

## **Chapter IV**

# **Fisheries and Aquaculture**



## **Fisheries and Aquaculture**

### **Endangered fishes threatening extinction**

1. Indian Fisheries Act, West Bengal Fisheries Laws, Water Pollution Act and similar measures should be strictly implemented.
2. Particular attention is required regarding protection of brood fishes, breeding sites, juveniles, over fishing, habitat destruction.
3. For observing closed season, alternative vocation for the fishers during the closed season should be considered.
4. Net making and mending units should be established for off-season vocation. It can also be for the women.
5. The State Government with the ICAR Institutes should assess natural resources of ornamental fish to come up with an up-to-date list of such species in West Bengal.
6. Strategies of conservation of ornamental fishes including captive breeding should be developed by the State in collaboration with ICAR institutes.
7. Ranching of selected species should be taken up in their natural habitats.
8. Maintenance of cryopreserved gametes and live gene bank in appropriate places should be planned.
9. Side by side, restoration of deteriorated habitats should be taken up phase wise, if necessary with funding assistance from outside agencies.
10. An Endangered Fish Species Act should be enacted as in the USA.
11. Mass awareness drive on participatory mode with due consideration of the socio-economic aspects of fishers should be given top priority.
12. The entire effort on modern lines like genetic characterization through DNA fingerprinting and the bar coding followed by conservation can be conducted by the State Fisheries Department in collaboration with NBFGR and CIFRI.
13. Uncontrolled operation of foreign trawlers in our marine waters should be restricted.
14. Mass awareness drive about protection of our precious fish genetic resources should be taken up by the Government and Non-Government Organizations (NGOs) alike.

### **Development for increasing production**

1. The entire developmental effort should be taken up not merely as a part of the assigned job but with right earnest and missionary zeal.
2. The effort again should be in active participation with the stakeholders.
3. The cooperation of the people at large is also required which may be expected only through mass awareness.

### **Freshwater fisheries**

1. Development of reservoir and open beel fisheries should be given priority for which suitable collaboration with CIFRI may be considered.
2. Pen culture in beels and cage culture in reservoirs, running water fish culture in upland streams and canals should be taken up on a large scale. Collaboration with CIFRI, if needed, should be considered.
3. Developmental schemes for riverine and estuarine fisheries should be given priority particularly because of the fast deteriorating habitat conditions.
4. In addition to control of public water bodies by the Forest, Revenue and Irrigation Departments, the right for fisheries development should be given to the local self government with technical support of the Fisheries Department.
5. Water abstraction from rivers, reservoirs, tanks etc. should be so regulated that a minimum level of water for fishes to live in and propagate is invariably maintained.

### **Hilsa fisheries**

1. Hilsa being the 'State Fish' and also most favourite fish in the State, it should be conserved and its fishery developed.
2. It is an anadromous fish for which appropriate environment and protection should be provided for their smooth migration.
3. Strict monitoring of the rule on protection of breeding grounds, size limit restricting juvenile killing, etc. should be ensured.
4. Adaptive trials on deboning of hilsa for consumption by people not habituated to hilsa eating should be undertaken in collaboration with the WBUAFS and the CIFT.

## **Aquaculture and its allied aspects**

### **Modern fish culture**

1. Majority of fish farmers in rural areas are still undertaking fish culture in traditional manner. Intensified pisciculture through adoption of modern polyculture or composite fish culture technologies with periodic multiple stocking, feed management, water replenishment, health monitoring and multiple harvesting, etc. should be ensured.
2. Soil and water conditions should be periodically monitored and regulated for which necessary facilities should be provided to the extension personnel at village level.
3. Intensification of aquaculture is required to harness the production potential, without affecting the soil-water ecosystem in any way. It should, however, be in an ecologically sustainable environment friendly manner only.

4. Running water fish culture where streams exist, cage culture in reservoirs and ox-bow lakes, particularly for producing stocking materials or grow-out production systems are some other viable avenues.
5. Organic fish farming should be given priority wherever conditions are suitable.
6. Stock improvement through diversification of species with locally available fishes of demand should be brought about.
7. While the carp culture has to be intensified in perennial ponds, catfish (singhi and magur) and murrel (sol) culture should be propagated in seasonal water bodies.
8. SC, ST and minority community with low income (income poor) may be assisted by respective development corporations to develop 4 cft earthen water body on the homestead land to culture hardy fish to meet part of their protein demand.
9. Limited fish culture in small water bodies called 'doba' should be taken up with hardy fishes like tilapia or live-fishes like singhi/magur for getting some fish for home consumption.
10. Backyard cisterns should be used for tilapia culture for limited home consumption.

