

NATIONAL FISHERIES POLICY

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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 1995-96 statistics about 60% of the animal protein in our food come from fish. Of the total national income, the Fisheries sector alone contributed about 5% and of the agriculture resource contribution fisheries was 16.7%. In the national export income (1996-97), the contribution of the fisheries sector is third. Of the export income, 8-10% comes from the fisheries sector. About 1.2 million people are engaged full-time and another 10.2 million are engaged part time in this sector for their livelihoods.

2 Fisheries Resources in Bangladesh

Bangladesh are 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 floodplain and 0.29 million ha is dosed water bodies including coastal shrimp farms. In coastal areas, a total of 0.166 km² water area in 200 nautical miles of exclusively economic zone. There are about 260 indigenous and 12 introduced fish, and 24 prawn species that exist in the freshwater. In the marine water, a total of 475 fish and 36 shrimp species and some other economically important turtles, oysters, crabs and algae are found. In 1995-96, Bangladesh produced about 12.68 lac Mt. of fish, of which 5.95 lac Mt. was from the inland open waters, 3.13 lac. Mt. was from the inland closed waters and 0.77 lac Mt. from the coastal shrimp farms.

Although there is great potential and scope for the fisheries sector in the economy. very little national effort has been undertaken in the recent past. In the third five-year plan, only about 1.58% the government had allocated (Tk.3500 million), whereas allocation for the agriculture sector was 24.8%. The target' for fish production was I million tonnes. In the fourth five year plan (199095), 1.78% (Tk.7500 million) was allotted for the fisheries sector. The production target was 1.2 million tonnes and the production achieved about 1.17 million tonnes.

Fish is the principal source of animal protein in our food. Increased rates of child mortality have occurred due to deficiencies of balanced protein. However, there is an acute shortage of food in the country and expansion of livestock production is limited due to a lack of space. For this reason dependency on fish for animal protein-rich food will increase day by day. There are many possibilities for increasing the Contribution of fish to socio-economic development goals such as increasing nutrition, employment opportunities, foreign currency earnings and the establishment of different industrial organisations.

However appropriate measures must be taken in inland waters to retain water and conservation.

There are many obstacles to the development of the fisheries sector. These are, Conservation of fisheries resources, various natural calamities and man-made problems, lack of proper

management and technically skilled manpower and lack of funds. Besides these, lack of a national fish policy is one of the important causes for not developing this sector up to the mark. To get rid of this, the National Fish Policy has been formulated.

3 Objectives of the National Fisheries Policy

- Enhancement of the fisheries production.
- Poverty alleviation through creating self-employment and improvement of socio-economic conditions of the fishers:
- Fulfill the demand for animal protein,
- Achieve economic growth through earning foreign currency by exporting fish and fisheries products;
- Maintain ecological balance, conserve biodiversity, ensure public health provide recreational facilities.

4 Legal status of the National Fisheries Policy

- 4.1 All the government and autonomous organizations, multi-national institutions, various non-governmental organizations, voluntary organizations, 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.
- 4.2 All the water bodies suitable for fisheries production and their fisheries resources and conservation, development and management will be under this policy.

5 Range of the National Fisheries Policy

In order to provide a strong base of the development process of fisheries resources in an integrated way. proper attempts should be imposed on the following aspects:

- Policy for procurement, preservation and management of fisheries resources of the open water bodies;
- Policy for fish culture and management in closed freshwater bodies;
- Policy for culture of shrimps in coastal regions;
- Policy for exploitation, conservation and management of marine fisheries resources.

Other related fisheries policies are:

- Establishment of hygienic fish landing centers:
- Transportation and marketing of fish;
- Processing and quality control of fish;
- Export of fish:
- Policy for fisheries education:

- Policy for fisheries extension:
- Policy for fisheries research:
- Organizational facilities for fisheries sector:
- Policy for fisheries environment;
- Policy for fisheries credit:
- Policy for fisheries co-operatives.

