

## **RASHTRIYA KRISHI VIKASH YOJANA (2014 – 15)**

Rashtriya Krishi Vikash Yojana (RKVY) is State Plan Scheme in the form of Additional Central Assistance in the 11th Five Year. It is also continued in 12<sup>th</sup> Five year Plan. The broad objective of RKVY is to increase annual growth in agriculture and allied sectors by ensuring a holistic development of Agriculture and allied sectors. State Agriculture Department is the nodal Department for implementation of the scheme which in turn reallocates the same to the concerned implementing departments/agencies. The Fisheries Department is one of the stakeholders under RKVY. The National Mission for Protein Supplements (NMPS) is also a sub scheme of RKVY.

### **I. Schemes under RKVY (Normal): Following schemes have been taken under RKVY (Normal) by the Directorate of Fisheries during the year 2014-15:**

#### **A) Production Growth:**

1. Scheme for Intensive Fish culture
2. Scheme for production of fingerlings of Carps
3. Scheme for Modified Extensive culture of Black Tiger Shrimp in Brackish Water
4. Hilsa Conservation Programme and Hilsa Resource Centre

#### **B) Flexi Fund:**

1. Scheme for Brooders management and production of quality Spawn of Indian Major Carp
2. Construction and commissioning of Block level Laboratory cum Training Centre

#### **C) Infrastructure & Assets:**

1. Distribution of hygienic insulated box to fish vendors /collectors
2. Distribution of Bi-Cycle with insulated box to fish vendors
3. Distribution of Matsyajjan
4. Development of a model Fishermen Co-operative Society: Mahanad Matshya Utpadak Sanstha Samabay Samity

### **II. Schemes under NMPS: Following schemes have been taken under NMPS by the Directorate of Fisheries during the year 2014-15:**

1. Scheme for production of big sized fish in large water bodies
2. Scheme for production of big sized fish in medium water bodies
3. Aquaculture Development through integrated approach in the beel

### **Outline of different RKVY & NMPS Schemes for Fish Farmers/SHG/FPG/FCS/Fish Vendors:**

#### **1. Scheme for Intensive Fish Culture under RKVY:**

In West Bengal intensive fish culture is going on following the 'multiple stocking and multiple harvesting' method of culture practice. Multiple stocking and multiple harvesting (MSMH) is a system of composite fish farming, through which fish production can be augmented by many folds (6 to 10 ton/hectare/year). In this system, stocking density is high, 12000 - 14000 nos carp fingerlings per hectare. Harvesting is done after the fishes attain a size of 500 gms. The farmers need not to have a big capital to meet the various recurring expenditure of fish cultivation. He has to manage the pond for a maximum period of 4 months, thereafter he starts earning, which is reinvested for purchasing of various items required for further fish rearing. Therefore, a marginal farmer can also take up scientific fish farming with his meager resources by adopting this system. There are several other advantages; however, the prime advantage is that the production is much higher than yearly composite fish culture system.

With a view to improve the productivity of existing system, the scheme for intensive fish culture has been taken up under RKVY during the year 2014-15.

**Objectives of scheme:**

- To produce table size fish following the multiple stocking and multiple harvesting method of culture practice.
- To enhance productivity from 3500 – 4000 kg to 6000 – 6500 kg /hectare/year
- To motivate fish farmers to adopt the intensive fish culture technology for better production.
- To encourage fish farmers to use nutritionally balanced formulated feed (floating) for better result
- To uplift economic condition of the beneficiaries
- To effectively demonstrate the improved technology and practice for improving productivity and production in the sector.