#### **Integrated fish farming**

1. Special emphasis for the extension of integrated fish farming especially poultry/ duck/ pig/ dairy/ paddy with horticulture, floriculture and seasonal vegetables on the embankments should be given.
2. Organic fish farming should be encouraged. Simultaneously utilization and treatment of organic wastes including domestic sewage should also be encouraged enabling eco-restoration and high production as well.

#### **Ornamental fish breeding and culture**

1. Backward cistern/pools should be used for ornamental fish culture with high profit and even supplying for export. This can be a fully women SHG-oriented activity.
2. Ornamental fish breeding alone also can be taken up at the backyard with high profit. This again can also be a women enterprise.

#### **Commercial feed**

1. Commercial feed at a suitable price should be available for both extensive farming, semi-intensive and intensive aquaculture. Necessary steps should accordingly be taken.
2. Farmers should be trained to prepare on farm feeds using locally available ingredients. An assessment of nutritional input from natural food to target species should be made to avoid wastage of feed prepared in the farm.

3. Algae are important ingredient for low cost, disease free feed formulation and such culture should be encouraged.
4. Help from engineering institutes should be sought in developing low cost durable Demand Feeder and Extruder machines for the common farmers.

### **Quality fish seed, hatcheries and seed collection**

1. Hatcheries for carps, catfishes, prawns and shrimps in appropriate habitats should be encouraged on ICAR or appropriate models.
2. In order to avoid inbreeding with its ill effects, a mechanism of registering hatcheries to follow appropriate guidelines of the Government on the issue should be introduced. As an incentive, an appreciation or a lead certificate may also be given to those farmers who follow the Government guidelines.
3. Since farmers generally depend on natural collection of shrimps and prawns, seed banks of particularly shrimp and prawn seed should be set up in the state to ensure steady supply of such seed.
4. Aiming at improved aquaculture and also export promotion, the State should develop a mechanism of seed certification and develop adequate marketing facilities.

### **Sewage utilization for aquaculture**

1. Sewage enriched East Kolkata Wetland Aquaculture should be extended to fresh unutilized areas.
2. Such culture should be modernized with provision of adequate facilities including dredging of channels and ponds for steady flow and holding of adequate sewage waters with high prospect of huge quantities of sustainable fish production. The necessary fund for the costly dredging operation may probably be arranged from national and international agencies with lead by the State Government.

### **Fish health management**

1. Fish disease avoidance and control through prophylactic and therapeutic measures should be given priority.
2. Disease diagnostic laboratories with arrangements for necessary treatment should be set up at least at the Panchayat Samiti level.

### **Recognition to self help groups**

1. Government water bodies which are not being handed over to SHGs due to existing policy on issues like water users right may be handed over for temporary use by relevant SHGs., etc.

2. In order to ensure fuller utilization of water bodies, Govovernment should bring suitable legislation to lease out the Government water bodies to better performing SHGs also.

### **Conversion of description of water bodies**

1. The process of conversion from any classification to tank / water body should be quick. Such conversion charges for gram panchayat areas should be applicable for the municipal areas also.
2. For the newly excavated water bodies conversion in LR record should be quick.
3. The right for fisheries development at the public owned water bodies should be transferred to the Fishermen Co-operative Societies on lease basis for culture under technical guidance of State Fisheries Department.
5. Multiowned water bodies which remain fallow should be brought within a “Statewide water body management plan” for their appropriate use for fisheries development. These water bodies may be developed for culture using NREGA project.
6. The existing water bodies which are recorded as ‘Pukur’, ‘Doba’, etc. should be recorded as Jal Krishi in LR Khatian.

### **Development of beels, baors and other wetlands**

1. Development norms and expertise are available at ICAR for such waters. Appropriate projects should be taken up for production enhancement from such waters on priority basis. In most cases, desilting and renovation requiring huge expenditure are deferred indefinitely.
2. The task can be undertaken, if necessary with financial assistance of NREGA.

### **Entrepreneurship development**

1. It is necessary to develop groups or individuals who would adopt high tech aquaculture with strong motivation, technological support financial assistance and encouragement by the State Government.
2. Production targets should, in such projects, be highest achievable at economic levels.
3. This vertical development in addition to horizontal effort of the State would bring quick results in attaining targeted productions.

### **Brackishwater fisheries**

1. In brackishwater aquaculture farms, the major expenditure is on water intake and outlet channels with sluice gates which are indispensable.
2. The State Government should explore the possibilities of providing such infrastructural assistance with help of RIDF to the farmers, particularly to progressive ones.