6 Policy for procurement of fish for the open freshwater bodies

River and canals, haor and baor, and floodplain are the main source of fish production in the inland open water bodies. In freshwater, a total of 0.908 million metric tonnes of fish are presently produced (1995-96). Of these, 66% come from the open waters. But in the last few years, the production of fish from this source has gradually been dwindling. This is because of natural and man-made factors. These are; flood control, water drainage and construction of dam and barrage in the irrigation projects, exploitation of matured brood fish and their juveniles, revenue-based fisheries management through leasing, removal of excess water for crop cultivation, release of hazardous chemicals and poisonous substances from the slum area and different industrial plants into the river and other water bodies, pollution of water using chemical insecticides and fertilizers in the agricultural fields, reduction of water holding capacity of river, beel and haor due to siltation, and harvesting of excessive amounts of fish to meet the demand of growing populations. Regarding this, the following policies should be taken into consideration for enhancement of fisheries production in open water bodies:

- 6.1 To conserve fish habitats from damage, appropriate care should be taken during the implementation of all developmental activities such as flood control, irrigation and drainage (FCD/1) projects, agriculture, industries, road and urban development projects.
- 6.2 Arrangement will be made to ensure either the rights of genuine fishers in open water bodies or production-based management in lieu of the prevailing tax-based management system. Fish harvesting will be kept at its maximum sustainable level.
 - For increased production and to conserve biodiversity, some areas or the whole jalmohal will need to be converted into fish sanctuaries.
 - Department' of Fisheries will be liable for the care and management of the declare fish sanctuaries with the help of fishers societies and bodies of local government, if necessary.
 - Jalmohals designated as fish sanctuaries will be transferred to the Directorate of Fisheries.
- 6.3 A new integrated model for fish/ shrimp cum HYV rice culture will be initiated in the beets, haors and other flood affected areas, especially in the regions encircled by dams in flood control and irrigation projects.

- 6.4 Steps will be taken to control the harvesting of gravid fish and fingerlings in order to enhance reproduction and increase production.
- Fish culture will be initiated on a priority basis where low lying lands remain inundated under 50 cm of water for a period of more than 3 months.
- 6.5 Breeding grounds of fish and freshwater giant prawn will be conserved.
- 6.6 Action will be taken to utilize the Fish Conservation Acts perfectly in order to prevent capture of banned size for Hilsha and other fishes.
- 6.7 Discharge of harmful municipal and industrial wastes directly into the water bodies will be considered a punishable crime and measures will be taken to ban the use of harmful chemical substances and insecticides in the agricultural fields.
- 6.8 Import, manufacture, sale, storage and use of current net (monofilament net) and other such nets harmful for the fisheries resources will be banned.
- 6.9 The Fishermen Societies along with the local government will be engaged in the execution of the fish conservation acts besides the authorities presently engaged for the same, purposes.
- 6.10 Surveys will be conducted of the water bodies, which become water logged or become closed water bodies due to the flood control and irrigation projects. Appropriate measures will be taken to culture fish therein.
- 6.11 Lakes, beefs, ditches-canal and other open water bodies should not be completely dewatered.
- 6.12 Water bodies like haor, baor and beef would be renovated for fish culture and these water bodies would not be reduced in sizes.
- 6.13 All water bodies primarily used for fisheries will be marked and their appropriate use will be ensured.
- 6.14 Genuine fishermen would be given priority to get khas water bodies.
- 6.15 Arrangements will be made to conserve the threatened and endangered fish species and ensure mass production.
- 6.16 Demonstration cages and pen culture is initiated after successful experiments.

7 Fish culture and management policy in closed water bodies

In Bangladesh, there are 1,46,890 hectares of ponds and dighies and 5,488 hectares of ox-bow lakes (baors). According to the 1995-96 statistics, average fish production in ponds and dighies, about 2,100 kaha-1 and in baors only 540 kg/ha-1. Fish production in these water bodies could be raised through the adoption of scientific culture methods. The following policies will be taken to upgrade fish culture using modern technologies:

- 7.1 Fish culture will be encouraged in all ponds-dighies and other water bodies. Proper studies will be made for exotic fish, before introduction, and encourage them as cultivable item in the closed water bodies. Introduced fish species could have negative environmental impacts on indigenous species and on ecology as well.
- 7.2 Union-based demonstration fish farms will be established at both government and private levels in order to expand aquaculture technologies. Fish farmers will be trained in thana and union level through the self-program of Directorate of Fisheries or with the NGOs.
- 7.3 Females will be encouraged in fish culture and trained accordingly.
- 7.4 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 poor fishers.
 - Government owned khas ponds and other water bodies will be leased out on long-term basis to the poor and interested fishers/ trained jobless youths.
- 7.5 Proper arrangement will be taken to produce aquaculture feed by using local ingredients and private entrepreneurs will be encouraged.
- 7.6 Ponds remaining barren due to multiple ownership or other such problems will be brought into fish culture through Pond Development Acts.
- 7.7 Soil Maps will be developed in almost potential fisheries areas of the country and prescription will be made available regarding requirement of lime and other manure.
- 7.8 Baor will be treated as fish production area. Proper arrangement will be initiated to develop water control and drainage system for sustainable fish production in the baor.
 - Local fisher communities will be given priorities for fish culture in baor, and technical and socio-economic support will be provided.
- 7.9 Integrated prawn and fish culture along with rice will be encouraged in brackish water bodies.

- 7.10 Proper steps will be taken to produce fry of different fish species at both government and private farms for stocking and culture in open water bodies.
- 7.11 Commercial fry production will be in the private sectors.
- 7.12 Arrangements will be made to transfer the improved methods of fish culture through regular training in the government fish farms and training centers. Establishing brood banks in the government farms will produce improved quality brood fish. Improved brood fish will be distributed among the private hatcheries. Moreover, the government hatcheries will be used to transfer technologies on fish spawning, fry production, and fish culture and management through training to the farmers and entrepreneurs.
- 7.13 The private sector will be encouraged to establish more hatcheries.
- 7.14 Spawning of freshwater giant prawn and production of post-larvae will be undertaken in all government hatcheries after feasibility studies.
- 7.15 Monoculture of freshwater giant prawn or polyculture with other fish species will be encouraged in ponds all over the country.
- 7.16 Creating aquaculture packages will develop private entrepreneurs.
- 7.17 Training programme will be undertaken for the fish farmers and the entrepreneurs, interested to invest in the fisheries sector.
- 7.18 Jobless youths will be trained for fish culture and financial assistance will be provided for their post-training fish culture activities.
- 7.19 Government owned water bodies would be reclaimed and leased for mid-term period to the persons or parties, interested in fish culture.

8 Coastal shrimp and aquaculture policy

Shrimp holds a special position in the economy. Among the non-traditional export commodities, fish and fisheries products is the first. Of the fish and fisheries products shrimp alone constitutes about 86%. Presently, more than 0.14 million hectares of land are being used by the shrimp sector. But the production is only about 200-kg ha⁻¹. In order to ensure higher production through advanced technology, the following policies will be adopted:

- 8.1 There will be a thana, district, division and national level committee. This committee This Committee will take care of the development of shrimp production, implement laws related to shrimp culture and mitigate other concerned problems. This committee will be run by the policies of the government.

- 8.2 Measures will be taken to conserve biodiversity in the coastal region and necessary steps will be taken to culture fish/shrimp along with rice crop, either in rotational or concurrent phases.
- 8.3 Arrangements will be established within the polders (embankment) and flood control projects to conserve wild life. Each polder will be coupled with arrangements for fish/shrimp culture with rice either in concurrent or in rotational system.
- 8.4 Improved-extensive culture will be encouraged. However, semi-intensive culture systems may be encouraged in controlled and feasible areas. Expansion of shrimp culture in mangrove forest or destruction of mangrove forest will be completely banned. In order to ensure ecological balance, tree plantation will be encouraged in shrimp culture area.
- 8.5 Demonstration shrimp farms will be established in the private sector with government assistance. Farmers will be given proper training.
- 8.6 Shrimp farming will be considered an exportable industry and like other such industries, shrimp industry will be given proper facilities.
- 8.7 Proper training will be given to the fry catchers to reduce mortality of fry or larvae during exploitation and transportation period. Adequate infrastructure facilities will also be established.
- 8.8 Private entrepreneurs will encourage establishing commercial shrimp hatcheries order to reduce tile dependency oil shrimp post-larvae.
- 8.9 Shrimp harvesting during, shrimp breeding season will be banned. Some selected breeding grounds of the sea will be declared as shrimp sanctuaries.
- 8.10 Private entrepreneurs will be given priority to establish shrimp and prawn hatcheries.
- 8.11 Infrastructure Facilities-will be developed in the shrimp-hatcheries with the co-operation of the Government Moreover, appropriate security measure will be developed during the period of shrimp harvest and marketing.
- 8.12 Emphasis will be given to increase shrimp production by developing appropriate technology. Big farms will be encouraged to convert farms into smaller more manageable units through the development of water supplies and drainage facilities.
- 8.13 Using local food ingredients will produce shrimp food. Ingredients, such as fishmeal, vitamin, mineral premix, food binder etc. will be imported, wherever necessary.