**Details of scheme:**

- Unit area of water body: 0.25 hectare
- Culture period: 10 months
- Stocking size of fingerlings: 10-12 cm
- Number of fingerlings to be stocked: 3000 nos (12000 nos/hectare)
- Species to be stocked: Preferably Rohu (*Labeo rohita*) & Catla (*Catla catla*). Other species like Mrigal (*Cirrhinus mrigala*) Silver carp (*Hypophthalmichthys molitrix*) and Grass carp (*Ctenopharyngodon idella*) may also be stocked for better utilization of pond productivity at different ecological niches.
- Targeted production: 1620 Kg (6480 kg/hectare)

**Pattern of Assistance:** Total schematic cost: Rs. 146000.00

- i) **Funding under RKVY:** Rs. 36800.00 (25% of total schematic cost). Assistance to be provided to the beneficiary in the form of inputs like carp fingerlings and feed
- ii) **Contribution of beneficiary:** Rs. 109200.00 (75% of total schematic cost).

**Targeted Beneficiaries:**

- i) Individual fish farmers
- ii) Self Help Groups (SHG)
- iii) Fish Production Groups (FPG).

**2. Scheme for Production of fingerlings of Carps under RKVY :**

The fish production and productivity from inland sector largely depend on quality and quantum of fish seed available for freshwater aquaculture and reservoirs/floodplain wetlands. As the intensification of aquaculture especially Indian Major Carps is gradually increasing, importance of good quality seed and impact of appropriate stocking density raised the demand for quality seed in terms of species and size.

To produce good quality seed, especially fingerlings the scheme for production of fingerlings of carps has been taken up in RKVY during the year 2014-15.

**Objectives of scheme:**

- To produce good quality fingerlings
- To steady supply of fingerlings to the farmers producing table/big size fish
- To bring more seasonal small water bodies under seed production
- Application of supplementary feed for better survival and growth
- To uplift economic condition of the beneficiaries

**Details of scheme:**

- Unit area of water body: 0.10 hectare
- Culture period: 3 months
- Stocking size of fry: 25 - 30 mm
- Number of fry to be stocked: 30000 nos (3 lakh nos/hectare)
- Species to be reared: Preferably Rohu (*Labeo rohita*) & Catla (*Catla catla*). Other species like Mrigal (*Cirrhinus mrigala*) Silver carp (*Hypophthalmichthys molitrix*) and Grass carp (*Ctenopharyngodon idella*) may also be stocked for better utilization of pond productivity at different ecological niches.
- Targeted production of fingerlings: 21000 nos (2.10 lakh/ha)

**Pattern of Assistance:** Total schematic cost: Rs.46700.00

- i) **Funding under RKVY:** Rs. 11500.00 (25% of total schematic cost). Assistance to be provided to the beneficiary in the form of inputs like carp fry and supplementary feed
- ii) **Contribution of beneficiary:** Rs. 35200.00 (75% of total schematic cost).

**Targeted Beneficiaries:**

- i) Small & marginal fish farmers
- ii) Self Help Groups (SHG)
- iii) Fish Production Groups (FPG)
- iv) Fishermen Co - operative Societies (FCS)

### **3. Scheme for Brooders management and production of quality spawn of Indian Major Carps under RKVY:**

Major constraint in aquaculture, however, appears to be non availability of good quality seed of cultivable fishes. The Indian Major Carps are the most important food fishes in West Bengal. The carps although attain gonadal maturity in ponds, normally do not reproduce in such an environment, but spawn in the natural riverine water habitat. The major break through in induced breeding of carps was achieved in 1957 which formed the basis for the popular induced breeding technology. The success of the seed production in the hatchery is dependent on the quality of the brood fishes which need to be managed scientifically in the brood stock ponds providing nutritionally balanced feed for early maturation.

To produce good quality seed (spawn) in hatchery and to bring the hatchery owners in the on going seed certification programme, the scheme for brooders management and production of quality spawn of Indian Major Carp has been taken up in RKVY during the year 2014-15.