3. Rampant destruction of seed of miscellaneous fish while collecting shrimp seed should be stopped. Suitable mechanism should be developed for the same.
4. Only one brackishwater fish seed hatchery is really functional and hence it is a bottleneck in the development.
5. The State Government should establish hatcheries in consultation with the MPEDA / CIBA at suitable places.
6. Setting up of Aqua clinics at least one at each block level of the estuarine zone should be established to meet quality input, technology needs and guidance for financial requirements etc.
7. Diversification of brackish water aquaculture involving sea bass, milk fish, and other suitable ones for increasing production should be planned and popularized.
8. Sundarbans is a fragile but rich ecosystem providing excellent feeding and breeding grounds of fishes and prawns with high possibilities of further development which should be utilized through appropriate environment friendly projects with right earnest.

### **Marine fisheries**

1. In order to maintain sustainable catch per unit of effort, instead of augmenting further size of vessels, emphasis should be given to mechanization of existing non-motorized suitable fishing vessels with appropriate marine diesel engines.
2. Modern crafts and gears should also be introduced in the marine sector of the state.
3. More suitable modern fishing harbours at appropriate sites should be constructed.
4. More facilities at the landing centres all over the estuarine and marine zones should be set up by the state with adequate facilities.
5. Communication of weather forecasting to fishermen and developing cheap and easy communicating system from the sea to the shore centres and *vice versa* should be developed and network created.

### **Fish preservation and product development**

#### **Fish preservation**

1. Modern preservation techniques should be popularized.
2. Postharvest technologies should be adopted and popularized.
3. The traditional most popular method of beach drying of fishes should be compulsorily made hygienic, if necessary by passing orders with strict enforcement.



**Fish processing and export**

1. Facilities available at the existing processing plants (except 5 units) do not meet the EU standards. Only few units meet national standards. Thus it is necessary to upgrade the standard of all factories.
2. Government endeavour in creating a Fish Processing township at the E.M. Bypass is commendable. The State Government should strictly enforce such standards as required internationally.

**Ice plant, cold storage, etc.**

1. Adequate cold storage and ice plants at appropriate places/locations should be encouraged all over the State.

**Development of markets and marketing**

1. For effective marketing, the basic requirement is adequate hygienic wholesale markets. The State Government should develop such infrastructure at the district level.
2. Retail markets are mostly in unhygienic condition. The State Government should convert them into hygienic ones and also establish modern markets accordingly.
3. The State Fisheries Department should ensure quality of fish in markets by introducing surveillance in retail markets through development of appropriate mechanism.
4. Fixing of minimum price of fishes both in wholesale and retail markets should be considered.
5. Marketing Federations are required to equip themselves with market related information at par with 'e-chaupal' of AP. The Government should take initiative in this regard.
6. Mobile marketing vans should be introduced for the village population in particular where no regular market exists.
7. Development of floating markets for Sundarbans villages should be explored.
8. A cold chain should exist from producers to consumers for ensuring quality of fish and thus the system may be ensured.

**Coordination**

1. Coordination between different State Departments, ICAR institutes and universities, particularly with WBUAFS should be established.
2. Till the Fisheries Department is fully vested with powers for fisheries development in public owned waters, collaboration and coordination with departments of Irrigation, Forest, Sundarbans Development, Revenue, Remote Sensing, etc. is necessary and should be ensured.
3. Development should be coordinated through participatory management and also linking fishers with satellite sensing sources, GIS and other improved devices.

### **Research activities**

1. Strong adaptive research agenda should be available under the direct guidance of senior researchers.
2. Adaptive research on marine fisheries development is required in view of the weakness in that discipline in the State.
3. Adaptive trials should be given on the use of more efficient modern crafts and gears in the State for further development.
4. Adaptive trials on propagation and popularization of Jayanti Rohu in collaboration with CIFA should be taken up.
5. Sex reversal of Galda, *M. rosenbergii* female to male in particular should be taken up for research with bright prospects of production enhancement with its monosex culture.
6. Possibilities of mass production of katla-rohu hybrid with quality better than rohu should be explored as an addition to freshwater aquaculture.
7. Adaptive trials of bhetki culture in freshwater should be taken up.
8. A cheaper substitute of deboning machine should be developed in collaboration with CIFT, Central Mechanical Engineering Research Institute (CMERI), Durgapur and WBUAFS in view of the very costly CIFT model of Rs.1.0 lakh approximately.
9. Adaptive trials should be taken up on commercial deboning of very spiny tasty fishes like Ilish, Chital, Falui and less priced marine fishes as value added product for both internal and foreign markets

### **Extension network**

1. The Fishery Extension Officers should be taken out of the BDO's administration and placed under Panchayat Samity.
2. Like 'Prani Bandhu' adequate numbers of Fishery Field Assistants should be developed and provided for helping the FEOs.
3. With the view of developing a network of village level extension services as in Animal Resources Development department (*Prani Bandhu*) and Agriculture department, enthusiastic village youths should be trained adequately as *Matsya Bandhu*.
4. *Matsya Bandhus* should be trained on aquaculture techniques in general, and soil and water testing, disease diagnosis with their remedies, induced breeding, etc.
5. Periodic refresher training courses should be arranged separately for all field functionaries including FEOs.
6. Self help groups should be encouraged by providing all required facilities.
7. Training cum demonstration centres should be established at Panchayat Samiti level for the actual farmers.
8. The state should encourage more of KVKs for training of stakeholders.

