GUIDELINES ON HATCHERY ACCREDITATION AND SEED CERTIFICATION OF FRESHWATER FINFISHES AND SHELLFISHES

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DEPARTMENT OF FISHERIES
MINISTRY OF FISHERIES, ANIMAL HUSBANDRY AND DAIRYING
GOVERNMENT OF INDIA

Guidelines on Hatchery Accreditation and Seed Certification of Freshwater Finfishes and Shellfishes

2025

Department of Fisheries
Ministry of Fisheries, Animal Husbandry and Dairying
Government of India

Guidelines on Hatchery Accreditation and Seed Certification of Freshwater Finfishes and Shellfishes

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पंचायती राज मंत्री
और मत्स्यपालन, पशुपालन एवं डेयरी मंत्री
भारत सरकार
Minister of Panchayati Raj and
Minister of Fisheries, Animal Husbandry and Dairying
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Message

India has emerged as the second-largest aquaculture producer globally, with freshwater aquaculture contributing significantly to food security, employment, and rural livelihoods. Freshwater aquaculture in India dominated by three Indian major carps and three exotic carp however, other indigenous species of regional importance are also having high market demand and consumer preference such as scampi, murrel, pabda, singhi, magur etc. The Department of Fisheries, Government of India is promoting culture of indigenous species and initiated steps for establishing cluster of these species. Available of quality seed of these species is the foremost step for promotion of these species.

Fish seed quality is a critical determinant of aquaculture success, and the lack of standardized practices have often hindered productivity and compromised biosecurity.In this context, ensuring the availability of certified, genetically improved and disease-free seed becomes imperative for the sector's sustainable future. A guidelines in this regard not only aim to organize and standardize the fish seed production system but also to promote responsible aquaculture practices in alignment with environmental and health standards. Therefore, "Guidelines on Hatchery Accreditation and Seed Certification of Freshwater Finfishes and Shellfishes" is a significant initiative towards addressing these challenges through well-defined benchmarks, standard operating procedures, and quality assurance mechanisms for hatchery accreditation and seed certification across the country.

It gives me an immense pleasure to present the special publication titled "Guidelines on Hatchery Accreditation and Seed Certification of Freshwater Finfishes and Shellfishes", prepared by the Department of Fisheries, Government of India, in coordination with Fisheries Science Division of ICAR. This publication comes at a time when India's aquaculture sector is witnessing robust growth and striving to achieve new benchmarks in sustainability, productivity, and global competitiveness. I am confident that this publication will serve as an important reference for policymakers, hatchery operators, fish farmers, researchers, and all stakeholders involved in the aquaculture value chain. It offers a comprehensive framework for implementing a nationwide accreditation and certification system, ensuring transparency, traceability, and compliance with best practices.

I congratulate the officers of the Department of Fisheries, GoI and ICAR team lead by Dr Abhilaksh Likhi, Secretary, DoF, GoI for their tireless efforts in bringing out this timely and relevant publication. I look forward to continue progress of fisheries sector with the scientific rigor, innovation, and a shared vision for a resilient and self-reliant India.

(Rajiv Ranjan Singh)

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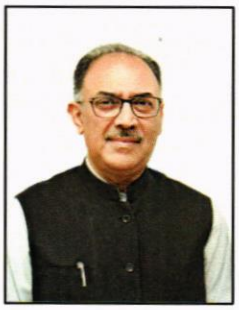

Foreword

It gives me immense pleasure that the "Guidelines on Hatchery Accreditation and Seed Certification of Freshwater Finfishes and Shellfishes", prepared by the Department of Fisheries, Ministry of Fisheries, Animal Husbandry and Dairying, Government of India are being launched. India's aquaculture sector has witnessed exponential growth over the years, becoming a vital contributor to national food security, employment, and economic development. The availability of quality fish seed plays a pivotal role in ensuring sustainable aquaculture practices. However, the absence of a structured system for seed quality assurance has often impacted productivity and genetic integrity across production systems.

This document lays down a comprehensive framework for standardizing hatchery operations and seed certification, thereby enabling the production of healthy, high-performing, and disease-free seed. It provides scientifically developed benchmarks and standard operating procedures for hatchery accreditation, and offers an effective mechanism to ensure quality in seed production by State Governments/Union Territories.

The guidelines also reflect our commitment to sustainable aquaculture development aligning with national and international standards. I am confident that these guidelines will act as a valuable resource for hatchery operators, seed farmers, certifying agencies, researchers, and policymakers, empowering them with clear procedures and standards for quality seed production.

I would like to extend my heartfelt appreciation to Shri Sagar Mehra, Joint Secretary, DoF and Dr J. K. Jena, Deputy Director General (Fisheries Science) and their team for their insightful suggestions and contributions to formulate these guidelines. My best wishes go out to all stakeholders as we move forward in building a resilient and quality-assured aquaculture seed production system in the country.

(Dr Abhilaksh Likhi)

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Chapter 1

Introduction

Seed is the critical requirement for any aquaculture activity, therefore, the availability of quality seed determines the success of aquaculture operations. Development of aquaculture in India primarily started in the post-independence period and by that time, the sector was entirely dependent on seed sourced from the riverine environment. The bottlenecks, such as mixed seed, timely non-availability, and its inadequacy, remained an impediment to the systematic aquaculture expansion in the country. The success in induced breeding of three Indian major carps, *viz*., catla, rohu and mrigal in 1957, however, enabled hatchery production on a commercial scale for the seed supply of the seed of these three important farmed species in the freshwater aquaculture system. Since the 1990s, the country has been able to totally shift to hatchery-produced seed and riverine seed collection has been pushed to oblivion. The assured availability of the right kind of seed has been the key to the large-scale adoption of successful composite carp farming technology, resulting in the Blue Revolution in the country. Aquaculture, which was once a homestead activity in the 1950s, witnessed phenomenal growth during the later part of the last Century to reach an industrial status today. Development of the induced breeding techniques has further been expanded to other cultured fish groups, including minor carps, catfishes, air-breathing fishes, freshwater prawns, and many other important cultivable fish species. At present, the induced breeding technique has ensured mass-scale seed production of more than two dozen economically important freshwater fish species, besides a dozen species each from brackishwater and marine environments. Such development has led the country to occupy the position of the 2nd largest aquaculture producer in the world. Of the total 18.4 million tonnes (mmt) of fish produced in the country in 2024, inland fish production was 13.9 mmt and the contribution of aquaculture was nearly 12.0 mmt.

The development of user-friendly technologies from public-funded institutions, during the last 70 years on farming of economically important cultivable freshwater fishes and further their dissemination through government promotion has led to significant development of aquaculture in the country. Fish seed production has reached the tune of 54 billion fry in 2022-23, catering to the needs of the aquaculture sector, as well as of the capture-based culture fisheries in the open-waters. Today, more than 3000 hatcheries are operating in the country for carp seed production alone, apart from several others operating for the other important cultivable species such as striped catfish, magur, singhi, pabda, murrel, freshwater prawn, etc. In recent days, the intensification of aquaculture farming practices has further stressed the need to increase the seed supply of the various species. But, at the same time, the growth of the seed production sector, primarily unorganised and operated by semi-technical personnel and without Standard Operating Procedures, is pressing the risk of reduction of quality, genetic integrity of the seed, and often leading to productivity below the expected standards. With the passage of close to four decades of hatchery production, there is a need for transforming the seed production sector to an organised one, which maintains broodstock and infrastructure standards, producing quality seed for predictable production performace,

meeting the uniform specified norms, produced in healthy and environement friendly manner thus, ensuring seed quality.

Production of quality seed involves ensuring the qualitative management of the entire production chain following scientific protocols, starting from the selection of broodfish based on their origin, genotypic and phenotypic quality, care of the broodfish in broodstock pond, proper handling and maintenance of the brooder during induced breeding, post-breeding management of the broodfish and the larvae, nutrition of the larvae to the desired size (fry/fingerling/juveniles). Similarly, it needs to be ensured that the seed farms, not having hatchery facilities, should use spawn obtained from certified hatcheries that follow the norms of quality and sustainability.

There is an immediate need for quality assurance of seeds of desired species, which can be ensured through appropriate seed certification measures. Considering the fact that certification of seed is a difficult proposition due to the non-availability of specific markers, it is more appropriate that the hatcheries and/or seed farms associated with seed production are accredited based on the recommended standard operating practices/protocols (SOPs). It is also important to note that the production and trade of finfish and shellfish species in India is a highly dispersed and unorganised activity that operates at various social, economic, and geographical scales. Notwithstanding the need to make fish seed production sustainable, the whole range of seed production activities must be brought under the accreditation and certification regime. It is further necessary to create awareness amongst seed producers, aquaculture farmers and other associated stakeholders about the importance of such accreditation and seed certification measures. The essential elements of the proposed accreditation and certification system are given in the following pages.

Quality seed is not only important for achieving improved fish productivity, but also important for international trade that requires traceability and labelling. International organisations like the FAO also emphasise the need for the development of seed certification and accreditation systems. The FAO technical guidelines on certification in aquaculture also emphasize to the development of seed certification framework as part of aquaculture certification.

Chapter 2

Fish Hatchery Accreditation and Seed Certification

For setting quality standards for finfish/shellfish hatcheries and seed, produced therein, in India and ensuring that their production process conforms to recommended standard operating practices/protocols (SOPs) and the product conforms to standard species-specific parameters.

2.1 Scope

The Accreditation and Certification systems shall be applicable to hatcheries and seed production units in India, under both private and public sectors that undertake breeding and seed production of finfish/shellfish.

2.2 Principles

The suggested Accreditation and Certification systems are guided by a set of principles as described below.

a) best scientific evidence available.
b) aligned with the national policies on environmental sustainability and social equity.
c) minimum substantive requirements, criteria, and procedures that are outlined in the guidelines.
d) transparency, including fair participation of stakeholders from different segments.
e) non-discriminatory and evading obstacles to free trade and enterprise.
f) establishing clear accountability for owners of hatcheries/seed production units as well as the certifying/accrediting authorities.
g) incorporating reliable independent auditing and verification procedures.

2.3 Definitions

a) **Accreditation:** A process by which a firm/facility is considered qualified for formal recognition confirming to specific standards imposed by the competent authority, to carry out specific task(s).
b) **Certification:** A procedure by which a body/organization, recognized by the Accrediting Agency, gives written assurance that a product/ process/ facility/ service of a hatchery/ firm/ facility conforms to specific standards. Certification may be based on a range of inspection activities, including a continuous inspection in the production system, if needed.

   (*The Authorized Accreditation Agency can engage/authorize one or more Certification Agencies as required, or can have its own certification machinery*)

c) **Hatchery:** Hatchery is a production unit that produces seed material at the earliest stage of life cycle such as spawn, eyed ova (finfish) and post-larvae (shrimps and prawns) or equivalent stage, specific to a species through breeding or incubation of berried female, or any other established method of producing progeny of a species.

d) **Seed Farms**: Farms that raise seed (fry/ fingerling/juveniles of finfish, or post-larvae of prawn and shrimp) to stock aquaculture farms (initial seed material ought to be procured from accredited hatcheries).

(*A "Seed production unit can be a Hatchery, a Seed farm or a unit with both components*)

e) **Certified Seed:** Certified seed is the progeny of the broodstock, produced by an accredited hatchery or fry raised by an accredited seed farm and certified by the producer that their produce (seed) is compliant with the specified norms.

(In case of genetically-improved species/varieties, the certified seed shall be used only for culture as table fish/shellfish and not for raising broodstock)

2.5 Accreditation Body/Agency

a) **Independence, Impartiality and Transparency**: The Accreditation body/Agency should be independent and impartial. To be impartial and independent, the accreditation body should:
   i. be transparent about its organizational structure and the financial and other kinds of support it receives from public or private entities.
   ii. be independent from vested interests, together with its senior executive and staff.
   iii. be free from conflict of interest of any kind, commercial, financial, and other considerations which might influence the results of the accreditation process.
   iv. ensure that the decision on accreditation is taken by a person(s) who has/have not participated in the assessment.
   v. not delegate authority for granting, maintaining, extending, reducing, suspending, or withdrawing accreditation to an outside person or body.

b) **Accountability and reporting:** The accreditation agency should be a legal entity and should have clear and effective procedures for handling applications for accreditation. In particular, the accreditation body should maintain and provide to the applicants:

   i. a detailed description of the assessment and accreditation procedure
   ii. the documents containing the requirements for accreditation
   iii. the documents describing the rights and duties of accredited and accrediting bodies conducting periodic audits

c. **Resolution of complaints**: The accreditation body shall have a written policy and procedures for dealing with any complaints about any aspect of the accreditation, de-accreditation, or certifying process. It should keep a record of all complaints and remedial actions relative to accreditation.

2.5 Seed Certification Process through Accreditation of Hatcheries

A seed used in any aquaculture system is an early life form of the organism, actively swimming, without any deformities, and free from infections. Since testing every batch of seed produced at the hatcheries is not feasible, accreditation of hatcheries to produce certified seed is a more practical approach. In other words, process certification i.e., certification of hatchery management practices, is considered a better way than product certification alone.

Testing of seed for compliance with the norms is a part of the hatchery accreditation procedures.

2.6 Requirements

The following are the three basic requirements for initiating the process of fish seed certification and accreditation process in India.

a) Identification of fish species/varieties used in aquaculture with hatchery-bred seed
b) Development of species specific standards on broodstock, seed production and performance, management and infrastructure for compliance to specific accreditation code.
c) Appropriate guidelines for the accreditation of hatcheries and seed farms
d) Empowered agency/authority for accreditation of hatcheries and seed farms, equipped with required technical manpower, diagnostic and analytical capabilities.

Chapter 3

Implementing Agencies for the Hatchery Accreditation and Certification of the Seed Farms

3.1 Formation of an Empowered Body/Agency

Accreditations of hatcheries and certification of seed farms are specialised and manpower-intensive technical processes. Therefore, organisational arrangements supported by an effective Administrative/Executive order are required. Aspects of accreditation should be dealt with by an appropriate Body/Agency to be designated by the respective State Government. The designated body/Agency can either conduct the necessary inspection to certify the seed production units, or it can obtain the service of a competent private/public agency to do so by empowering them to certify the hatchery/seed production units. This accreditation Body/Agency may have an Apex Committee composed of a Chairman and a minimum of five Members who are to be nominated by the Department of Fisheries of the state/UT, as follows.

Hatchery Accreditation and Seed Certification Committee (HASCC)

Chairman:

Director/Commissioner of Fisheries or his/her nominee

Members:

1. Freshwater aquaculture expert: Member
2. Brackishwater aquaculture expert: Member
3. Representative of hatcheries/Seed farms: Member
4. Representative of the Department of Fisheries, Govt. of India: Member

Member-Secretary:

To be nominated by the Director/Commissioner

Note: The Chairman may co-opt any other members to the committee, depending on the need

3.2 Functions of the Accreditation Body/Agency;

a) To ensure the operation of the hatchery accreditation programme across the State, including identification of the challenges in its implementation and laying out appropriate procedures to overcome these challenges.

b) To develop necessary infrastructure facilities, manpower, and financial resources to undertake the accreditation programme.

c) To authorise certifying agencies/individuals for undertaking evaluation and reporting for accreditation of hatcheries and seed farms.

d) To take up the issues pertaining to legal problems that may crop up during the implementation of seed certification.

e) To recommend modifications in standards and procedures for the accreditation and certification process, from time to time, if needed.

f) To undertake promotional activities to build awareness on the need for using seed and broodstock from accredited hatcheries/seed farms.

g) To prepare detailed manuals on broodstock selection and maintenance, seed production practices, and testing procedures through expert groups. These manuals will be used during inspection for accreditation and for subsequent monitoring. These will also be distributed to all production units in the fish seed industry for compliance.

h) Any other issues that arise from time to time.

i) The Indian Council of Agricultural Research or any specialist institute(s) may be approached to provide appropriate technical backstopping to the designated authority in developing norms for certification and accreditation.

3.3 National Steering Committee

In order to ensure effective implementation of the hatchery accreditation and seed certification guidelines, undertaking a periodical review on the progress, and suggesting changes required depending on the feedback received from the states/ UTs, an Apex Body, i.e. National Steering Committee (NSC)' shall be formed by the Department of Fisheries, MFAHD, Govt. of India. The Committee would also facilitate in providing necessary support for the required linkage with suitable organizations/agencies/firms with demonstrated success stories.