- 8.14 Hygienic conditions will be ensured during farm management and in the post harvest period.
- 8.15 Training programs will be chalked out for the concerned workers to keep healthy conditions in the post harvest period for shrimp. Other relevant infrastructure facilities will also be expanded.
- 8.16 In order to get a good foreign market, marketing sectors will be strengthened.
- 8.17 Facilities for Quality Control Laboratories will be expanded. Facilities of these laboratories will be modernized to ensure quality to exportable fish and shrimps.
- 8.18 The Central Shrimp Cell will be expanded up to the field level in order to provide services to the shrimp farms.
- 8.19 Different facilities along with the trained personnel will be expanded to ensure better service from the shrimp cell.
- 8.20 Consultation will be made with the Ministry for Environment and Forests to ensure increased shrimp production and maintain the ecological balance.
- 8.21 Coastal areas will be selected for shrimp farming.
- 8.22 Combined efforts with other foreign countries will be made to achieve environment friendly semi-intensive shrimp culture.
- 8.23 Insurance system will be adopted in fish and shrimp culture

9 Marine fisheries resource development, exploitation and management policy

Marine fisheries resources contribute about 25% of the total annual fisheries harvest. Of the total marine harvests, about 95% come through small scale sectors. Their activities are mainly confined within the range of 40-meter depth. Presently, there are 73 trawlers, of which 73% are being utilized for the harvesting of fish. Total harvest of the marine sector was 12 thousand tonnes and the contribution of shrimp not more than 5000 tonnes. Following policies will be adopted in order to ensure proper management of marine fisheries resources and harvest marine fish at a sustainable level:

9.1 Analysis and utilization of previous surveys

- 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 specificity of the marine resources.

- Results of the analysis will be extended to the owners of the trawlers, mechanized boats and fishers communities in more practical ways.
- Surveys will be concluded in new fields with the continuation of the previous surveys. Accordingly, required manpower will be developed. Emphasis will also be given to gather information, data and statistics by the fishers. Based on this information and analysis, recommendations will be prepared focusing on the situation, improvement of gear technology, conservation and mitigation. Extension booklets will also be prepared combining this information.
- Project will be undertaken regarding the presence and abundance of pelagic fish, like tuna, mackerel, etc. in the exclusive economic zone.
- Harvest of fish and shrimp by the trawlers in the shallow coastal areas (within 40-meter depth) will be banned.
- Considering the fisheries resources in deep sea, joint venture activities with the foreign countries will be established.
- Necessary research activities will be taken for the development of the marine fisheries resources.

9.2 Conservation of marine biological resources

- According to the previous survey, the quantity of exploitable fish and shrimp has achieved at its maximum level. Under these circumstances, strict decisions will be taken against increases of mechanized or non-mechanized boats engaged in fish harvest in the marine zones. This is required to keep the fish harvest at its maximum sustainable level. So expansion of any trawler will be restricted into the fleet
- Behundi net's (set hag net) are destructive to lip and juveniles of shrimp. Their actual number and extent of destruction will be counted and analyzed and conservation measures will be taken. Moreover, spawning grounds will be conserved to ensure natural breeding in the sea.
- Bans will be imposed to Harvest bagda, chaka and harina shrimps from their breeding grounds and migration routes during the breeding season.
- Practical approaches will be extended to harvest, collect and utilize trash fish.
- Appropriate preventive measures will be taken against dumping of hazardous chemicals and atomic wastes into the sea.

9.3 More priority on small scale fisheries sector

- Small scale fisheries contribute about 95% of the total fish harvested from the marine water. Emphasis will be given to the small scale fisher folk communities in the coastal areas.
- Special measures will be taken to limit the uncontrolled fish harvest from the marine environment.
- Small-scale fishers in the coastal region will get fish harvesting rights. A separate fish harvest area will be demarcated for the small and large-scale fishers. This will be determined on research and survey results and information on

commercial harvest. For (hill reason. the existing rules and regulations will be updated.

