



# Agriculture Mission Mode Project (National e-Governance Plan)



## Service 9 : Providing Information on Fisheries

Department of Agriculture & Cooperation  
Ministry of Agriculture  
Government of India

Software Development Agency  
Agricultural Informatics Division  
National Informatics Centre (NIC)  
Ministry of Communications & Information Technology  
Government of India  
DAC-NIC

## NeGP-A : AMMP

Service – 9

AIMs at

Providing  
Information on  
Fishery Inputs /  
Fisheries  
Management

1. Aim
2. Objectives
3. Implementation Strategy
4. System Characteristics
  - ❖ As-Is
  - ❖ To-Be
5. Stakeholders
6. Deliverables

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Fisheries  
Management  
(Inland &  
Marine)

To develop, test and operationalise Application Software (Apps) and Portlet, for this Service, using ICT Technology :

1. Content Management System (CMS) – Service Portlet development
2. Database Development Applications
  - a. Transaction based (Database Tools)
  - b. Work-flow based (Workflow engine)
3. GIS and Data Analysis (Spatial and Non-Spatial);
4. Alert and Expert Advisory System;
5. Information Service through Delivery Channels (using end-user computing facilities – Mobile Applications etc);

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- ✓ Formulation of System Requirements Specifications (SRS);
- Design of solution components;
- Development of Application Software (Apps) of Service;
- Installation, Integration and Testing of Apps;
- Security Audit, Testing and Certification of Apps.
- Pilot Run, User Acceptance, Testing and Stabilization of Apps;
- Documentation of Apps (Software and Services)
- Handholding and Maintenance Support of Apps;
- Capacity Building (through Training) for Operationalisation of Apps;

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1. Good Fishery Practices for fish farming, efficient use of feed material (i.e. Inputs Management); Technologies for Fish Processing; Good Practices for Fish Marketing etc;
2. Details of Dealer Network (i.e. Fish Seed Growers, Marketing, Processing, Retailers etc);
3. Automation of Fish Seed Growers' Registration;
4. Fish Seed quality control (i.e. Automation of Quality Control Laboratories and its associated Workflow);
5. Details of Fishing Vessels (RealCraft Project – <http://fishcraft.nic.in> – System operational for Sea going vessels by MOA; Automatic Identification by NAIS of Ministry of Shipping)
6. Details on Fishermen Safety Measures & Risk Management System;
7. Details on Fish Diseases (i.e. Fish Disease Reporting System covered under NADRS Project) – Nodal Agency for Fish Disease Surveillance and Monitoring is NBFG, Lucknow;
8. Details on Development Schemes and Management (Linkage to Service-8);
9. Details of Fish Production Statistics (Database and Analytics);

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10. Alert and Advisory System (for Fishery related Issues) - Linkage to INCOIS : <http://incois.gov.in>), Kisan Knowledge Management System (KKMS) of MOA, ICAR Fisheries Science Institutes, State / Central Fisheries Science Universities / Departments and Colleges, Krishi Vigyan Kendras / Fisheries Vigyan Kendras, MPEDA, NFDB, FISH COPFED, NABARD, CIFNET, CICEF, FSI, NIFPHATT, CAA, State / Central Fisheries Marketing Boards, NIFTEM,etc;
11. Public Grievances and Management  
( through SMS, e-Mail, IVRS, Kisan Call Centre, CSCs, Service Portal, e-Post , PIFCs, Farmers Training Centes, Farmers Club, etc)

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#### Service – 9 (1)

- a. Good Fishery **Practices for farming, efficient use of feed material (i.e. Inputs Management);**

#### AS-IS

1. Published Documents (Hard Copy / Digitized) of State Fisheries Department / ICAR Institutions

#### To-Be

1. Content Management System (CMS) through CMS Tools;
2. Information Retrievable and Searchable through Key words;
3. Information Access through SAP and CAP, in local languages;
4. Linkage to Service-3;
5. In addition, Database on Water Bodies & Fish farms (inland);
6. In addition, Database on Water Quality Management System in Water Bodies & Fish Farms (inland).

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### Service – 9 (1)

#### **b. Technologies for Fish Processing;**

##### **AS-IS**

1. Published Documents (Hard Copy / Digitized) of State Fisheries Department / ICAR Institutions / NIPHEE of ICAR/ NIFPHT&T of DADF/ NIFTEM of MoFPI

##### **To-Be**

1. Content Management System (CMS) through CMS Tools;
2. Information Retrievable and Searchable through Key words (Fish Species);
3. Information Access through SAP and CAP, in local languages;
4. Database on Fish Processors (Machineries) and its details – Workflow automation if available through Subsidy (Farm Machineries subsidy) - Linkage to Service-3;
5. Database on species wise products through processing and its Workflow (if possible, look at NAIP documents of ICAR);
6. Details of AGMARK Laboratories and Food Testing Laboratories (both Government and Approved) for Processed Food Testing, for Quality Control Certification –
7. Workflow Automation for processed Food sample testing in Laboratories – Linkage to Service – 1 & 2 wherein Automation of Workflow for samples of Pesticides , Seeds, Fertiliser Testing in Laboratories is considered).

# 4. Systems Characteristics

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### Service – 9 (1)

#### c. Good Practices for Fish Marketing etc;

#### AS-IS

1. Published Documents on Packaging and Transportation (Hard Copy / Digitized) of State Fisheries Department / State Commercial Department - VAT & GST Details/ NFDB/ FISHCOPPED
2. Details of Cold Chain Warehouses;
3. Details of Wholesale and Retail Dealer Networks;
4. AGMARKNET Nodes wherein Fish Auction and Transaction takes place;
5. Details of Fish Landing Centres (Marine / Inland);
6. Details of Rural Fish Market Centres;
7. Details of Fish Marketing Trade Unions.

#### To-Be

1. Content Management System (CMS) through CMS Tools;
2. Information Retrievable and Searchable through Key words (Dealers, Fish Species);
3. Information Access through SAP and CAP, AGMARKNET Portal in local languages;
4. Networking of Fish Landing Centres and linking to AGMARKNET Portal (FISH MARKNET Portal) – Recommendation of National workshop on FISHNET in January 2009; Proposal submitted to DADF; Linkage with Service-5;
5. Database on species wise Market price details and also Processed Food Prices (MRP as printed in the Label);
6. Database on exporters, importers, traders, buyers, sellers (linkage with service 6, service 7);
7. Linkage with NFDB(National Fisheries Development Board) **Supply-Chain network and also NIFTEM** (National Institute of Food Technology Entrepreneurship and Management) **Knowledge repository on Marketing**;
8. Networking with Fish Cooperative Marketing Societies.

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### Service – 9 (2)

Details of Dealer Network (i.e. Fish Seed Growers, Marketing, Processing, Retailers, wholesalers);

#### AS-IS

1. Published Documents (Hard Copy / Digitized) of State Fisheries Department, NFDB, FISHCOPPED etc
2. No appreciable computerised system available.

#### To-Be

1. CMS on Published Documents, retrievable through Keywords, and also information access in regional languages;
2. Database on Fish Seed Growers, Dealers in Marketing, Processing, Wholesaling and Retailing, on accepted parameters;
3. Database on Fishing vessel Manufacturing (Linkage to <http://fishcraft.nic.in>), and its Repairing Units;
4. Database on Repairing Units for Ornamental Fish show-cases;
9. Database on Fish Marketing, Processing, Cooperative Societies (Linkage to FISHCOPPED database);
10. Automation & Workflow System for Licensing of Fishing, Angling, and Selling feeds;
11. Automation & Workflow System for Transit permit for fish, shell or meat or both;
12. Database on Buyers/Sellers
13. e-Trade
14. Automation of Cess Collection;

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### Service – 9 (3)

### Automation of Fish Seed Growers' Registration

#### AS-IS

1. Manual process – paper based
- 2.
- 3.

#### To-Be

1. Automation & Workflow System for Registration of Fish Seed Growers, which will result in a Database on Fish Seed Growers on accepted parameters;
2. Database on stock position of Fish Seed Growers, through submission of stock position through Mobile Applications or prescribed proforma;
  1. Inventory stock details of fish seeds in Farms, Hatcheries and Water bodies;
  2. Workflow System and MIS on distribution of fish seeds to Beneficiaries;
  3. Database on Farms, Hatcheries and Water Bodies.
  4. Spatial and Non-Spatial Data Analysis (GIS and Data Analytics) for Decision Support;
  5. Linkage to online insurance claim

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### Service – 9 (4)

**Fish Seed quality control** (i.e. Automation of Quality Control Laboratories and its associated Workflow);

#### AS-IS

1. Manual process – paper based

#### To-Be

1. Workflow based System for tracking the results of Quality Control and Testing Laboratories. This will have mobile based applications for transmitting information about collection of samples from a particular location (Farm, hatchery, Water Body etc), automation of Laboratories facilitating testing, and results publication on Service-9 Portlet;
2. Automation of issuance of QUALITY ACCREDITATION CERTIFICATE like QCA to Fish Farms, Hatcheries and Water Bodies;
3. Linkage to Service-1 wherein Automation and Workflow of Seed, Pesticide and Fertiliser Quality Control / Testing Laboratories is considered
4. **Database on bench marks for accreditation (water supply & quality, infrastructure facilities, assessment of broodstock, record maintenance etc ) - category wise, species wise**
5. Linkage to **central state pollution board**; <http://cpcb.nic.in/>

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### Service – 9 (5)

**Details of Fishing Vessels** (RealCraft Project – <http://fishcraft.nic.in> – System operational for Sea going vessels by MOA)

#### AS-IS

1. Database System on Fishing Vessels (Sea-Going), and Issue of Registration certificates and Licensing in Coastal States (9 States and 4 UTs) are operational;
2. NAIS (**National Automatic identification System**) of Ministry of Shipping , to track small fishing vessels up to 50 K.M. from the Coast, with customised transponders which will be helpful during search and rescue operations, is launched as a pilot project for about 1000 vessels in Maharashtra and Gujarat coast;

#### To-Be

1. Database System on Fishing Vessels (Inland), and Issue of Registration Certificates and Licensing, in the similar lines for sea-going fishing vessels;
2. Networking of Registration Offices with ICT Infrastructure and Internet Connectivity;

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### Service – 9 (6)

### Details on Fishermen Safety Measures & Risk Management System;

#### AS-IS

1. Published Documents (Hard Copy / Digitized) of State Fisheries Department, NFDB, FISHCOPFED etc
2. No appreciable computerised system available.
- 3.

#### To-Be

- CMS on Published Documents like rules and regulations for design, construction and equipment of fishing vessels in the small-scale fisheries sector), posters, videos and pictures related to safety to fishermen and safety at sea, retrievable through Keywords, and also information access in regional languages, list of fishermen violating the maritime boundary.
1. Creation of website for safety for fishermen training, education or awareness raising.
  2. Online insurance claims
  5. MIS for weather forecast e-alerts, meteorology & Tsunami warnings (Linkage to INCOIS : <http://incois.gov.in>),
  6. MIS for Issuing boarding pass to the crew members for monitoring the vessel and crew movements

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### Service – 9 (7)

### Details on Fish Diseases Surveillance and Monitoring

#### AS-IS

1. **Nodal Agency** for Fish Disease Surveillance and Monitoring is NBFGR (ICAR), Lucknow;
2. **Fish Disease Reporting System** to be covered under NADRS Project (<http://nadrs.gov.in>) – Phase-II;

#### To-Be

1. **Workflow and MIS** for Fish Disease Reporting from Identified Locations (Bottom-up);
2. **ICT enabled Information System** on Fish Disease Surveillance and Monitoring (bottom-up);
3. **Disease Intelligence System** using GIS and data Analytics Tools (top-down);
4. **Disease Alert and Advisory System** using GIS and Data Analytics Tools (Top-Down);
5. **Database** on fish genus, species, disease , pathogen for each disease
6. **Database** on Water Quality of Water Bodies, on the prescribed parameters;

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### Service – 9 (8)

### Details on Development Schemes and Management

#### AS-IS

1. No appreciable Computerised System On Schemes Monitoring and Management;
- 2.
- 3.

#### To-Be

1. **Linkage to Service-8 of AMMP;**
- 2.
- 3.

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### Service – 9 (9)

### Details of Fish Production Statistics (Database and Analytics)

#### AS-IS

1. Published Documents (Hard Copy / Digitized) of State Fisheries Department, NFDB, FISHCOPFED etc
2. No appreciable computerised system available.

#### To-Be

1. CMS on Published Documents, retrievable through Keywords, and also information access in regional languages;
2. Linkage with fish landing centers for collecting market information details,
3. Database on waterbodies, Fish Processing Centres,, fish landing centres , fish harbours
4. Database on fishermen (Linkage with fisherman biometric system )
5. MIS for fish production(marine, inland)
6. MIS for export / import – **linkage with service6 , DGFT (Director General of Foreign Trade) , MPEDA**

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### Service – 9 (10)

Alert and Advisory System (for Fishery related Issues)

#### AS-IS

1. **Linkage to INCOIS** : <http://incois.gov.in>) for Marine Fishermen;
2. **Kisan Knowledge Management System** (KKMS) of MOA
- 3.
- 4.

#### To-Be

1. Work flow system (subject based )

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### Service – 9 (11)

#### Public Grievances and Management

(through SMS, e-Mail, IVRS, Kisan Call Centre, CSCs, Service Portal, e-Post , PIFCs, Farmers Training Centes, Farmers Club, etc)

#### AS-IS

1. No appreciatable Computerised System available
2. Manual process – paper based
- 3.

#### To-Be

1. Portal with Work flow system (subject based)

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#### A. National Level

##### 1. Ministry of Agriculture

- Department of Animal Husbandry, Dairying and Fisheries and its Offices related to Fisheries Management
- ICAR and Its Institutes related to Fisheries Science Research, and Extension (KVKs)
- Department of Agriculture & Cooperation
  - DMI
  - Cooperation Division

##### 2. Ministry of Panchayat Raj & Rural Development

##### 3. Ministry of Communications and Information Technology

- Department of Electronics & Information Technology
  - National Informatics Centre
  - NKN
  - National e-Governance Programme – CSCs, SWAN and Data Centres
- Department of Posts - ePost
- Department of Telecommunications
  - BSNL
  - MTNL
  - PII

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#### A. National Level (Contd..)