Looking at the massive physical and economic losses due to infectious and contagious diseases of animals, which may have an enormous impact on the country, the Central Government has enacted the Prevention and Control of Infectious and Contagious Diseases in Animals Act-2009 (27 of 2009). This Act provides powers especially to State Governments to implement prevention, control, and eradication of infectious and contagious diseases affecting animals, or prevention of outbreaks or spreading of such diseases from one state to another, and to meet the international obligation of India for facilitating import and export of animals and animal products which also includes aquatic animals and their products by the subsequent amendment made thereafter. Further, it has been realized that the prevention, control, and eradication of infectious and contagious diseases in India has to be tackled at the national level with the active involvement of the State Governments, particularly concerning the precautionary measures required to be taken within their jurisdiction in respect of certain infectious and contagious diseases and regulation of movement of animals outside their respective areas by timely adoption of appropriate measures.

In view of the above, there shall be a National Level Steering Committee consisting of the following:

1.	Joint Secretary, DoF, Govt. of India	:	Chairman
2.	Chief Executive, NFDB or his/her representative	:	Member
3.	Representatives of the Fisheries Departments of the major seed-producing State/UT (Two)	:	Members
4.	DDG (Fisheries Science), ICAR or his/her nominee	:	Member

5.	Fish Health Expert	:	Member
6.	Fisheries Development Commissioner	:	Member-Secretary

Note: The Chairman may co-opt any other members to the committee, depending on the need

3.4 Terms and Reference of the National Steering Committee (NSC)

a) The National Steering Committee will meet and shall review the function of the Accreditation Body/Agency of the States & UTs at every six-month interval and provide necessary advice required for effective implementation of the programme.

b) The Committee will periodically review the species composition and new entries in the seed production and culture system in different States and advise the DoF on necessary action to be taken by States for promotion or demotion of seed production of these new species.

c) The Committee will facilitate the collection of information on seed production and other relevant data from different States; interpret the trends of development and advise the various State Accreditation Body/Agency.

d) The Committee shall look into the risk associated with the movement of fish/shrimp seed as per the provisions in the Prevention and Control of Infectious and Contagious Diseases in Animals Act-2009 (27 of 2009) amendment 2014 and shall suggest necessary action to be taken by the respective State Government or the Accreditation Body/Agency therein.

e) This Committee shall link the National Surveillance Programme for Aquatic Animal Diseases (NSPAAD) with the surveillance of pathogens for accreditation of seed keeping in view of the provisions given under the Prevention and Control of Infectious and Contagious Diseases in Animals Act-2009 (27 of 2009) and also the listed pathogens thereunder.

Chapter 4

Procedure for Accreditation of Hatcheries and Seed Farms

The following description provides general guidelines which are applicable to all aquaculture species.

4.1 Procedures for Accreditation of Hatchery

A separate application for accreditation of hatcheries/seed farms needs to be submitted for: (a) aquaculture species, and (b) genetically-improved variety of aquaculture species (such as *Jayanti* rohu).

a. The hatcheries/seed farms shall apply to the State Fisheries Department for accreditation on a prescribed application form (Annexure V) along with all necessary supporting documents.
b. The Accreditation Body will arrange for necessary verifications and evaluation, as per the benchmarks given in subsequent chapters.
c. The accredited hatcheries/seed farms, complying with specific guidelines, may use the accreditation certificate for the promotion of their product.
d. Hatcheries/seed farms to be species/ group-specific (e.g. carps, striped catfish, magur, trout, improved varieties, etc.), and need to be accredited separately.
e. During the accreditation process, verification of seed and broodstock is to be done by the inspection committee for:
    i. Production parameters and compliance with standards under specified norms of management
    ii. History of disease outbreak
    iii. Surveillance for pathogens and water quality for one period by the State Governments, along with the empanelled fish health experts.
    iv. Genetic introgression/hybridization levels (in the case of carps and catfishes)
f. For improved varieties and hybrids, the verification is to be done similarly with suitable norms.
g. The seed farm without possessing a hatchery needs to source the seed (spawn/larvae/fry/fingerling) from the accredited hatchery/hatcheries/farm to be qualified for its accreditation. Such a farm also needs to follow the good management practices, as prescribed, during the course of its operation.
h. The inspection committee may be formed by the Accreditation Body, consisting of a minimum of three member experts, with adequate knowledge on fish hatchery management, seed production, and fish health management.

4.2 Accreditation of the unit where the ownership changes

If the ownership of the seed production unit changes, both the original and new owners/ firms need to inform the empowered agency along with documents of transfer. The new owner will apply for the transfer of the accreditation certificate in his favour. To obtain such a transfer, the new owner needs to submit an undertaking that it will maintain all the norms of quality standards as required for the accreditation.

4.3 Display of Certificate

The Certificate of Accreditation should be displayed at a prominent place in the hatchery/seed farm premises.

4.4 Cancellation of Accreditation

The Accreditation of the unit will be canceled under the following circumstances:

a) The facility ceases to possess the minimum infrastructure facilities and hygiene.
b) The facility is not functional for more than one year without valid reasons.
c) Seed produced in the hatchery does not meet the quality standards prescribed for the accreditation process.
d) The facility fails to rectify the faults pointed out and conveyed by the inspection committee.
e) The facility is found to be using prohibited feed ingredients, hormones, antibiotics, or any other pharmacologically active substances.
g) The facility has obtained the Certificate of Accreditation by furnishing incorrect information
h) If the facility is found to rear or produce seed of a species of fish/organism that is banned for culture, or not allowed for domestication, or has not been introduced through the procedures laid out under the law.

4.5 Renewal/ Revalidation of Accreditation

a) The Accreditation of hatcheries/farms will be valid for a period of three years.
b) The hatchery/farm needs to apply for renewal of its facility, preferably three months before the expiry of its accreditation.
c) To obtain the revalidation of the accreditation (in case of expiry/cancellation of accreditation), the hatchery/farm is required to apply afresh.

Chapter 5

Suggested Benchmarks for Accreditation

5.1 Benchmarks for Accreditation of Carp Seed Production Units

A. Water Quality Management and Record Keeping

The hatchery/farm needs to monitor the water quality parameters periodically (preferably weekly) to ensure that the optimum conditions are maintained, and keep their records. Necessary management measures may be undertaken to ensure that the hydrobiological parameters remain within the optimum level. All necessary records pertaining to the management measures and water quality parameters may be shared with the inspection committee during its visit.

The following are the ideal water supply and quality requirements of a seed production unit:

Sl. No.	Water	Requirement
1.	Water supply	• Regular and dependable source of desired quality and quantity. • Water may be sourced from a river/stream/reservoir/farm pond (free from any kind of pollution) or groundwater (preferably stored in a reservoir/pond), following the norms of the local government.
2.	Water quality	• Free from algal blooms • Conforming to the parameters given in Annexure II (*Test Report generated through standard test procedures needs to be enclosed*) • Free from pesticide and heavy metal contamination (*Analysis report is mandatory*) • Free from pathogens of concern
3.	Filtration system	• The hatchery needs to have a proper filtration system to ensure a supply of plankton-free water to the hatchery. Fine mesh cloth/hapa (<60 micron) may be used for such filtration.

B. Infrastructure facilities for hatchery and seed-raising ponds

The infrastructure facilities for hatchery and seed-raising units, as given below, are indicative and not exhaustive, and may vary in different seed production facilities.

Physical facilities		Production Capacity (Spawn in millions)		
		<10	**10-50**	**50-100**
1.	Overhead water tank for hatchery (Capacilty in litre)	10,000	30,000	50,000
2.	Spawning pool (diameter in m) (Concrete/FRP	3.25 m (FRP)	4.5 m	6.0 m

	structure-one unit each)			
3.	Hatchery incubation pool (Masonry/FRP structure)	2 (1.5 m dia x 1.2 m height) (FRP)	2 (2.5 m dia x 1.2 m height)	4 (2.5 m dia x 1.2 m height)
4	Spawn collection chamber (Masonry/ FRP structure)	1 (1.0 m x 0.5 m x 0.5 m) (FRP)	1 (3.0 m x 1.5 m x 1.5 m)	1 (3.0 m x 1.5 m x 1.5 m)
	Breeding and hatching hapas can be allowed as an alternative to spawning pools. Incubation pool, spawn collection chamber in hatcheries with less than 10 million spawn capacity, or as a means to supplement production in higher capacities. Hatcheries producing spawn alone may be allowed to exist without nursery ponds/cement cisterns.			
5	Brood fish pond (water area in ha)	0.2 ha (depth 1.5-2.5 m)	Minimum 0.5 ha (Each pond > 0.2 ha & depth 1.5-2.5 m)	Minimum 1.0 ha (Each pond > 0.2 ha & depth 1.5-2.5 m)
6	Nursery ponds	10 (20 m x 20 m x 2 m)	20 (20 m x 20 m x 2 m)	20 (20 m x 20 m x 2 m)
7	Land requirement	1.0 ha	1.0-2.0 ha	2.5-3.0 ha
8	Qualified /experienced person	1	1	1
9	Quarantine facility/pond for new introduction	1	1	1

Note:

1. The appropriate levels of flexibility may be allowed, with respect to the available physical facilities at the time of verification, depending upon the local circumstances, provided the specified capacities, water quality, and seed and broodstock assessment reports are compliant with the norms.
2. Components such as soil and water testing facility, office, store room, staff quarters, and security system are optional and should be built as per requirement and convenience.

C. Competence of Hatchery Manager/Farm manager/Operator/Owner

Practicing farmer in fish seed production for two years/Qualified Professional from a recognized SAU/Fisheries College, or equivalent

D. Assessment of Broodstock

1. For accreditation of hatcheries, an assessment of broodstock should be done during the breeding season, at least for three batches of the brooders.
2. General assessment is also done through random experimental netting of broodstock ponds.
3. The following conditions shall be met with respect to the broodstock.

1.	General health (Through examination) visual	a) Appear healthy b) Color and morphology (species-specific) c) Actively swimming d) Should not have rashes, ectoparasites, or symptoms of pathogenic infection.;
2.	Size	Not less than 2.0 kg in case of Indian major carps
3.	Stocking density in the broodstock pond	1500-2000 kg/ha.
4.	Other conditions	a) Hybrid fish are not used as broodstock (This is ensured through visual examination of morphological characters). b) Mixed breeding not be practiced (This is verified through observation and genetic testing of seed. No F-1 hybrids or introgressed individuals should be present) c) In case genetic testing of seed reports indicates inter-specific introgression or hybridization, the accreditation will be given only after screening and weeding out of hybrid broodstock or complete replacement of broodstock.

E. Assessment of Fish Seed

1. For the accreditation of seed farms, an assessment of seed should be done for at least three batches of production at the spawn, fry, and fingerling stages separately.
2. Fry and fingerling mixed in one pond should be considered as one batch.
3. The following standards are followed for determining the seed stages:

	Spawn (mm)	**Early Fry (mm)**	**Fry (mm)**	**Advanced Fry (mm)**	**Fingerling (mm)**
Indian major carps	Up to 8 mm (1 ml spawn volume count is 360-400)	9-25	26-50	51-100	>100

4. Gross examination for health assessment

1.	Screening for swimming and food acceptability	Inactive seeds should be less than 5% *Active seed* • Actively swimming in the water column • Non-directional movement • Ready acceptability • Immediate gulping of natural or artificial feed *Inactive seed* • Surfacing and sluggish swimming • Circular, range-bound motion • No inclination for feeding
2.	Screening for structural abnormality	Structurally abnormal seeds should be less than 1% *Normal* • Straight curvature, distinctly differentiated into head, trunk, and tail *Abnormal* • Bend trunk and tail
3.	Screening for diseases	• No external sign of infection • Negative test report for pathogens causing relevant diseases listed in Annexure III (*Test to be conducted as per standard procedure laid out, and the test report needs to be enclosed*)
4.	Screening for genetic introgression and hybrids	• Negative report in visual examination of morphological features (*from fingerlings stage onwards*) • Negative report in genetic testing to be conducted as per standard procedure laid out, and the test report needs to be enclosed.

F. Operations and Record Maintenance of the Hatchery/Seed Farm

1. The assessments that are done during the accreditation process must continue at the seed production unit after the accreditation is granted.
2. Proper records should be maintained to support the claim that the seed produced from the hatchery is compliant with the norms of accreditation.
3. The seed production unit should document standard operating procedures (SPOs) and all the workers should be aware of the contents of SoPs.
4. A seed production unit should maintain the following records as applicable:
   a) History of broodstock and the replacement of broodstock undertaken from time to time
   b) Breeding programme and production levels at the spawn, fry, and fingerling levels

c) Details of daily hatchery/ farm activities (Test reports of water quality to be done twice a year for the parameters, including pathogens as given above).

d) Assessment of parameters for seed quality (visual examination) as given above

e) Details of disease occurrence and mortality

f) Details of husbandry and management practices like feed, treatments, etc.

g) Seed shipment details

5.2 Benchmarks for Accreditation of Red-bellied Pacu Seed Production Units

A. Water Supply and Quality

For the Accreditation of Red-bellied pacu, *Piaractus brachypomus* hatcheries, an assessment of water quality will be made twice in a year, with one report during the hatchery operation and a second after six months. The water supply and quality requirements will be as under.

S. No.	Water	Requirement
1.	Water supply	• Regular and dependable source of desired quality and quantity. • Water may be sourced from a river/stream/ reservoir/farm pond (free from any kind of pollution)/ groundwater (preferably stored in a reservoir/pond), following the norms of the local government.
2.	Water quality	• Free from algal blooms/planktons • Conforming to the parameters given in Annexure II (*Test Report generated through standard test procedures needs to be enclosed*) • Free from pesticide and heavy metal contamination *(Analysis report is mandatory*) • Free from pathogens causing relevant diseases (*Negative report for pathogens listed in Annexure III is necessary. Test report generated through standard test procedures needs to be enclosed)*
3.	Filtration system	Filtration unit shall have two chambers. The outer chamber is tied with 80 µ mesh while the inner chamber is tied with 120 µ mesh in order to avoid the entry of plankton into water that is used for hatching purposes.

B. Infrastructure Facilities for Hatchery and Seed Raising Ponds

1. The infrastructure facilities for hatchery and seed raising units, as given below, are indicative and not exhaustive. Needs may vary for different seed production facilities.
2. The appropriate levels of flexibility can be allowed, with respect to the construction and layout of the physical facilities at the time of verification, depending upon the

local circumstances, provided the specified capacities, water quality, seed and broodstock assessment reports are compliant to the norms.

3. Components such as soil and water testing facility, office, store room, staff quarters, and security system are optional and should be built as per requirement and convenience.

Physical facilities		**Production Capacity (Spawn)**	
		1.0-2.0 million	2.5-3.0 million
1	Overhead water tank (L) (5.5 m x 2.7 m x 2.2 m)	30,000	50,000
2	Bore well (5 hp)	1	1
3	Number of broodstock holding ponds (1.5 m depth)	1 Minimum 0.10 ha	3 (0.10 ha x 3)
4	Conditioning tanks (2 m x 1.5 m x 0.6 m); concrete	2	4
5	Incubation pool (circular 3.0 m dia)	3	6
6	Spawn collection tank (2 m x 1.5 mx 1.0 m)	1	2
5	Concrete tanks (fry rearing for 4 weeks) 10 m x 5 m x 1 m	4	8
6	Artemia hatching tanks (or zooplankton production facility)	2 (400 litres each)	4 (400 litres each)
7	Aeration system (Air blower, 5 hp)	1	1
8	Land requirement	0.5 ha	1.0 ha
9	Qualified experienced person	1	1
10	Quarantine facility/tank for new introduction	2	4
11	Laboratory	With adequate facilities for routine analysis	

C. Competence of Hatchery Manager/Farm manager/Operator/ Owner

Practicing farmer in fish seed production for two years/Qualified Professional from a recognized ICAR/SAU/Fisheries College or equivalent.