9. Mobile aqua labs with trained personnel should be introduced at the grass root level.
10. Chaupal (e-chaupal) system as in A.P., should be introduced in the State with right earnest.

### **Flow of finance**

1. Fishery sector is a lucrative one and the loanees generally make repayment regularly. So the financial institutions should be approached by the Government with a request to liberally finance to the sector.

### **Insurance of fish crop**

1. In fish crop only 100% loss is presently covered in insurance but 100% loss is generally possible only on poisoning cases which paradoxically is not covered in insurance. The net result is thus practically nil. The State Government should approach the insurance agencies and negotiate for coverage of partial loss also.
2. The coverage should include all water bodies with improved methods of fish culture as well.
3. Full insurance coverage with low rate of premium would encourage institutional finance and consequently expedite development.

### **Facilities at par with agriculture**

Aquaculture being part of Agriculture in India, it should be provided with facilities at par with agriculture accordingly.

1. Subsidy in electricity for aquacultural activities should be provided/introduced.
2. Low tax as in Animal Husbandry and Agriculture should be introduced.

## **Chapter V**



# **Agricultural Education, Research and Extension**

## **Agricultural Education, Research and Extension**

### **Education**

1. Agricultural education, research and extension need to be closely integrated for overall agrarian development with special emphasis on livelihood improvement of the small and marginal farmers. The Commission strongly recommends the constitution of a State-level Advisory Committee on Agricultural Research, Education, Training and Extension to coordinate, monitor and direct the programs earmarked for farmers' socioeconomic development.
2. Introduction of need based certificate and diploma courses along with distance education by Open Universities should be encouraged with the view to enable young farmers and entrepreneurs to take up more remunerative farming practices and allied vocations. The proposed state-level high power advisory and monitoring committee should review and suggest occasional changes and reorientation needed for the purpose.
3. Infrastructure with regard to academic and administrative personnel as also laboratories and other teaching aids/materials are sadly lacking in most of the institutes, specially where ICAR grant is not available. This is particularly very much noticeable in the Institute of Agricultural Science, Calcutta University. Inclusion of agricultural faculties of general universities for grant of funds by the Indian Council of Agricultural Research (ICAR) for such infrastructural development is very much necessary. Other universities such as BCKV, UBKV and WBUAFS also need more attention in this regard.
4. Certificate and short term training courses are to be vigorously pursued in a decentralized manner. Krishi Vigyan Kendras in each district in collaboration with line departments and SAUs with necessary help from SAMETI, ATMA and other relevant institutes/organizations including reputed NGOs should undertake necessary responsibilities. All regional research stations of SAUs and other state and central institutes can very well be used as training centres on different livelihood supporting aspects of agriculture, animal welfare, poultry, fishery and allied subjects.
5. In tune with recommendation of the IAASTD, a close coordination of formal science education with informal traditional knowledge system is very much desirable specially in connection with resource conservation and utilization. The Commission recommends state level initiative to innovations and participatory education in knowledge systems.
6. While selecting the course content in higher education different agro-ecological and socioeconomic issues affecting agricultural and allied aspects and livelihood of farming communities should be given greater emphasis while in short term courses

the objective should be to satisfy the job market requirements as also self sufficiency in livelihood sustenance.

7. While qualitative improvement in scientific and technological knowledge is most desirable, steps need be taken to equip the students about the present context with enough motivation for sustainable rural development and socioeconomic upliftment of the small and marginal –farmers in particular.
8. We recommend serious efforts on the part of all educational programmes to give more emphasis on practical training through experimental and hands-on training with a rural perspective in all educational programmes.
9. The Commission recommends opening up of Distance Education courses in crop and livestock sciences where the need for laboratory and farm related class and field work would not be required.
10. A few suggestions have been received from universities/institutes to open undergraduate degree colleges/PG courses on different disciplines. Our suggestion is to strengthen firstly the existing ones and establish new ones only if decided upon by concerned advisory committee. However, presently our considered opinion is that emphasis should be given on i) Organic farming, ii) Natural Resource management and iii) Integrated farming systems. Courses on frontier sciences are welcome provided infrastructural facilities with regard to teachers, laboratories, library and computing, etc. are satisfactory. Our preference presently is for Farm Management (Crop-Livestock-Fishery-Integrated systems), Agro-processing, Agri-business Management and Information-Communication Sciences and Livestock Vaccine Department.
11. Existing Veterinary Pharmacy Diploma course should be brought under WBUAFS from the ARD Department of Government.
12. Establishment of new full fledged Department of Poultry Science in the WBUAFS is strongly recommended.

