



COASTAL AQUACULTURE AUTHORITY

Ministry of Agriculture

Government of India

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CHENNAI – 600 006, INDIA

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F. No. 70-5/2009-Tech.

Dated the 15th June, 2009.

ADVERTISEMENT

The Coastal Aquaculture Authority, Chennai is on the look out from suitable candidates for the services of Two (2) Consultants each for a period of six months to assist the Authority in executing certain specific works as given below:

Consultant (1) To prepare a technical manual for the hatchery seed production and sustainable farming of SPF *Litopenaeus vannamei*.

Consultant (2) To design appropriate awareness programmes on sustainable coastal aquaculture.

Consultant (1):

Job responsibilities:

- To assist the CAA in preparing a technical manual for the hatchery seed production and sustainable farming of SPF *Litopenaeus vannamei*.
- The technical manual should be in English with proper illustrations and photographs.

Qualification, experience and age:

- Post Graduate or Doctoral Degree in Coastal Aquaculture/Mariculture/Marine Biology/Fisheries Science or related fields with at least ten years of field level experience relating to shrimp culture.
- The Consultant should have the experience in preparation of technical publications/manual on aquaculture in general and shrimp farming in particular.
- He should have adequate exposure to SPF *L. vannamei* culture and field experience of working with reputed firms culturing *L. vannamei*.

- The maximum age limit for the retired Government servants would be 62 years and in case of private consultants, the maximum age limit will be 60 years.

Duration of consultancy:

- The consultancy would be for a maximum period of six months; at the end of fourth month, draft of the manual should be submitted for review by concerned organizations for improvement of the text. The final version should incorporate all the suggestions/modifications arrived at during the interactions.
- The content of the technical manual on *L. vannamei* culture should broadly be as given in the Annexure – I and should be consistent with the guidelines issued by the DAHDF on *L. vannamei* culture regarding quarantine, hatcheries and farms.

Consultancy Fee:

- Fee for consultancy shall be as per the norms prescribed by CAA/DOPT for the time being (i.e. limited to a maximum of Rs.25,000/- per month in case of private consultants and Rs.20,000/- per month in case of retired Government officers).

Consultant (2):

Job responsibilities:

- To assist the CAA to design and conduct awareness programmes on responsible coastal aquaculture.
- To prepare technical brochure/to provide technical inputs in the preparation of technical manual.
- To provide technical inputs for design and production of short video films on key principles relating to sustainable coastal aquaculture.

Qualification, experience and age:

- Post Graduate or Doctoral Degree in Coastal Aquaculture/Mariculture/Marine Biology/Fisheries Science or related fields with at least ten years of field level experience relating to shrimp culture, environment monitoring, organisation of awareness programmes to shrimp farmers;
- Should have good communication skills including experience in preparing technical articles/brochures/manuals relating to sustainable aquaculture.
- Knowledge of good farm management practices and on-farm waste reduction strategies, product safety, etc.
- Experience in writing scripts for video films relating to aquaculture will an advantage.

- The maximum age limit for the retired Government servants would be 62 years and in case of private consultants, the maximum age limit will be 60 years.

Duration of consultancy: Six months.

- Fee for consultancy shall be as per the norms prescribed by CAA/DOPT for the time being (i.e. limited to a maximum of Rs.25,000/- per month in case of private consultants and Rs.20,000/- per month in case of retired Government officers).

Candidates who meet the criteria with reference to qualifications and experience may send their bio-data to the Member Secretary, Coastal Aquaculture Authority **on or before 30th June, 2009** at the above address.

Member Secretary
Coastal Aquaculture Authority, Chennai.

Contents of the technical manual on SPF *Litopenaeus vannamei* culture

1.0 Introduction

- 1.1 Major *L. vannamei* producing countries in the world; why *L. vannamei* culture has become popular?
- 1.2 Production figures for the past five years; export figures indicating percentage of *L. vannamei* to the total exported shrimp – country-wise.

2.0 Identity

- 2.1 Systematic position of *L. vannamei*
- 2.2 General description – distinguishing morphological features.