D. Assessment of Broodstock

1. For accreditation of hatcheries, an assessment of broodstock shall be done during the breeding season. The hatchery owners should ensure that effective population size in any case should not be less than 100 to keep a check on the level of inbreeding over the generations.
2. General assessment is also done through random experimental netting of broodstock ponds.
3. The following conditions shall ensured with respect to the broodstock.

i.	General health (Through examination) visual	a. Appear healthy and are actively swimming. b. Should not have red spots, ectoparasites, or symptoms of pathogenic infection.
ii.	Size	2.0-3.5 kg
iii.	Age	3.0-4.0 years
iv.	Stocking density in the broodstock pond	1500-2000 kg/ha

E. Assessment of Red-bellied Pacu Seed

1. For the accreditation of red-bellied pacu seed farms, an assessment of seed shall be done for at least three batches of production at the weaned fry stage.
2. The following standards are followed for determining the Red-bellied pacu seed:

i.	Size	20-25 mm
ii.	Colour	Body is whitish in color with dark spots on the body and reddish on the ventral side.
iii.	Swimming motion	Actively swimming
iv.	Food Acceptability	Readily accept artificial diet
v.	Gut status	Full gut
vi.	Body feature	Smooth and slimy skin with intact fins
vii.	Screening of seed for diseases	1. No external sign of infection/parasite 2. Negative test report for the pathogens listed in Annexure III conducted as per the standard test procedures (*Test report needs to be enclosed*)

F. Operations and Record Maintenance of the Hatchery/ Seed Farm

1. The assessments done during the accreditation process must continue at the seed production unit after the accreditation is granted.
2. Proper record should be maintained to substantiate the claim that the seed produced from the hatchery is compliant with the norms of accreditation.

3. The seed production unit should document standard operating procedures and all the workers should be aware of the contents.
4. A seed production unit should maintain the following records as applicable:
   a) History of broodstock and the replacement of broodstock done from time to time
   b) Breeding programme and production levels at the spawn, fry, and fingerling levels
   c) Details of daily hatchery/farm activities (Test reports of water quality done twice a year, for the parameters, including pathogens as given above).
   d) Assessment of parameters for seed quality (visual examination) as given above
   e) Details of disease occurrence and mortality
   f) Details of husbandry and management practices like feed, treatments etc.
   g) Seed shipment details

5.3 Benchmarks for Accreditation of Striped Catfish Seed Production Units

A. Water Supply and Quality

For the accreditation of striped catfish, *Pangasianodon hypophthalmus* hatcheries, an assessment of water quality will be made twice a year, with one report during the hatchery operation and a second after six months. The following are the water supply and quality requirements shall be as under.

Sl. No.	Water	Requirement
1.	Water supply	Supply should be adequate, clean, and from a regular and dependable source
2.	Type of water source	• Direct ground water (to be collected in an open pond before pumping into the hatchery) • Open water bodies such as rivers/ streams/lake, etc. (to be allowed only if found to be free from any kind of pollution)
3.	Water quality	• Free from algal blooms/planktons • Conforming to the parameters given in Annexure II (*Test Report generated through standard test procedures needs to be enclosed*) • Free from pesticide and heavy metal contamination (*Analysis report is mandatory*) • Free from pathogens causing relevant diseases. • (*Negative report for pathogens listed in Annexure III is necessary. Test report generated through standard test procedures needs to be enclosed)*
4.	Filtration system	• Filtration unit shall have two chambers. Outer chamber is tied with 120 µ mesh while the inner chamber is tied

		with 80 µ mesh in order to avoid the entry of plankton into water that is used for hatching purpose.

B. Infrastructure Facilities for Hatchery and Seed Raising Ponds

1. The infrastructure facilities for hatchery and seed raising units, as given below, are indicative and not exhaustive. Needs may vary for different seed production facilities.
2. The appropriate levels of flexibility can be allowed with respect to the construction and layout of the physical facilities at the time of verification, depending upon the local circumstances, provided the specified capacities, water quality, seed and broodstock assessment reports are compliant with the norms.
3. Components such as soil and water testing facility, office, store room, staff quarters, and security system are optional and should be built as per requirement and convenience.

Physical facilities		**Production Capacity (Spawn)**	
		1 million	2.5 million
1	Overhead water tank (L) (6.0 m x 2.5 m x 2.2 m (Refiling)	30,000	50,000
2	Bore well (5 hp)	1	1
3	Number of broodstock holding ponds	1 50 m x 20 m	2 50 m x 20 m
4	Conditioning tanks (2 m x 1.5 m x 0.6 m): concrete	2	4
5	Incubation pool (3.0 m dia)	3	6
6	Spawn Collection Tank (2 m x 1.5 m x 1 m)	1	2
5	Concrete tanks (fry rearing for 4 weeks) (10 m x 5 m x 1 m)	3	6
6	Artemia hatching tanks (or Zooplankton production facility)	2 (400 litres)	4 (400 litres)
7	Aeration system (Air blower, 5 hp)	1	1
8	Land requirement	0.5 ha	1.0 ha
9	Qualified experienced person	1	1
10	Quarantine facility/ tank for new introduction	2	4
11	Laboratory	With adequate facilities for routine analysis	

C. Competence of Hatchery manager/Farm manager/Operator/Owner

Practicing farmer in fish seed production for two years/Qualified Professional from a recognized ICAR/SAU/Fisheries College or equivalent.

D. Assessment of Broodstock

1. For accreditation of hatcheries, an assessment of broodstock is done during the breeding season. The hatchery owners should ensure that effective population size in any case should not be less than 100 to keep a check on the level of inbreeding over the generations.
2. General assessment is also done through random experimental netting of broodstock ponds.
3. The following conditions need to be met with respect to broodstock

i.	General health (Through examination) visual	a) Appear healthy and are actively swimming b) Should not have red spots, ectoparasites, or symptoms of pathogenic infection.
ii.	Size	2.5-5.0 kg
iii.	Age	3.0-4.0 years
iv.	Stocking density in the broodstock pond	3000 nos/ha

E. Assessment of Striped Catfish Seed

1. For the accreditation of striped catfish seed farms, an assessment of seed is done for at least three batches of production at the weaned fry stage.
2. The following standards are followed for determining the seed:

i.	Size	20-30 mm
ii.	Colour	Body is grey coloured, dark on the dorsal side, and whitish on the ventral side
iii.	Swimming motion	Actively swimming
iv.	Food Acceptability	Readily accept an artificial diet
v.	Gut status	Full gut
vi.	Body feature	Smooth and slimy skin with intact fins
vii.	Screening of seed for diseases	1. No external sign of infection/parasite 2. Negative test report for the pathogens listed in Annexure III conducted as per the standard test procedures (*Test report needs to be enclosed*)

F. Operations and Record Maintenance of the Hatchery/Seed Farm

1. The assessments done during accreditation process must continue at the seed production unit after the accreditation is granted.
2. Proper record should be maintained to facilitate the claim that the seed produced from the hatchery is compliant with the norms of accreditation.

3. The seed production unit should document standard operating procedures and all the workers should be aware of the contents.
4. A Seed production unit should maintain the following records as applicable:
    a) History of broodstock and replacement-of broodstock done from time to time
    b) Breeding programme and production levels at spawn, fry and fingerling levels
    c) Details of daily hatchery/farm activities (Test reports. of water quality done twice a year, for the parameters including pathogens as given above).
    d) Assessment of parameters for seed quality (visual examination) as given above
    e) Details of disease occurrence and mortality
    f) Details of husbandry and management practices like feed, treatments etc.,
    g) Seed shipment details

5.4 Benchmarks for Accreditation of Striped Murrel Seed Production Units

A. Water Supply and Quality

For the Accreditation of striped murrel, *Channa striata* hatcheries, an assessment of water quality will be made twice a year, with one report during the hatchery operation and a second after six months. The following are the water supply and quality requirements.

Sl. No.	Water	Requirement
1.	Water supply	Supply should be adequate, clean and from a regular and dependable source
2.	Type of water source	• Direct ground water (to be collected in an open pond before pumping into the hatchery) • Open water bodies such as rivers/ streams/lake, etc (to be allowed only if found to be free from any kind of pollution)
3.	Water quality	• Free from algal blooms/planktons • Conforming to the parameters given in Annexure II (*Test Report generated through standard test procedures needs to be enclosed*) • Free from pesticide and heavy metal contamination (*Analysis report is mandatory*) • Free from pathogens causing relevant diseases (*Negative report for pathogens listed in Annexure III is necessary. Test report generated through standard test procedures needs to be enclosed)*
4.	Filtration system	• Filtration unit should have two chambers. Outer chamber is tied with 120 µ mesh while the inner chamber is tied with 80 µ mesh in order to avoid the entry of plankton into water that is used for hatching purpose.

B. Infrastructure Facilities for Hatchery and Seed Raising Ponds

1. The infrastructure facilities for hatchery and seed raising units, as given below, are indicative and not exhaustive. Needs may vary for different seed production facilities.
2. The appropriate levels of flexibility can be allowed, with respect to the construction and layout of the physical facilities at the time of verification, depending upon the local circumstances, provided the specified capacities, water quality, seed and broodstock assessment reports are compliant with the norms.
3. Components such as soil and water testing facility, office, store room, staff quarters and security system are optional and should be built as per requirement and convenience.

Physical facilities		**Fry production Capacity**	
		1.0 lakh	2.5 lakh
1.	Overhead water tank (L)	10,000	20,000
2.	Bore well (5 hp)	1	1
3.	Number of broodstock holding ponds (Poly-lined ponds)	2 (20 m x 10 m)	4 (20 m x 10 m)
4.	Breeding tanks (2 m x 1 m x 1.2 m): concrete/FRP	4	10
5.	FRP tanks (Egg incubation and fry rearing for 4 weeks)	15 (500-1000 L)	36 (500-1000 L)
6.	Artemia hatching tanks (or Zooplankton production facility)	2 (400 litres)	4 (400 litres)
7.	Aeration system (Air blower, 5 hp)	1	1
8.	Land requirement	0.3 ha	0.5 ha
9.	Qualified experienced person	1	1
10.	Quarantine facility/tank for new introduction	1	1
11.	Laboratory	Adequate facilities for routine analysis	

C. Competence of Hatchery Manager/Farm Manager/Operator/Owner

Practicing farmer in fish seed production for two years/ Qualified professional from a recognized ICAR/ SAU/ Fisheries College or equivalent

D. Assessment of Broodstock

1. For accreditation of hatcheries, an assessment of broodstock is done during the breeding season. The hatchery owners should ensure that the effective population size (N_e) in any case should not be less than 100 to keep a check on the level of inbreeding over the generations.
2. General assessment is also done through random experimental netting of broodstock ponds.
3. The following conditions need to be met with respect to broodstock.

i.	General health (Through examination) visual	a) Appear healthy and actively swimming. b) Should not have red spots, ectoparasites or symptoms of pathogenic infection.
ii.	Size	0.5-1.0 kg
iii.	Age	2-5 years
iv.	Stocking density in broodstock pond	0.5-0.6 kg/m^2

E. Assessment of Striped Murrel Seed

1. For the accreditation of murrel seed farms, an assessment of seed is done for at least three batches of production at the weaned fry stage.
2. The following standards are followed for determining the seed:

i.	Size	20-30 mm
ii.	Colour	Body orange coloured, without any white/ red patches on the body.
iii.	Swimming motion	Actively swimming
iv.	Food acceptability	Readily accept an artificial diet
v.	Gut status	Full gut
vi.	Body feature	Smooth and slimy skin with intact fins
vii.	Screening of seed for diseases	1. No external sign of infection/parasite 2. Negative test report for the pathogens listed in Annexure III conducted as per the standard test procedures (*Test report needs to be enclosed*)

F. Operations and Record Maintenance of the Hatchery /Seed Farm.

1. The assessments done during the accreditation process must continue at the seed production unit after the accreditation is granted.
2. Proper record should be maintained to facilitate the claim that the seed produced from the hatchery is compliant with the norms of accreditation.
3. The seed production unit should document standard operating procedures and all the workers should be aware of the contents.
4. A Seed production unit should maintain the following records as applicable:
   a) History of broodstock and replacement of broodstock done from time to time
   b) Breeding programme and production levels at spawn, fry, and fingerling levels
   c) Details of daily hatchery/farm activities (Test reports of water quality done twice a year, for the parameters, including pathogens as given above).
   d) Assessment of parameters for seed quality (visual examination) as given above
   e) Details of disease occurrence and mortality

f) Details of husbandry and management practices like feed, treatments etc.,

g) Seed shipment details

5.5 Benhmark for Catfish (Magur and Singhi) Seed Production Units

A. Water Supply and Quality

For the Accreditation of catfish hatcheries, an assessment of water quality will be made twice a year, with one report during the period of hatchery operation and a second after six months. Water quality will be tested at an appropriate interval for seed farms. The following are the water supply and quality requirements of a seed production unit:

Sl No.	Water	Requirement
1.	Water supply	Supply should be adequate, clean and from a regular and dependable source
2.	Type of water source	• Direct ground water (to be collected in an open pond before pumping into the hatchery) • Open water bodies such as rivers/ streams/lake, etc (to be allowed only if found to be free from any kind of pollution)
3.	Water quality	• Free from algal blooms/ planktons • Conforming to the parameters given in Annexure II (*Test Report generated through standard test procedures needs to be enclosed*) • Free from pesticide and heavy metal contamination (*Analysis report is mandatory*) • Free from pathogens causing relevant diseases (*Negative report for pathogens listed in Annexure III is necessary. Test report generated through standard test procedures needs to be enclosed*)
4.	Filtration system	• Filtration unit should have two chambers. Outer chamber is tied with 120 µ mesh while the inner chamber is tied with 80 µ mesh in order to avoid the entry of plankton into water that is used for hatching purpose.

B. Infrastructure facilities for hatchery and seed-raising ponds

1. The infrastructure facilities for hatchery and seed-raising units, as given below, are indicative and not exhaustive. Needs may vary for different seed production facilities.
2. The appropriate levels of flexibility can be allowed, with respect to the construction and layout of the physical facilities at the time of verification, depending upon the local circumstances, provided the specified capacities, water quality, seed and broodstock assessment reports are compliant with the norms.
3. Components such as soil and water testing facility, office, store room, staff quarters and security system are optional and should be built as per requirement and convenience.

Physical facilities	Fry production capacity

	1 lakh	**2 lakh**
Overhead water tank (L)	20,000	20,000
Number of tube well/Open well	1	1
Water pump	3HP-electric 5 HP diesel (stand by)	3 HP-electric 5 HP diesel (stand by)
Number of Air blowers	2	2
Number of incubation pool with flow-through facility (plastic tubs, 1 ft.dia)	24	48
Number of Larval rearing tanks (Ferro-cement/FRP)	15 (1.5 m dia)	20-25 (1.5 m dia)
Number of Brood fish pond	1 (0.05 ha each)	2 (0.05 ha each)
Land requirement (Area)	0.20 ha	0.4 ha
Qualified experienced person	1	1
Quarantine facility/ tank for new introduction	1	1
Laboratory	Adequate facility for routine analysis	

C. Competence of Hatchery Manager/ Farm Manager/Operator/ Owner

Practicing farmer in catfish seed production/ A qualified professional from a recognized SAU/Fisheries College.

D. Assessment of Broodstock

1. For accreditation of catfish hatcheries, an assessment of broodstock is done prior to breeding through random experimental netting of broodstock ponds.

General health (Assessed through visual examination)	1. Healthy with clear smooth skin without fin loss or any wounds on barbel. 2. Actively moving
Size	100-150 g
Stocking density in broodstock tanks	2-3/m²
Disease screening for broodstock	1. No external signs of infection 2. Negative test Report of the test for pathogens listed in Annexure III (Test report needs to be enclosed

E. Gross examination of catfish seed

i.	Size	15-20 mm
ii.	Colour	Black/pink body without any white patches on the body
iii.	Swimming motion	Actively swimming

iv.	Food Acceptability	Ready acceptance of natural/artificial diet
v.	Gut status	Full gut
vi.	Body feature	Smooth and slimy skin, barbells intact and no wounds in fins
vii.	Screening of seed for diseases	1. No external sign of infection/parasite 2. Negative test report for the pathogens listed in Annexure III conducted as per the standard test procedures (*Test report needs to be enclosed*)

F. Operations and Record Maintenance of the Hatchery/Seed Farm

1. The assessments that are done during the accreditation process must continue at the Seed production unit after the accreditation is granted.
2. Proper records should be maintained to facilitate the claim that the seed produced from the unit is compliant with the norms of accreditation.
3. The Unit should document standard operating procedures and all the workers should be aware of the contents.
4. A seed production unit should maintain the following records:
   a) History of broodstock and the replacement of broodstock is done from time to time
   b) Breeding programme and production levels at the spawn, fry, and fingerling levels
   c) Details of daily farm activities (Test reports of water quality to be done twice a year, for the parameters, including pathogens, as given above).
   d) Assessment of parameters for seed quality (visual examination) as given above
   e) Details of disease occurrence and mortality
   f) Details of husbandry and management practices like feed, treatments, etc.
   g) Seed shipment details

5.6 Benchmarks for Accreditation of Pabda/Butter catfish (*Ompok bimaculatus*) Seed Production Units

A. Water Supply and Quality

For accreditation of hatcheries, an assessment of water quality will be made twice a year with one report during the period of hatchery operation and a second after six months. Water quality will be tested at an appropriate interval for seed farms. The following are the water supply and quality requirements of a seed production unit:

Sl. No.	Water	Requirement
1.	Water supply	Supply should be adequate, clean and from a regular and dependable source.
2.	Type of water source	• Direct ground water (to be collected in an open pond before pumping into the hatchery)

		• Open water bodies such as rivers/ streams/lake, etc (to be allowed only if found to be free from any kind of pollution)
3.	Water quality	• Free from algal blooms/ planktons • Conforming to the parameters given in Annexure II (*Test Report generated through standard test procedures needs to be enclosed*) • Free from pesticide and heavy metal contamination (*Analysis report is mandatory*) • Free from pathogens causing relevant diseases (*Negative report for pathogens listed in Annexure III is necessary. Test report generated through standard test procedures needs to be enclosed)*
4.	Filtration system	• Filtration unit should have two chambers. Outer chamber is tied with 120 µ mesh while the inner chamber is tied with 80 µ mesh in order to avoid entry of plankton into the water that is used for hatching purpose.

