INDIAN COUNCIL OF AGRICULTURAL RESEARCH
CENTRAL INSTITUTE OF BRACKISHWATER AQUACULTURE
भा.कृ.अनु.प. - केन्द्रीय खारा जलजीव पालन अनुसंधान संस्थान

Recycling of Fish-waste: A Swachh Bharat Initiative

CIBA-HORTI^{PLUS}

Fishtrimmings represents 25-50% the total fish/shrimp while processing for human consumption. Due to lack of proper disposal of the waste from the fish industry and fish market it creates sanitary and environmental problems. An effort was put by ICAR-CIBA to convert this waste to value added products, Plankton^{Plus} used for boosting plankton in aquaculture pond and by-product Horti^{Plus} used as organic manure under the Swachh Bharat initiative. Performance of Horti^{Plus} was tested in different experiments and found to be promising for vegetable crop production

Salient features of the Technology

- Rich in nitrogen, available phosphorus, calcium and trace minerals.
- Improves soil health status.
- Increases yield of vegetable/crop.
- Improves germination rate.
- Increase number of branches in plant.
- Customizable technology for small, medium and large scale operations.
- Production facility of Plankton^{Plus} and Horti^{Plus} may be established with about ₹ 2,00,000 with processing capacity of 2000 L/month Plankton^{Plus} and 100 Kg/month Horti^{Plus}.
- This technology has the potential in cleaning the fish markets across the country to produce wealth from waste as a concept of the circular economy.

ICAR - CIBA

Nambikkai Fish Farmers Group, Chennai, Tamil Nadu.

Transfer of Technology

➢ Memorandum of Agreement for partnership has been signed in establishing and operating Fish-Waste Processing Unit to recycle fish waste with Nambikkai Fish Farmers Group, Nambikkai Nagar, Patinapakkam, Chennai, Tamil Nadu.

➢ Tripartite MoU has been signed with CoastraBiosolutionsPvt. Ltd., Vadaperumpakkam, Chennai, Tamil Nadu and Nambikkai Fish Farmers Group, Nambikkai Nagar, Patinapakkam, Chennai, Tamil Nadu for production and marketing of Horti^{Plus}

ECONOMIC ASPECTS

- Annual production capacity of one unit:1200 Kg Horti^{Plus} and 24000 L Plankton^{Plus}
- Net profit : ₹ 4.80 lakhs

ICAR - Central Institute of Brackishwater Aquaculture
(Indian Council of Agricultural Research)
75 Santhome High Road, MRC Nagar, Chennai - 600 028, India **Phone :** +9144 2461 7523 **(Direct)**
EPBX : +9144 2461 8817, 2461 6948, 2461 6948 **Fax :** 9144 2461 0311
E-mail : director.ciba@icar.gov.in / itmu@ciba.res.in **Website :** www.ciba.res.in Follow us on /icarciba

Brackishwater aquaculture for food, employment and prosperity

INDIAN COUNCIL OF AGRICULTURAL RESEARCH
CENTRAL INSTITUTE OF BRACKISHWATER AQUACULTURE
भा.कृ.अनु.प. - केन्द्रीय खारा जलजीव पालन अनुसंधान संस्थान

Recycling of Fish-waste: A Swachh Bharat Initiative

CIBA-PLANKTON PLUS

Plankton is primary and essential food for initial stages of fish and shrimp. Therefore it is essential to maintain healthy plankton bloom for any culture system. Plankton crush is very common problem in semi intensive or intensive aqua farming. ICAR CIBA has developed a quality cost effective indigenous eco-friendly product from fish-waste to boost the plankton production and to maintain healthy plankton bloom in aquaculture systems. The product named as "Plankton*Plus*" is under the concept "waste to wealth" in Swachh Bharat initiatives of Govt of India. Plankton*Plus* has proven its efficiency in various aquaculture systems for fish and shrimps.

Salient features of the Technology

- Multi-location trials in shrimp ponds at Andhra Pradesh, Kerala, Tamil Nadu, West Bengal and Gujarat indicated better phytoplankton and zooplankton status in culture pond throughout the culture period.
- Effective under wide range of salinity (0 to 47 ppt).
- Increases desired plankton population for aquaculture.
- Improves growth performance and survival of fish and shrimp.
- Reduces the requirement of formulated feed for shrimp and fish.
- Customizable technology for small, medium and large scale operations.
- Production facility may be established with about ₹ 2,00,000 with processing capacity of 2000 L/month.
- This technology has the potential in cleaning the fish markets across the country to produce wealth from waste as a concept of the circular economy.