4. Ministry of Earth Sciences
  - IMD – Agro-meteorology Service
  - INCOIS
5. Ministry of Food Processing Industries
  - NIFTEM
6. Ministry of Shipping & Transport
  - Directorate General of Shipping
  - Directorate General of Lighthouses and Light Ships
7. Ministry of Commerce
  - MPEDA , DGFT (Director General of Foreign Trade)
8. Planning Commission
  - Fisheries Division
  - UIDAI - AADHAAR
9. Ministry of Finance
  - NABARD
  - Central Bureau of Customs, Excise & Goods Services Tax
  - Department of Financial Resources – Risk Management Institutions (NIC, GIC, OIC, NIAC etc)
10. Ministry of Defence
  - Navy
  - Coast Guards
11. Ministry of Home Affairs
  - Registrar General of Citizen Registration – National Population Register
  - Fisherman Coastal Security Wing
12. Ministry of Health and Family Welfare
  - Food Safety and Standards Authority of India (<http://fssai.gov.in>)

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#### B. State Level

1. State Fisheries Departments and its related Management organisations
  - State level Fish Farmers Development Agencies (FFDAs)
  - Society for Assistance to Fisherwomen (SAF)
  - State Cooperative Federation for Fisheries Development Ltd (e.g. MATSYAFED in Kerala)
  - State Fishermen's Welfare Board
  - State Agency for Development of Aquaculture
  - State Fisheries Resources Management Society / Agency (e.g. FIRMA in Kerala)
  - State Coastal Area Development Corporation / Agency Ltd
  - Society for Cold Water Fisheries (e.g. In H.P)
  - Trout Growers Associations and Angling Associations (e.g. in H.P.)
  - Reservoir Fishermen Cooperative Societies
  - Fish Marketing Cooperative Societies
2. State Agricultural / Fisheries Sciences / Veterinary and Animal sciences Universities, and Fisheries Colleges.

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#### B. State Level (Cont'd)

3. Marine Enforcement Organisation
4. Department of Ports and Harbour Engineering
- 5.
- 6.
- 7.

#### C. Non-Governmental Organisations

1. M. S. Swaminathan Research Foundation, Chennai
2. Self Help Groups (SHGs)
3. Farmers /Fishermen club
4. Traders Associations
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

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**The following deliverables will be envisaged during the life cycle of the project:**

- Detailed SRS Document
- Detailed Technical Requirements Specifications Document
- Systems Design Document (SDD)
- Software Test Plan Document
- Software Acceptance Plan Document
- Project Reviews and Progress Reporting
- Manuals (Operations, User, System Administration)
- Training Plan
- Software on CD with Manuals
- Warranty Support for Six months
- Change Management Documents

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### Service – 9

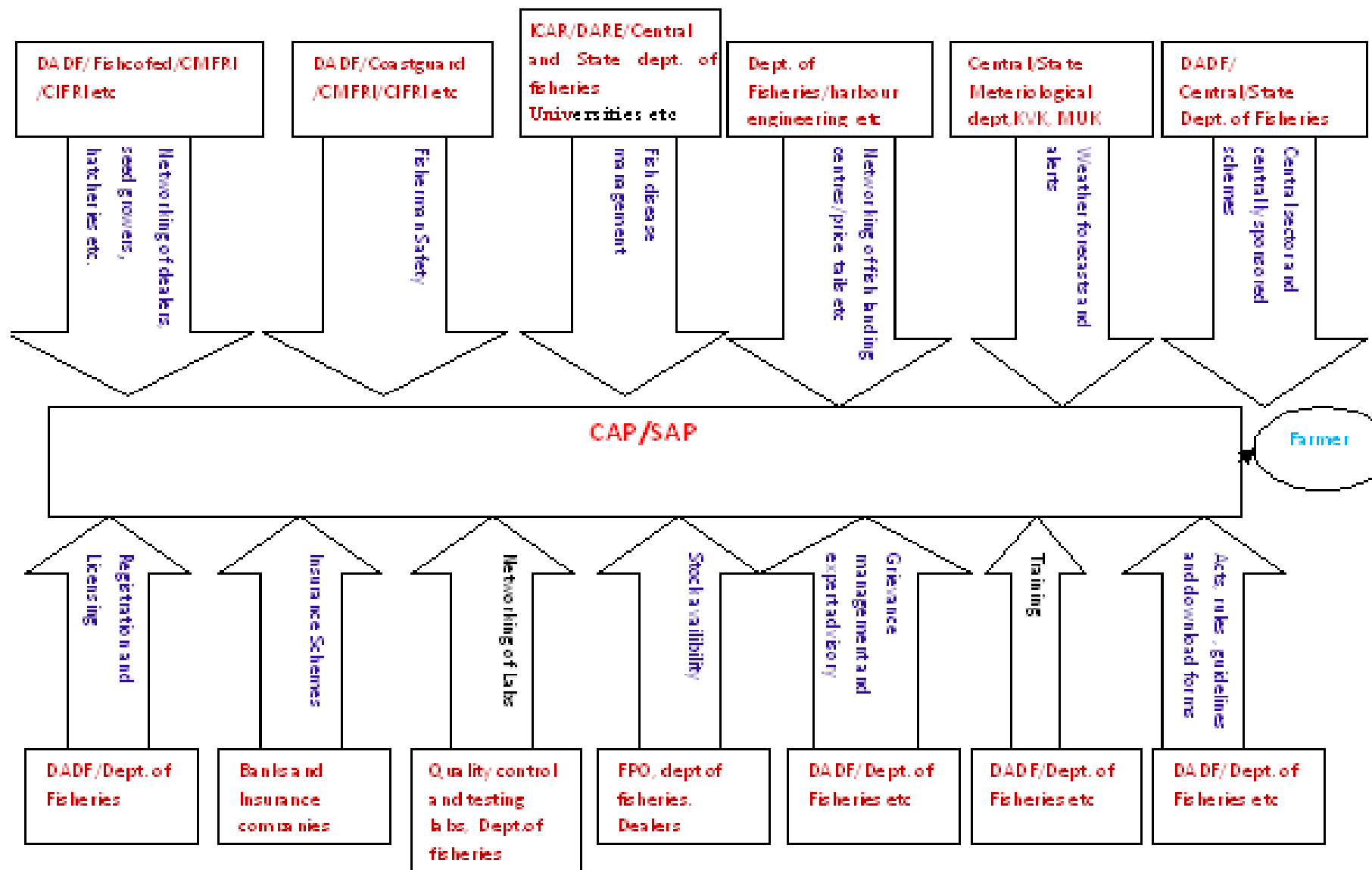
#### AIMs at

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on Fishery Inputs /  
Fisheries Management  
(Inland & Marine)

- 1.
- 2.
- 3.

### Questions & Answers

# Questions & Answers



**A. SRS Document available at <http://dacnet.nic.in/AMMP/service-09-SRS.doc>**

**B. Presentation slides at <http://ammp.dacnet.nic.in/service-09.pptx>**

## **Service Project Team :-**

### **A. Central Team**

- 1. Smt. Pratibha Lokhande, Technical Director & national Project Coordinator (NeGP-AMMP)**
- 2. Shri Naveen Kumar, Technical Director (Cluster Coordinator)**
- 3. Shri Sajjad Akhtar, Principal Systems Analyst**
- 4. Smt. Shweta Malhotra, Systems Analyst (Service Coordinator)**

### **B. State Level team**

- 1. Smt. M. Kasthuri , Technical Director, NIC, Thiruvananthapuram**
- 2. Shri M. Mahabala Shetty, Senior Technical Director, NIC, Bangaluru**
- 3. Smt. Lakshmi Prasanna, Principal Systems Analyst, NIC, Mumbai**
- 4. Smt. Gauri Honrao, Technical Director, NIC, Pune**
- 5. Shri A.N.Siddiqui, Technical Director, NIC, Bhopal**
- 6. Shri Loukesh Kumar, Technical Director, NIC, Ranchi**
- 7. Shri Sandeep Kumar, Technical Director, NIC, Shimla**
- 8. Shri Raj Sekhar, Senior Technical Director, NIC, Hyderabad**

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# Thank You



## 1. Department of Animal Husbandry, Dairying and Fisheries, New Delhi

1. Good Fishery Practices for fish farming, efficient use of feed material (i.e. Inputs Management); Technologies for Fish Processing; Good Practices for Fish Marketing etc;
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## 2.Assam

1. Good Fishery Practices for fish farming, efficient use of feed material (i.e. Inputs Management); Technologies for Fish Processing; Good Practices for Fish Marketing etc;
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## 3.Himachal Pradesh

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## 4. Madhya Pradesh

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## 5. Jharkand

1. Good Fishery Practices for fish farming, efficient use of feed material (i.e. Inputs Management); Technologies for Fish Processing; Good Practices for Fish Marketing etc;
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## 6. Maharashtra

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5. Details on Development Schemes and Management (Linkage to Service-8);
6. Details of Fish Production Statistics (Database and Analytics);

## 7. Karnataka

1. **Good Fishery Practices for fish farming, efficient use of feed material (i.e. Inputs Management); Technologies for Fish Processing; Good Practices for Fish Marketing etc;**

Under this component in addition to the information already provided the following aspects may also be included.

Information on Ornamental fish culture

Information on ornamental fish marketing, aquarium fabrication etc

Information on ornamental fish growers, exporters, ornamental fish shops (aquarium inputs)

How to do? Designs (construction of fish culture ponds / site election) preparation etc

2. **Details of Dealer Network (i.e. Fish Seed Growers, Marketing, Processing, Retailers);**

Ornamental fish seed growers

Aquarium shops

Ornamental fish exporters

Fishermen Co-operatives

3. **Automation of Fish Seed Growers' Registration & license;**

**Automation of fish seed growers Registration.** The work flow may be designed as per the existing Departmental organization structure (Enclosed Annexure-1).

In Karnataka apart from issue of license for fishing, water bodies are also disposed for fishery rights by lease or Tender cum auction to Fisheries Co-operative Societies, Individuals, Associations etc. as per the existing leasing policy in the State.

Automation of this process work flow have been taken up by NIC, Bangalore and is developing the software for this work. The same may be integrated with this system.

## 7. Karnataka

### **4. Fish Seed quality control (i.e. Automation of Quality Control Laboratories and its associated Workflow);**

Fish seed quality certification is still not enforced in the State. Once the fish seed growers registration is completed, this module can be used in the State. Modifications / requirements of the State cannot be spelled out at this stage

### **5. Details of Fishing Vessels (RealCraft Project –<http://fishcraft.nic.in> – System operational for Sea going vessels by MOA; Automatic Identification by NAIS of Ministry of Shipping)**

Realcraft software for registering the marine fishery vessels is in use in our State. Other contents seem to be appropriate and may be deigned in accordance with the workflow structure existing in the State as per Departmental Organization Structure

- 1. Details on Fishermen Safety Measures & Risk Management System;**
- 2. Details on Fish Diseases (i.e. Fish Disease Reporting System covered under NADRS Project) – Nodal Agency for Fish Disease Surveillance and Monitoring is NBFGR, Lucknow;**
- 3. Details on Development Schemes and Management (Linkage to Service-8);**
- 4. Details of Fish Production Statistics (Database and Analytics);**

## 8. Kerala

1. Good Fishery Practices for fish farming, efficient use of feed material (i.e. Inputs Management); Technologies for Fish Processing; Good Practices for Fish Marketing etc; (give link to slides 37-49) .
2. Details of Dealer Network (i.e. Fish Seed Growers, Marketing, Processing, Retailers);
3. Automation of Fish Seed Growers' Registration & License ; (50-67)
4. Fish Seed quality control (i.e. Automation of Quality Control Laboratories and its associated Workflow);
5. Details of Fishing Vessels (RealCraft Project –<http://fishcraft.nic.in> – System operational for Sea going vessels by MOA; Automatic Identification by NAIS of Ministry of Shipping)
6. Details on Fishermen Safety Measures & Risk Management System;
7. Details on Fish Diseases (i.e. Fish Disease Reporting System covered under NADRS Project) – Nodal Agency for Fish Disease Surveillance and Monitoring is NBFGR, Lucknow;
8. Details on Development Schemes and Management (Linkage to Service-8);
9. Details of Fish Production Statistics (Database and Analytics);

***Proposed system***

9(1). Good Fishery Practices **for fish farming**, efficient use of feed material (i.e. Inputs Management); Technologies for Fish Processing; Good Practices for Fish Marketing etc;

1. Good Fishery Practices **for fish farming**, efficient use of feed material (i.e. Inputs Management); Technologies for Fish Processing; Good Practices for Fish Marketing etc;

## **Best practices**

- Technology for better yield - Production
- Technology for handling harvesting, post harvesting & processing,
- Technology used for fishing operation
- About disease & treatment
- Fish culturing techniques and Hazard Analysis at critical control points
- Aquaculture pollution control
- Hygiene on fishing vessel, crews, its equipments
- Vessel architecture, Bio technology (tissue culture, gene transplantation)
- Hatcheries/ farms management ( nutrient, weed, soil,)
- Information on Regulatory Acts, Rules , Guidelines
- Incentives for aquaculture
- \_Seed certification procedure , How to maintain quality control

1. Good Fishery Practices **for fish farming**, efficient use of feed material (i.e. Inputs Management); Technologies for Fish Processing; Good Practices for Fish Marketing etc;

## **Best practices**

### *Hatcheries & nurseries management*

#### *1. needs – How to do ?*

- *Brood stocking?*
- *Produce seeds?*
- *Seed rearing?*
- *Packing of seeds for distributing to farmers?*
- *What type of training ? How to do?*

1. Good Fishery Practices **for fish farming**, efficient use of feed material (i.e. Inputs Management); Technologies for Fish Processing; Good Practices for Fish Marketing etc;  
*Farm management - Farmer needs*  
*How to do ?*
  - *Site selection, Prepare pond (water bodies ) for fish farming*
  - *Seed stocking (after receiving from hatcheries and before release into the water bodies)*
  - *Feed fingerlings, fishes*
  - *Water treatment , disease treatment*
  - *Harvesting , post harvesting*
  - *Marketing ->How, where , when*
  - *Local case study (Kombuthurai', the fishing association, best hygienic process and getting the highest price for their catch)*
  - *List out schemes (central, state) to boost inland / marine fish production ,*
  - *List of registered hatcheries*

1. Good Fishery Practices for fish farming, efficient use of feed material (i.e. Inputs Management); Technologies for Fish Processing; Good Practices for Fish Marketing etc;

## ***What are the cognisable offences in cold fisheries - fish farming***

Removal of sand pebbles and stones from streams, rivulets and river beds, especially from the water courses, which are used as breeding grounds by the fishes shall be considered as cognisable offence.

Destructive fishing practices or use of dynamite/poison for the purpose of fishing the streams/lakes shall be considered as cognisable offence.

Encroachment of cold-water wetlands in any form shall be treated as cognisable offence.

- (4) Unauthorized construction of any form, permanent or temporary, of weirs, dams and bunds, and killing of fish by diversion of natural waters shall be treated as cognisable offence.
- (5) Pollution of stream, rivulet or river water from factory effluents shall be treated as cognisable offence.
- (6) Fishing or killing or sale of target fish species during the closed seasons shall be treated as cognisable offence.
- (7) Catching or sale of target fish species below the prescribed size or weight shall be treated as a cognisable offence.