B. Infrastructure facilities for hatchery and seed-raising tanks/ponds

1. The infrastructure facilities for hatchery and seed-raising units, as given below, are indicative and not exhaustive. Needs may vary for different seed production facilities.
2. The appropriate levels of flexibility can be allowed, with respect to the construction and layout of the physical facilities at the time of verification, depending upon the local circumstances, provided the specified capacities, water quality, and seed and broodstock assessment reports are compliant with the norms.
3. Components such as soil and water testing facility, office, store room, staff quarters, and security system are optional and should be built as per requirement and convenience.

Hatchery facility for spawn production		**Capacity (Spawn in million)**		
		>2.0	**2.0-4.0**	**4.0-6.0**
1.	Hatchery overhead water tank (L)	6,000	8,000	10,000
2.	Hatchery: Circular Breeding-cum-incubation pool (Masonry/ FRP structure)	6 (1.5 m dia x 0.30 m height)	8 (1.5 m dia x 0.30 m height)	10 (1.5 m dia x 0.30 m height)
3.	Alternatively, for breeding a large quantity of butter catfish at a time, a large rectangular tank (Masonry/ FRP structure) can also be used. For the purpose, one or two numbers of rectangular tanks of 1.35 m^3 capacity (L: 2.75 m x W: 1.0 m x H: 0.50 m) are sufficient. These tanks can also meet the requirements of space for conditioning of broodstock Hatcheries producing spawn alone may be allowed to exist without rearing tanks/ nursery ponds.			

Fry rearing		Early Fry (10-12 DPH): Capacity in lakh		
		>20	**20-40**	**40-60**
3a.	Circular rearing tank/ hatching-cum- rearing tank (with flow-through water facilities) [Masonry / FRP structure]	*12 (1.5 m dia x 0.30 m height)	*18 (1.5 m dia x 0.30 m height)	*24 (1.5 m dia x 0.30 m height)
	Circular rearing tank/ hatching-cum- rearing tank (with flow-through water facilities) [Masonry / FRP structure]	**Fry (20-24 DPH): Capacity in million**		
		24 (1.5 m dia x 0.30 m height)	36 (1.5 m dia x 0.30 m height)	48 (1.5 m dia x 0.30 m height)
		*Including tanks mentioned in Sl. No. 3		
3b.	Nursery ponds	05 (0.04 ha; depth 0.75 m)	09 (0.04 ha; depth 0.75 m)	12 (0.04 ha; depth 0.75 m)
Fingerling rearing		**Fingerling (> 6 cm): Capacity in million**		
		>20	**20-40**	**40-60**
4a.	Circular rearing tank [Masonry/ FRP structure]	05 (6.0 m dia x 0.75 m height)	09 (6.0 m dia x 0.75 m height)	12 (6.0 m dia x 0.75 m height)
4b.	Rearing ponds	03 (0.10 ha; Depth 0.90 m)	05 (0.10 ha; Depth 0.90 m)	08 (0.10 ha; Depth 0.90 m)
5.	Live-food facilities (Tubifex culture unit/ rotifer etc. culture unit), Concrete tank/FRP tanks/earthen pond	2	2	2
6.	Land requirement	0.5 ha	0.5-1.0 ha	>1 ha
7.	Qualified experienced person	1	2	2
8	Quarantine facility/pond for new introduction	1	1	1

C. Competence of Hatchery Manager/Farm Manager/Operator/Owner

Practicing farmer in catfish seed production for three years/ Qualified Professional from a recognized SAU/Fisheries College or equivalent

D. Assessment of Broodstock

1. For accreditation of hatcheries, an assessment of broodstock is done during the breeding season, at least for three batches of the brooders.
2. General assessment is also done through random experimental netting of broodstock ponds
3. The following conditions need to be met with respect to broodstock

1.	General health (Through examination) visual	a) Appear healthy b) Color and morphology (Species-specific) c) Actively swimming d) Should not have rashes, ectoparasites or symptoms of pathogenic infection.
2.	Size	Not less than 50 g
3.	Stocking density in the broodstock pond	750-1500 kg/ha
4.	Other conditions	

E . Assessment of Fish Seed

1. For the accreditation of seed farms, an assessment of seed is done for at least three batches of production at the larvae, fry, and fingerling stages separately.
2. Fry and fingerling mixed in one pond should be considered as one batch.
3. The following standards are followed for determining the seed stages:

	Larvae (mm)	**Early Fry (mm)**	**Fry (mm)**	**Advanced Fry (mm)**	**Fingerling (mm)**
Butter catfish/ pabda	Up to 6	15-20	20-30	30-50	>50

4. Gross examination for health assessment

i.	Screening for swimming and food acceptability	Inactive seed should less than 5% *Active seed* • Actively swimming in the water column • Non-directional movement • Ready acceptability Immediate gulping of natural or artificial feed *Inactive seed* • Surface and sluggish swimming • Circular, range-bound motion • No inclination for feeding

ii.	Screening for structural abnormality	Structurally abnormal seeds should be less than 1% *Normal* • Straight curvature, distinctly differentiated into head, trunk and tail *Abnormal* • Bend trunk and tail
iii.	Screening for diseases	• No external sign of infection • Negative test report for pathogens causing relevant diseases listed in Annexure III (*Test to be conducted as per standard procedure laid and the test report needs to be enclosed*)
iv.	Screening for genetic introgression and hybrids	• Negative report in visual examination of morphological features (*from fingerlings stage onwards*)

F. Operations and Record Maintenance of the Hatchery /Seed Farm.

1. The assessments that are done during the accreditation process must continue at the seed production unit after the accreditation is granted.
2. Proper records should be maintained to facilitate the claim that the seed produced from the hatchery is compliant with the norms of accreditation.
3. The seed production unit should document standard operating procedures and all the workers should be aware of the contents.
4. A seed production unit should maintain the following records as applicable:

a) History of broodstock and the replacement of broodstock done from time to time
b) Breeding programme and production levels at the spawn, fry and fingerling levels
c) Details of daily hatchery/farm activities (Test reports of water quality to be done twice a year, for the parameters, including pathogens as given above).
d) Assessment of parameters for seed quality (visual examination) as given above
e) Details of disease occurrence and mortality
f) Details of husbandry and management practices like feed, treatments, etc.
g) Seed shipment details

5.7 Benchmarks for Accreditation of Climbing Perch Seed Production Units

A. Water Supply and Quality

For the Accreditation of climbing perch, *Anabas testudineus* hatcheries, an assessment of water quality will be made twice a year, with one report during the hatchery operation and a second after six months. The following are the water supply and quality requirements.

Sl. No.	Water	Requirement
1.	Water supply	Supply should be adequate, clean and from a regular and dependable source
2.	Type of water source	• Direct ground water (to be collected in an open pond before pumping into the hatchery) • Open water bodies such as rivers/streams/lakes, etc (to be allowed only if found to be free from any kind of pollution)
3.	Water quality	• Free from algal blooms/ planktons • Conforming to the parameters given in Annexure II (*Test Report generated through standard test procedures needs to be enclosed*) • Free from pesticide and heavy metal contamination (*Analysis report is mandatory*) • Free from pathogens causing relevant diseases (*Negative report for pathogens listed in Annexure III is necessary. Test report generated through standard test procedures needs to be enclosed)*
4.	Filtration system	• The water used in the hatchery must be filtered through fine mesh cloth/hapa (<60 micron) before it reaches to overhead tank. This will ensure plankton-free water in the hatchery.

B. Infrastructure Facilities for Hatchery and Seed Raising Ponds

1. The infrastructure facilities for hatchery and seed raising units, as given below, are indicative and not exhaustive. Needs vary for different seed production facilities.
2. The appropriate levels of flexibility can be allowed, with respect to the construction and layout of the physical facilities at the time of verification, depending upon the local circumstances, provided the specified capacities, water quality, seed and broodstock assessment reports are compliant to the norms.
3. Components such as soil and water testing facility, office, store room, staff quarters and security system are optional and should be built as per requirement and convenience.

Physical facilities		Fry production Capacity	
		2.5 lakh	5 lakh
1.	Overhead water tank (L)	10,000	20,000
2.	Bore well (5 hp)	1	1
3.	Number of broodstock holding concrete tanks	1 5 m x 4 m x 1 m	2 5 m x 4 m x 1 m
4.	Breeding tanks (Concrete/FRP)	4 (500 L)	8 (500 L)
5.	FRP tanks (Egg incubation and spawn rearing for 3 weeks)	15 (1000 L)	30 (1000 L)
6.	Zooplankton production facility/pond	1 (0.05ha)	2 (0.05ha)

7.	Fry rearing in concrete tanks for 3 weeks	8 (5 m x 3 m x 1m)	16 (5 m x 3 m 1 m)
8.	Aeration system (Air blower, 5 hp)	1	1
9.	Land requirement	0.5 ha	1.0 ha
10.	Qualified experienced person	1	1
11.	Quarantine facility/tank for new introduction	1	1
12.	Laboratory	With adequate facility for routine analysis	

C. Competence of Hatchery Manager/ Farm Manager/Operator/Owner

Practicing farmer in fish seed production for two years/Qualified Professional from a recognized ICAR/ SAU/ Fisheries College or equivalent.

D. Assessment of Broodstock

1. For accreditation of hatcheries, an assessment of broodstock is done during the breeding season. The hatchery owners should ensure that the effective population size (N_e) in any case should not be less than 100 to keep a check on the level of inbreeding over the generations.
2. General assessment is also done through random netting of broodstock ponds.
3. The following conditions need to be met with respect to broodstock

i.	General health (Through visual examination)	a) Appear healthy and actively swimming. b) Should not have red spots, ectoparasites or symptoms of pathogenic infection.
ii.	Size	50-100 g
iii.	Age	1-3 years
iv.	Stocking density in the broodstock tank	0.4-0.6 kg/m^2

E. Assessment of Climbing Perch Seed

1. For the accreditation of climbing perch seed farms, an assessment of seed is done for at least three batches of production at the weaned fry stage, which should readily accept pelleted diet.
2. The following standards are followed for determining the climbing perch seed:

i.	Size	15-20 mm
ii.	Colour	Olive green or brown with dark blotches and without any white/red patches on the body.
iii.	Swimming motion	Actively swimming
iv.	Food Acceptability	Readily accept artificial diet

v.	Gut status	Full gut
vi.	Body feature	Smooth and slimy skin with intact fins
vii.	Screening of seed for diseases	1. No external sign of infection/parasite 2. Negative test report for the pathogens listed in Annexure III conducted as per the standard test procedures (*Test report needs to be enclosed*)

F. Operations and Record Maintenance of The Hatchery/Seed Farm.

1. The assessments done during the accreditation process must continue at the seed production unit after the accreditation is granted.
2. Proper record should be maintained to facilitate the claim that the seed produced from the hatchery is compliant with the norms of accreditation.
3. The seed production unit should document standard operating procedures and all the workers should be aware of the contents.
4. A Seed production unit should maintain the following records as applicable:

   a) History of broodstock and replacement of broodstock is done from time to time

   b) Breeding programme and production levels at spawn, fry and fingerling levels

   c) Details of daily hatchery/farm activities (Test reports of water quality done twice a year, for the parameters, including pathogens as given above).

   d) Assessment of parameters for seed quality (visual examination) as given above

   e) Details of disease occurrence and mortality

   f) Details of husbandry and management practices like feed, treatments etc.,

   g) Seed shipment details

5.7 Benchmarks for Accreditation of Ornamental Fish Seed Production Units

The level of expertise required in water quality management is higher for ornamental fish production than any other type of aquaculture, because of the variety and number of fish species. The ornamental fish industry at present mainly involves the fish species that are introduced in India and captive-bred to cater to the domestic and export market. However, the units that produce seed for the fish species of indigenous origin should follow additional guidelines, which are given separately. The general guidelines that the ornamental fish hatcheries are expected to comply with before they are accredited are given below. However, in view of the large variety of ornamental fish species that could have different management practices, the specific guidelines for a particular species may be framed through experts at the time of accreditation.

A. Water Supply and Quality

For the Accreditation of the ornamental fish hatchery, an assessment of water quality will be made twice a year with one report during the period of hatchery operation and the second after six months. Similar assessments at appropriate intervals are needed in the case

of seed farms. The following are the water supply and quality requirements of seed hatcheries and seed farms.

Sl. No.	Water	Requirement
1.	Water supply	Supply should be adequate, clean and from a regular and dependable source
2.	Type of water source	• Direct ground water (to be collected in an open pond before pumping into the hatchery) • Open water bodies such as rivers/ streams/lake, etc (to be allowed only if found to be free from any kind of pollution)
3.	Water quality	• Free from algal blooms/ planktons • Conforming to the parameters given in Annexure II (*Test Report generated through standard test procedures needs to be enclosed*) • Free from pesticide and heavy metal contamination (*Analysis report is mandatory*) • Free from pathogens causing relevant diseases (*Negative report for pathogens listed in Annexure III is necessary. Test report generated through standard test procedures needs to be enclosed)*
4.	Filtration system	• The water used in the hatchery must be filtered through fine mesh cloth/hapa (<60 micron) before it reaches to overhead tank. This will ensure plankton-free water in the hatchery.

B. Infrastructure Facilities:

The basic requirements for the successful breeding and rearing of ornamental fish are adequate space, quality water and sufficient feed. Considering this, the following investments are required for starting an ornamental fish project.

1.	Tanks	The tanks can be of RCC or brick masonry work, having flat bottoms with inlet and outlet pipes. Clay, concrete, fiberglass or plastic tanks can also be used. Rearing of fishes should be done in large tanks of suitable capacity.
2.	Aquaria	Glass tanks of varying size are required for breeding purposes, Small glass bottles of 250 ml are used for keeping individual male fighter fishes. The number and size of the glass tanks depend on the specific breeding/spawning behavior of the species selected.
3.	Overhead tank	An overhead tank of suitable size is required for storing water and to enable sedimentation.
4.	Working Shed	The shed should be designed in such a way that the tanks get filtered sunlight. Translucent HDPE sheets can be used as roofs for this purpose. This also protects the culture tanks from falling debris, bird droppings, etc. Net screens are provided to adjust the light requirements.

5.	Aeration equipment	A blower pump with a network of tubes for aeration is essential. Continuous power supply should also be ensured through a standby generator set, UPS or Inverter.

C. Assessment of Fish Seed

For accreditation of the ornamental fish seed production unit, assessment of seed is done for at least three production cycles at the spawn, fry, and fingerling stage separately. Fry and fingerling mixed in one tank are considered one batch:

1.	Screening for swimming and food acceptability	Inactive seed should be less than 5% *Active seed* • Actively swimming in the water column • Non-directional movement • Ready acceptability/immediate gulping of natural or • artificial feed *Inactive seed* • Surface and sluggish swimming • Circular, range-bound motion • No inclination to feeding
2.	Screening for Physical deformity	Physically deformed seed should be less than 1% *Normal* • Straight distinct curvature, differentiated into head, trunk and tail *Abnormal* • Bend trunk and tail
3.	Screening for diseases	• No external sign of infection • Negative test report for pathogens listed in Annexure VII (*Test to be conducted as per standard procedure laid and the test report needs to be enclosed*)
4.	Screening for genetic introgression and hybrids	• Negative report in visual examination of morphological features (from fingerlings stage onwards) • Negative report in genetic testing to be conducted as per standard procedure laid in Section 3.2 and the test report needs to be enclosed.