**Objectives of scheme:**

- To produce good quality seed through improved technology
- To steady supply of good quality seeds (spawn) to the fish growers (fry & fingerlings)
- To bring more hatchery under the programme of seed certification.
- Application of high quality nutritionally balanced feed for carp brooder (CIFA BROOD), developed by Central Institute of Freshwater Aquaculture (CIFA).
- To uplift economic condition of the beneficiaries

**Details of scheme:**

- Unit area: 0.10 hectare
- Brooder management period: 4 months
- Stocking size of brooder: Average 1.5 kg and above
- Stocking rate of brooders: 180 kg (1800 Kg / hectare)
- Species to be reared for breeding: Indian Major Carps
- Application of supplementary feed: Preferably a mixture of groundnut/mustard oil cake and rice bran at 1:1 ratio by weight for 75 days
- Application of High Quality CIFA Brood feed: 45 days for 200 kg Brooder
- Targeted production of spawn: 112.50 lakh/unit

**Pattern of Assistance:** Total schematic cost: Rs. 147000.00.00

- i) **Funding under RKVY:** Rs. 36600.00 (25% of total schematic cost). Assistance to be provided to the beneficiary in the form of farm machineries/equipments and input like CIFA brood feed.
- ii) **Contribution of beneficiary:** Rs. 110400.00 (75% of total schematic cost).

**Targeted Beneficiaries:** Carp Hatchery/brooder farm preferably registered under Seed Certification programme or applied for this programme.

### **4. Scheme for Modified Extensive culture of Black Tiger Shrimp (*Penaeus monodon*) under RKVY:**

In West Bengal the brackish water fishery is one of the major fishery activities of the rural fishermen of coastal district. Presently, traditional/ improved traditional and scientific extensive shrimp farming practices are most common and adopted by the farmers in the coastal areas of the

State. Transition from extensive to modified extensive shrimp farming is characterized by increased inputs such as seed and feed. In scientific modified extensive farming, stocking density of seed is medium (6-10 nos/sq. mt) and application of formulated feed is essential. Scientific modified extensive farming of shrimp alone should be encouraged, as a means of integrating more effectively the use of land and water resources. The maximum yield from scientific extensive farming would be around 1.8 to 2.00 ton/hectare/crop. With a view to sustainable brackish water farming and to protect the coastal environment; culture of *Penaeus monodon* has been taken up under RKVY during the year following the method of modified extensive system of shrimp farming.

**Objectives of scheme:**

- To produce Black Tiger Shrimp in modified extensive culture in sustainable way
- To bring more brackish water areas under scientific culture method
- Application of good quality feed with better management practice to enhance productivity from 500 – 800 kg to 1800-2000 kg /ha/crop
- To motivate fish farmers to adopt modern technology for better production
- To uplift economic condition of the beneficiaries

**Details of scheme:**

- Unit area: 0.50 hectare
- Culture period: 135 days
- Number of seed to be stocked: 40000 nos (80000 nos/hectare)
- Species to be stocked: Black Tiger Shrimp (*Penaeus monodon*)
- Feeding: Application of formulated artificial feed
- Targeted production: 960 Kg (1920 kg/hectare/crop)

**Pattern of Assistance:** Total schematic cost: Rs. 272000.00

- i) **Funding under RKVY:** Rs. 68000.00 (25% of total schematic cost). Assistance to be provided to the beneficiary in the form of inputs like feed.
- ii) **Contribution of beneficiary:** Rs.204000.00 (75% of total schematic cost).

**Targeted Beneficiaries:** Farmers registered under Coastal Aquaculture Authority (CAA) will get preference. Other farmers obtained Fish producer license from Fisheries Department may be considered.

**5. Distribution of hygienic insulated box under RKVY:**

**Objectives:** To keep fish in fresh condition for long time during transportation and vending for better price.

**Unit Cost:** Rs. 3300.00

**Nature of assistance:** Supply of 70 liter capacity insulated box (100% assistance). No beneficiary's contribution.

**Targeted beneficiaries:** Fish vendors /collectors

**6. Distribution of Bi – cycle with insulated box under RKVY:**

**Objectives:** Door to door vending of fish in fresh condition with better price.To keep fish in fresh condition for long time during transportation and vending for better price.

**Unit Cost:** Rs. 8000.00

**Nature of assistance:** One standard branded By-cycle with a specially fabricated carrier to carry a insulated box, one 50 L insulated box and one weighing balance and fish cutting equipments (100% assistance). No beneficiary's contribution.