- Research and surveys will be conducted under local and international programmes to develop capacity fir using modern fish harvest techniques. .
- Special emphasis will be given to the life and resources of the fisher's communities. For this reason, the following programmes will be undertaken

- Initiate life and resource (e.g.. boat. engine. nets, fish. etc.) insurance policies.
- Each fishermen-boat must contain life saving utilities and radio.
- Strict measures will be taken to control sea robbery.
- To increase working efficiency and family income of the fishers community, appropriate, training programmes will be developed on the- new and modem fish harvest techniques, fish conservation, distribution. processing and preservation.
- Supervised loan system will be developed against the present mortgaged-based loan system.
- Infrastructure facilities of the coastal fisheries landing centres will be developed to reduce the spoilage of fish
- Prior permission win be required for the construction of fish landing centers and establishment of fish retail markets at private level.
- Appropriate technology will be adopted for the conservation of marine fisheries resources to increase fisheries production.

10 Related fisheries policies

10.1 Establishment of hygienic fish landing centers:

- All fish landing centers of the country will be converted into hygienic and modern fish landing facilities. Private entrepreneurs will be encouraged to establish fish landing centre.
- Private fish landing centres should have quality control facilities, prescribed by the government and collect prior permission frond the Department of Fisheries.
- Landing offish in the fish landing centers will be obligatory.
- Road, electricity, pure water and ice supply will be ensured in each fish-landing center.

10.2 Transportation and marketing

- 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.
- Fishers will be encouraged to keep the fish in cold storage prior to marketing.
- After harvest use of sufficient quantity of ice will be encouraged dining preservation, transportation and marketing.

- Hygienic and modern facilities will be ensured in each fish market. Fish marketing should not be done in open, debris filled and muddy areas.
- Cold-chain system will be established in fish marketing. Businesspersons will be encouraged to establish cold-chain based marketing systems.
- Fish used for marketing should be free from germs and rotting. Legal actions will be taken against marketing of rotten bad odor and unsuitable for human consumption fish.
- Hygienic condition, prescribed by the government will be followed strictly in all fish marketing places including retail and wholesale markets.
- Fisheries quality control officers will be given adequate power to supervise and identify low graded fish and enforce law.

10.3 Fish Processing -and Quality-Control

- Traditional technologies for fish processing, such as drying, salting, brining, etc. will be improved.
- Value Added Products of frozen fish will be strengthened for local and international markets.
- All fish processing plants and persons will be required to hold license from the Department of Fisheries and should abide by the quality control program strictly.

10.4 Fish Export

- Government will provide facilities to the fish and shrimp exporters as 100% exportable commodities.
- Private organization's opinions related to export would be considered on priority basis for increase of export earnings.

10.5 Educational Policies related to fisheries

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

- In science books, fisheries related theoretical and practical aspects would be incorporated in both primary and secondary education.
- In university education, the fisheries syllabus will be rearranged based on appropriate theoretical and practical knowledge.

- Fisheries education in the universities will be coupled with a mandatory practical work. In this regard, university authorities will take co-operation from the government autonomous It and private bodies.
- Expert exchange programmers will be arranged between universities and other agencies related to fisheries programme implementation
- In higher studies, national problems vv ill be given priority even performed in foreign countries.

10.6 Fish Training Police

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

- Established hatcheries, nurseries and production farms will be considered as training centers. Practical training will be provided on aquaculture, business management. Fish conservation, etc.
- Fishers, fish farmers and other related persons will be the main target people. However, emphasis will be on vocational training for unemployed youths, school and college students.
- Special training courses will be developed for the newly recruited persons in the fisheries sectors of both government and private organizations.
- Officers will be trained periodically, not only in the probationary period.
- Both public and private sectors will perform fisheries research infrastructure building, extension, training, demonstration and implementation of the fisheries programme. Private sectors will be encouraged for production, exploitation, marketing and installation of fisheries related industries.