D. Assessment of Broodstock

1. Stocking rates for breeding ponds vary greatly (50-100/m^2)
2. For accreditation of hatcheries, assessment of broodstock is done during the period of breeding at least for three batches of brooders.

3. General health assessment is also done through random experimental netting and visual examination in broodstock ponds as follows:

General health (Visual examination)	• Appear healthy • Color and morphology species-specific • Actively swimming • No rashes, ectoparasites or symptoms of pathogenic infections.

E. Record Maintenance

1. The assessments that are done during the accreditation process must continue even after accreditation is granted.
2. Proper records should be maintained to facilitate the claim that the seed produced from the unit is compliant with the norms of accreditation.
3. The unit should document standard operating procedures and all the workers should be aware of its contents.
4. Hatchery should maintain the following records:
   a) History of broodstock and replacement of broodstock done from time to time
   b) Breeding programme and production levels at the spawn, fry, and fingerling levels
   c) Details of daily farm activities (Water quality tested twice a year, for the parameters including pathogens as given above)
   d) Assessment of parameters for seed quality (visual examination) as given above
   e) Details of disease occurrence and mortality
   f) Details of husbandry and management practices like feed, treatments, etc.
   g) Seed shipment details.

F. Additional Requirements for Hatcheries Dealing with Indigenous Ornamental Fishes

1. Hatcheries/ farms producing the seed of indigenous ornamental species of importance need to be registered.
2. Seed production centers for indigenous ornamental species should be allowed only for those species for which captive breeding protocols have been established and whose broodstock can be sourced from captive stock. For such centers, collection will not be allowed from natural resources.
3. For species that are not being bred in captivity, centers shall be permitted selectively. These centers should be registered separately to develop breeding methodologies.
4. Such hatcheries should do explorations for broodstock following norms compliant with the Biological Diversity Act 2002 or any other regulations having relevance to natural resources.
5. Such centers need to have proven capacity and R&D facilities, on their own or in collaboration with other scientific groups.
6. The maximum number of specimens of a species that can be collected from the wild as brood stock will be 50 Pairs (This can be further reduced in case of threatened species)

7. These centres should agree to release at least 10 times the collected number of broodstock (6 months old, First Generation) to the same natural habitat under the supervision of the authorities.

5.8 Benchmarks for Accreditation of Freshwater Prawn Hatcheries

A. Water Supply and Quality

For accreditation of freshwater prawn hatcheries, an assessment of water quality will be made twice a year, with one report during the period of hatchery operation and the second after six months. The following are the water supply and quality requirements.

S. No.	Water	Requirement
1.	Water supply	Supply should be adequate, clean and from a regular and dependable source
2.	Type of water source	• Direct ground water (to be collected in an open pond before pumping into the hatchery) • Open water bodies such as rivers/ streams/ lake, etc (to be allowed only if found to be free from any kind of pollution)
3.	Water quality	• Free from algal blooms/ planktons • Conforming to the parameters given in Annexure II (*Test Report generated through standard test procedures needs to be enclosed*) • Free from pesticide and heavy metal contamination (*Analysis report is mandatory*) • Free from pathogens causing relevant diseases (*Negative report for pathogens listed in Annexure III is necessary. Test report generated through standard test procedures needs to be enclosed)*
4.	Filtration system	• The water used in the hatchery must be filtered through fine mesh cloth/hapa (<60 micron) before it reaches to overhead tank. This will ensure plankton-free water in the hatchery.

B. Infrastructure Facilities

The infrastructure facilities given below are indicative and not exhaustive. Needs vary for different seed production facilities.

1. The appropriate levels of flexibility can be allowed at the time of verification, depending upon the local circumstances, provided the water quality, seed and broodstock assessment reports are compliant with the norms.
2. Other components like soil and water quality facility, office, store room, and staff quarters and effective security personnel are optional and should be built as per requirement and convenience.

S. No	Physical facilities	Capacity in millions		
		>10	**10-30**	**>30**
i.	a) Sea water storage tank (L)	40000	60,000	80,000
	Freshwater storage tank (L)	45,000	90,000	120,000
	Number of mixed water storage tanks & Capacity	3 (40,000 L)	3 (70,000 L)	3 (100,000 L)
ii.	Number of holding tanks of broodstock & Capacity	3 (10,000 L)	7 (10,000 L)	9 (10,000 L)
iii.	Larval rearing tanks (L) (Total capacity, size and numbers may vary as per the design and space availability	30,000-60,000	60,000-150,000	>200,000
iv.	Post-larval rearing tanks (nos) & Capacity	10 (10,000 L)	15 (10,000 L)	20 (10,000 L)
v.	Artemia hatching tanks (nos) & Capacity	3 (100 L)	4 (400 L)	6 (400 L)
vi.	Air blowers	2 (5 HP)	2 (10 HP)	2 (15 HP)
vii.	Land (ha)	0.5	1.0	1.5
viii.	Qualified/experienced personnel	1	1	1
ix.	Laboratory	With adequate facilities for routine analysis		
x.	Quarantine and Disinfection Facility	One closed building with tanks and a separate water supply, airline and drainage system as per the scale of operation of the hatchery		

C. Assessment of Broodstock

1. For accreditation of hatcheries, an assessment of broodstock is done during breeding at least three batches of brooders.
2. General assessment is also done through random experimental netting of broodstock tanks.

i.	General health (Assessment through visual examination)	a) Apparently healthy with a clear, smooth shell, without any black spots on the shell or appendage loss. b) Actively moving
ii.	Size	>60 g
iii.	Stocking density in broodstock tanks	1-2/m²

iv.	Disease screening for white muscle virus	Broodstock should be screened for white muscle virus using the latest technique available.

D. Assessment of Prawn Seed

1. For the accreditation of hatcheries, an assessment of seed is done for at least three batches of production at the PL10 stage.
2. A batch of PL 10 should be considered healthy if more than 95% of the population meets the following conditions:

Sl. No.	Gross examination for health assessment	
i.	Size	> 20 mm
ii.	Colour	Translucent body without any white patches on the body
iii.	Swimming motion	Actively swimming
iv.	Food Acceptability	Ready acceptability of natural or artificial diet.
v.	Gut -fullness	Full gut
vi.	Rostrum	Rostrum straight not broken
vii.	Muscle to gut ratio	High (>3:1) Gut appears thin, muscle in 6th segment wider
viii.	Muscle condition	Abdominal muscle clear, smooth and transparent
ix.	Black spots	No black spots present on the body and appendages
x.	Appearance of appendages	Intact without any deformity or black or brown spots
xi.	Screening of seed for disease	1. No epibiont fouling on body or gills 2. Negative test report for the pathogens causing diseases listed in Annexure III. Test to be conducted as per standard procedures (Test report needs to be enclosed)

5.9 Benchmarks for Accreditation of Rainbow Trout Fish Seed Production Units

A. Water Supply and Quality

For accreditation of rainbow trout hatcheries, a comprehensive water quality log book should be maintained during the breeding and hatchery operation. Key water quality parameters such as temperature, dissolved oxygen and pH should be recorded on a daily basis. Moreover, other parameters such as water flow rate, total ammonia nitrogen, turbidity (total suspended solids), total dissolved solids, total alkalinity, total hardness, and carbon dioxide should be recorded on weekly basis. The following are the requirements of a trout seed production unit:

	Water	Requirement
1.	Water Supply	Dependable source of cold (<15ºC) and highly oxygenated freshwater
2.	Type of Water Source	Surface fluvial waters such as rivers/streams (*should be free from pollution and particulate / organic matter*) Ground / Spring water sources (*should be devoid of heavy metals)*
3.	Water abstraction and treatment facilities (depending on the requirement)	1. Independent water supply pipeline 2. Mechanical (Sand) filtration unit 3. Siltation chamber
4.	Water quality	Should conform to the parameters given in Annexure II *(Test Report generated through standard test procedures need to be enclosed).* Free from pesticides and heavy metal contamination *(Analysis report is mandatory).* Free from pathogens (*Negative report for pathogens listed in Annexure III is necessary. Test report generated through standard test procedures needs to be enclosed).*

B. Infrastructure Facilities for Brooder Maintenance and Hatchery-Nursery

The indicative guidelines for infrastructure facilities for rainbow trout brooder maintenance and seed production are given below. They are not exhaustive, but the basic mandatory requirements should be fulfilled. The appropriate levels of flexibility can be allowed with respect to the construction and layout of the physical facilities at the time of verification, depending upon the local circumstances, provided the specified capacities, water quality, seed and broodstock assessment reports are compliant with the norms. However, provisions for water testing, biosecurity, feed storage, quarantine/ disease control and fish welfare should be in-built as per basic requirements.

	Physical facilities	Production capacity	
		Eyed ova (1,00,000)	**Advanced fry (1,00,000)**
A.	**Brooder maintenance and conditioning facility**		
1.	Raceways/ tanks	> 30 m^3 (to hold 120 kg Female and 80 kg Male)	> 45 m^3 (to hold 150 kg Female and 100 kg Male)
2.	Water availability	> 200 L / min	> 250 L/ min
3.	Siltation chamber	Preferable	Preferable
B.	**Hatchery and nursery facility**		
1.	Housing/ enclosure	Required	Required
2.	Water availability	> 30 L /min	> 400 L / min

3.	Egg incubators	≥ 12 trays (no. of trays – 10,000 eggs per 0.2 m^2)	≥ 16 trays (no. of trays – 10,000 eggs per 0.2 m^2)
4.	Indoor nursery tank (for swim-up fry/ Alevin)	-	> 7 m^3
5.	Outdoor nursery tank (for Advanced fry)	-	> 25 m^3
6.	Aeration/ oxygenation *	Preferable	Preferable
7.	Mechanical filtration or de-siltation unit *	Preferable	Preferable
8.	Disinfection equipment (UV/ Ozone filter) *	Preferable	Preferable
9.	Quarantine tank *	Required	Required
10.	Reservoir tank *	Required	Required
11.	Water pump * (if ground water is used)	Required	Required
12.	Effluent treatment unit *	Required	Required
13.	Number of trained/skilled hatchery operators	1	1-2

* Specification as per requirement

C. Competence of Hatchery Manager/ Operator/ Owner

1. Practicing farmer/entrepreneur in rainbow trout seed production
2. Certification from authorized government agency like ICAR-CICFR/ Department of Fisheries/ College of Fisheries/ Agriculture Skill Council of India (Preferable)
3. Professional from a recognized Fisheries College/ University (Optional)

D. Assessment of Brood Fish

For accreditation of rainbow trout hatchery, random assessment of brood fish should be done through netting and visual observation of more than 15% of the stock (inspected preferably during the breeding season). The following conditions need to be met in respect of broodstock.

1.	General health (Assessed through visual examination)	a) Normal body shape without emaciation b) Skin without any abnormality/ scar c) Fins without any abnormality/ rot d) No vertebral abnormality / stunting d) Eyes without abnormality

		e) Active swimming without any abnormal behaviour/ aggression
2.	Size	≥ 1.5 kg (female) and ≥ 1 kg (male)
3.	Age	3^+ year (female) and 2^+ year (male)
4.	Stocking density	3-5 fish/ m^3 (< 10 kg / m^3)
5.	Parentage record	• Preferable (to minimize inbreeding) • Record of brood fish replacement
6.	Disease screening	• No external signs of infection • Negative test report for listed pathogens (*Test report need to be enclosed*)

E. Assessment of Rainbow Trout Seed

A.	**Eyed ova**	
1.	Size (in diameter)	≥ 3 mm with minimum size variation
2.	Volume (Egg count)	≤ 1000 eyed ova per 100 mL
3.	Colour / Appearance	Preferably bright orange with uniform colouration and clearly visible dark eye spots
4.	Hatching rate (from eyed ova to hatchling)	≥ 85%
5.	Disease screening	No external abnormality or signs of infection Negative test report for listed pathogens (Test report needs to be enclosed)
B.	**Advanced fry (refers to ~2 g or 5 cm mean size)**	
1.	General health (Assessed through visual examination)	a. Normal body shape with minimum size variation and without emaciation (pin head*) b. Normal colouration without excessive melanisation c. No vertebral abnormality* d. Eyes, jaw and operculum without abnormality* e. Fins and skin without any abnormality* f. Active swimming and feeding * *≤ 1 % prevalence or incidence of abnormality*
2.	Disease screening	• No external signs of infection • Negative test report for listed pathogens (*Test report needs to be enclosed*)

F. Operations and record maintenance of the hatchery/ seed farm

1. Proper record of water quality parameters as indicated above in Section A
2. Proper record of use and annual replacement of female and male brooders

3. Proper record of breeding activity/ programme with a time schedule
4. Proper record of reproductive performance (spawning response, relative fecundity, and fertilization rate)
5. Proper record of survival/mortality rate at different developmental stages
6. Proper record of feed use and growth performance
7. Proper record of biosecurity and health management measures
8. Documentation of standard operating procedures
9. Documentation of risk avoidance/emergency preparedness/contingency measures
10. Documentation of the eyed ova or fry shipment procedure adopted

* The above guidelines and benchmarks may be applied only for rainbow trout seed producers having their own broodstock.

N.B. Certification of imported eyed ova may be limited to disease screening and may not be considered for the rainbow trout seed certification and accreditation program.

Chapter 6
Biosecurity Provisions

Biosecurity is a foundational element of responsible aquaculture and plays a vital role in maintaining the health of aquatic species, ensuring sustainable seed production, and minimizing disease outbreaks. This chapter outlines the generic biosecurity requirements that apply horizontally across all freshwater hatcheries and seed production units in India, under both private and public sectors that undertake breeding and seed production of finfish/shellfish.

1. The hatchery facilities shall have strict biosecurity control through physical separation of functional areas or isolation of the different production facilities or isolation through the construction of barriers and implementation of process and product flow controls.
2. The premises should be enclosed with fencing or boundary walls of adequate height to prevent the entry of unauthorized persons, animals, and potential disease vectors.
3. Entry to the hatchery/ seed production unit shall be restricted to the personnel assigned to work exclusively in this area and a record of personnel entering the facility be maintained.
4. Controlled access points should be established at all entry and exit locations and must be equipped with disinfection facilities including footbaths, vehicle tyre dips containing appropriate disinfectants (e.g., sodium or calcium hypochlorite), and hand sanitizing stations with iodine or alcohol-based solutions.
5. All the cleaning chemicals, sanitary chemicals and other inputs materials shall be stored separately with proper labelling outside the production area.
6. Surrounding of the hatchery/ seed production unit shall be maintained hygienically throughout the production cycle without any accumulation of waste materials.
7. Use of disease-free water (e.g., filtered, chlorinated) and maintain optimum water quality.
8. No direct use of untreated surface water or reuse of water from other facilities.
9. Wastewater should be treated or disinfected before discharge, to prevent environmental contamination.
10. Hatcheries/seed production units must source broodstock and seed only from certified, disease-free suppliers.
11. Regular health screening of broodstock, larvae, and juveniles through recognized labs.
12. Immediate removal and safe disposal of dead or diseased fish/shellfish
13. Regular disinfection of tanks, trays, nets, and hatchery equipment using approved chemicals.
14. Cleaning schedule for all areas with recorded checklists.

15. Staff working in hatcheries must be trained in biosecurity protocols, identification of disease symptoms, and emergency response
16. Daily hygiene checks and restricted movement across sections.
17. Visitor entry into sensitive production areas should be strictly restricted and recorded in access logs.
18. Comprehensive records must be maintained and updated regularly, covering all critical aspects such as broodstock source and condition, water quality parameters, disinfection routines, feed usage, seed health status, mortality events, and chemical applications.
19. Emergency Disease Response Protocols need to be followed in case of suspected or confirmed outbreaks and immediate reporting to State Fisheries Department/DoF, GoI/NFDB/ICAR.
20. In case of disease outbreak, samples must be collected for diagnostic confirmation, and all remedial actions must be documented thoroughly.