1. **Good Fishery Practices for fish farming**, efficient use of feed material (i.e. Inputs Management); Technologies for Fish Processing; Good Practices for Fish Marketing etc;

➤ ***List of banned medicines, Antibiotics & other pharmacologically Active Substances,***

1. Chloramphenicol

2. Nitrofurans including Furazolidone, Nitrofurazone, Furaltadone, Nitrofurantoin, Furfuryluramide, Nituratel, Nifursoxime, Nifurprazine and all their derivatives.

3. Neomycin , 4. Nalidixic Acid , 5. Sulphamethoxazole

6. Aristolochia spp and preparations thereof 7. Chloroform 8. Chlorpromazine

9. Colchicine , 10. Dapsone , 11. Dimetridazole , 12. Metronidazole , 13. Ronidazole ,

14. Ipronidazole , 15. Other nitroimidazoles , 16. Clenbuterol , 17. Diethylstilbestrol (DES)

18. Sulfonamide (except approved sulfadimethoxine, sulfabromomethazine and sulfaethoxyrphydazine) , 19. Fluoroquinolones , 20. Glycopeptides.

1. Good Fishery Practices for fish farming, **efficient use of feed material** (i.e. Inputs Management); Technologies for Fish Processing; Good Practices for Fish Marketing etc;
  - *procedure for feed quality control & certification*
  - *what type of chemicals, antibiotics used*
  - *how to maintain feeds hygienically (free from insects, bacteria, pathogens, rodents, moisture etc..)*
  - *List of fish feed dealers species wise, price details and its availability*
  - *Bench mark for ensuring quality control during accreditation / registration of seed production units*

1. Good Fishery Practices for fish farming, efficient use of feed material (i.e. Inputs Management); Technologies for Fish Processing; Good Practices for Fish Marketing etc;
  - Procedure for obtaining registration & License certificate
  - procedure for obtaining certificate for exporting products (linkage with service 6)
  - What type of chemicals, antibiotics used for treatment ?
  - How to maintain the products hygienically (free from insects , bacteria , pathogens, rodents , moisture etc ..)
  - How to keep the environment free from pollution during processing
  - How to solve the environmental, human health issues
  - List of schemes(central/state) with guidelines , financial benefit/ incentives
  - Pre and Post harvest handling and processing procedures for the
  - production of safe and high quality fresh fisheries products
  - Fish processing machinery (linkage with service 3)
  - List of firm wise species wise products and its price details, availability

1. Good Fishery Practices for fish farming, efficient use of feed material (i.e. Inputs Management); Technologies for Fish Processing; Good Practices for Fish Marketing etc;

- Good Manufacturing Practice (GMP) , Good Hygiene Practice (GHP)
- Sanitation Standard Operating Procedure (SSOP )
- clear procedure if something does go wrong, which is followed by the units
- List out technical training programs , schedule , to whom approach
- Update mechanism for harvesting time of each water resources like farms, ponds, hatcheries etc..
- Mechanism for disposal of waste materials from the processing units
- Grievance redressal system

1. Good Fishery Practices for fish farming, efficient use of feed material (i.e. Inputs Management); Technologies for Fish Processing; Good Practices for Fish Marketing etc;

## For domestic marketing

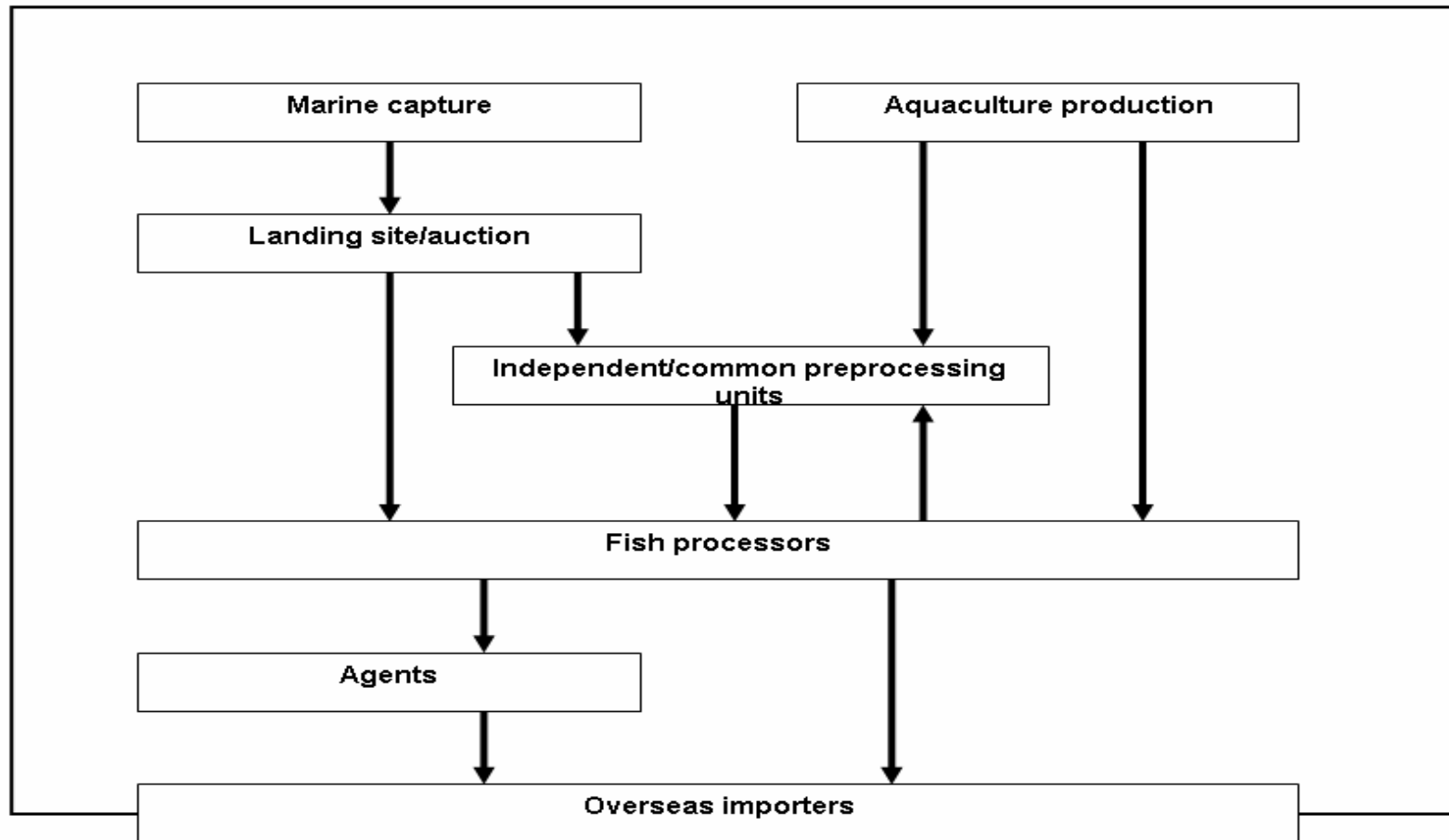
- How to ensure hygienic handling, transportation and storage of fish and fish products for domestic marketing
- Species wise market wise price, arrival details
- List of regulated fish markets(linkage with service 5- (<http://agmarknet.nic.in>)
- Promoting trade – list of buyers, sellers
- List of exporters species wise, firm wise
- List of imported products species wise

1. Good Fishery Practices for fish farming, efficient use of feed material (i.e. Inputs Management); Technologies for Fish Processing; Good Practices for Fish Marketing etc;

## *Supply chain for marketing*

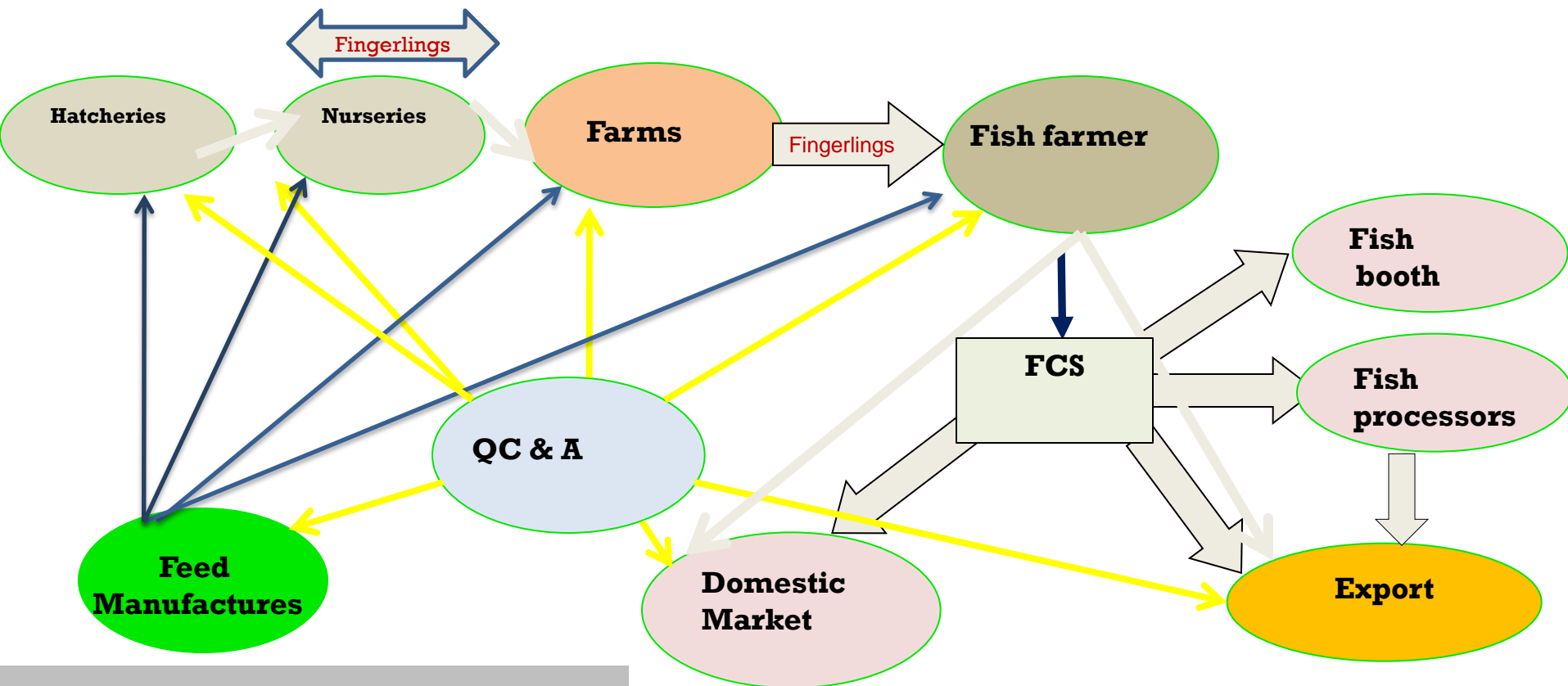
- Raw materials originate from either marine capture or aquaculture production.
- In the former case, the fish are landed at registered sites by individual registered fishing boats (<http://fishcraft.nic.in>).
- The products of aquaculture are purchased directly from farmers and/or produced under contract to fish preprocessing or processing facilities.
- At registered landing sites, fish is auctioned through agents who act on behalf of fishing boats. Landings sites are generally publicly owned and managed by port trusts or town/city authorities.
- These agents are paid on commission. The landed catch generally consists of mixed species, and agents sort it into fish for the local and domestic markets and by species.

## Supply chain for marketing



Domestic marketing, export etc

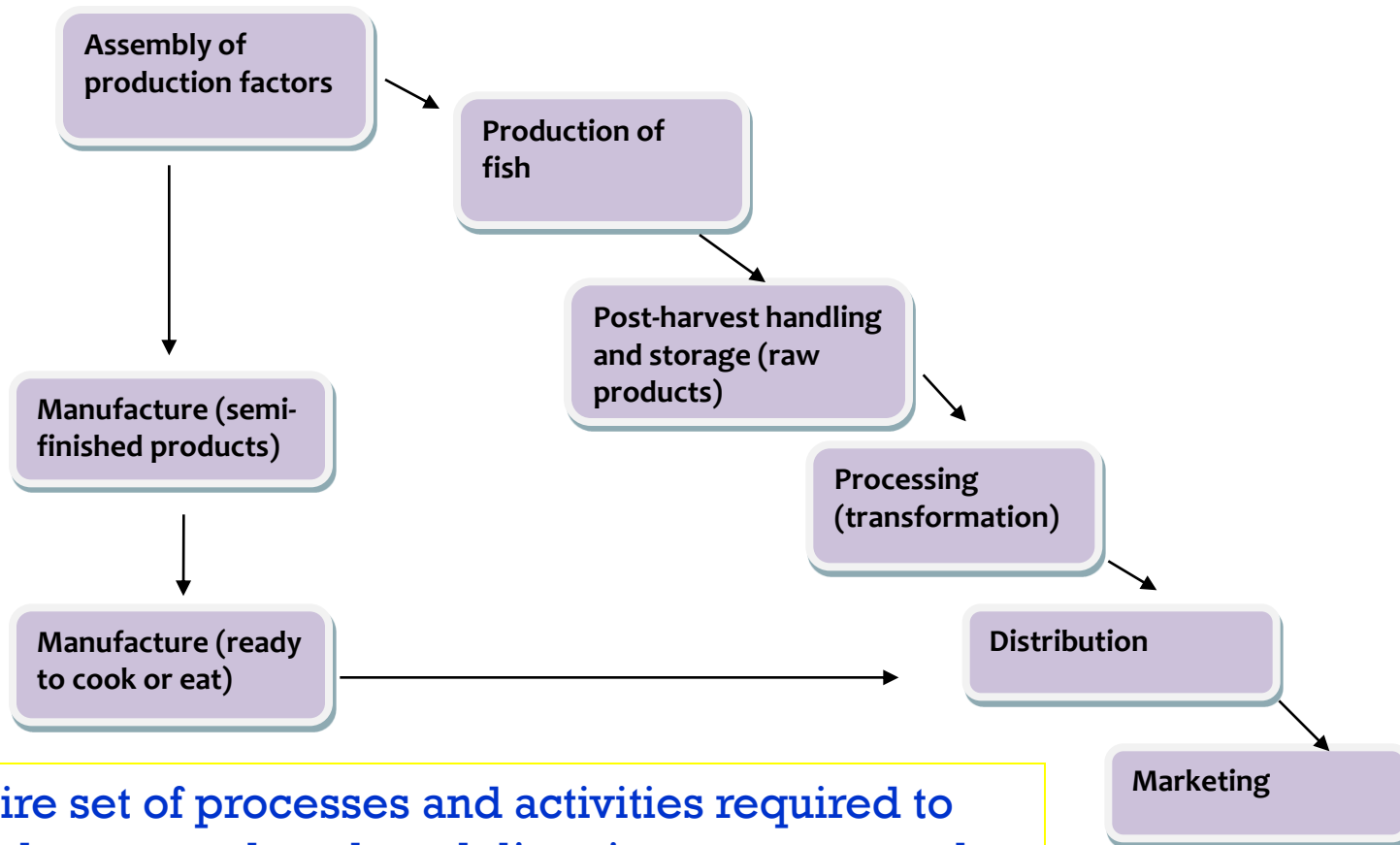
## Value added supply chain management



A supply chain is a network of interdependent organizations used to produce and deliver a product to its final consumer.