## **Research**

1. In the text of this discourse the objectives of agricultural education and research have been broadly discussed. The researchable issues need be prioritized which may be as follows: a) productivity increase of all commodities, b) integrated farming systems approach, c) low input technologies, d) basic production components, e) resource use efficiencies, f) research in problem areas with emphasis on rain-fed zones, g) livestock, poultry and fishery research at community, household level, h) IPM, INM and NPM (nonpesticidal management), i) integrated crop-livestock-poultry-pig-sheep-goat management, j) feeds and fodder, k) organic farming, l) frontier areas like biotechnology specially ‘soft biotechnology’; vaccine production technology and information communication technology and all environment and climate change researchable issues with bearing on crop and related to animal husbandry as well as fishery research sector.

2. Standing State-level Research Advisory Committees may be constituted for effective coordination and monitoring all sectors namely Crop Husbandry and Farming systems, Horticulture, Animal Resources Development, Fishery and Aquaculture.
3. Regional research centers should be established for the purpose of collection and maintenance of plants, crop/horticultural varieties, animals and fish germplasms as also identification and isolation of microbial strains from sources related to agriculture.
4. In animal welfare research, participatory varietal selection should be followed based on farmers' requirements, selection and experimentation.
5. Research covering socioeconomic issues should target food security and livelihood sustenance as the main goals while selecting different items like, a) sustainable organic farming, b) entrepreneurship, c) strategies for employment generation and job opportunities, d) economics of integrated farming systems, etc.
6. Research should be the principal responsibility of SAUs and other universities and institutes while adaptive research trials are the responsibilities of line departments. This is the general norm followed in all states except West Bengal. As such, the Commission recommends policy decision by the government to transfer the "Research" component of agriculture to the SAUs.

### **Extension education**

1. All line departments should be given the primary responsibility of extension at different levels with methodologies like visit, training, demonstration and communication through modern ICT.
2. Extension and demonstrative participatory research are presently being performed by government and non-government agencies with funds from various sources while due to communication gap and lack of coordination between regional/local administrations the users are unable to harvest benefit from these efforts. Some mechanisms must be evolved by the government to document the potential technologies for future development programmes. It is expected that local or regional/state level authorities should have comprehensive information about technologies and results generated so that site specific-technological details are collected and communicated to the targeted users.
3. Government technocrats along with KVKs having 7-8 experts, being stationed at one place in each district, are expected to play major roles in extension education if plans and programs for integrated development are finalized with participation of SAUs, line department officials and state/district planning bodies. Steps should be as follows: i) finalize selection of potential technologies, ii) participatory frontline demonstrations and iii) assess success/failure on the basis of remunerative price while ensuring supply of technology components if accepted by users/farmers.
4. Presently one of the main components of extension education is timely information affecting livelihood improvement and, thus, the importance of information network

is imperative. All SAUs should be given responsibility for efficiently running the network with the help of 'Tathyamitra'.

5. All extension workers should be trained and sufficiently motivated to bridge the gap between formal science and traditional informal knowledge system and such process, we hope, will be able to record important grass root level innovations that may be helpful in crisis/disaster management.
6. Revamping of extension education should be undertaken through, i) group and farmers' participatory approach, ii) associating stakeholders in extension, iii) formation and training of self-help groups, iv) need-based, problem solving, skill based vocational training for self employment, v) training for commercial farming and agri-business approach, and lastly, vi) linkage of extension education, nonformal education, distance and vocational education, so that each supports and strengthens the efforts of the other and *vice-versa*.

### **Specific recommendations for research work on animal resources development**

1. One State-level Advisory Committee for education research and training in animal sciences should be constituted to oversee research priorities, monitoring research activities and ensure that the fruits of research and allied activities actually percolate to the levels of poor and marginal farmers.
2. Infrastructure and manpower of the University of Animal Sciences and Fishery (WBUAFS) are to be strengthened as per the guide line of VCI norms.
3. A new department of Poultry Science in WBUAFS should be established to cater to the future of the growing poultry industry.
4. Teaching in veterinary clinical subjects in WBUAFS has to be strengthened with adequate man power and infrastructure with modern indoor facilities.
5. The existing Veterinary Pharmacy Course (Diploma) under Government of West Bengal, Directorate of Animal Resources and Animal Health should be brought under West Bengal University of Animal and Fishery Sciences.
6. To get acquaintance to the problems at the grass root levels intensive block training, farm training, inplant training, internship, entrepreneurship development programmes, etc. are to be imparted to the students.
7. Model animal farming system should be developed in phased manner at district levels with emphasis on crop-livestock integrated systems where ever possible.