Chapter 7

Challenges to Implement Procedures of Quality Seed Production and Accreditation of Seed Production Units

The main challenges that the accreditation process could face are as follows:

1. Seed production units in the country are not very sensitive to the value of quality seed and the implications of not using quality seed on the industry and the environment.
2. Genetic contamination due to the practice of mixed spawning of Indian Major Carps in hatcheries. (This can be prohibited, but still, the practice may continue due to limitations of time and space in hatcheries).
3. Difficulties in monitoring the history of broodstock, due to inadequate knowledge, even in large farms.
4. Difficulties in identifying the indirect checkpoints to monitor the flow of uncertified seed.
5. Difficulty in checking the seed production activity of backyard types, which are known to use contaminated water sources.
    - Stopping this will affect the seasonal livelihood of small producers.
    - Alternatives need to be found through providing financial assistance to upgrade the small hatcheries' quality standards. This means encouraging the small producers to follow the norms or to allow them to develop group cooperative hatcheries that can be accredited.
6. Inability of producers who are involved in seed production only, as seasonal ventures, to get accreditation, as they have no broodstock in their farm for evaluation.
    - Broodstock sources at the regional level can be established/ recognized.
    - State-owned aquaculture farms can also be certified for the purpose. Such farms can maintain pure line foundation broodstock that can be used to produce certified broodstock and also be provided to the users.
    - Milt bank facility can be created to obviate the need to raise large brood stock. This will also safeguard domesticated elite germplasm which can provide sperm sources if adequate milt is not available at some farms.
7. The prescribed requirement will enhance the costs of seed production in accredited seed production centres. This coupled with the possible slow uptake of the certified seed and competition from uncertified seed, might adversely impact the profit of accredited units, at least in the first few years, leading to low operating margins or even losses.
    - Availability of easy insurance cover to the accredited seed/ broodstock centers will encourage seed producers to come forward for accreditation.
    - Subsidies/ financial loans, whenever given, should be limited to the farms that use certified seed.

8. The present diagnostic indices and norms with respect to germplasm quality, disease and environment parameters are inaccurate.
9. Possible litigation when certified seed does not perform as expected.
    - Many times poor performance is due to reasons other than seed quality such as lack of specified management conditions at the farm of grow-out culturist.
    - The optimum performance of certified seed will be ensured only under specified conditions.
10. The present considerations are applicable only to those species for which aquaculture practices have been established. Thus, the certification process needs to adopt a futuristic view with options open for new species both indigenous and introduced.
11. The exotic species/ strains introduced without passing through the official channel will be a critical risk to the entire certification process.

Annexure I

Definitions

A. Carps

Definition: Fish species belonging to the family Cyprinidae. They are of five categories:

Category I (Domesticated):

Indian major carps (IMCs): *Catla catla, Labeo rohita,* and *Cirrhinus mrigala;*

Minor carps and barbs: *Labeo calbasu, L. gonius, L. fimbriatus, L. bata, Hipselobarbus pulchellus, H. carnaticus, Cirrhinus reba, Puntius sarana, P. gonionotus, etc.*;

Chinese carps: *Cyprinus carpio, Ctenopharyngodon idella, Hypophthalamichthys molitrix*

Categorv Il (Not yet domesticated)*:*

Labeo dero, Labeo dyocheilus, Labeo dussumieri, Cirrhinus cirrhosa, Gonoproktopterus curmuca or any other commercially important carps that might be considered in future, when their aquaculture protocols are established.

Category Ill (Hybrids):

Female catla x male rohu or any other hybrid developed through captive breeding of the parents between two different taxonomic entities and released as a hybrid variety for aquaculture purposes.

Category IV (Improved varieties/Imported strains):

Genetically improved variety, developed through the breeding programme from parents of the same species and released for commercial Culture (Example: *'Jayanti* rohu', Amrit catla, Amur carp, Maha magur, CIFA GI Scampi, Shining barb developed by selective breeding)

Category V (IMC Seed):

Spawn- up to 8 mm (yolk sac completely absorbed); Early fry: 9-20 mm, Fry: 20-30 mm; Advanced fry: 30-60 mm; Fingerling: 60-100 mm

B. Catfishes

Definition: Fish species belonging to the order Siluriformes.

Species Cultured in India:

Air-breathing catfishes:

Clarias batrachus (magur; Family- Clariidae) and *Heteropneustes fossilis* (singhi; Family-Heteropneustidae).

Non-air-breathing catfishes:

Pangasianodon hypophthalmus (Striped catfish; Family: Pangasidae), *Pangasius pangasius* (pangas; Family: Pangasidae), *Ompok pabda* (pabda; Family-Siluridae), *O. bimaculatus*

(Pabho, butter catfish; Family: Siluridae), and *Horabagrus brachysoma* (Yellow catfish; Family: Horabagridae).

Seed size: 15-30 mm fry

C. Other air-breathing fishes

Channa striata (striped murrel; Family- Channidae), *C. marulius* (giant murrel; Family-Channidae), Anabas testudineus (climbing perch; Family: Anabantidae)

Seed size: 20-30 mm fry

D. Other commercially important species

Oreochromis niloticus (Nile tilapia, GIFT; Family-Cichlidae), *Piractus brachypomus* (pirapitinga, pacu; Family: Serrasalmidae)

Seed size: 20-30 mm fry

E. Freshwater prawns

Definition: All decapod crustaceans under the family Palaemonidae.

Species Cultured in India:

Macrobrachium rosenbergii, *M. malcomsonii,* and *M. gangeticum*

Seed size: > 20 mm (Post larvae-PL)

F. Ornamental fishes

Definition: Aquatic species that have commercial value as a live display or exhibition item. Their value could be due to appearance, color, shape, or any other morphological and behavioral trait. They include several finfishes and other aquatic organisms, which are kept as pets or displayed and are not typically used as a food source for human or livestock. Ornamental fishes are of fresh water, brackishwater or marine origin.

Annexure II

Optimum Water Quality Parameters

1. Carps/Air-Breathing Fishes/Ornamental Fishes*

Parameters	**Optimum levels**
Water temperature (° C)	24.0-29.0
pH	7.6-8.4
DO (mg/L)	> 5
CO_2 (mg/L)	< 16
Total alkalinity (mg/L)	80-110
Hardness (mg/L)	70-100
Ammonia-N (mg/L)	<0.2
Potassium (mg/L	> 1.0
Calcium (mg/L)	24.0-28.0
Sodium (mg/L)	7.9-9.0
Iron (mg/L)	< 0.2
Traces of Pesticide	As per CPCB standards for bathing water
Heavy metals	As per CPCB standards for bathing water
H_2S	< 1.0
Chloride	< 10 mg/L

2. Butter Catfish/Pabda*

Parameters	**Optimum levels**
Water temperature (°C)	24.0-30.0
pH	7.2-8.2
DO (mg/L)	> 5
CO_2 (mg/L)	< 10
Total alkalinity (mg/L)	100-150
Hardness (mg/L)	70-130
Ammonia-N (mg/L)	<0.1
Traces of Pesticide	As per CPCB standards for bathing water
Heavy metals	As per CPCB standards for bathing water
H_2S	< 1.0
Chloride	< 10 mg/L

*(*Note: Direct use of groundwater may not be suitable. It is to be drawn first to earthen intake ponds before use in hatchery complex for breeding/incubation purposes using an appropriate filter)*

2. Rainbow Trout Hatchery Operation

Temperature (°C) **- Hatchery**	**6-10**
Temperature (°C) **- Nursery**	8-12
Temperature (°C) **- Brooder Maintenance**	10-15
Dissolved oxygen	> 90% saturation
Dissolved oxygen (mg/L)	7.5-9.5
Dissolved oxygen at out let (mg/L)	≥ 6
pH	6.5-8.5
Ammonia (NH_3-N) (mg/L)	< 0.01
TAN (NH_3+NH_4) (mg/L)	< 0.5
Nitrite (mg/L)	< 0.2
Nitrate (mg/L)	0-100
CO_2 (mg/L)	< 10
Alkalinity (mg/L)	50-200
Hardness (mg/L)	50-200
TSS (mg/L)	< 10

(Note: Pre-filtration of water prior to use in hatchery-nursery complex is recommended)

4. Freshwater Prawn

Parameters	**Optimum levels**
Water temperature (° c)	27.0-31.0
pH	7.6-8.4
DO (mg/L)	> 5
Ammonia-N (mg/L)	< 0.2
Nitrite-N (mg/L)	< 0.01
Salinity	12-14 ppt
Pesticide	As per CPCB standards for bathing water
Heavy metals	As per CPCB standards for bathing water
H_2S	< 1.0
Chloride	< 10 mg/Liter

Annexure III

Screening for Pathogens and Diseases

(As per National Surveillance Programme on Aquatic Animal Diseases-NSPAAD List)

(i) Fish Diseases	(ii) Crustacean diseases
1. Epizootic hematopoietic necrosis 2. Infectious hematopoietic necrosis 3. Spring viraemia of carp (SVC) 4. Viral haemorhagic septicemia (VHS) 5. Epizootic ulcerative syndrome (EUS) 6. Red seabream iridiviral disease (RSID) 7. Koi herpesvirus disease (KMV) 8. Grouper iridoviral disease 9. Viral encephalopathy and retinopathy 10. Enteric septicemia of catfish 11. Infection with *Aeromonas hydrophila* 12. Infection with *Edwardsiella tarda* *13.* Infection with *Vibrio anguillarum* *14.* Infection with *Flavobacterium columnnare* 15. Infection with *Streptococcus iniae* in Tilapia 16. Infectious pancreatic necrosis (cold water) 17. Infection with *Myxobolus* spp. 18. Infection with *Ichthyophthirius multifilis* 19. Infection with *Saprolegnia parasitica* 20. Infection with *Argulus* spp. 21. Infestation with *Dactylogyrus* spp. 22. Infestation with *Lernea* spp, 23. Infestation with *Caligus* spp.	1. Taura syndrome (TS) 2. White Spot Syndrome (WSD) 3. Yellow Head Virus (YHD) 4. Infectious Hypodermal and Hematopoietic Necrosis (IHHN) 5. Infectious myonecrosis (IMN) 6. White tail disease (MrNV) 7. Necrotizing hepatopancreatitis (NHP) 8. Milky haemplymph disease of spiny lobster (*Panurilus* sp.) 9. Monodon slow growth syndrome 10. Acute hepatopancreatic necrosis syndrome (AHPNS) 11. Hepatopancreatic parvovirus 12. Monodon baculovirus 13. Loose shell syndrome 14. Soft shell syndrome 15. Gaffekemia

Testing, as applicable to host species

Annexure IV-a

Application Format for Accreditation of Carp Hatchery/Seed Farm (Major Carp, Minor Carps and Barbs)

1.	**Name and Address of the Hatchery/Seed Farm**				
	Name of the Hatchery/Farm				
	Applied for Accreditation of		Only Hatchery/Both Hatchery & Seed Farm/Only Seed Farm		
	Name of the Owner/ Proprietor				
	Educational Qualification		Age:		Male/Female/Others
	Address of the Hatchery/ Seed Farm				
	i.	Village/PO:	ii.	Block:	
	iii.	Police Station:	iv.	Nearest Railway Station:	
	v.	District:	vi.	PIN:	
	vii.	State:	viii.	GPS Coordinates:	
	ix.	Phone No.	x.	E-mail:	

2.	**Ownership details (put √ mark)**					
	(i)	Government	Society	Individual	Pvt. Ltd Company	Corporate house
	(ii)	Commercial registration:		Registration No.:		Date:

3.	**Year of establishment:**	

4.	**Details of the hatchery**				
	a.	Total land area (ha)		b. Total water area (ha)	
	c.	Possession type	Own/Lease	d. Lease duration (years)	
				e. Lease period (From-To)	
			Others (specify)		
	f.	Construction type		Concrete/FRP/ Both	
	g.	i.	Targeted no. of run/cycle in a season		
		ii.	Production capacity (lakh spawn in single run) (in lakh)		
		iii.	Target spawn Production (in a season) (in lakh)		
		iv.	Spawn Produced in last two years (in lakh)		

	h.	Details of the breeding/spawning tank			
		i.	Circular tank (Nos)	Diameter (m):	Height(m):
		ii.	Rectangular tank (Nos)	Size (in meter)	….. (L) x …. (W) x ….. (H)
		iii.	Any Other		
	i.	Details of Incubation tank			
		i.	Circular tank (Nos)	Diameter (m):	Height: …… m
		ii.	Rectangular tank (Nos)	Size (meter):	….. (L) x ….. (W) x ….. (H)
	j.	Overhead tank capacity:			
		Capacity (in Liter):		Size (in Meter)	---- (L) x ---- (W) x ---- (H)

5.	**Details of the seed production farm**					
	a.	Total land Area (ha):		b.	Total water area (ha)	
	c.	Possession type:	Owned / On lease	d.	Years of lease	
	e.	Others (specify)				

6.	**Rearing space**						
	Type		No.	Area (ha)	Size	Water depth (ft)	Months of water-holding
	a)	Broodstock pond:	i.				
			ii.				
			iii.				
	b)	Nursery pond:	i.				
			ii.				
			iii.				
	c)	Rearing pond:	i.				
			ii.				
			iii.				

7.	**Energy Sources (Electricity/Diesel/Solar)**				
	No. of pumps & Capacity	Electricity		Solar	Generator
		i.			
		ii.			
		iii.			
	Avg. monthly expenditure during hatchery operation (in Rs)				

8.	**Broodfish maintained during the last three years**					
	Year	Broodstock maintained (species-wise)	Male No.	Avg. Wt (kg)	Female No.	Avg. Wt (kg)
	20……	Catla				
		Rohu				
		Mrigal				
		Others(specify):				
	20…….	Catla				
		Rohu				
		Mrigal				
		Others (specify):				
	20…….	Catla				
		Rohu				
		Mrigal				
		Others(specify):				

9.	**History of stock replenishment**						
	Sl. No.	Year	Source* (Wild collection/ Hatchery/ culture pond)	Male No.	Avg. Wt (kg)	Female No.	Avg. Wt (kg)

** Please indicate the place of collection; In case of improved strain/variety, the name of souce organization/institute/broodbank may be indicated*

10.	**Is the Hatchery /Farm located in flood-prone area**	Yes/No
	If yes, last known flood year in the area	

11.	**Sources of water**				
	Borewell	Reservoir	Irrigation canal	Dugwell	Other

12.	**Disease incidence in last three years**				
	Year	Disease	Description	Cause	Treatment/ Preventive measures adopted

13.	Input use in hatchery/Farm			
	Inputs	**Broodstock pond**	**Nursery pond**	**Rearing pond**
	Inducing hormone used			
	Oil cake (GNOC/MOC)			
	Rice bran			
	Commercial feed (floating/sinking)			
	Lime			
	Chemicals for Treatment/ Preventive i. ii. iii.			
	Others			

Date **Signature of the applicant**

Recommendation

Certified that the above information is correct to the best of my knowledge

Date **Signature**

Designation & seal of the District Fishery Officer

Date **Signature**

Documents to be enclosed

1. Identity proof of the Owner/Manager/Applicant
2. NFDP registration certificate
3. Land ownership document
4. Ownership/ Lease document of hatchery (minimum 5 years)
5. Lay out of the hatchery/farm
6. Copy of commercial registration, if any
7. Income Tax clearance certificate
8. Registration with Labour Office
9. Proof of financing, if hypothecated to financial Institution
10. Necessary permission to water source, if farm depends on external source
11. Demand draft/Cheque/Fee

Annexure IV-b

Standard Application Format for Accreditation of 'Red-Bellied Pacu' Hatchery

1.	**Name and address of the Hatchery**			
	A. Name:			
	B. Address of the Hatchery			
	Village:		Block:	
	Police Station:		Nearest Railway Station:	
	District:		PIN:	
	State:		GPS Coordinate:	

2.	**Ownership details (put √ mark)**					
	(i)	Government	Society	Individual	Pvt. Ltd Company	Corporate house
	(ii)	Commercial registration:		Registration No.:		Date:

- Is the hatchery in the cluster? YES or NO
  - If Yes, Name of the cluster:
- Is the hatchery a Network hatchery of NFDB? YES or NO
  - If yes, what is the year of registration as a network hatchery?