*Leads to Business Process Integration*

## Fish processors supply chain



Entire set of processes and activities required to produce a product then deliver it to a target market is considered as supply chain.

## Inland Water Resources of Kerala 2010-11

| Type of water resources      | No.s  | Area (Ha) |
|------------------------------|-------|-----------|
| Rivers                       | 44    | 85000     |
| <b>Reservoirs</b>            | 53    | 44289     |
| Ponds/tanks                  | 47216 | 27625     |
| <b>Brackish water area</b>   |       | 65213     |
| <b>Prawn filtered fields</b> | 234   | 12873     |

Kerala fisheries at a ststistics **2010-11**

## 2. Information Retrievable and Searchable through Key words;

**e-governance** application for common's man interface

<http://164.100.128.53>

## 1. Information Retrievable and Searchable through Key words;

e-governance application for common's man interface

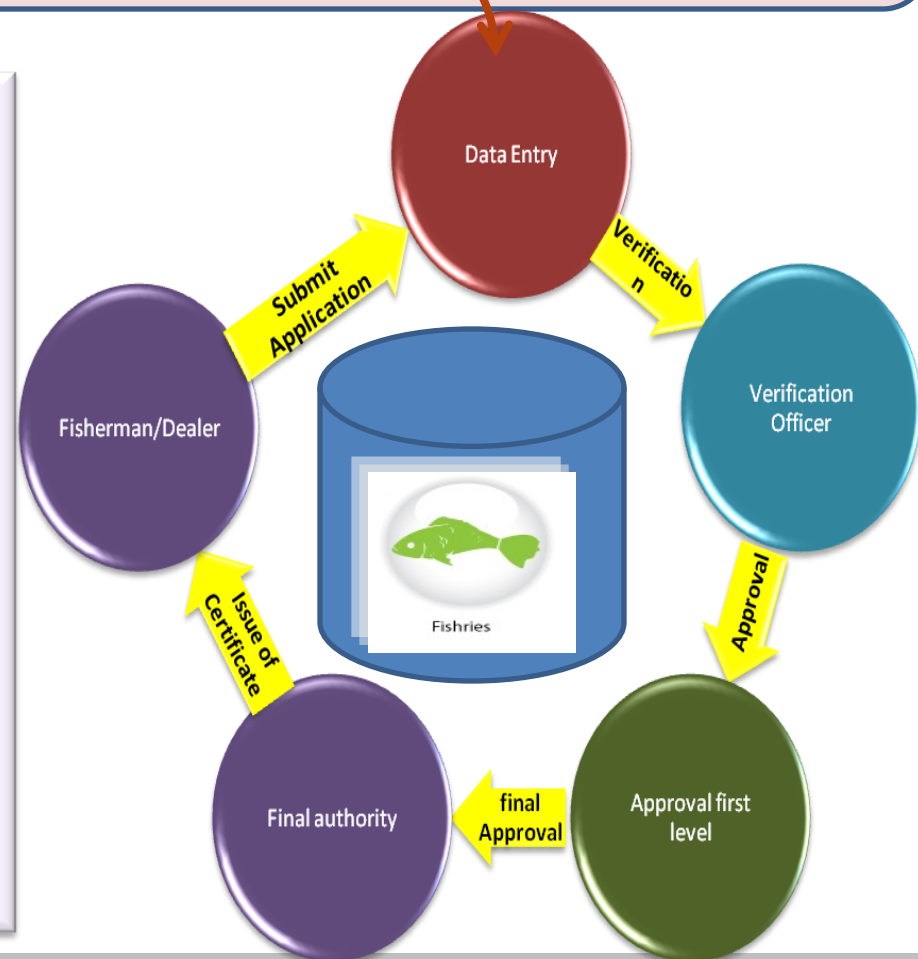
<http://164.100.128.53>

- 9(2). Automation of Registration , License  
for  
Fish Seed Growers, processing units, vessel manufacturing units etc
- 9(3). Details of Dealer Network (i.e. Fish Seed Growers, Marketing,  
processing, Retailers);

Automation can be done by creating master data base for all type of dealers (networking of dealers) & developing a WORK FLOW based system for issuing certificates to dealers like – fresh registration & License , renewal of RC/LC , cancellation of RC/LC , & Duplicate RC/LC , change of ownership etc...

The work flow described above is typical of the normal procedures followed in each states. However, it is customizable so that each state can modify the work flow to merge the offices as per the procedure followed by that state.

The workflow is a template feature. It will be provided in the software and can be customized for each state by the System Administrator for that state.



## 1. Registration and License

The application procedure is simplified after careful evaluation of all the process.

The steps of the To-Be process for Registration are;

- Applicant visits the portal or fisheries stations to fill the application. In case of renewal, he will get a SMS and mail remainder about the expiry of license.
- He fills the form and pays the fees
- The details are captured and records are updated.
- The entered data will be moved to the next level whomever may be assigned for this role in the process cycle by SA as electronically.
- The same will reach the final authority who will issue the certificate.

The system will send status to the applicant at each level and if physical verification needed, message will be sent to the applicant

## 1. Registration and License

### for License

- User has to select the option from the menu. If the option is **new**,
  - user has to enter his profile
  - if he has previous registration details, can be entered.
  - System will do validation. (ration card, land survey no etc with respective DB),
  - user has to enter the date of application, Validity of period will be calculated by the system (fetch the data from master table) and display the system calculated fee.
- If for **renewal** , user has to enter the Registration. No, after validation ,  
System will display all the entered details pertaining to the REG.No,
- If for **cancellation, suspension**
  - The entry will be done by the authorized officer not data entry oofficer
  - After entering the period , date from, System will freeze that record for further processing,

## 1. Registration and License

### License

- If for renewal
  - User has to enter the Reg. No, after validation, system will display the related information and ask the user to enter the fee details.

If system calculated penalty fee and applicant remitted fee is not matching , system will not allow the user to proceed further.
  - He has the provision to upload the essential documents, scanned application form for electronic movements of application .
  - If e-payment , gateway will be triggered

*Do the following by the System Administrator to make a standard work flow based system to meet all the state specific requirements*

**1. Identify the units / dealers**

**Fish seed growers (farms, hatcheries etc) ,  
Processing units , Vessel manufacturing units ,  
Vessel repairing units , exporting units etc**

**2. Identify the services**

**Registration , License, permit**

**3. Identify the certificates for each service  
type of unit wise**

**(Registration & License for marine fisheries  
has already been covered  
Under ReALCRAFT national project  
<http://www.fishcraft.nic.in>)**

**Registration**

**Registration of Fishing Vessels and Free nets**

**Registration of Hatcheries**

**Registration of Aquaculture Land**

**Registration of Filtration Field**

**Registration of Fixed Gear**

**License**

**LICENSE FIXED FISHING GEAR , FISHING LICENSE**

**LICENSING FILTRATION FIELD, AQUACULTURE, HATCHERY**

**Permit**

**Transit Permit for fish, shell or meat or both**

**Permit to enter or reside in sanctuaries**

**Permit to transfer sale for the fixes gear/aquaculture units in  
public waters**

Contd..

|   |  |
|---|--|
| 4. Identify the valid agency for issuing certificate  | Registration – STATE/UT FISERIES DEPT<br>MPEDA for marine product processing unit<br>License –<br>Permit - |
| 5. Assign the data entry officer, verification officer and the approval officer in each office for each service | Registration - Dept . officers<br>License “”<br>permit “”  |
| 6. Certificate issuing authority at each location for each certificate for each service                         | Registration - Dept . officers<br>License “”<br>permit   |
| 7. Assign the location or office where the certificate will be issued   | District/ zone/ Directoare - sttae/UT Fisheries Dept   |
| 8. service wise validity period for certificates issued to dealers  |  |
| 9. Terms and conditions for each certificates   |  |
| 10. header / footer for each certificate service wise   |  |

## 11. Service wise fee details

| <b>Inland fisheries - Registration Fee for Fishing vessel</b>   |        |
|---|--------|
| Fishing vessel having an over all length up to Five meter   | 100.00 |
| Fishing vessel having an over all length of Five meter or above   | 150.00 |
| <b>Registration fee for Free Fishing Net</b>  |        |
| Changala pachil, Sluice net, Ayiram choonda, Peru vala, Varian Vala, Komban vala, Kodi vala   | 100.00 |
| Gill net (Neettu vala), Drag net (Koru vala), Kandalivala, Korattu vala, Kola vala, Kuzhiya vala  | 50.00  |
| Adichil, Kadu vala, Moovala, Veesu vala, Njandu vala, Hand scoop net, Fish trap, Vadi Choonda, Eri Choonda, Chattuli, Bow & Arrow, fishing pots, Kooda and all other fishing contrivances | 25.00  |
| <b>Registration fee for Fixed Fishing Gear</b>  |        |
| Stake Net – One No.   | 250.00 |
| Net   | 500.00 |
| Sluice Net  | 500.00 |
| Other fixed Fishing gear  | 500.00 |
|   |        |
|   |        |
|   |        |

## 11. Service wise fee details

### Inland Registration fee for Filtration field

|  |         |
|--|---------|
| Prawn filtration field less than 100 ha.                               | 200.00  |
| Prawn filtration field have an area of 100 and above but below 200 ha. | 400.00  |
| Prawn filtration field have an area between 200 & 500 ha               | 700.00  |
| Season kettu(Chemmeen kettu) per ha..                                  | 25.00   |
| Prawn filtration field have more than 500 ha                           | 1000.00 |

### Registration fee for Aquaculture land

| Item                                     | Brackish water aquaculture                 | Fresh water aquaculture                    |
|--|--|--|
| Fish farming                             | Rs. 100/ hectare                           | Rs. 25/hectare                             |
| Ornamental fish farming                  | Below One Acre-                            | Below One Acre-                            |
| Cage culture of fish                     | Rs.250/-                                   | Rs.250/-                                   |
| Rack, Raft, Long line culture of mollusk | Farms of One Acre and above – Rs.1000/acre | Farms of One Acre and above – Rs.1000/acre |
|  | Rs. 10/Cu. M                               | Rs. 10/Cu. M                               |
|  | Rs. 1/Sq. M                                | Rs. 1/Sq. M                                |

## Registration Fee for a Hatchery

| Sl. No. |   | brackish water<br>(In Rs.)                                   | fresh water<br>(In Rs.)                                      |
|---------|---|--|--|
| 1.      | Fish hatchery up to 0.2 ha. water spread area               | 200.00   | 200.00   |
| 2.      |   | Rs. 100 for each for additional 0.2 ha or its reminder       | Rs. 100 for each for additional 0.2 ha or its reminder       |
| 3.      | Fish hatchery of 0.2 ha. water spread area above            | 500.00   | 250  |
| 4.      |   | Rs. 750 for each for additional 5 million PL or its reminder | Rs. 350 for each for additional 5 million PL or its reminder |
| 5.      | Prawn hatchery of production capacity up to 5 million PL    | 150  | 150  |
| 6.      | Prawn hatchery of production capacity of above 5 million PL | Rs. 250 for each for additional 0.1 ha or its reminder       | Rs. 250 for each for additional 0.1 ha or its reminder       |
|         | Ornamental Fish hatchery up to 0.1 ha. water spread area    |  |  |
|         | Ornamental Fish hatchery of above 0.1 ha. water spread area |  |  |

### Fee for transfer of registration

| Sl. No. | Particulars   | Fees   |
|---------|---|--------|
| 1       | transfer of vessel registration                         | 50.00  |
| 2       | transfer of Free fishing net registration               | 25.00  |
| 3       | Transfer of prawn filtration field registration         | 250.00 |
| 4       | Transfer of fresh water aquaculture registration        | 100.00 |
| 5       | Transfer of brackish water aquaculture registration     | 100.00 |
| 6       | Transfer of hatcheries registration                     | 250.00 |
| 7       | Transfer of site/registration for Stake Net, Sluice Net | 250.00 |
| 8       | Transfer of site/registration for China Net             | 250.00 |
| 10      | Transfer of site/registration for Other fixed Engines   | 150.00 |

## License fee for Fishing

| Sl. No | Item            | Amount |
|--------|-----------------|--------|
| 1.     | Fishing license | Rs. 25 |

## License fees for fixed fishing gear

| Category | Type of the fixed engine | Average annual Earnings           | Permit fees (In Rs.) |
|----------|--------------------------|-----------------------------------|----------------------|
| I        | Net                      | Moke gear                         | 300.00               |
|          |                          | More than Rs. 20,000/-            | 150.00               |
|          |                          | Between Rs 10000/- and Rs.20000/- | 100.00               |
|          |                          | Less than Rs. 10000/-             | 50.00                |
| II       | Stake net                | More than Rs. 20,000/-            | 250.00               |
|          |                          | Between Rs 10000/- and Rs.20000/- | 150.00               |
|          |                          | Less than Rs. 10000/-             | 50.00                |
| III      | Sluice net               | More than Rs. 20,000/-            | 250.00               |
|          |                          | Between Rs 10000/- and Rs.20000/- | 100.00               |
|          |                          | Less than Rs. 10000/-             | 50.00                |
| IV       | Other nets               | More than Rs. 10,000/-            | 250.00               |
|          |                          | Between Rs 5000/- and Rs10000/-   | 100.00               |
|          |                          | Less than Rs. 5000/-              | 50.00                |

## License fee for filtration field

| Sl. No | Item   | Registration fees (In Rs.) |
|--------|--|----------------------------|
| 1.     | Prawn filtration field less than 100 ha.                               | 200.00                     |
| 2.     | Prawn filtration field have an area of 100 and above but below 200 ha. | 500.00                     |
| 3      | Prawn filtration field have an area between 200 & 500 ha.              | 750.00                     |
| 4      | Prawn filtration field have more than 500 ha.                          | 1000.00                    |
|        | Season kettu (Chemmeen kettu) per ha.                                  |                            |

## Fee for enter or reside in a fish sanctuary

| Sl. No | Item             | Amount                           |
|--------|------------------|----------------------------------|
| 1      | Permit for enter | Rs. 10/-<br>Entry/reside per day |

## License fee for aquaculture

| Sl. No | Item                                     | Brackish water aquaculture | Fresh water aquaculture |
|--------|--|----------------------------|-------------------------|
| 1.     | Fish farming in public water             | Rs. 150/ hectare           | Rs. 50/hectare          |
| 2.     | Fish farming in private water            | Rs. 100/ hectare           | Rs. 50/hectare          |
| 3.     | Ornamental fish farming                  | 100/ acre                  | 100/ acre               |
| 4.     | Cage culture of fish                     | Rs. 10/Cu. M               | Rs. 10/Cu. M            |
| 5.     | Rack, Raft, Long line culture of mollusk | Rs. 1/Sq. M                | Rs. 1/Sq. M             |