**Targeted beneficiaries:** Fish seller/vendor or persons related to fish selling/vending work.

**7. Distribution of Matsyajjan under RKVY:**

**Objectives:** Vending of fresh fish with better price in decorated cycle van mainly in urban areas.Door to door vending of fish in fresh condition with better price.To keep fish in fresh condition for long time during transportation and vending for better price.

**Unit Cost:** Rs. 50000.00

**Nature of assistance:** Supply of Masayajan comprising of three wheeler cycle, insulated ice box, weighing balance and audio system (100% assistance). No beneficiary's contribution.

**Targeted beneficiaries:** Fish vendor or persons related to fish vending work.

## 8. Scheme for production of big sized fish in large water bodies under NMPS:

The State of West Bengal is enriched with beel fisheries, sewage fed fisheries having variable sizes which are mostly under the administrative control of State Government. These are presently managed by the Fishermen Co operative Societies/Self Help Groups/Fish Production Groups taking lease from Govt. for a certain period. These water bodies offer immense scope for production of big sized fish with reasonable investment. This is an innovative scheme under National Mission for Protein Supplement (NMPS) – a special scheme as per the new guidelines of RKVY.

### Objectives of scheme:

- To produce big sized fish with the application of partial formulated artificial feed considering maximum utilization of natural feed
- To enhance productivity from 1000 – 1500 kg to 2500 – 3000 kg/ha/year
- To involve Fishermen Co operative Societies/ Self Help Groups/Fish Production Groups as beneficiaries
- To uplift economic condition of the beneficiaries
- To effectively demonstrate the improved technology and practice for improving productivity and production in the sector.

### Details of scheme:

- Unit area of water body: 5.00 hectare
- Culture period: 12 months
- Stocking size of fingerlings: 12-15 cm
- Number of fingerlings to be stocked: 20000 nos (4000 nos/hectare)
- Species to be stocked: Preferably Rohu (*Labeo rohita*) & Catla (*Catla catla*). Other species like Mrigal (*Cirrhinus mrigala*) Silver carp (*Hypophthalmichthys molitrix*) and Grass carp (*Ctenopharyngodon idella*) may also be stocked for better utilization of pond productivity at different ecological niches.
- Feeding: Application of formulated artificial feed
- Harvested size of fish: 0.8 – 1.0 Kg
- Targeted production: 13500 Kg (2700 kg/hectare)

**Pattern of Assistance:** Total schematic cost: Rs. 1185000.00

- i) **Funding under RKVY:** Rs. 470000.00 (40% of total schematic cost). Assistance to be provided to the beneficiary in the form of farm machineries/equipments and inputs like fingerlings, lime and feed.
- ii) **Contribution of beneficiary:** Rs. 715000.00 (60% of total schematic cost).

**Targeted Beneficiaries:** Fishermen Co operative Societies (FCS), Self Help Groups (SHG) & Fish Production Groups (FPG); but preference will be given to the Fishermen Co operative Societies. Fisheries Corporation/Govt Farms may also be included under this programme.

## 9. Scheme for production of big sized fish in medium water bodies under NMPS

In West Bengal fresh water pond fisheries of variable sizes are contributing one of the major resources of fish production. Farmers having own water bodies or on lease basis are doing pisciculture in these water bodies. These water bodies may be utilized to produce big sized fish with reasonable investment. This is an innovative scheme under National Mission for Protein Supplement (NMPS) – a special scheme as per the new guidelines of RKVY.

### Objectives of scheme:

- To produce big sized fish with the application of partial formulated artificial feed considering maximum utilization of natural feed
- To enhance productivity from 2500 – 3000 kg to 4000 – 4500 kg/ha/year
- To involve Fishermen Co operative Societies/ Self Help Groups/Fish Production Groups/individual farmers as beneficiaries
- To uplift economic condition of the beneficiaries

- To effectively demonstrate the improved technology and practice for improving productivity and production in the sector.