3.	**Contact details**			
	Name:		Education:	Primary/ +2/ Bachelor/ Master
	Phone No.:		FAX:	
	WhatsApp number			
	E-mail:			
	Contact details (Technician)			
	Name:			
	Qualifications			
	Experience in years			

4.	**Year of establishment:**	

5.	**Details of the hatchery (put √ mark wherever necessary)**

	a.	Total land Area (ha):			b. Total water spread area (ha)		
	c.	Possession type:	Own:	Yes/No	d. Years of lease		Others (specify)
			On lease:	Yes/No			
	e.	Construction type:		Concrete		FRP	
	f.	Production capacity (million per cycle):					
	g.	Details of the breeding/Conditioning tanks					
		(i) Circular tank (No):			Diameter & Height (m):		
		(ii) Rectangular tank (No):			Size (m)		
	h.	Details of Incubation tanks					
		(i) Circular tank (No):			Diameter & Height (m) :		
		(ii) Rectangular tank (No):			Size (m)		
	i.	Spawn collection tank (No):			Size (m)		
	j.	Overhead tank					
		Capacity (liter):			Size (m):		
	k.	Nursery seed rearing tanks					
		Construction type:	Concrete		FRP	Earthen ponds	
		No:			Size (m)		
	l.	Reservoirs (if any)					
		Area:			Depth:		
	m.	Source of water	Borewell		Irrigation Canal	Dugwell	
	n.	Aeration system	Yes/No		No. of Air blowers & Capacity (hp)		

6.	**Details of the seed production farm**						
	a.	Total land Area (ha):			b. Total water spread area (ha)		
	c.	Possession type:	Own:	Yes/No	d. Years of lease		
			On lease:	Yes/No	e. Others (specify)		
	f.	Rearing space					
		Type	No.	Area (ha)	Size	Water depth (m)	Months of water holding

		(i)	Broodstock Pond:	1.				
				2.				
				3.				
		(ii)	Nursery pond:	1.				
				2.				
				3.				
		(iii)	Rearing pond:	1.				
				2.				
				3.				

7.	**Broodfish maintained during the last five-years**						
	Sl. No	Year	Source (Wild collection/ Hatchery/ culture pond)	Male No.	Avg. Wt. (kg)	Female No.	Avg. Wt. (kg)
	1.						
	2.						
	3.						
	4.						
	5.						

8.	**History of stock replenishment**						
	Sl. No.	Year	Source (Wild collection/ Hatchery/ culture pond)	Male No.	Avg. Wt. (kg)	Female No.	Avg. Wt. (kg)
	1.						
	2.						
	3.						
	4.						
	5.						

9.	**Own Broodfish raising programme (Year wise for last five years)**						
	Sl. No.	Year	Source (Wild collection/ Hatchery/ culture pond)	Male No.	Avg. Wt. (kg)	Female No.	Avg. Wt. (kg)
	1.						
	2.						
	3.						

	4.						
	5.						

10.	**Is the Hatchery /Farm located in flood-prone area**	Yes/No
	If yes, last known flood year in the area	

11.	**Sources of energy**				
	No. of pumps & Capacity	Electricity		Diesel Pump/Generator	
		1.		1.	
		2.		2.	
		3.		3.	
	Avg. monthly consumption				

12.	**History of disease outbreak**				
	Year	Disease	Description/ Remark	Cause	Treatment/ Preventive measures adopted

13.	**Packing unit**				
	Packing Unit	Yes/No		Size (m):	
	Method of packing	Polythene bag	Hundi	FRP tank	Others
	No. of seed per pack				
	Oxygen cylinders	No.		Capacity	

14.	**Manpower**				
	Category	Unskilled	Skilled	Highly Skilled	
	No.				

	Man days				

15.	**Budgetary details**				
		Source of Finance	Total expenditure per annum	Total seed sale per annum	Total Annual returns
	Year 1				
	Year 2				
	Year 3				

Date **Signature of the applicant**

Recommendation

Certified that the above information is correct to the best of my knowledge

Date **Signature**

Designation & Seal of the District Fishery Officer

Signature

Date

Documents to be enclosed

1. Identity proof of the Owner/Manager/Applicant
2. NFDP registration certificate
3. Land ownership document
4. Ownership/ Lease document of hatchery (minimum 5 years)
5. Layout of the hatchery/farm
6. Copy of commercial registration, if any
7. Income Tax clearance certificate
8. Registration with Labour Office
9. Proof of financing, if hypothecated to financial Institution
10. Necessary permission to water source, if farm depends on external source
11. Demand draft/Cheque/Fee

Annexure IV-c

Standard Application Format for Accreditation of Striped Catfish Hatchery

1.	**Name and address of the Hatchery**			
	A. Name:			
	B. Address of the Hatchery			
	Village:		Block:	
	Police Station:		Nearest Railway Station:	
	District:		PIN:	
	State:		GPS Coordinate:	

2.	**Ownership details (put √ mark)**					
	(i)	Government	Society	Individual	Pvt. Ltd Company	Corporate house
	(ii)	Commercial registration:		Registration No.:		Date:

- Is the hatchery in the cluster? YES or NO
  - If Yes, Name of the cluster:
- Is the hatchery a Network hatchery of NFDB? YES or NO
  - If yes, what is the year of registration as a network hatchery?

3.	**Contact details (Owner)**			
	Name:		Education:	Primary/ +2/ Bachelor/ Master
	Phone No.:		FAX:	
	Whatsapp number			
	E-mail:			
	Contact details (Technician)			
	Name:			
	Qualifications			
	Experience in years			

4.	**Year of establishment:**	

5.	**Details of the hatchery (put √ mark wherever necessary)**						
	a.	Total land Area (ha):			b. Total water spread area (ha)		
	c.	Possession type:	Own:	Yes/No	d. Years of lease		Others (specify)
			On lease:	Yes/No			
	e.	Construction type:			Concrete	FRP	
	f.	Production capacity (million per cycle):					
	g.	Details of the breeding/Conditioning tanks					
		(i) Circular tank (No):			Diameter & Height (m):		
		(ii) Rectangular tank (No):			Size (m)		
	h.	Details of Incubation tanks					
		Circular tank (No):			Diameter & Height (m):		
	i.	Spawn collection tank (No):			Size (m)		
	j.	Overhead tank					
		Capacity (liter):			Size (m):		
	k.	Nursery seed rearing tanks					
		Construction type:	Concrete		FRP	Earthen ponds	
		No:			Size (m)		
	l.	Reservoirs (if any)					
		Area:			Depth:		
	m.	Source of water	Borewell		Irrigation Canal	Dugwell	
	n.	Aeration system	Yes/No		No. of Air blowers & Capacity (hp)		

6.	**Details of the seed production farm**					
	a.	Total land Area (ha):			b. Total water spread area (ha):	
	c.	Possession type:	Own:	Yes/No	d. Years of lease	
			On lease:	Yes/No	e. Others (specify)	

	f.	Rearing space						
		Type		No.	Area (ha)	Size	Water depth (m)	Months of water holding
		i.	Broodstock Pond:	1.				
				2.				
				3.				
		ii.	Nursery pond:	1.				
				2.				
				3.				
		iii.	Rearing pond:	1.				
				2.				
				3.				

7.	**Broodfish maintained during the last five-years**						
	Sl. No.	Year	Source (Wild collection/ Hatchery/ culture pond)	Male No.	Avg. Wt. (kg)	Female No.	Avg. Wt. (kg)
	1.						
	2.						
	3.						
	4.						
	5.						

8.	**History of stock replenishment**						
	Sl. No.	Year	Source (Wild collection/ Hatchery/ culture pond)	Male No.	Avg. Wt. (kg)	Female No.	Avg. Wt. (kg)
	1.						
	2.						
	3.						
	4.						
	5.						

9.	**Own broodfish raising programme (Year wise for last five years)**						
	Sl. No	Year	Source (Wild collection/ Hatchery/ culture pond)	Male No.	Avg. Wt. (kg)	Female No.	Avg. Wt. (kg)
	1.						

	2.						
	3.						
	4.						
	5.						

10.	**Is the Hatchery /Farm located in flood-prone area**	Yes/No
	If yes, last known flood year in the area	

11.	**Sources of energy**				
	No. of pumps & Capacity	Electricity		Diesel Pump/Generator	
		1.		1.	
		2.		2.	
		3.		3.	
	Avg. monthly consumption				

12.	**History of disease outbreak**				
	Year	Disease	Description/ Remark	Cause	Treatment/ Preventive measures adopted

13.	**Packing unit**				
	Packing Unit	Yes/No		Size (m):	
	Method of packing	Polythene bag	Hundi	FRP tank	Others
	No. of seed per pack				
	Oxygen cylinders	No.		Capacity	

14.	**Manpower**				
	Category	Unskilled	Skilled	Highly Skilled	
	No.				
	Man days				

15.	**Budgetary details**				
		Source of Finance	Total expenditure per annum	Total seed sale per annum	Total Annual returns
	Year 1				
	Year 2				
	Year 3				

Date **Signature of the applicant**

Recommendation

Certified that the above information is correct to the best of my knowledge

Date **Signature**

Designation & seal of the District Fishery Officer

Date **Signature**

Documents to be enclosed

1. Identity proof of the Owner/Manager/Applicant
2. NFDP registration certificate
3. Land ownership document
4. Ownership/ Lease document of hatchery (minimum 5 years)
5. Layout of the hatchery/farm
6. Copy of commercial registration, if any
7. Income Tax clearance certificate
8. Registration with Labour Office
9. Proof of financing, if hypothecated to financial Institution
10. Necessary permission to water source, if farm depends on external source
11. Demand draft/Cheque/Fee

Annexure IV-d

Standard Application Format for Accreditation of Catfish (Magur And Singhi) Hatcheries/ Seed Farm

1.	**Name and Address of the Hatchery/Seed Farm**			
	A. Name			
	B. Address of the Hatchery/Seed Farm			
	Village:		Block:	
	Police Station:		Nearest Railway Station:	
	District:		PIN:	
	State:		GPS Coordinate:	As changed above.

2.	**Ownership details (put √ mark)**					
	(i)	Government	Society	Individual	Pvt. Ltd Company	Corporate house
	(ii)	Commercial registration:		Registration No.:		Date:

3.	**Contact details**			
	Name:		Education:	Primary/ +2/ Bachelor/ Master
	Phone No.:		FAX:	
	E-mail:			

4.	**Year of establishment:**	

5.	**Details of the hatchery**					
	a.	Total land area (ha):			b. Total water area (ha):	
	c.	Possession type:	Own:	Yes/No	d. Years of lease	Others (specify)
			On lease:	Yes/No		
	e.	Construction type:		Concrete		
				FRP		
	f.	Production capacity (single run) (million spawn):				
	g.	Details of the breeding/spawning tank				

		(i) Circular tank:	No.:		Diameter & Height:	…… m & ……m
		(ii) Rectangular tank	No.		Size	---- m x ----m x----m

	h.	Details of Incubation tank			
		(i) Circular tank (No):		Diameter & Height:	…… m & ……m
		(ii) Rectangular tank (No):		Size	---- m x ----m x----m
	i.	Overhead tank capacity:			
		Capacity (Liter):		Size:	---- m x ----m x----m

6.	**Details of the seed production farm**							
	a.	Total land Area (ha):				b. Total water area (ha):		
	c.	Possession type:	Own:	Yes/No		d. Years of lease		
			On lease:	Yes/No		e. Others (specify)		
	f.	Rearing space						
		Type		No.	Area (ha)	Size	Water depth (ft)	Months of water-holding
		i.	Broodstock Pond:	1.				
				2.				
				3.				
		ii.	Nursery pond:	1.				
				2.				
				3.				
		iii.	Rearing pond:	1.				
				2.				
				3.				

7.	**Broodfish maintained during the last five year**						
	Sl. No.	Year	Source (Wild collection/ Hatchery/ culture pond)	Male No.	Avg. Wt (kg)	Female No.	Avg. Wt (kg)
	1.		Place:----------				
	2.						
	3.						

	4.						
	5.						

8.	**History of stock replenishment**						
	Sl. No.	Year	Source (Wild collection/ Hatchery/ culture pond)	Male No.	Avg. Wt (kg)	Female No.	Avg. Wt (kg)
	1.		Place:----------				
	2.						
	3.						
	4.						
	5.						

9.	**Own Broodfish raising programme (Year wise for the last five years**						
	Sl. No.	Year	Source (Wild collection/ Hatchery/ culture pond)	Male No.	Avg. Wt (kg)	Female No.	Avg. Wt (kg)
	1.		Place:----------				
	2.						
	3.						
	4.						
	5.						

10.	**Is the Hatchery /Farm located in flood-prone area**	Yes/No
	If Yes, last known flood year in the area	

11.	**Sources of water**				
	Borewell	Reservoir	Irrigation canal	Dugwell	Other

12.	**Sources of energy**				
	No. of pumps & Capacity	Electricity		Diesel Pump/Generator	
		1.		1.	
		2.		2.	
		3.		3.	

	Avg. monthly consumption		

13.	**History of disease outbreak**				
	Year	Disease	Description/ Remark	Cause	Treatment/ Preventive measures adopted

Date: **Signature of the applicant**

Recommendation

Certified that the above information is correct to the best of my knowledge

Date: **Signature**

Designation & seal of the District Fishery Officer

Date: **Signature**

Documents to be enclosed

1. Identity proof of the Owner/Manager/Applicant
2. NFDP registration certificate
3. Land ownership document
4. Ownership/ Lease document of hatchery (minimum 5 years)
5. Lay out of the hatchery/farm
6. Copy of commercial registration, if any
7. Income Tax clearance certificate
8. Registration with Labour Office
9. Proof of financing, if hypothecated to financial Institution
10. Necessary permission to water source, if farm depends on external source
11. Demand draft/Cheque/Fee

Annexure IV-e

Standard Application Format for Accreditation of 'Pabda' Hatcheries/ Seed Farm

1.	**Name and Address of the Hatchery/Seed Farm**			
	C. Name:			
	D. Address of the Hatchery/Seed Farm			
	Village:		Block:	
	Police Station:		Nearest Railway Station:	
	District:		PIN:	
	State:		GPS Coordinate:	As changed above.

2.	**Ownership details (put √ mark)**					
	(i)	Government	Society	Individual	Pvt. Ltd Company	Corporate house
	(ii)	Commercial registration:		Registration No.:		Date:

3.	**Contact details**			
	Name:		Education:	Primary/ +2/ Bachelor/ Master
	Phone No.:		FAX:	
	E-mail:			

4.	**Year of establishment:**	

5.	**Details of the hatchery**					
	a.	Total land area (ha):			b. Total water area (ha):	
	c.	Possession type:	Own:	Yes/No	d. Years of lease	Others (specify)
			On lease:	Yes/No		
	e.	Construction type:		Concrete		
				FRP		
	f.	Production capacity (single run) (million spawn):				
	g.	Details of the breeding/spawning tank				
		(i) Circular tank:	No.:		Diameter & Height:	…… m & ……m

		(ii) Rectangular tank	No.		Size	---- m x ----m x----m

	h.	Details of Incubation tank				
		(i) Circular tank:	No.:		Diameter & Height:	…… m & ……m
		(ii) Rectangular tank	No.		Size	---- m x ----m x----m
	i.	Overhead tank capacity:				
		Capacity:	…….. liter		Size:	---- m x ----m x----m

6.	**Details of the seed production farm**							
	a.	Total land Area:	…… Ha		b. Total water area	…… Ha		
	c.	Possession type:	Own:	Yes/No	d. Years of lease			
			On lease:	Yes/No	e. Others (specify)			
	f.	Rearing space						
		Type		No.	Area (ha)	Size	Water depth (ft)	Months of water-holding
		(i)	Broodstock Pond:	1.				
				2.				
				3.				
		(ii)	Nursery pond:	1.				
				2.				
				3.				
		(iii)	Rearing pond:	1.				
				2.				
				3.				

7.	**Broodfish maintained during the last five year**						
	Sl. No.	Year	Source (Wild collection/ Hatchery/ culture pond)	Male No.	Avg. Wt (kg)	Female No.	Avg. Wt (kg)
	1.		Place:----------				
	2.						
	3.						

	4.						
	5.						

8.	**History of stock replenishment**						
	Sl. No.	Year	Source (Wild collection/ Hatchery/ culture pond)	Male No.	Avg. Wt (kg)	Female No.	Avg. Wt (kg)
	1.		Place:----------				
	2.						
	3.						
	4.						
	5.						