## **Chapter VI**



# **Agricultural Marketing**

## **Agricultural Marketing**

1. In view of amendment of APMC act 2003, by the central government, duly amended Act by the state need be introduced without any further delay. Overall objective of the amendment will be (i) to assure remunerative prices to the primary growers (ii) development of efficient market system (from village market to state level) (iii) facilitating all supporting activities, (iv) encouragement of functioning through co-operatives (v) system development through private operators being strictly monitored by government, and (vi) greater employment generation.
2. Primary produce should be collected from growers/cultivators at remunerative prices covering risks faced by the growers. Collection, assignment and follow-up selection, grading, packaging will be the responsibility of farmers' primary co-operative societies. Primary marketing with the intervention of necessary state funding should be strengthened, specially to prevent distress sale.
3. In the middle, effective functioning of principal/sub-market yards need be ensured where role of co-operatives is to be encouraged. In each block /municipality/corporation at least one market should be properly developed to accommodate all agri-related products. Government should arrange suitable land for facilitating multi-departmental product sales from single place. These should have all other associated facilities needed by regulated markets like (i) go-downs (ii) cool house (iii) agri-shopping complex (iv) grading, packaging, washing and cleaning centers (v) transport yards (vi) weigh-bridge (vii) auction platform and also agri-input and agri-clinic centers. Cool chain facilities should be provided for safe transportation. Necessary soil and water analysis and health clinics of agri/allied products, if established, will be of immense service to the farmers/growers. Market yards should display price of agri-products so that farmers can opt for sale in the local market or elsewhere.
4. At the apex, central terminal zonal markets planned to be 6 in number, should be developed to prepare for export of commodities across the states and also overseas. Besides having all facilities, there should be special arrangement for strict export oriented quality control facilities especially for horticultural commodities as also other products requiring highly improved marketing infrastructure. Export items should be of "high value-low volume" nature.
5. One of the most important components of regulated markets should be to provide all information on price structure and other relevant matters as also on soil, crop and animal welfare services. Besides, such elite regulated marketing centers should provide training facilities to unemployed youth, self-help groups, farmers' co-operatives and other interested stakeholders. These are in addition to other facilities expected in middle tier regulatory principal/submarkets. Training to the self-help groups are essential to equip them in collection, storage, grading, value addition

activities, packaging and transportation. Besides in agro-processing women groups should get priority.

6. The state and district planning authorities should estimate the number and type of market yards (principal, sub and primary markets) to satisfy the need of different stakeholders, while considering the infrastructural facilities required in various markets.
7. Huge infrastructure including roads and other facilities described earlier, extending from rural to central terminal markets should be established through involvement of private parties on either Build-Operate-Transfer (BOT) or Public-Private Partnership (PPP) mode. The Commission suggests selection of appropriate parties through open tenders.
8. Multinational Companies (MNCs) should in no case be allowed to enter into the agricultural marketing system of the state. Entry of large commercial houses should also be carefully examined so as to prevent displacement of retailers/small transporters in the existing system. Farmers must be ensured remunerative price commensurate with input costs and risk factors. Experience of the National Dairy Development Board (NDDB) with its brand name 'SAFAL' as tried in Delhi market should be emulated by the state. Selection should be made in a transparent manner following clearly formulated rules and regulations with particular emphasis on working experience and proven credibility in earlier similar assignments and financial capabilities.
9. Agreement must ensure that all facilities related to infrastructure and training would be provided by private parties whereas land at single location to accommodate all activities should be the responsibility of the government.
10. A few centers should be earmarked for extending all facilities related to post harvest product processing and marketing. The services of unemployed youth, women / self-help groups, farmers' co-operatives and other stakeholders need to be harnessed for the purpose. Initial stages of operation including sales, processes, post-harvest operations, services and training are to be made by the selected party. Types of assignments and the duration of total working period must be finalized without any ambiguity before finalization of the agreement. The Commission would suggest a thorough interim review to examine whether the interest of the primary producers, primary co-operative members, transporters, service providers, trainees/self-help groups and also consumers are safeguarded. Accordingly, further remedial measures, if needed, should be taken up by the Government.
11. The Government should take appropriate steps and intervene, particularly during the peak harvesting period to save the farmers from distress sale of the perishables by offering minimum support price on production cost basis. This would also help to minimize post- harvest loss.
12. For greater access to the export market of flowers, fruits, vegetables and medicinal plants steps should be taken to provide adequate infrastructure in arranging refrigerated vans and cold storage for perishables at airports for quality