**Details of scheme:**

- Unit area of water body: 2.00 hectare
- Culture period: 12 months
- Stocking size of fingerlings: 12-15 cm
- Number of fingerlings to be stocked: 14000 nos (7000 nos/hectare)
- Species to be stocked: Preferably Rohu (*Labeo rohita*) & Catla (*Catla catla*). Other species like Mrigal (*Cirrhinus mrigala*) Silver carp (*Hypophthalmichthys molitrix*) and Grass carp (*Ctenopharyngodon idella*) may also be stocked for better utilization of pond productivity at different ecological niches.
- Feeding: Application of formulated artificial feed
- Harvested size of fish: 0.7 – 0.8 Kg
- Targeted production: 8400 Kg (4200 kg/hectare)

**Pattern of Assistance:** Total schematic cost: Rs. 711000.00

- Funding under RKVY:** Rs. 287000.00 (40% of total schematic cost). Assistance to be provided to the beneficiary in the form of farm machineries/equipments and inputs like fingerlings, lime and feed.
- Contribution of beneficiary:** 60% of total schematic cost.

**Targeted Beneficiaries:** Fishermen Co operative Societies (FCS), Self Help Groups SHG), Fish Production Groups (FPG) & individual beneficiaries

**Outline of other ongoing RKVY & NMPS Schemes:**

**1. Construction and Commissioning of Block level Laboratory cum Training Centre under RKVY**

In West Bengal there are 341 blocks where Fishery Extension Officers are posted to provide extension services to the rural farmers. Extension services are being provided in the form of technology dissemination, monitoring of farmers' ponds, tie up with the bank finance etc. With a view to strengthening the extension activities initiatives has been taken up for setting up Block Laboratory cum Training Centre under RKVY. So far 201 number of Block Laboratory cum Training Centre have been completed under RKVY. During 2014-15 another 62 units have been proposed.

**Objectives:**

- Testing of soil and water parameters at block level.
- Farmers need not to move to the district for such facilities which save money and time
- To keep good liaison between Fishery Extension Officers and farmers
- Quick transformation of results of water/soil parameters to the farmers for taking suitable measures
- To provide better extension services.

**Project cost for setting up of one Unit:** Rs. 7.20 lakh.

**2. Hilsa Conservation Programme and Hilsa Resource Centre under RKVY:**

Hilsa, a common renewable aquatic resource, having anadromous migratory habits and trans-boundary distribution, is a significant component of open- water capture fishery in our state contributing to about 19% of total fish landing in the Hoogly -Matla estuarine system. It represents one of the most lucrative commercial fisheries of a single species. Over the years, due to wanton exploitation, pollution & habitat destruction there has been an alarming decline in the availability of Hilsa both in sea and rivers due to failure in the natural recruitment process of this fish.

The Department of Fisheries, Govt. of West Bengal, apart from amending the Fisheries acts/rules to regulate the fishing and the gears, established a dedicated center on Hilsa at Sultanpur, Hilsa Conservation and Research Centre (HC RC). The very idea of commissioning an exclusive center for Hilsa fishery speaks of the commitment of the department towards the mandate of sustainable Hilsa Fishery in the state. Under the Rastriya Krishi Vikash Yojana

(RKVY); the Department of Fisheries, having identified a very pertinent issue of open water Hilsa fishery- that needs eco-system management interventions, had proposed a unique project for sustainable Hilsa fishery by way of submitting a scheme “ **Hilsa concervation programme and hilsa resource centre.**”

Rastriya Krishi Vikash Yojona (RKVY) has been the élan vital of the agriculture and allied sector boosting new initiatives for production, self-reliance and diversification in the field of agriculture, fishery and animal husbandry. The Department of Fisheries Government of West Bengal, having identified a very pertinent issue of open water Hilsa fishery- that needs eco-system management interventions, had proposed a unique project for sustainable Hilsa fishery by way of submitting a scheme “ hilsa concervation programme and hilsa resource centre” during the year 2013-14, in the tune of Rs 14.13 crores. A fund of Rs 200 lakhs was demanded from RKVY, which was ultimately sanctioned.