## License fee hatchery

| Sl. No. | Items   | brackish water<br>(In Rs.)                                   | fresh water<br>(In Rs.)                                      |
|---------|---|--|--|
| 1.      | Fish hatchery up to 0.2 ha. water spread                    | 200.00   | 200.00   |
| 2.      | area  | Rs. 100 for each for additional 0.2 ha or its reminder       | Rs. 100 for each for additional 0.2 ha or its reminder       |
| 3.      | Fish hatchery of 0.2 ha. water spread                       |  |  |
| 4.      | area above  | 250.00   | 250  |
| 5.      | Prawn hatchery of production capacity up to 5 million PL    | Rs. 350 for each for additional 5 million PL or its reminder | Rs. 350 for each for additional 5 million PL or its reminder |
| 6.      | Prawn hatchery of production capacity of above 5 million PL | 100  | 100  |
|         | Ornamental Fish hatchery up to 0.1 ha. water spread area    | Rs. 100 for each for additional 0.1 ha or its reminder       | Rs. 100 for each for additional 0.1 ha or its reminder       |
|         | Ornamental Fish hatchery of above 0.1 ha. water spread area |  |  |


|                          |   |           |
|--------------------------|---|-----------|
| <b>A. Registration R</b> |   |           |
|                          | Registration of Fishing Vessels and Free nets                                 | VF        |
|                          | Registration of Hatcheries  | HA        |
|                          | Registration of Aquaculture Land  | AL        |
|                          | Registration of Filtration Field  | FF        |
|                          | Registration of Fixed Gear  | FG        |
| <b>A. STATEMENT</b>      |   |           |
|                          | Filing of Return  | FR        |
|                          | Statement regarding disposal of seized fish/shell in public auction           |           |
| <b>A. License L</b>      |   |           |
|                          | LICENSE FIXED FISHING GEAR  | <u>FG</u> |
|                          | FISHING LICENSE   | <u>FL</u> |
|                          | LICENSING FILTRATION FIELD  | <u>FF</u> |
|                          | LICENSING AQUACULTURE   | <u>AC</u> |
|                          | LICENSING HATCHERY  | <u>HA</u> |
| <b>D. PERMIT P</b>       |   |           |
|                          | Transit Permit for fish, shell or meat or both                                | <u>TP</u> |
|                          | Permit to enter or reside in sanctuaries                                      | <u>RS</u> |
|                          | Permit to transfer sale for the fixes gear/aquaculture units in public waters | <u>TS</u> |

## Proposed RC

**Registration No : state code+type of Registration +ser.no+year**  
**KL-FV-0099-2012**

| < Header><br>Hologram>                        |   |
|---|---|
| <Barcode>                                     |   |
| Registration Number : _____                   | Date of Registration : _____  |
| State Code: _____                             | Validity Period : DD/MM/YYYY  |
| Type of Registration: _____                   |   |
| Year: _____                                   |   |
| 1. _____<br>2. _____                          | Name Of the Applicant<br>Address Details  |
| State :                                       | <div style="border: 1px solid black; padding: 5px; text-align: center;"> <b>&lt;IMAGE&gt; Of the Applicant</b> </div> |
| District                                      |   |
| Block:  |   |
| Panchayat:                                    |   |
| Pin code:                                     |   |
| Address Details:                              |   |
| 3. Type of fixed gear used                    |   |
| 4. Unit details : (if RC is for water bodies) |   |
| Location                                      |   |
| State:  | District :  |
| Block :                                       | Panchayat:  |
| Village:                                      | Taluka:   |
| Survey No /Sub Survey No:                     |   |
| Total land area (ha)                          | Total water area (ha) :   |
| Capacity:                                     |   |
| Owned/ leased/hired:                          |   |
| Fish species:                                 |   |
| PLACE : _____                                 |   |
| Signature: _____                              | Seal of Department  |
| Footer  |   |

## Proposed LC

|  |                            |                                  |   |
|--|----------------------------|----------------------------------|---|
| <Header>                                 |                            | < Hologram>                      |   |
| <Barcode>                                |                            |                                  |   |
| LICENSE NO :                             |                            | DATE OF LICENSE :dd/mm/yyyy      | VALIDITY UP TO :dd/mm/yyyy  |
| REGISTRATION NUBER :__                   |                            | DATE OF REGISTARTION :dd/mm/yyyy | VALIDITY UP TO :dd/mm/yyyy  |
| STATECODE:                               |                            |                                  |   |
| TYPE OF REGISTRATION:                    |                            |                                  |   |
| YEAR:                                    |                            |                                  |   |
| 1.                                       | NAME OF THE APPLICANT      |                                  |    |
| 2.                                       | ADDRESS DETAILS            |                                  |   |
|  | STATE :                    |                                  |   |
|  | DISTRICT                   |                                  |   |
|  | BLOCK                      |                                  |   |
|  | PANCHAYAT                  |                                  |   |
|  | PIN CODE                   |                                  |   |
|  | ADDRESS DETAILS            |                                  |   |
| 3.                                       | PURPOSE OF ISSUING LICENSE |                                  | <b>License No : state code+type of license +ser.no+year</b><br><b>KL-FG-0099-2012</b> |
| 4.                                       | DETAILS                    |                                  |   |
| <b>PLACE:___</b><br><b>Signature:___</b> |                            |                                  |   |
|  |                            | Seal of Department               |   |
| <Footer>                                 |                            |                                  |   |

## Proposed permit

| <HEADER>   |          | <HOLOGRAM>  |                     |
|--|----------|---|---------------------|
|  |          | <BARCODE>   |                     |
| PERMITE NO :   |          | DATE OF PERMIT:   | VALIDITY UP TO:     |
| 1. NAME OF THE APPLICANT<br>2. ADDRESS DETAILS<br>STATE :<br><br>DISTRICT:<br><br>BLOCK:<br><br>PANCHAYAT:<br><br>PINCODE:<br><br>ADDRESS DETAILS:<br><br>3. PURPOSE OF ISSUING PERMIT:<br><br>4. PERMIT FOR WHAT:<br><br>5. <u>UNIT/SANCTUARY DETAILS IF:</u> |          | <div style="border: 1px solid black; padding: 10px; text-align: center;">             &lt;IMAGE OF<br/>THE<br/>APPLICANT&gt;           </div> |                     |
| <b>PERMITTED LOCATION DETAILS:</b>   |          |   |                     |
| STATE  |          | DISTRICT :  |                     |
| BLOCK  |          | PANCHAYAT:  |                     |
| VILLAGE  |          | TALUKA:   |                     |
| <u>IF UNIT :</u>   |          | ___SURVEY No /Sub Survey No   |                     |
| Name of the water body :   |          |   |                     |
| Total land area (ha)   | Capacity | Total water Area (ha)   |                     |
| <br>   |          |   |                     |
| <u>If transit permit</u>   |          |   |                     |
| Name of the vessel :   |          | Registration Number :   | Registration Date : |
| <br>   |          |   |                     |
| PLACE<br>SIGNATURE   |          | Permit No : state code+type of permit +ser.no+year<br><b>KL-TP-0099-2012</b>  |                     |
| <FOOTER>   |          | SEAL OF DEPARTMENT  |                     |

## Proposed Lab test report

|                                |          |                         |          |
|--------------------------------|----------|-------------------------|----------|
| <b>&lt;Image&gt;</b>           |          |                         |          |
| <b>&lt;Header&gt;</b>          |          |                         |          |
| <b>File No:</b> _____          |          | <b>Date:</b> /___/_____ |          |
| Field Office                   | <Values> |                         |          |
| Sample Id                      | <Values> |                         |          |
| Date of Collection             | <Values> | Type                    | <Values> |
| Date of Receipt                | <Values> | Name of the Species     | <Values> |
| Date of Completion of Analysis | <Values> | Test Name               | <Values> |

### TEST SPECIFICATIONS

| S.NO | Parameter | Result   | Test Method | Limit of Detection | MRL      | Conformity |
|------|-----------|----------|-------------|--------------------|----------|------------|
| 1    | <Values>  | <Values> | <Values>    | <Values>           | <Values> | <Values>   |
| 2    |           |          |             |                    |          |            |
| N    |           |          |             |                    |          |            |

|                             |  |  |
|-----------------------------|--|--|
| <b>TESTED BY</b>            |  |  |
| <b>CHECKED BY</b>           |  |  |
| <b>AUTHORISED SIGNATORY</b> |  |  |

**<Footer>**

## Proposed LC

| Header  |   |   |                    |
|---|---|---|--------------------|
|   |   | HOLOGRAM  |                    |
| REGISTRATION NUBER : <b>STATECODE/NO/YEAR</b> |   | DATE OF REGISTARTION<br>VALIDITY PERIOD : <b>DD/MM/YYYY</b>   |                    |
| 2.  | 1. NAME OF THE APPLICANT<br>ADDRESS DETAILS                           | <div style="border: 1px solid black; padding: 5px; text-align: center;"> <b>IMAGE OF THE APPLICANT</b> </div> |                    |
|   | STATE<br>DISTRICT<br>BLOCK<br>PANCHAYAT<br>PINCODE<br>ADDRESS DETAILS |   |                    |
| 3.  | NAME OF THE PRODUCT :   |   |                    |
| 4.  | BRAND NAME  | TRADE NAME  | CHEMICAL NAME      |
|   | COMPOITION  |   |                    |
|   | -----   | -----   | -----              |
| 5.  | CONDITIONS IF ANY :   |   |                    |
| PLACE :                                       |   |   |                    |
|   |   |   | Signature          |
|   |   |   | Seal of Department |
| Footer 1                                      |   |   |                    |
| IT SUPPORT BY NIC                             |   |   |                    |

**Dealer Id 10 characters.**

|                        |                   |                       |                   |
|------------------------|-------------------|-----------------------|-------------------|
| Type of<br>service (1) | State code<br>(2) | Type of inputs<br>(3) | Serial no.<br>(4) |
|------------------------|-------------------|-----------------------|-------------------|

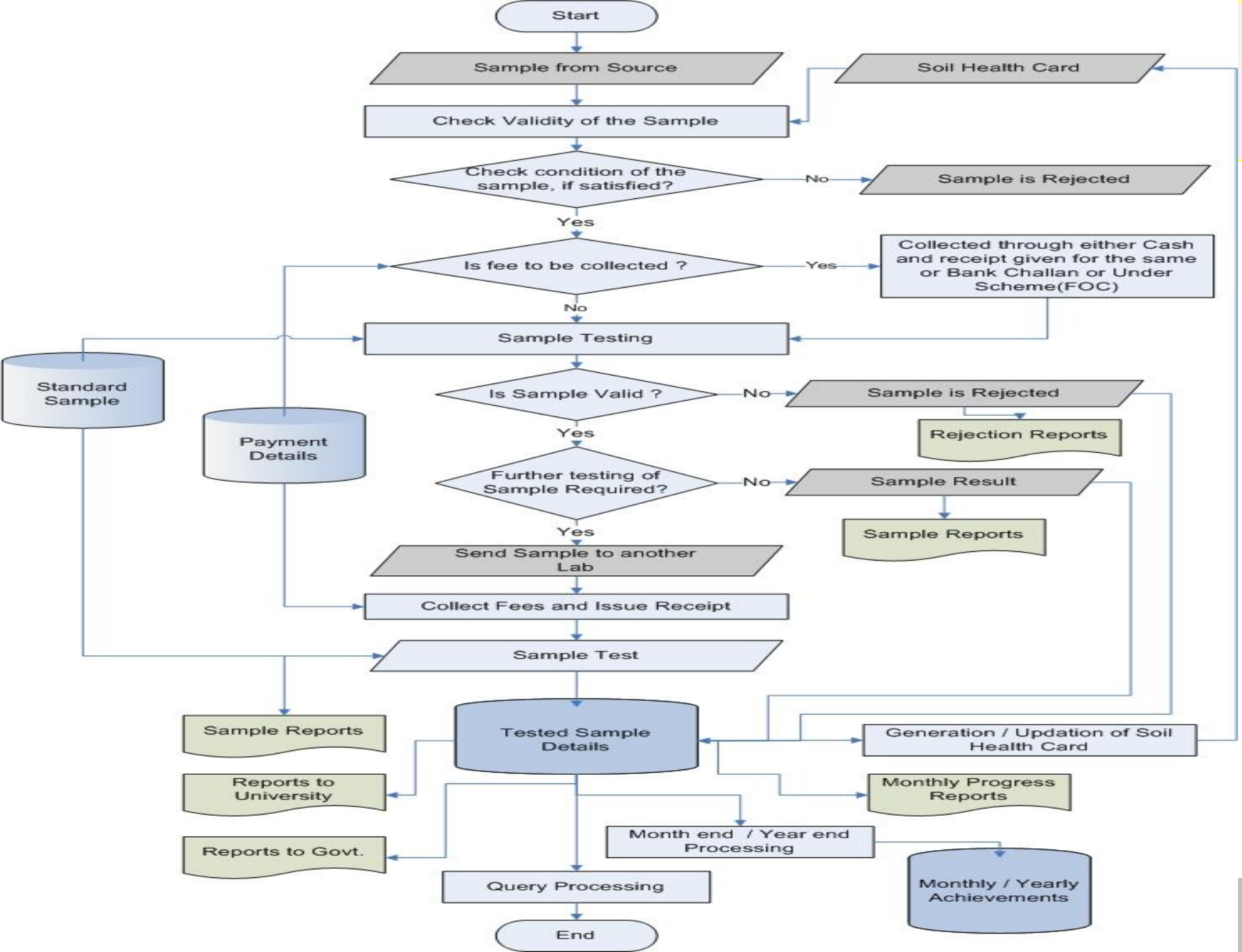
**LC format No. is KL-LW9999- 2012**

**Statecode (2) +L+type of service(1)+ serial number(4)+year(4)**

**9(4). Fish Seed quality control  
(Automation of Quality Control Laboratories and its  
associated Workflow);**

## *sample collections for general purpose / disease reporting/ issuing QCA*

- User will fill the details of the input in the form provided and submits or on line . System will provide e-token for further processing.
- The concerned officer will visit the user's premises to draw sample and seals the packet with the reference number.
- He then send the sample to lab. The officer in lab will update as received sample in the register with the reference number.
- If the purpose is disease reporting, fishery colleges / expert advisory unit will do recommendation and inform about the threat, crisis, how to cure/treatment details and create awareness.
- After testing, reports are updated in the portal.
- User will receive the mail / SMS about the report.
- Testing parameters will be populated by the system (state specific), result can be updated against each parameter. Fee will be calculated by the system.
- If Disease is declared and relief fund is released by central government
- Fish disease report is also send to OIE(International fish disease organization



## Collection of samples & publish the Test results

### Testing Steps:

- Sample Inward
  - Sample types can be defined as:
    - ✓ For issuing QC&A
    - ✓ For testing occurrence of any disease
    - ✓ Water Sample
- Payment
- Inward Entry
- Inward Number Generation
- Entering of sample details and numbering a sample