maintenance. In export oriented business and marketing, the Government should encourage entrepreneurs with necessary academic qualifications and initiatives. Specially, infrastructure development for marketing of organic horticultural products should be undertaken. This is considered very important in view of the annual 20-30% growth in demand of organic products in the developed countries of the world. Therefore, much more emphasis on export of organic high-value agricultural produce should be given by the state Government as the state would shortly be in a position to produce organic fruits, vegetables, flowers and medicinal and aromatic plants of the highest quality for which the growing market in the West would be a boon.

13. Success of agricultural marketing very much depends on capacity building at all levels. This also needs technocrats and experts in business management and as such the Commission welcomes the establishment of the Agricultural Marketing Institute at Sheoraphully which should make all efforts to produce a band of dedicated young people with most fruitful ideas for solving the chronic problem of marketing of produce by the small and marginal farmers of the State.
14. Strict legislation should be introduced to stop marketing of spurious product, specially in case of seeds, fertilizers and agro-chemicals.

## **Chapter VII**



### **Agricultural Credit & Co-operatives and Self Help Groups**

## **Agricultural Credit & Co-operatives and Self Help Groups**

### **A. Agricultural credit and cooperatives**

1. Considering the outreach, relationship with people, its vast net work, principles and values, the Govt. of West Bengal should formulate policies and take necessary steps to strengthen the grass roots level cooperatives i.e. Primary Agricultural Cooperative Credit Societies, Farmers Service Societies and Large Sized Multipurpose Cooperative Societies (LAMPS) by implementing the packages for revival, restructuring and recapitalization of Short Term Cooperative Credit Structure for which MOU has been signed by the Govt. of India, Govt. of West Bengal and National Bank for Agricultural and Rural Development (NABARD).
2. Lack of member's participation in decision making and implementing the decision is one of the weakest links of the STCCS. STCCS should prepare strategies for involvement of members in decision making and its implementation.
3. The STCCS should prepare vision statements for each of the Primary Societies, Central Cooperative Banks and State Cooperative Banks.
4. All the grass root level Primary Cooperative Societies should formulate viable action plan (VAP) including all relevant plans related to human resources development in consultation with people in the area of membership for five years.
5. The STCCS and the Govt. of West Bengal should formulate policies and take necessary steps so that 100% of the house holds in the area of membership are covered as members and at least 80% of members are covered as borrower members within 5 years of VAP period.
6. The Govt. of West Bengal, banks and STCCS should impart utmost importance and adopt appropriate strategies so that coverage of small and marginal farmers are doubled by increasing 28% to 56% within VAP period, otherwise these sections of farmers will fall prey of private money lenders.
7. The Govt. of West Bengal, banks and STCCS should thrive for catering at least 70% of farm credit i.e. Rs.10,000 crore as estimated. The cooperative credit structure should formulate strategies to augment the farm credit through KCC route by providing KCCs at least to the remaining 19 lakh members who have no access to farm credit.
8. Linkage of credit with agricultural extension will improve production, productivity and crop intensity.
9. The credit for short term as well as long term for both agricultural and non-farm activities should be progressively brought under KCC scheme and the RBI should advise the banks to consider meeting credit requirements of oral lessees and women as normal credit business.