3.0 Geographical distribution

- 3.1 Natural occurrence of *L. vannamei* in different coasts
- 3.2 Brief history of introductions to non-endemic areas

4.0 Biology and life history

- 4.1 Food and feeding, reproduction, maturation and spawning, behaviour, migrations
- 4.2 Life history

5.0 Seed production

- 5.1 Selection of broodstock
 - 5.1.1 Factors affecting the quality of broodstock
 - 5.1.2 Criteria for selecting quality broodstock
 - 5.1.3 Sourcing of broodstock
 - 5.1.4 SPF status of broodstock
- 5.2 Packaging and transportation of broodstock to the targeted hatcheries

6.0 Quarantine for imported broodstock

- 6.1. Quarantine protocols
- 6.2. Bio-security considerations
- 6.3. Testing of samples for diseases

7.0 Hatchery operation

- 7.1 Maturation
 - 7.1.1 Male-female ratio
 - 7.1.2 Maturation techniques
 - 7.1.3 Environmental and nutritional requirements
 - 7.1.4 Spawning methods
 - 7.1.5 Fecundity
- 7.2 Larval rearing
 - 7.2.1 Collection of Nauplii
 - 7.2.2 Rearing to Zoea and post larvae stage
 - 7.2.3 Packing of post larvae from hatcheries and transportation to farms

8.0 Culture of *L. vannamei*

- 8.1 Advantages of culture
- 8.2 Special requirements (temperature, salinity, water depth, pH, feed, etc.)
- 8.3 Culture practices followed in different countries, stocking density and productivity in extensive, semi-intensive and intensive culture)

9.0 Farm management

- 9.1 Bio-security requirements at farm level (fencing, bird scare, separate implements for different farms, etc.)
- 9.2 Farm preparation

- 9.2.1 Strengthening of dykes
- 9.2.2 Depth of ponds to suit the intensity of culture
- 9.2.3 Soil quality
- 9.2.4 Reservoir preparation and zero water exchange facilities

10.0 Water management in farms

- 10.1 Treatment of water in reservoirs, water filtration
- 10.2 Water exchange during the period of culture
- 10.3 Release of waste water after harvesting
- 10.4 Sediment management

11.0 Selection of seed and stocking density

- 11.2 Determination of stocking density for different types of culture
- 11.2 Monitoring parameters for good quality seed
- 11.3 Stocking of seed after acclimatization

12.0 Feed Management

- 12.1 Selection and storage of feed in the farm
- 12.2 Composition of feed in general and optimum feed conversion ratio
- 12.3 Feed constituents for broodstock of *L. vannamei*
- 12.4 Feed for larvae and post larvae
- 12.5 Feed for grow out ponds
- 12.6 Feeding schedule and feeding methods
- 12.7 Feed quality and nutrient load
- 12.8 Role of feed in environment protection

13.0 Health Management

- 13.1 Diseases of *L. vannamei*
- 13.2 Disease monitoring in farm and hatchery
- 13.3 Contingency plan to tackle spread of disease

14.0 Harvesting

- 14.1 Partial harvesting to cater to different customers
- 14.2 Sequential harvesting depending upon the size of ETS
- 14.3 Final harvesting methods
- 14.4 Post harvest handling of shrimp and immediate icing to maintain quality

15.0 Management of wastewater

- 15.1 Methods of wastewater treatment
- 15.2 ETS provision, simple designs of ETS
- 15.3 Role of ETS in the treatment of wastewater
- 15.4 Discharge of wastewater after treatment away from the points of intake
- 15.5 General hygiene for protection of environment
- 15.6 Cluster area approach and common ETS

16.0 Record maintenance

- 16.1 Maintenance of records at hatchery
- 16.2 Distribution pattern of seed from the hatchery to farms
- 16.3 Maintenance of records at farm level regarding the quantity of seed received
- 16.4 Maintenance of records regarding feed used and growth rate
- 16.5 Maintenance of records regarding harvesting details and sale proceeds

17.0 Conclusions indicating Do's and Don'ts during various operations

18.0 List of references