## Collection of samples & publish the Test results

- Sample Rejection
- Entry of readings of analysis tests
- Filling test readings on reading sheet
- Entering test readings in the system
- Result preparation
- Result processing
- Display results
- Locking of readings record
- Recommendations

## Bench marks for issuing QCA

- Name of the species
- Major bench mark
- Sub major bench mark items
- Sub major bench mark item requirement1
- Sub major bench mark item requirement2
- Check point (whether satisfied or not)
- Remarks

## QC&amp;A

## 1. Testing samples

## • Test Specification details

| Sl. No | Parameter                    | Result (Pg/kg) | Test method          | Limit of detection (pg/kg) | MBL If specified (pg/kg) | Conformity   |
|--------|------------------------------|----------------|----------------------|----------------------------|--------------------------|--------------|
| 1      | Chloramphenicol              | 0.68           | LC MASS SPECTROMETRY | 0.25                       | 0.3(MRPL)                | POSITIVE     |
| 2      | Nitrofuron Metabolite - SEM  | N.D            | LC MASS SPECTROMETRY | 0.5                        | 1.0(MRPL)                | WITHIN LIMIT |
| 3      | Nitrofuron Metabolite - AOZ  | 211.45         | LC MASS SPECTROMETRY | 0.5                        | 1.0(MRPL)                | POSITIVE     |
| 4      | Nitrofuron Metabolite - AMOZ | N.D            | LC MASS SPECTROMETRY | 0.5                        | 1.0(MRPL)                | WITHIN LIMIT |
| 5      | Nitrofuron Metabolite - AHD  | N.D            | LC MASS SPECTROMETRY | 0.5                        | 1.0(MRPL)                | WITHIN LIMIT |

## Bench mark - QCA for species ...

### 4.1 BENCHMARK FOR CATFISH<sup>1</sup> SEED PRODUCTION UNITS

#### A. Water Supply and Quality

For 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 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:

| Water                          | Requirement   |
|--------------------------------|---|
| <b>1. Water Supply</b>         | <b>Adequate and from a regular and dependable source</b>  |
| <b>2. Type of Water Source</b> | <p>Direct ground water (<i>to be collected in open pond before pumping</i>)</p> <p>Open water body such as rivers/streams/ lakes, etc (<i>to be allowed only if found to be free from any kind of pollution</i>)</p>  |
| <b>3. Water quality</b>        | <p>Free from algal blooms</p> <p>Conforming to the parameters given in Annexure III<br/>(<i>Test Report generated through standard test procedures need to be enclosed</i>)</p> <p>Free from pesticide and heavy metal contamination (<i>Analysis report is mandatory</i>).</p> <p>Free from pathogens (<i>Negative report for pathogens listed in Annexure IV is necessary. Test report generated through standard test procedures needs to be enclosed</i>)</p> |

### Bench mark - QCA for species ... contd..

#### B. Infrastructure facilities for hatchery and seed raising ponds

| 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- one<br>5HP diesel (stand by) | 3HP electric- one<br>5HP diesel (stand by) |
| Number of Air blowers   | 2  | 2  |
| Number of Incubation pool with flow-through facility (Plastic tubs, 1 ft dia) | 24   | 24   |
| Number of Larval rearing tanks (Ferro cement/FRP)                             | 15<br>(1.5 m dia)                          | 20 – 25<br>(1.5 m dia)                     |
| Number of Brood fish pond   | 2 (0.02 ha each)                           | 2 (0.02 ha each)                           |
| Number of Working shed  | 1 (15 m x 7 m)                             | 1 (20 m x 10 m)                            |
| Land requirement (Area)   | 0.5 acre                                   | 0.5 acre                                   |
| Number of Technicians (optional)  | 1  | 1-2  |

## **Bench mark - QCA for species ...contd..**

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

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

**Bench mark - QCA for species ...contd..**
**D. Assessment of Broodstock**

|  |  |
|--|--|
| General health (Assessed through visual examination) | <ol style="list-style-type: none"> <li>1. Healthy with clear smooth skin without fin loss or any wounds on barbel.</li> <li>2. Actively moving</li> </ol>  |
| Size   | 100-150 g  |
| Stocking density in broodstock tanks                 | 2-3/m <sup>2</sup>   |
| Disease screening for brood stock                    | <ol style="list-style-type: none"> <li>1. No external signs of infection</li> <li>2. Negative test Report of the test for pathogens listed in Annexure IV. (Test report needs to be enclosed)</li> </ol> |

**Bench mark - QCA for species ...contd..****E. Gross examination of catfish<sup>2</sup> seed**

|                                |  |
|--------------------------------|--|
| Size                           | 15-20 mm   |
| Colour                         | Black/pink body without any white patches on the body.   |
| Swimming motion                | Actively swimming  |
| Food Acceptability             | Ready acceptability of natural/artificial diet.  |
| Gut status                     | Full gut   |
| Body feature                   | Smooth and slimy skin, barbells intact and no wounds in fins   |
| Screening of seed for diseases | <ol style="list-style-type: none"> <li>1. No external sign of infection/parasite</li> <li>2. Negative test report for the pathogens listed in Annexure IV, conducted as per the standard test procedures . (Test report needs to be enclosed)</li> </ol> |

**Bench mark - QCA for species ...contd..****F. Operations and Record Maintenance of the Hatchery /Seed Farm**

1. The assessments that are 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 unit is compliant to 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 replacement of broodstock done from time to time
  - b. Breeding programme and production levels at spawn, fry and fingerling levels

## **Bench mark - QCA for species ...contd..**

- 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

**9(5). Details of Fishing Vessels (RealCraft Project –<http://fishcraft.nic.in> – System operational for Sea going vessels by MOA; Automatic Identification by NAIS of Ministry of Shipping)**

**ReALCRAFT** <http://fishcraft.nic.in/>

## A Project to strengthen Coastal Security in India – National Database on Fishing Vessels

- Initiated in the State of Kerala - Operational
- Rolled out in all Coastal States (9) and UTs (4) by 31<sup>st</sup> Jan 2011
- Stakeholders - Navy, Coast Guards, Marine Police, fisheries Authorities, etc
- Legal issues - Marine Shipping Act 1988 modified
- Venturing Fishermen to get Boarding Pass

It is a web enabled workflow based online application system for issuing Registration Under MS Act and License Certificate under MFR Act to fishing vessels operating along the Indian coast.

**The same system can be customized for inland fishing vessel registration**

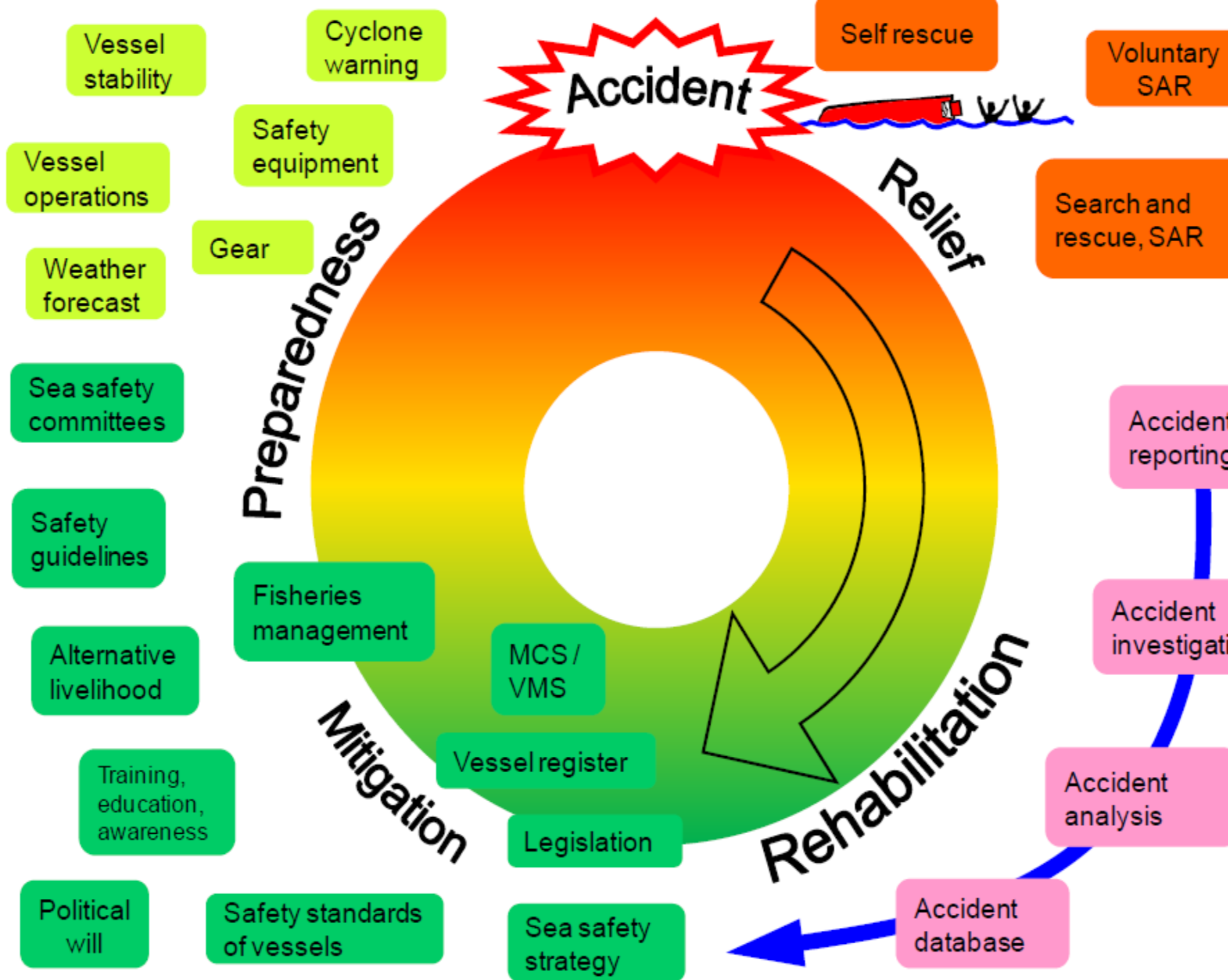
2. In ReALCRAFT system, will be integrated with NAIS (National Automatic identification System) of Ministry of Shipping through vessel id

This system is to track small fishing vessels up to 50 K.M. from the Coast, with customised transponders which will be helpful during search and rescue operations, is launched as a pilot project for about 1000 vessels in Maharashtra and Gujarat coast;

**9(6). Details on Fishermen Safety Measures & Risk Management System;**

## Content management

- <http://www.safety-for-fishermen.org/en/> is **Safety for Fishermen** website, the gateway to information and material related to safety for fishermen. The website is hosted by FAO and managed by a selected group of experts contributing information and material on safety at sea in the fisheries sector fishermen training and awareness material, such as training manuals, posters and videos.
- List of low-cost safety equipment that meets the minimum acceptable safety standards for safety of life at sea with subsidised rate , and its operation
- safety recommendations and guidelines for the design, construction and equipment of small fishing vessels for vessel builders, engine makers etc , first aid
- linkage with fishery machineries- **service 3**
- **List of insurance , welfare schemes and how it can be claimed**
- **early warning system Weather condition** before going out at sea, and also when at sea. Weather forecast may be displayed in the fishermen centric places using display board
- List out the rules of the road at sea, checklists for boats and engines.
- Statistical report about no.of accidents, and its causes



## Work flow based system

a. Vessel registration & license issuing system  
(<http://fishcraft.nic.in>)

Already covered



### ABOUT ReALCraft..

'ReALCraft' is a work flow based online application system for Vessel Registration under MS Act and License Certificate under MFR Act to the fishing vessels operating along the Indian coast. It is a national project sanctioned by the Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture, Govt. of India for implementing in all coastal States and UTs..

### Features

- Work flow based system.
- G2C/ G2G/ G2E/ G2B.
- Internet Query.
- Enquiry for Citizen.
- Services through Internet, Kiosks, Counters and Touch Screen.
- SMS Services / Email facility.
- Interface for generating engine number for assembled vessels.
- Automated Process.

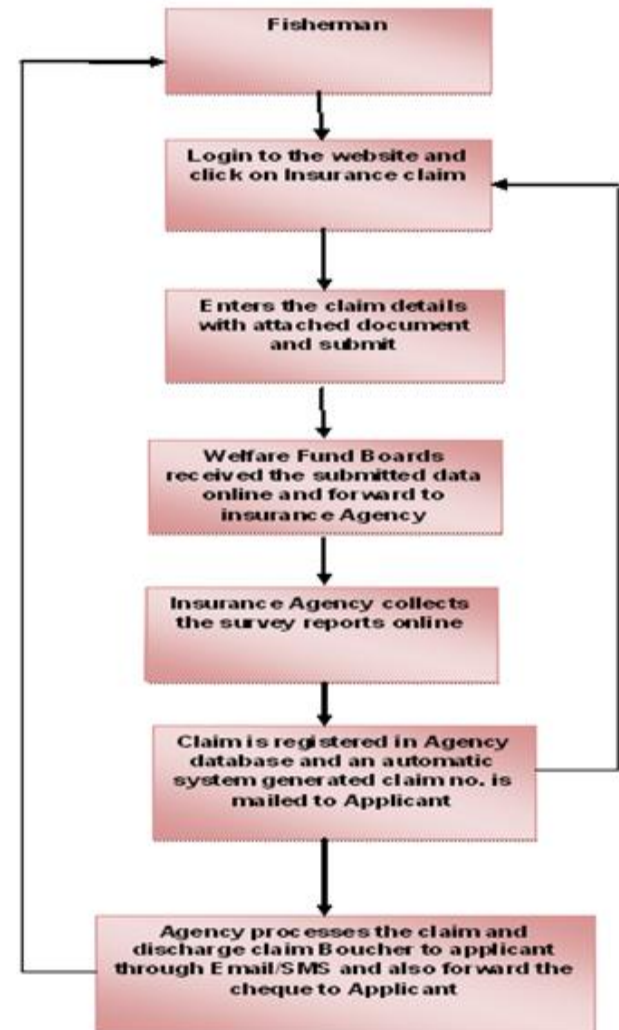
b. Monitoring fishermen welfare schemes – linkage with service 8

c. Recording movements of crew and vessel movements by issuing boarding pass

- proposal submitted to Govt. of kerala

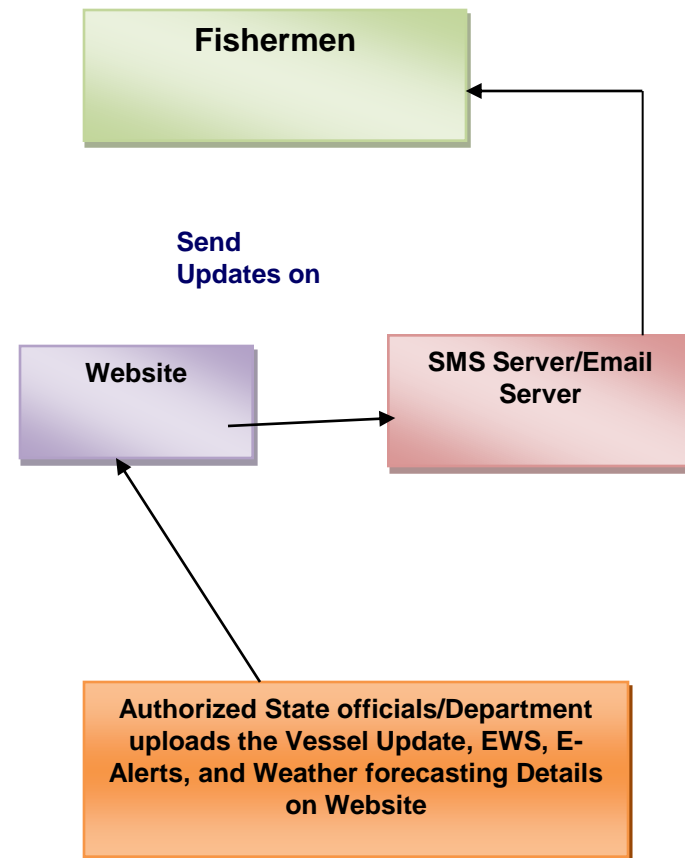
## d. online insurance claim system

- Networking of all insurance agencies
- Web based submission of application or registering the claim by sending SMS to the concerned officer.
- If it is SMS, claim will be registered in the system. After physical verification, remaining data will be entered online
- Online provision to upload all scanned documents, images etc.
- As-soon-as details entered online, system will do validation with real craft database, NeGPA database (service 1) it will go for verification, approval and send system generated token number to the insured to know the further status.
- Once claim is approved on web, claim will be settled. Date of claim, amount will be informed over SMS.
- Web based provision/SMS to know the status of claim by entering the claim number by insured person/fisherman
- Claim will be transferred online to bank. Using payment gateway



