaculture potential.

10.7.2 Unit price of electricity used in aquaculture farms shall be the same as in agricultural enterprises.

10.8 Reliable database

A strong database of the fisheries sector shall be developed to collect and exchange information and this information shall be conserved.

10.9 National fisheries plan

National fisheries plan will be prepared based on potential use of natural resource and probable mitigation measures at the regional level.

10.10 Import of exotic species and fry

Import or distribution and sale of any exotic fish and fry will be restricted without prior permission of the government.

11 Implementation strategy of National Fisheries Policy

11.1 For effective implementation of the National Fisheries Policy, emphasis will be given to the following four sub-sectors:

- a) Inland closed water bodies;
- b) Inland open waters;
- c) Coastal shrimp and fish culture, and
- d) Marine fisheries resource conservation and management.

To develop these sub sectors help of other auxiliary policies will be taken.

11.1.1 Following Strategies will be taken to implement the above policies on priority basis:

- a) All closed fresh water bodies are to be under aquaculture. If necessary, existing laws will be rectified, new laws will be developed and executed to ensure proper utilisation of these water bodies.
- b) Emphasis will be given for aquaculture through the adoption of appropriate technology in the inland open water bodies.
- c) Shrimp and fish culture activities without any adverse effects on the environment will be undertaken in coastal areas in a sustainable manner so that biodiversity is conserved.
- d) Production and exploitation of hilsa will be improved through identification and conservation of their breeding and feeding grounds and removal of

obstructions to their anadromous migration routes from coastal areas to the inland water bodies;

- e) Estimation of the marine fisheries resources for sustainable exploitation and management will be undertaken by surveys. Existing laws will be revised in accordance with the current situation.
- f) New entrepreneurs will be created through the successful demonstration of package-based technologies, training and extension.
- g) The private sector and entrepreneurs with relevant facilities will be encouraged.
- h) Fish landing centres and marketing systems will be modernised to reduce post-harvest loss.
- i) Diversification and quality of the fisheries products will be ensured.
- j) Fish acts will be revised as per situation and implemented to improve fisheries resource and conservation.
- k) Private sectors will be involved in the development of the fisheries resources.

11.1.2 Government will play the main role for the development and execution of the programmes in the following sectors:

- a) Research
- b) Extension
- c) Training
- d) Consultancy services
- e) Supervision.

11.1.3 The government will provide encouragement and support to the private fisheries sector in the following areas:

- a) Training on improved technology and management;
- b) Supply of quality improved species;
- c) Health services;
- d) Ensure availability of fish and shrimp feed;
- e) Ensure appropriate price for the product and create extra facilities, such as infrastructure, credit and marketing
- f) Extend co-operation to develop co-operative societies or organisations.

11.1.4 Genuine fishers will given priority in leasing government khas water bodies to improve their socio-economic condition.

- 11.2** For successful implementation of the Fisheries Policy and for the development and management of fisheries resources, a National Committee will be created chaired by the Prime Minister and an Executive committee chaired by the Minister of Fisheries and Livestock.
- 11.3** New laws may be formulated, existing laws may be revised and proper application of the fish acts will be ensured to execute the National Fisheries Policy.
- 11.4** Co-ordination will be developed among the concerned ministries, i.e. Ministry of Land, Ministry of Local Government, Rural Development and Co-operatives, Ministry of Agriculture, Ministry of Environment and Forest, Ministry of Water Resources, Ministry of Youth and Sports, and other related ministries, their departments, organisations and offices to execute the National Fisheries Policy.