10.7 Fisheries Extension Program

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:

- Economically feasible and successful fish demonstration farms in the public places will be established in the private sectors through government assistance
- 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. Demonstration ponds will be established in all feasible unions.
- In extension programme, all concerned persons in the local union should he arranged together.
- Interested fish farmers will he organized by the extension officers and workers.
- Training programme will be delivered for the fish fat tiers, fishers and fish shrimp fry

- catchers by the extension officers workers on a regular basis.
- Aspects of open water fisheries conservation and fish culture will be advertised attractively in different public media to siren then fisheries extension programme.
 - Private and social organizations interested in fish culture a tool for poverty alleviation will be emphasized for fishers emersion programme NGO will get priority in this aspect.
 - Private entrepreneurs will be encouraged to make available the inputs required in shrimp culture and management.
 - Organizations engaged in fisheries resource development, extension, management and technology development would be coordinated.
 - Establishment of different societies such as fish farmers development association, fish farmers development association for the marine fisheries, etc. will he encouraged for the development of fisheries resources and extension.
 - Emphasis will be given liar rice-fish culture.

10.8 Policy related to Fish research

Fisheries Research Institute and some 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. In order to mitigate the above problems the following policies will be followed:

- Mutual linkage and Co-operation will be established the research institutes and the users group of the research. Emphasis ill be given on practical research in the universities
- These institutions will survey, formulate and execute research project operation with different government and Private Organizations through utilizing their infrastructure capacity.
- Research will be based on the development needs of the county to reflect problems and identify possible solutions.
- Bangladesh Agriculture University and other universities could use the ponds and other facilities of the Bangladesh Fisheries Research Institutes.
- Open Research Policy will be followed for fisheries research. Emphasis will be given on field and practical productive research activities in addition to institutional research.
- Arrangement will be made to conduct research jointly by the government and private organizations. Investment will be encouraged in research by the commercial fish and shrimp farmers.
- Relative productivity of different water bodies, employment opportunities and economic profitability will be the research priorities.

10.9 Infrastructure facilities in fisheries sector

- The Ministry of Fisheries and Livestock will control all development, conservation distribution and other management aspects of fisheries resources.
- Respected ministries and/or departments will be rearranged and strengthened to develop a meaningful national plan for fisheries development, evaluation and co-ordination.
- Inter-ministry committee will be formed for the proper management of the khas jalmohals.
- Co-ordination will be established in different government, autonomous, private and voluntary organizations.

10.10 Policy related to fisheries environment

Fish production has declined due to environmental imbalances, Adverse environmental impact, Can be expected due to improper implementation of fish culture and management programmes. The following policies will be for this purpose:

- Shrimp and fish culture will not be expanded to the areas which damage mangrove forest in the coastal region.
- Biodiversity will be maintained in all natural water bodies and in marine environment.
- Chemicals harmful to the environment will not be used in fish shrimp farms.
- Environment friendly fish shrimp culture technology will be used.
- Control measures will be taken against activities that have a negative impact on fisheries, resources and vice-versa.
- Laws will be formulated to ban the disposal of any untreated industrial effluents into the water bodies.

10.11 Fisheries credit policy

Non-institutional credit programme to alleviate poverty and generate employment will be continued. Aquaculture and natural resource exploitation in Bangladesh are mainly based on the participation of rural people, poor farmers and the fishers. In recent years, some private entrepreneurs have been involved in fisheries development by their own limited aquaculture activities. Equity is prerequisite for the allocation of institutional loan. As a result, very few small scale fishers could be able to take institutional credit. This could send them to borrow from the traditional moneylenders with high interest rates. To improve this situation, the following policies will be followed:

- Fisheries sector would be given priority for institutional loans.
- Supervised credit will be initiated instead of property mortgage from starting to marketing.

- Shrimp and other exportable fisheries will be considered an exportable industry. Facilities such as credit with low rates of interest, tax rebate, tax holiday might be imposed.
- Bank and Extension officers of the Department of Fisheries will help the people to execute the proposed technology within the project.
- Fisheries Bank may be established for easy loan sanction.

10.12 Policy related to fisheries co-operatives

- There are many larger natural or artificial government khas water bodies that exist in rural areas. These will be managed and directed by the fishers and fish farmers' co-operatives to increase production and alleviate poverty. In this regard, formation of co-operatives will be encouraged.
- Formation of any fisheries related co-operative societies would be encouraged.
- Government khas water bodies will be handed over to co-operative societies on a long term basis.
- Co-operative societies will be trained in fish culture and management.