1. Once the application submitted online by the fisherman is approved after scrutinize the document as soon as the approval is done by authorized officer system will send SMS to the concerned farmer for acceptance of application.
2. Whenever the training schedule is decided by the authorized officer and uploaded on the website at the mean while SMS is sent to fishermen for attending the training on given date and time
3. Once the application submitted online by the fisherman/Dealers for fish seeds , after online scrutinize the document as soon as the approval is done by authorized officer system will send SMS to the concerned farmer for collecting fish seed
4. Test results will be sent to the farmer / hatchery through SMS
5. Insurance - registered –ref. no, Claim release date, amount will send through SMS to the fisherman/welfare fund board as soon as the insurance agency/company release the insurance claim amount online
6. As soon as the information about Early warning ,weather is updated on the website at that time the report send through SMS to registered fishermen

## e. SMS-Pull/Push/



## f. e-alert

**AAS** – Agromet Advisory Services to farmers based on the IMD data.(triggered by system) Under depression, rainy season, cyclone conditions Farmers should stop feeding Reduce Stock Density, Test Water Quality

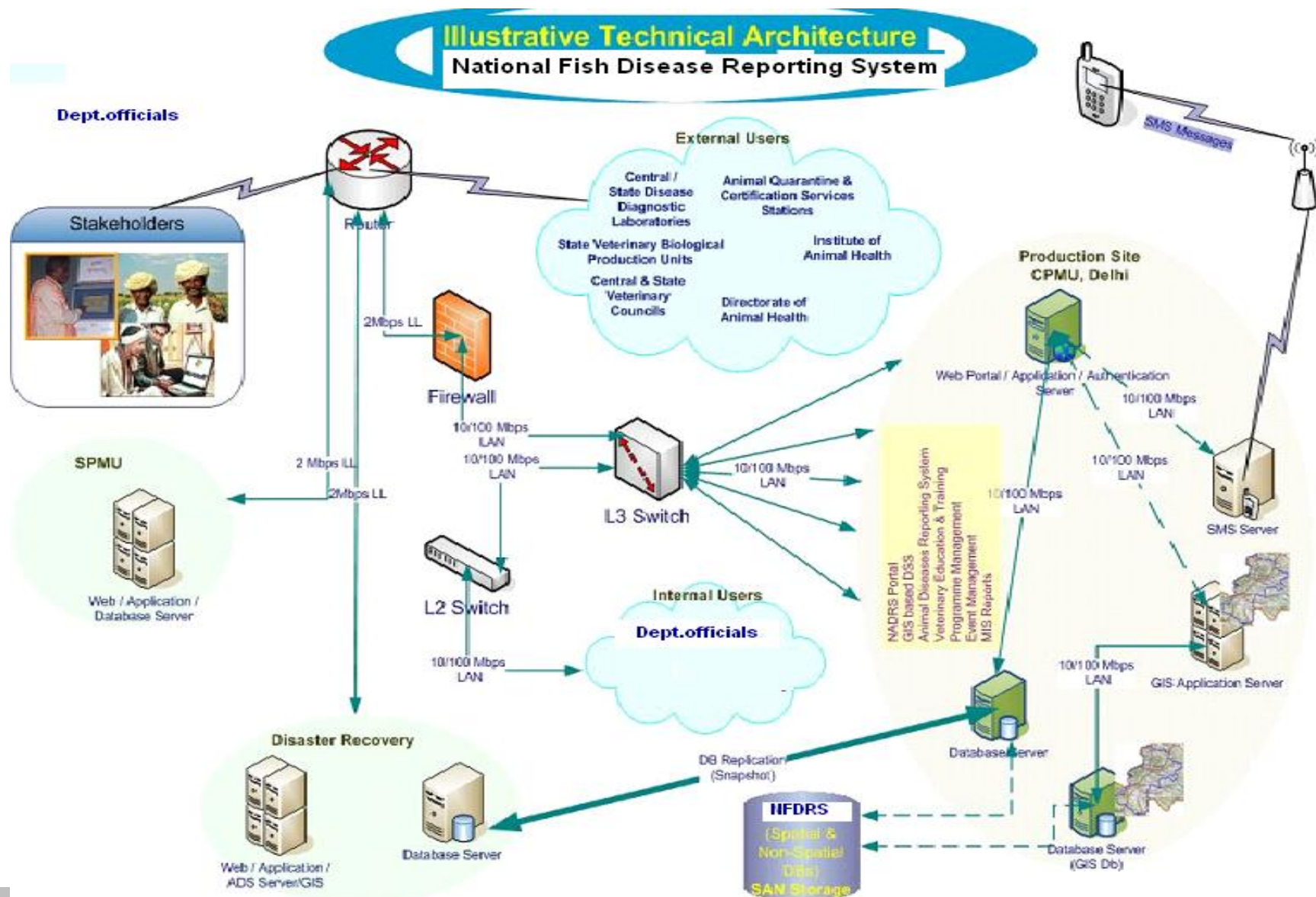
If Ammonia is high apply Zeolite at 10-15 Kgs per acre

Test the Fish/Prawn and find out the reason for mortality and suitable remedial measures may have to be adopted.

Use Bio-remediators to prevent release and accumulation of bad gases like ammonia, hydrogen sulphide etc.

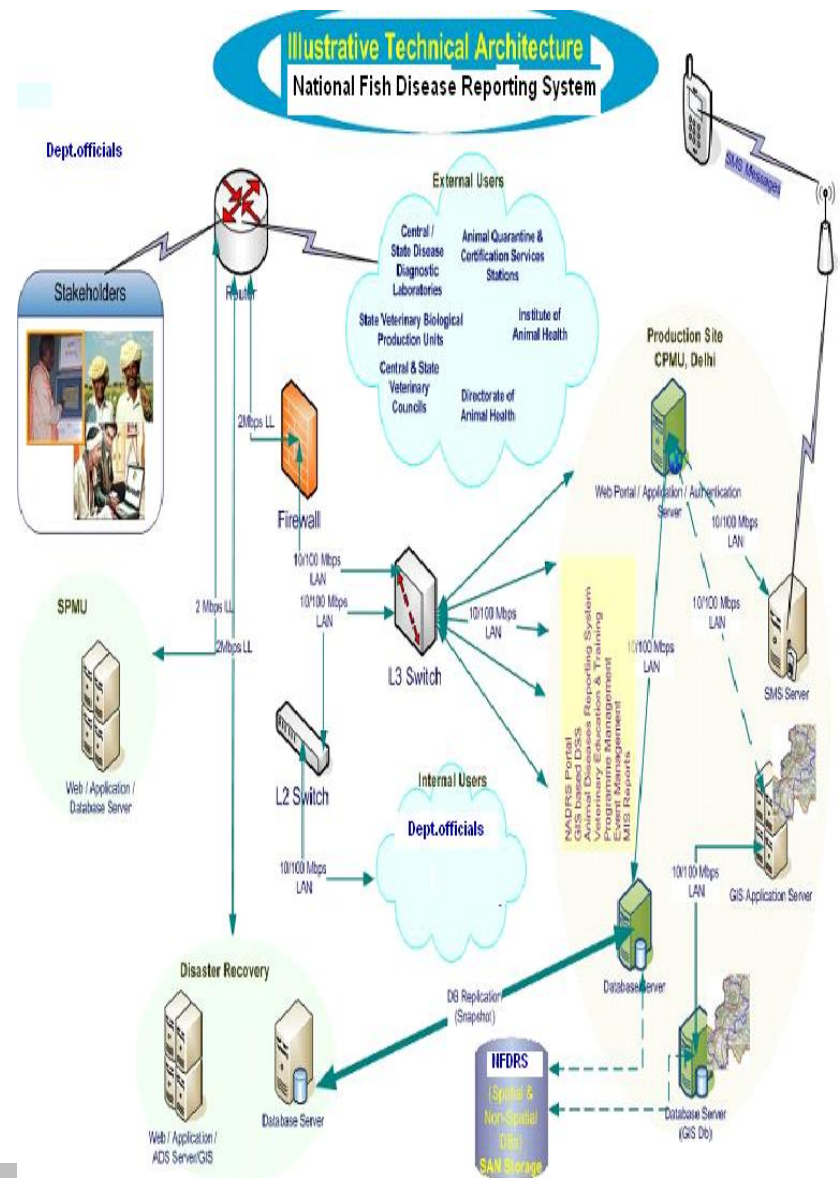
Best solution during inclement weather is to stop feeding.

**9(7).** Details on Fish Diseases (i.e. Fish Disease Reporting System covered under NADRS Project) – Nodal Agency for Fish Disease Surveillance and Monitoring is NBFGR, Lucknow;



A knowledge based portal cum web based online application system (NFDRS) will be developed with networking of all labs , fisheries colleges, universities , extension units, department offices and other related agencies.

The proposed system will have the following functionalities for the effective monitoring of disease diagnosis system.

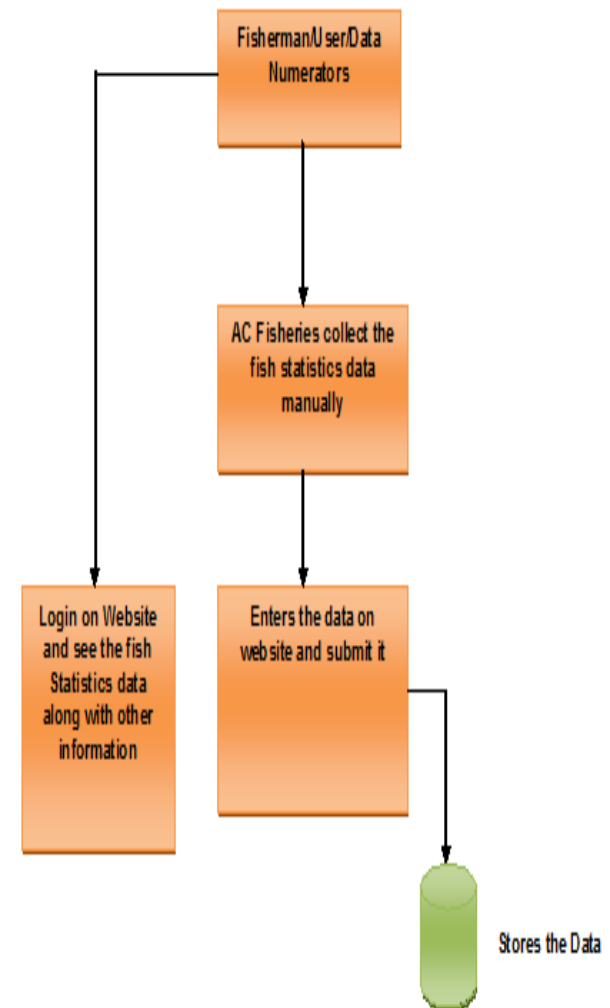


- Type of fish disease, symptoms, treatment , species will be affected
- pathogens caused for each fish disease
- root cause for each disease
- symptoms of each disease parameters
  - body part (gills, eyes, belly anus)
  - Type of symptoms (spots, blotches, boils, ulcer etc)
  - color (white, red, dark , others)
  - position (head, trunk, tail, dorsal, ventral, dorsal fin, ventral fin etc)
- FAQ
- List of registered water bodies
- Availability of fish seeds status of each water bodies
- Testing of samples and publish the result (with or without demand)
- Issuing QC&A certificates
- Monitoring of water bodies for healthy aspect
- E-alert , email , epost , sms etc
- Training details
- Disease reporting , controlling and treatment system
- Online insurance claim for the farmers / hatchery units

**9(8). Details on Development Schemes and Management**  
**(Linkage to Service-8)**

**9(9). Details of Fish Production Statistics (Database and Analytics);**

- There should be a online report provision about price details(Min/Max/Modal) of fish on the basis of different locations .
- Species wise price listing should be included online
- Species wise season wise species wise Fish landing Centres (FLC) wise / port wise export/import details
- Season wise , year wise , water resource wise fish population details
- Season wise , year wise , water resource wise fish production details
- Fishermen population (census – marine, inland)



NeGP-A service 9



NeGP-A service 9

NeGP-A service 9

# Glossary

| Abbreviation | Description   |
|--------------|---|
| Farm"        | existing or constructed or modified pond, tank or any water area including ponds, raceways, tanks, cages, pens, rafts, rack etc. used for aquaculture activities. |
| Fish farmer  | A person who does and manages Fish farming activities.  |
| "Fishery"    | Any activity or occupation connected with conservation, development, propagation of fish in any water area where such activity or occupation is carried on;       |
| lot          | a group of fish that originate from the same spawning population and have always shared the same water supply   |

# Glossary

| Abbreviation | Description   |
|--------------|---|
| Pond”        | An existing or designed and constructed pond, tank or farm area or a modified water area  |
| Seed farms   | farms that raise fry and fingerlings (finfish) and post-larvae (shrimps and prawns) to stock aquaculture farms.   |
| "Water body  | any land area holding water perennially or seasonally; including kayal lands, paddy fields, wet lands, tidal flats, mud banks, river bed, inter tidal zones, estuaries and sea bed. |
| Exotic       | introduced from other countries   |