9.	**Own Broodfish raising programme (Year wise for the last five years**						
	Sl. No.	Year	Source (Wild collection/ Hatchery/ culture pond)	Male No.	Avg. Wt (kg)	Female No.	Avg. Wt (kg)
	1.		Place:----------				
	2.						
	3.						
	4.						
	5.						

10.	**Is the Hatchery /Farm located in flood-prone area**	Yes/No
	If Yes, last known flood year in the area	

11.	**Sources of water**				
	Borewell	Reservoir	Irrigation canal	Dugwell	Other

12.	**Sources of energy**				
	No. of pumps & capacity	Electricity		Diesel Pump/Generator	
		1.		1.	
		2.		2.	
		3.		3.	

	Avg. monthly consumption		

13.	**History of disease outbreak**				
	Year	Disease	Description/ Remark	Cause	Treatment/ Preventive measures adopted

Date: **Signature of the applicant**

Recommendation

Certified that the above information is correct to the best of my knowledge

Date: **Signature**

Designation & seal of the District Fishery Officer

Date: **Signature**

Documents to be enclosed

1. Identity proof of the Owner/Manager/Applicant
2. Land ownership document
3. Ownership/ Lease document of hatchery (minimum 5 years)
4. Lay out of the hatchery/farm
5. Copy of commercial registration, if any
6. Income Tax clearance certificate

Annexure IV-f

Standard Application Format for Accreditation of Murrel Hatcheries/ Seed Farm

1.	**Name and Address of the Murrel Hatchery**			
	A . Name:			
	B. Address of the Hatchery			
	Village:		Block:	
	Police Station:		Nearest Railway Station:	
	District:		PIN:	
	State:		GPS Coordinate:	As changed above.

2.	**Ownership details (put √ mark)**					
	i.	Government	Society	Individual	Pvt. Ltd Company	Corporate house
	ii,	Commercial registration:		Registration No.:		Date:

3.	**Contact details of the hatchery Operator/Manager**			
	Name:		Education:	Primary/ +2/ Bachelor/ Master
	Phone No.:		FAX:	
	E-mail:			

4.	**Year of establishment:**	

5.	**Details of the hatchery**					
	a)	Total land area (ha):			b) Total water area (ha):	
	c)	Possession type:	Own:	Yes/No	d) Years of lease	Others (specify)
			On lease:	Yes/No		
	e)	Construction type:		Concrete	Dimension:	
				FRP	Dimension:	
	f)	Production capacity (One cycle) (lakh fry): Average annual seed output (last 2 years) (lakh fry)				
	g)	Details of the broodstock tank/pond				
		Earthen pond	No.		Dimension	

		Concrete tank	No.		Dimension	
	h.	Details of the breeding/spawning tank				
		i. FRP tank:	No.:		Dimension	
		ii. Concrete tank	No.		Dimension	
	i.	Details of Incubation tank				
		i. FRP tank:	No.		Dimension	
		ii. Concrete tank	No.		Dimension	
	j.	Seed rearing tanks				
		i. FRP tank:	No.		Dimension	
		ii. Concrete tank	No.		Dimension	
	k.	Overhead tank capacity:				
		Capacity (liter):			Dimension	---- m x ----m x----m

6.	**Broodfish maintained during the last two years**						
	Sl. No.	Year	Source (Wild collection/ Hatchery/ culture pond)	Male No.	Avg. Wt (kg)	Female No.	Avg. Wt (kg)
	1.		Place:----------				
	2.						

7.	**History of stock replenishment**						
	Sl. No.	Year	Source (Wild collection/ Hatchery/ culture pond)	Male No.	Avg. Wt (kg)	Female No.	Avg. Wt (kg)
	1.		Place:----------				
	2.						

8.	**Own brood raising programme (Year wise for the last two years**						
	Sl. No.	Year	Source (Wild collection/ Hatchery/ culture pond)	Male Nos.	Avg. Wt (kg)	Female Nos.	Avg. Wt (kg)
	1.		Place:----------				
	2.						

9.	**Details of the electricity back up system**	
i.	Generator (No):	Capacity (KVA):
ii.	Inverter battery (No):	Capacity (AMP):

10.	**Details of live food production system**		
i.	Artemia hatching unit	No. of tanks:	Capacity: ……. liter
ii.	Any other live food, specify	No. of tanks:	Capacity: ……. liter

11.	**Details of supplementary feeding**			
i.	Pellet size (mm)	Starter feed	Fry feed	Fingerling
ii.	Protein content (%)			
iii.	Feeding frequency (No)			

12.	**Is the Hatchery /Farm located in flood-prone area**	Yes/No
	If Yes, last known flood year in the area	

13.	**Sources of water**				
	Borewell	Reservoir	Irrigation canal	Dugwell	Other

14.	**Water Pumps**				
	No. of pumps & Capacity	Electricity		Diesel Pump/Generator	
		1.		1.	
		2.		2.	
		3.		3.	
	Avg. monthly consumption				

15. Details of seed production in the last two years			
Year	Fry production in lakh	Selling price per thousand	Do you maintain a sale register? (Yes/No)

16.	History of disease outbreak				
	Year	Disease	Description/ Remark	Cause	Treatment/ Preventive measures adopted

Date: **Signature of the applicant**

Recommendation

Certified that the above information is correct to the best of my knowledge

Date: **Signature**

Designation & seal of the District Fishery Officer

Date: **Signature**

Documents to be enclosed

1. Identity proof of the Owner/Manager/Applicant
2. NFDP registration certificate
3. Land ownership document
4. Ownership/ Lease document of hatchery (minimum 5 years)
5. Lay out of the hatchery/farm
6. Copy of commercial registration, if any
7. Income Tax clearance certificate
8. Registration with Labour Office
9. Proof of financing, if hypothecated to financial Institution
10. Necessary permission to water source, if farm depends on external source
11. Demand draft/Cheque/Fee

Annexure IV-g

Standard Application Format For Accreditation of 'Koi' Hatcheries/ Seed Farm

1.	**Name and Address of the koi (Climbing perch) Hatchery**			
	A. Name:			
	B. Address of the Hatchery			
	Village:		Block:	
	Police Station:		Nearest Railway Station:	
	District:		PIN:	
	State:		GPS Coordinate:	As changed above.

2.	**Ownership details (put √ mark)**					
	i.	Government	Society	Individual	Pvt. Ltd Company	Corporate house
	ii.	Commercial registration:		Registration No.:		Date:

3.	**Contact details of the hatchery Operator/Manager**			
	Name:		Education:	Primary/ +2/ Bachelor/ Master
	Phone No.:		FAX:	
	E-mail:			

4.	**Year of establishment:**	

5.	**Details of the hatchery**					
	a.	Total land area (ha):			b. Total water area (ha):	
	c.	Possession type:	Own:	Yes/No	d. Years of lease	Others (specify)
			On lease:	Yes/No		
	e.	Construction type:		Concrete	Dimension:	
				FRP	Dimension:	
	f.	Production capacity (One cycle) (lakh fry): Average annual seed output (last 2 years) (lakh fry):				
	g.	Details of the broodstock tank/pond				
		Earthen pond	No.		Dimension	

		Concrete tank	No.		Dimension	
	h.	Details of the breeding/spawning tank				
		(i) FRP tank:	No.:		Dimension	
		(ii) Concrete tank	No.		Dimension	

	i.	Details of Incubation tank				
		(i) FRP tank:	No.		Dimension	
		(ii) Concrete tank	No.		Dimension	
	j.	Seed rearing tanks				
		i. FRP tank:	No.		Dimension	
		ii. Concrete tank	No.		Dimension	
	k.	Overhead tank capacity:				
		Capacity (liter):			Dimension	---- m x ----m x----m

6.	**Broodfish maintained during the last two years**						
	Sl. No.	Year	Source (Wild collection/ Hatchery/ culture pond)	Male No.	Avg. Wt (kg)	Female No.	Avg. Wt (kg)
	1.		Place:----------				
	2.						

7.	**History of stock replenishment**						
	Sl. No.	Year	Source (Wild collection/ Hatchery/ culture pond)	Male No.	Avg. Wt (kg)	Female No.	Avg. Wt (kg)
	1.		Place:----------				
	2.						

8.	**Own Brood raising programme (Year wise for the last two years**						
	Sl. No.	Year	Source (Wild collection/ Hatchery/ culture pond)	Male Nos.	Avg. Wt (kg)	Female Nos.	Avg. Wt (kg)
	1.		Place:----------				
	2.						

9.	**Details of the electricity back up system**	
i.	Generator (No):	Capacity (KVA):
ii.	Inverter battery (No):	Capacity (AMP):

10.	**Details of live food production system**		
i.	Live food production Unit	No. of tanks:	Capacity: ……. liter

11.	**Details of supplementary feeding**			
i.	Pellet size (mm)	Starter feed	Fry feed	Fingerling
ii.	Protein content (%)			
iii.	Feeding frequency (No)			

12.	**Is the Hatchery /Farm located in flood-prone area**	Yes/No
	If Yes, last known flood year in the area	

13.	**Sources of water**				
	Borewell	Reservoir	Irrigation canal	Dugwell	Other

14.	**Water Pumps**				
	No. of pumps & Capacity	Electricity		Diesel Pump/Generator	
		1.		1.	
		2.		2.	
	Avg. monthly consumption				

15. Details of seed production in the last two years			
Year	Fry production in lakh	Selling price per thousand	Do you maintain a sale register? (Yes/No)

16.	**History of disease outbreak**				
	Year	Disease	Description/ Remark	Cause	Treatment/ Preventive measures adopted

Date: **Signature of the applicant**

Recommendation

Certified that the above information is correct to the best of my knowledge

Date: **Signature**

Designation & seal of the District Fishery Officer

Date: **Signature**

Documents to be enclosed

1. Identity proof of the Owner/Manager/Applicant
2. NFDP registration certificate
3. Land ownership document
4. Ownership/ Lease document of hatchery (minimum 5 years)
5. Lay out of the hatchery/farm
6. Copy of commercial registration, if any
7. Income Tax clearance certificate
8. Registration with Labour Office
9. Proof of financing, if hypothecated to financial Institution
10. Necessary permission to water source, if farm depends on external source
11. Demand draft/Cheque/Fee

ANNEXURE IV-h

Standard Application Format for Accreditation of Freshwater Prawn (Scampi) Hatchery

1.	**Name and Address of the Scampi Hatchery**			
	A. Name:			
	B. Address of the Hatchery			
	Village:		Block:	
	Police Station:		Nearest Railway Station:	
	District:		PIN:	
	State:		GPS Coordinate:	As changed above.

2.	**Ownership details (put √ mark)**					
	(i)	Government	Society	Individual	Pvt. Ltd Company	Corporate house
	(ii)	Commercial registration:		Registration No.:		Date:

3.	**Contact details of the hatchery operator/manager**			
	Name:		Education:	Primary/ +2/ Bachelor/ Master
	Phone No.:		FAX:	
	E-mail:			

4.	**Year of establishment:**	

5.	**Details of the hatchery**					
	a.	Total land area (ha):			b. Total water area of farm (ha):	
	c.	Possession type:	Own:	Yes/No	d. Years of lease	Others (specify)
			On lease:	Yes/No		
	e.	Construction type (Hatchery Shed):		Concrete	Dimension:	
				FRP/ Asbestos	Dimension:	
	f.	Production capacity (One cycle) (million post larvae): Average Annual Seed Output (Last 2 years) (million post larvae):				

	g.	Details of the breeding/broodstock tank		
		i. FRP tank (No):	Dimension	
		ii. Cemented tank (No)	Dimension	
	h.	Details of Larval Rearing Tank (LRT)		
		i. FRP tank (No):	Dimension	
		ii. Cemented tank(No)	Dimension	
		iii. Concrete tanks (No)	Dimension	
	i.	Details of Post-Larval Rearing Tank (PLRT)		
		i. FRP tank (No)	Dimension	
		ii. Cemented tank/Concrete tanks (No)	Dimension	
	j.	Overhead freshwater tank (No):		
		Capacity (liter):	Dimension	---- m x ----m x----m
	k.	Seawater storage tank (No)		
		Capacity(liter):	Dimension	---- m x ----m x----m
	l.	Larval media storage tank (No):		
		Capacity(liter):	Dimension	---- m x ----m x----m

6.	**Details of filtration system** (Tick mark as follows)		
	i.	Sand filter	Capacity (liter/hour)
	ii.	Biofilter	Capacity (liter/hour)
	iii.	Ozone	Capacity (liter/hour)
	iv.	UV filter	Capacity (liter/hour)
	v.	Any other, specify	Capacity (liter/hour)

7.	**Details of seawater/used larval media disposal system** (Tick mark as follows)		
	i.	Recycling	
	ii.	Disposal in nearby natural water body after treatment/filtration	
	iii.	Disposal in nearby natural water body without treatment/filtration	
	iv.	Disposal in nearby pond/drainage/soil after treatment/filtration	
	v.	Disposal in nearby pond/ drainage/soil without treatment/filtration	
	vi.	Any other, specify	

8.	**Details of aeration system**

	i.	Centralised ring blower aeration system	No. of air blowers:	Capacity (HP)
	ii.	Individual aerators	No. of air blowers:	Capacity (HP)

9.	**Details of the electricity back up system**		
	i.	Generator (No)	Capacity (KVA)
	ii.	Inverter battery (No)	Capacity (AMP)

10.	**Details of live food production system**			
	i.	Artemia hatching unit	No. of tanks (No):	Capacity (liter)
	ii.	Any other live food, specify	No. of tanks (No):	Capacity (liter)
	iii	Supplementary feeding	Food item:	Consumption/day (g)

11.	**Own Brood raising programme (Year wise for the last five years**						
	Sl. No.	Year	Source (Wild collection/ Hatchery/ culture pond)	Male Nos.	Avg. Wt (kg)	Female Nos.	Avg. Wt (kg)
	1.		Place:----------				
	2.						
	3.						
	4.						
	5.						

12.	**Is the Hatchery /Farm located in flood-prone area**	Yes/No
	If Yes, last known flood year in the area	
	Location of hatchery from nearby sea coast (km)	

13.	**i. Sources of fresh water**				
	Borewell	Reservoir	Irrigation canal	Dug well	Other (specify)
	ii. Source of larval media/saline water – Specify the area of collection				
	Seawater	Artificial seawater	Brine from salt pan		Other

14.	**Water Pumps**		
	No. of pumps & Capacity	Electricity	Diesel Pump/Generator

		1.		1.	
		2.		2.	
		3.		3.	
	Avg. monthly consumption				

15.	**History of disease outbreak** Do you have in house facility to screen emerging pathogens? Yes/No				
	Year	Disease	Description/ Remark	Cause	Treatment/ Preventive measures adopted

16. Details of seed production in the last three years			
Year	PL production in million	Selling price per PL	Do you maintain a sale register? (Yes/No)

Date: **Signature of the applicant**

Recommendation

Certified that the above information is correct to the best of my knowledge

Date: **Signature**

Designation & seal of the District Fishery Officer

Date: **Signature**

Documents to be enclosed

1. Identity proof of the Owner/Manager/Applicant
2. NFDP registration certificate

3. Land ownership document
4. Ownership/ Lease document of hatchery (minimum 5 years)
5. Lay out of the hatchery/farm
6. Copy of commercial registration, if any
7. Income Tax clearance certificate
8. Registration with Labour Office
9. Proof of financing, if hypothecated to financial Institution
10. Necessary permission to water source, if farm depends on external source
11. Demand draft/Cheque/Fee

ACRONYMS USED

Acronym	Expansion
CIFA	Central Institute of Freshwater Aquaculture
CO_2	Carbon dioxide
DAHD&F	Department of Animal Husbandry, Dairying & Fisheries
DO	Dissolved Oxygen.
FRP	Fiberglass reinforced plastic
GFHN	Goldfish haematopoietic necrosis
H_2S	Hydrogen sulphide
HDPE	High-density polyethylene
HPV	Hepatopancreatic virus
ICAR	Indian Council of Agricultural Research
IMC	Indian major carps
IPN	Infectious pancreatic necrosis
MBV	Monodon baculovirus
MPEDA	Marine Products Export Development Authority
PCR	Polymerase chain reaction
RCC	Reinforced Cement Concrete
SAU	State Agricultural University
SOP	Standard operating procedures
SVC	Spring viraemia of carps
VER	Viral encephalopathy and retinopathy

DEPARTMENT OF FISHERIES
MINISTRY OF FISHERIES, ANIMAL HUSBANDRY AND DAIRYING
GOVERNMENT OF INDIA