11 Other related issues

11.1 Power of license Issue

- Department of Fisheries will be the authority to issue, cancel or renew licenses for fishing vessels and other Implements for the proper management of marine fisheries resources.
- All fishing vessels or units will be ready to supply required technical information to the Department of Fisheries.
- Registration system will be executed for fish and shrimp hatcheries to control quality.

11.2 Industry

- Emphasis will be given to establish new fisheries related industries and development existing industries to the fulfill the increased demand of inputs.

11.3 Import

- Import and sale tax will be reduced for the equipment used for fish harvest Implements required for export-oriented activities would be tax exempt. Tax exemption will be considered in case of basic Inputs required in aquaculture and shrimp harvest.

11.4 Export

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

- Quality control system of the Department of Fisheries will be strengthened through the implementation of quality control laws on processed fisheries products.
- All fish processing plants should have their own quality control systems. Strict punishment will be taken against the exporters and owners of the plants in case of exporting below standard products.
- Emphasis will be given to export shrimp of different species, fish, turtles and other aquatic species instead of existing 2 or 1 shrimp species.
- Differentiation and diversification of the presentation of processed products of shrimp, fish, turtle, etc. will be initiated. Technologies related to produce different value added products would be encouraged, based on international demand.

11.5 Processing plants

- Care will be taken to establish new processing industries in view of the shortage of raw materials for plants.

11.6 Utilization of khas water bodies for self-employment

- Co-operation will be extended to lease out existing un-utilized khas ponds, lakes and water bodies to the trained unemployed youths.

11.7 Inspiration for extra production

- Certificates, awards and other facilities will be given to the entrepreneurs, organizers, organizations and catalysts in contributing extra-ordinary production for shrimp, fish and hatchery.
- Development of communication and electricity supplies will be prioritized in potential aquaculture areas.
- Unit price of electricity that is used in aqua farms will be same as agriculture.

11.8 Reliable database

- Emphasis will be given to create a strong database of the fisheries sector. Regarding this improved communication systems will be established.

11.9 National fisheries plan

- National fisheries, plan will be prepared based on resource potential and probable mitigation measures at the regional level.

11.10 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.

12 Implementation strategy of National Fisheries Policy

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

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

Following strategies will be undertaken for the execution of the prioritized sub-sectors:

- All closed water bodies to be under aquaculture. If necessary, existing laws will be rectified. New laws will be developed and executed to ensure proper utilization of these water bodies.
- Emphasis will be given for aquaculture through the adoption of appropriate technology in the open water bodies.
- Shrimp and fish culture activities will be undertaken in coastal areas in a sustainable manner. So that biodiversity will be conserved and environmental damage will be reduced.
- Production and exploitation of hilsa will be improved through identification and conservation of their breeding and grazing grounds and removal of any obstructions to their anadromous migration routes (from coastal areas to the inland water bodies):
- Sustainable exploitation and management will be undertaken by the estimation of marine fisheries resource survey Existing laws will be appropriately corrected.
- New entrepreneurs will be initiated through the demonstration package-based technologies, training and extension.
- Private entrepreneurs will be encouraged.
- Fish landing centres and marketing systems will be modernised to improve post-harvest loss. Diversification and quality of the fisheries products will be ensured.
- Fish acts will be appropriately corrected and implemented to improve fisheries resource and conservation.

- Private sectors will be incorporated to develop fisheries resources.
- Government will play the main role for the development and execution of the programmes in the following sectors:

Research
Consultancy

Extension
Services

Training
Supervision

The government will extend to-operation to encourage private fisheries sectors:

- Training oil improved technology and management;
- Supply of improved species;
- Health services;
- Ensure fish and shrimp feed;
- Ensure appropriate price liar the product and create extra facilities, such as credit and marketing, and
- Extend co-operation to develop co-operative societies or organizations.
- Genuine fishers will be prioritized for the government khas water bodies to improve then socio-economic condition.

12.2 A National Fisheries Council will be set up to execute National Fisheries Policy and to improve national fisheries resources and management.

12.3 New laws may be formulated, existing laws may he rectified and proper application of the fish acts will be ensured to execute the National Fisheries Policy.

12.4 Co-ordination will be developed among the concerned ministry, department, and organizations to execute the National Fisheries Policy.