# Glossary

| Abbreviation | Description  |
|--------------|--|
| Hatcheries   | <p>A hatchery is a facility where eggs are incubated and hatched.</p> <p>A <b>fish hatchery</b> is a "place for artificial breeding, hatching and rearing through the early life stages of fish.</p> |
| Nursery      | farms that raise fry and fingerlings (finfish) and post-larvae (shrimps and prawns) to stock aquaculture farms.  |
| “fingerlings | young fish that had developed to about the size of a finger  |
| Fish seed    | The fertilized fish eggs   |

# Glossary

| Abbreviation   | Description   |
|----------------|---|
| BROODS         | A group of mature fishes used in aquaculture for breeding purposes. Broodstock can be a population of fishes maintained in captivity as a source of replacement for, or enhancement of, seed and fry numbers. |
| CCRF           | Code of conduct for responsible Fisheries . It is a voluntary code globally applicable and provides principles & standards applicable to the conservation, management and development of all the fisheries    |
| BMP            | Better Management Practises   |
| Certified Seed | means the progeny of the brood stock, produced by a hatchery or fry raised by a seed farm and certified by the producer that their produce (seed) is compliant with the specified norms.                      |

## Grievances Under SERVICE 9

1. What are the welfare schemes, implementation guidelines?
2. Subsidy details of schemes
3. Incentives of aquaculture
4. What are the Modern aquaculture techniques and practices ?
5. Export & Local demands, prices of Ornamental and aquarium fishes .
6. Exotic ornamental fish varieties and their farming techniques.
7. Schemes for State Fish “Pearl Spot Fish” development.
8. Welfare schemes and services of MATSYAFED
9. Schemes for Coastal Fishermen
10. Fish preservation methods to maintain quality and duration
11. Status of application submitted for various services like Registration, License insurance claim etc
12. Delay in obtaining claim, certificates like RC, LC , permit etc..
13. Selection criteria of beneficiaries scheme wise
14. How to do Fishery practices,?
15. What type of services available to the citizen, how to avail the benefits?
16. Availability of fish seeds - where ? How? When?
17. Disease occurrence how to report ? Where ? What type of solution? How to eradicate ?
18. How to get the claims , if already submitted
19. How to operate the sea rescue equipments while in distress ?

## Service 9

- 20. How to get the details about the missed fishermen, vessels ?
- 21. How to sell the fish and fishery related products for marketing.,
- 22. What are the debit relief mechanism ? how to Get the relief
- 23. echnology for better yield - Production
- 24. Technology for handling harvesting, post harvesting & processing
- 25. Technology used for fishing operation
- 26. Awareness About disease & treatment
- 27.Symptoms , Identification and emergency control of epedemics**
- 28.Fish culturing techniques and Hazard Analysis at critical control points
- 29.Hygiene on fishing vessel, crews, its equipments
- 308. Vessel architecture, Bio technology (tissue culture, gene transplantation)
- 31. Hatcheries/ farms management ( nutrient, weed, soil,)
- 32. Information on Regulatory Acts, Rules , Guidelines
- 33. Seed certification procedure , How to maintain quality control

## 34. Hatcheries & nurseries management

### 1. needs – How to do ?

- Brood stocking? , Produce seeds?, Seed rearing?
- Packing of seeds for distributing to farmers?
- What type of training ? How to do?

## 35. Farm management - How to do ?

- Site selection, Prepare pond (water bodies ) for fish farming
- **Pond categories and available schemes and subsidies accordingly.**
- **Seed requirements as per the seed variety and area of water body**
- Seed stocking (after receiving from hatcheries and before release into the water bodies)
- Feed fingerlings, fishes
- Water treatment , disease treatment
- Harvesting , post harvesting
- Marketing ->How, where , when
- Availability of registered hatcheries
- What are the offences against rules

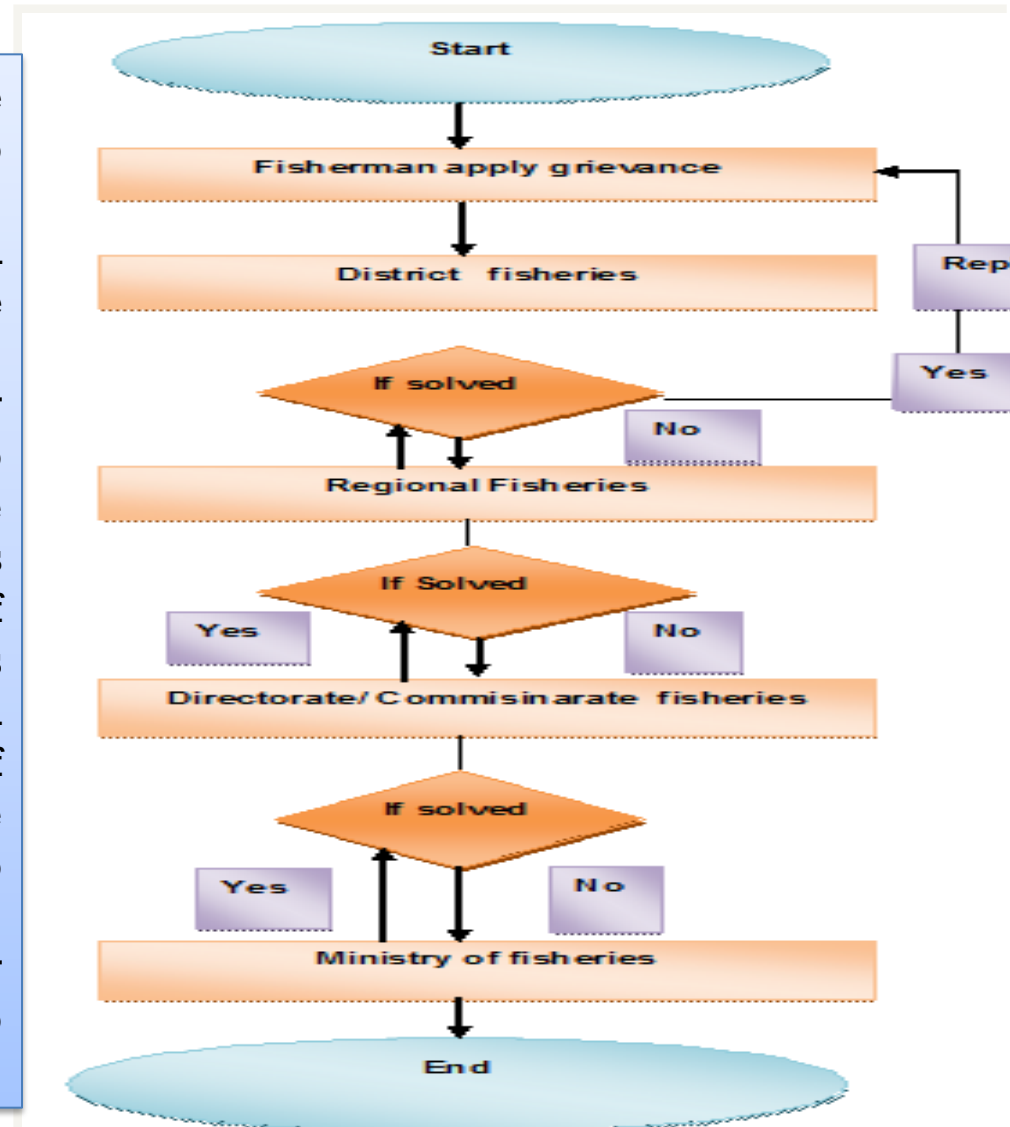
## 36. procedure for feed quality control & certification

- what type of chemicals, antibiotics used
- how to maintain feeds hygienically (free from insects, bacteria, pathogens, rodents , moisture etc ..)

- 37.** Frequent attacks on Indian fishermen by the Lankan Navy providing helicopters to search missing fishermen and boats, government jobs for the children of victims who die in sea, etc
- 38.** Heavy Sea Erosion damages many houses in our area . What is the remedy ? - demand for the eligible compensation and alternative options for the victims, and also to take right steps to avoid further damages to the coastal areas in future
- 39.** Misuse / Misappropriation of funds at District Offices
- 40.** Non payment of assistance / subsidy in time at district offices
- 41.** Non-implementation of various schemes at District Offices

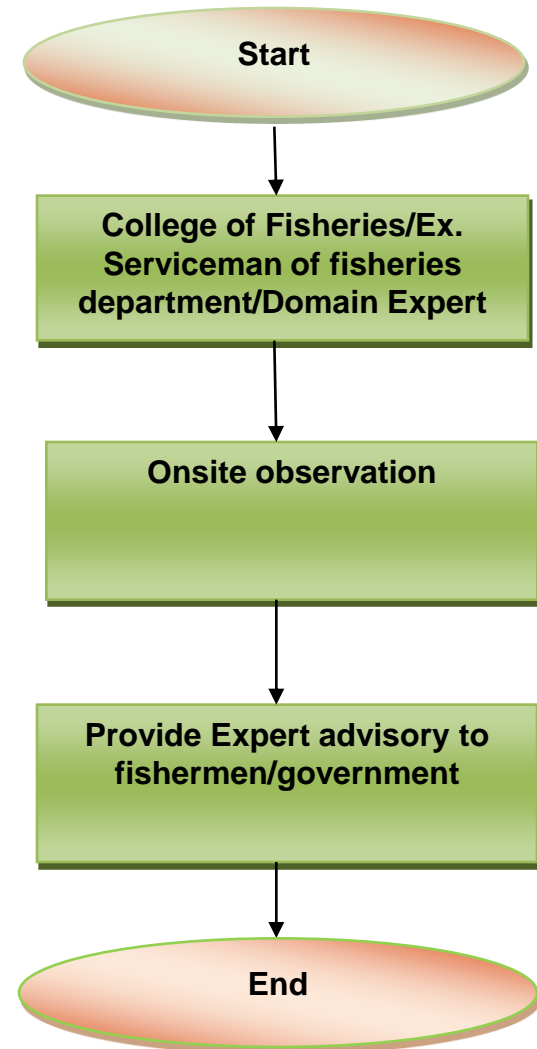
## Service 9

- Fisherman/Fishermen co-operative society submits their grievances to district fisheries .
- If the grievance is related to him then he solve the grievance and provide the solution to fisherman .
- If the grievance is related to upper level then forwards the grievance to Regional fisheries ,he looks into the matter if it is related to him and at his level then he provides the solution of that grievance otherwise he forwards the grievance to his upper level officer Director/ Commissioner of fisheries ,he also looks into the grievance and provide the solution to fisherman.
- If the grievance is related to upper level then forwards the grievance to Ministry of fisheries

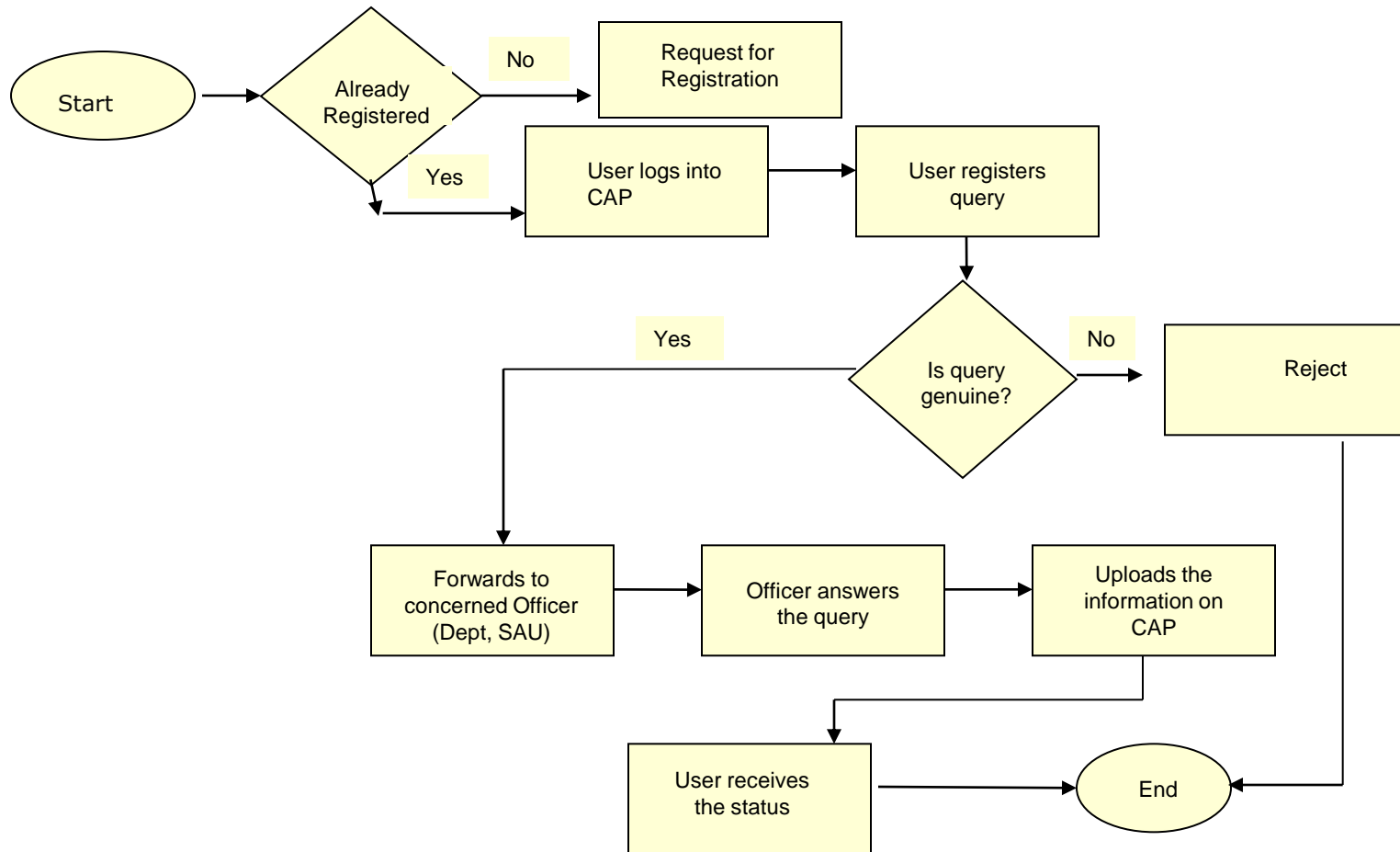


## Service 9

- Expert advisory is given by a domain expert/college of Fisheries/Ex. Serviceman of Fisheries Department whenever the advisory is needed then fisherman/Department request for the expert advisory .
- Expert domain goes for the onsite observation and after observation they provide the expert advisory.



## Service 9



*Thanking you*

*Kindly send your valuable inputs*