10. The RBI, banks and Govt. of West Bengal should take necessary steps to increase the credit deposit ratio in rural areas to at least 50%.
11. The Govt. of West Bengal, banks and STCCS should adopt appropriate strategies so that at least 50% of share croppers, patta holders and oral lessees have access to credit.
12. In view of the decline in the profitability of agriculture, increased farmers' distress and indebtedness, rate of interest for crop loans should be reduced to 4%. This needs financial support to banking system by the Central Govt. The State Govt. should take up the issue with the Central Govt. in the interest of small and marginal farmers who dominate the West Bengal agricultural scene. As the small and marginal farmers have very little to hypothecate, upto Rs.10,000/- individual loan should be provided to them without any hypothecation. In case of small and marginal farmers the RBI should consider waiving of compound interest computation.
13. Under 'Crop Loan Rules 2006' the Govt. of West Bengal decided that the short term credit limit shall be fixed at 80% of the estimated average value of the gross produce of the land subject to ceiling of Rs.1,00,000/-(Rupees one lakh only) per individual. Due to increase in cost of inputs, this ceiling limit should be extended to Rs.1,50,000/-(Rupees one lakh fifty thousand) only per individual.
14. Linking credit with marketing helps in better recovery. Govt. of West Bengal should formulate proper schemes for linkage of credit with marketing. One Time Settlement (OTS) Scheme should be introduced by the Govt. of West Bengal to recover long overdues as was done in case of commercial banks and RRBs.
15. The RBI, IBA and the Govt. of West Bengal should take initiative so that the commercial banks, RRBs & STCCS adopt various relief measures to implement the Debt Relief Measure scheme.
16. Special efforts should be made to improve the access to institutional credit for poverty-stricken tribal areas such as Purulia, part of Birbhum, Paschim Medinipur, Darjeeling, Jalpaiguri and other pockets of tribal and minority population. Tribal sub-plan should be implemented and monitoring should be ensured. Attention should be given for formation of PACS in ITDP blocks. Activities of LAMPS should cover all tribal families.
17. The 'agriculture risk fund' should provide relief to the farmers in the form of full/part waiver of loans and interests in the areas hit by floods, droughts and heavy infestations of pests.
18. The commercial banks, the RRBs and the cooperative banks should strive for 100% financial inclusion including providing line of credit.
19. At the first hand linkage of credit with thrift will help in mobilizing resources. At least 5% of the credit shall have to be linked with thrift and the interest of normal fixed deposits shall be paid to the members for their deposits in thrift fund. Cost of deposits is also a critical component of cost of fund. The society should introduce insurance linkage savings deposits scheme to augment low cost deposits.

Innovative products shall have to be introduced. The Deposit Guarantee Fund should be properly reorganized and strengthened to protect the interest of the depositors.

20. The WBSCARDB should be allowed to function as a scheduled bank so that it can mobilize all types of deposits to augment its resources and also can provide credit to PCARDBs. PCARDBs should also be allowed access to all types of deposits from members.

## **B. Self help groups**

1. Till October, 2008 as many as 2,38,727 number of SHGs have been formed in the state under Swarnajayanti Gram Swarojgar Yojana (SGSY), out of which 1,42,384 number of groups have been linked with cash credit. Steps should be taken to open cash credit accounts for all the eligible SHGs and to ensure closer monitoring for enabling the SHGs to regularly draw fund from their accounts for meeting the production credit and consumption needs of the members. Field observations show that in many cases the exercise of augmenting the cash credit limit is not taken up by the banks.
2. To have full benefit of the credit linked programmes like SGSY, the SHGs should have easy access to banking in terms of physical distance. Since banking infrastructure in rural areas of the State is not adequate and it is very difficult for poor SHG members, specially the women, to travel long distances to save or draw little amount of money, it is suggested that SHGs located far from bank branches should tie up with the Primary Agricultural Co-operative Credit Societies (PACS) having banking facilities. It is also suggested to empower some of the more capable SHGs or their cluster organizations to become facilitator of commercial banks for providing access to banking services to other groups located far from banks. It is also necessary to streamline banking procedure to expedite disbursement and bank's proactive role in monitoring the programmes is absolutely necessary.
3. Special effort should be made to provide more support in marketing of the products of the SHGs. The problem of marketing of SHG products in urban markets is linked to the quality and cost-effectiveness of the products. To have access to the urban markets the SHGs must ensure quality of their products. Sustained training is required to develop right quality products for consumption in urban markets. Effective steps should also be taken for construction of market infrastructure in urban centres like Kolkata and district head quarters for improving the marketing opportunities of the products of SHGs. They also require infrastructural support such as creation of common facilities, cold chain system, construction of processing centre and other support system identified on the basis of business activities in a particular area or district. The State Government may consider linking up of SHGs with agencies which would be tied up with marketing development network on PPP/BOT mode for quality development and marketing.



4. Besides imparting training for skill upgradation of the SHGs related to production there is need for imparting training on entrepreneurship development, better financial management and marketing abilities so that they can run their business activities smoothly. It is necessary to build up training centres for providing such training throughout the State to ensure that lack of training do not impede the success of SHG movement.
5. Reaching the poorest families living in distant villages as well as facilitating and monitoring those groups cannot be done satisfactorily without active support of the Panchayats at the grass roots level. Also, improvement of the quality of the groups formed will be crucial in meeting the ultimate objective of eradicating poverty. In order to achieve that there is need for convergence of benefits out of other programmes implemented by the Panchayats. Leadership of the SHG movement by PR bodies is absolutely essential for the required handholding and convergence with other programmes. It should be ensured that the tendency of discontinuing group activities after receiving fund for carrying out individual activities, as noticed in the initial years, do not weaken SHG movement in future and a system of continuous monitoring and guidance of the SHGs, with the involvement of the Panchayats be worked out.