ICAR - CIBA

Sri Nagakishore Mudedla & Sri Syamala Rao Maradani, A.P.

Transfer of Technology

- Plankton*Plus* production technology has been transferred to aqua-entrepreneurs, Sri Nagakishore Mudedla and Sri Syamala Rao Maradani, from Gudivada, Krishna district, Andhra Pradesh.
- Memorandum of Agreement for partnership has been signed in establishing and operating Fish-Waste Processing Unit to recycle fish waste with Nambikkai Fish Farmers Group, Nambikkai Nagar, Patinapakkam, Chennai, Tamil Nadu.
- Tripartite MoU has been signed with Coastra Biosolutions Pvt. Ltd., Vadaperumpakkam, Chennai, Tamil Nadu and Nambikkai Fish Farmers Group, Nambikkai Nagar, Patinapakkam, Chennai, Tamil Nadu for production and marketing of Plankton*Plus*.

ECONOMIC ASPECTS

- Annual production capacity of one unit:24000 L
- Annual turnover : ₹16.80 lakhs
- Net profit : ₹ 4.56 lakhs

ICAR - Central Institute of Brackishwater Aquaculture
(Indian Council of Agricultural Research)

75 Santhome High Road, MRC Nagar, Chennai - 600 028, India **Phone :** +9144 2461 7523 **(Direct)**
EPBX : +9144 2461 8817, 2461 6948, 2461 6948 **Fax :** 9144 2461 0311
E-mail : director.ciba@icar.gov.in / itmu@ciba.res.in **Website :** www.ciba.res.in Follow us on /icarciba

Brackishwater aquaculture for food, employment and prosperity

भाकृअनुप
ICAR

CIBA

INDIAN COUNCIL OF AGRICULTURAL RESEARCH
CENTRAL INSTITUTE OF BRACKISHWATER AQUACULTURE
भा.कृ.अनु.प. - केन्द्रीय खारा जलजीव पालन अनुसंधान संस्थान

VANAMI PLUS वनमि प्लस

Feed cost is the major cost in grow out culture of vannamei shrimp. Commercially available feeds are expensive. ICAR-CIBA has developed a cost effective indigenous feed using locally available ingredients. This is a boon for small and medium shrimp farmers.

Features of Technology

- Scientifically formulated quality feed (35% Protein & 6% Fat)
- Formula cost of Rs. 55-65/kg.
- Cost of feed production reduced by 25%.
- Feed cost for farmers reduced upto 20%
- Investment for feed mill is about Rs.1-2 crores with capacity of 1-2 ton/hr.
- Increase the profit margin for farmers by 15-20%.
- FCR of 1.2-1.5
- Eco friendly feed with better soil and water quality.
- Customizable technology for small, medium and large scale operations
- Suitable for corporate entrepreneurs, farmer clusters & co-operative societies.

ICAR - CIBA

DR. ATTAR AQUA FEED

Transfer of Technology

Mr. Vinod Poonia

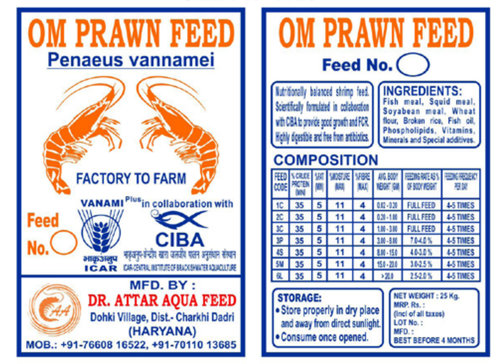
The Vanami Plus Technology transferred to Dr. Attar Aqua Feed, Haryana by ICAR - CIBA Chennai.

ECONOMIC ASPECTS

Annual Turnover during 2017-18 - Rs.3 crores.

Net profit - Rs.20 lakhs.

Production capacity - 2ton/hr



ICAR - Central Institute of Brackishwater Aquaculture
(Indian Council of Agricultural Research)

75 Santhome High Road, MRC Nagar, Chennai - 600 028, India **Phone :** +9144 2461 7523 **(Direct)**
EPBX : +9144 2461 8817, 2461 6948, 2461 6948 **Fax :** 9144 2461 0311
E-mail : director.ciba@icar.gov.in / itmu@ciba.res.in **Website :** www.ciba.res.in Follow us on /icarciba

Brackishwater aquaculture for food, employment and prosperity