**Objectives:**

- Awareness generation among the stake holders on conservation of juveniles & brooders.
- Implementation of Inland and Marine Fisheries Act, West Bengal on Hilsa conservation.
- Co-ordination with the local administration, district and block level, for conservation.
- To Figure out alternate livelihood for artisanal hilsa fishers, in the long run.
- To calibrate all issues on hilsa fishery & research through sync & synergy with labs & institutes (CIFRI, CIBA, WUAFS) working on hilsa, as and when necessary.
- To set up a dedicated center for Hilsa conservation and research, for taking up collaborative and adoptive trials under the guidance of a technical sub-committee. etc.

**Total Approved Project cost:** 200.00 lakh. The project has been started in the year 2013-14 and expected to be completed in 2014-15.

**3. Development of a model Fishermen Co-operative Society: Mahanad Matshya Utpadak Sanstha Samabay Samity under RKVY:**

**Objectives:** To develop a model fishermen co operative society in an integrated manner of fisheries activities

**Project Site:** The proposed site is located at Mahanad village under Polba-dudpur block, Hooghly district.

**Components of Project:** Poly farming of scampi, multipurpose hatchery, training centre, retail marketing outlet etc.

**Total Approved Project cost:** 150.00 lakh. The project has been started in the year 2013-14 and expected to be completed in 2014-15.

**4. Aquaculture Development through integrated approach in the beel under NMPS:**

**Objectives:**

- Utilization of big water bodies in an integrated manner for better production of fish
- Intially fry of carp are being reared in an enclosure (pen) of beel to produce fingerlings which are to be stocked in the beel for table fish

**Project cost for one unit:** 23.77 lakh. The project has been started in the year 2012-13 & 2013-14 in 56 beels and expected to be completed in 2014-15.

**Synopsis of beneficiary oriented RKVY & NMPS scheme and pattern of assistance**

Sl No.	Scheme	Unit area (ha)	Schematic cost (Rs.)	Pattern of Assistance (Rs)		Targeted Beneficiaries
				Govt.	Beneficiary	
1	Intensive Fish Culture under RKVY	0.25	146000.00	36800.00	109200.00	Individual fish farmer /SHG/FPG
2	Production of fingerlings of Carps under RKVY	0.10	46700.00	11500.00	35200.00	Individual fish farmer/SHG/FPG/FCS
3	Brooders management and production of quality spawn of Indian Major Carps under RKVY	0.10	147000.00.	36600.00	110400.00	Individual fish farmer /SHG/FPG/FCS <i>(Preference will be given to the registered under Seed Certification programme or applied for)</i>
4	Modified Extensive culture of Black Tiger Shrimp ( <i>Penaeus monodon</i> ) under RKVY	0.50	272000.00	68000.00	204000.00	Individual fish farmer <i>(Farmers registered under Coastal Aquaculture Authority (CAA) will get preference. Other farmers obtained Fish producer license from Fisheries Dept. may be considered).</i>
5	Distribution of hygienic insulated box under		3300.00	3300.00		Fish vendors /collectors
6	Distribution of Bi-Cycle with insulated box to fish vendors under RKVY		8000.00	8000.00		Fish seller/vendor or persons related to fish selling/vending work.
7	Distribution of Matsyajan under RKVY		50000.00	50000.00		Fish vendor or persons related to fish vending work
8	Production of big sized fish in large water bodies under NMPS	5.00	1185000.00	470000.00	715000.00	FCS/SGH/FPG/Govt Farm <i>(preference will be given to the FCS).</i>
9	Production of big sized fish in medium water bodies under NMPS	2.00	711000.00	287000.00	424000.00	FCS/SGH/FPG/Individual farmer

**SHG: Self Help Group, FPG: Fish Production Group, FCS: Fishermen Co operative Society**

- *Govt assistance will be provided in the form of inputs as per project details*
- *Details information will be available in the office of the Assistant Director of Fisheries in district [for Siliguri, District Fishery Officer, Darjeeling (Hq. Siliguri)] and Fishery Extension Officer in Blocks.*