International Journal of Physical Education and Sports Sciences
Vol. 13, Issue No. 08, November-2018, ISSN 2231-3745

Shrimp Farming Units Management with Ratnagiri District

Renapure Laxman Narayanrao[1]* Dr. N. B. Bhagwat[2]

[1] Assistant Professor, Rajaram Shinde College of MBA Pedhambe, Tal Chiplun, District: Ratnagiri

[2] Professor, D.R. Mane Mahavidyalya, Kagal, Dist-Kolapur

Abstract – Cultivating aquatic organisms under controlled environmental condition has emerged as the one of the fastest growing food industry in the world. Its impressive growth has often accompanied by significant failures, which made it as a high-risk activity. Environmental issues like conversion of mangroves and agricultural lands for aquaculture, salinisation of agricultural lands and drinking water resources due to aquaculture development have been reported in many parts of India. To assess the extent to which the shrimp culture is responsible for these environmental issues, the impact assessment of aquaculture is necessary. The design details were collected from nine aqua farms located in Pichavaram. The satellite data of LANDSAT 5 TM of 1987; IRS IB, LISS II of 1994 and IRS 1C, LISS III of 1998 were used in the study. The preparation of land use maps and change detection analysis were carried out using ERDAS Imagine, ARC INFO and ARC VIEW. The soil samples were collected from and next to aqua farm ponds and also at 50 m, 100 m and 250 m from the farms and also at various depths viz. surface, 10 cm, 20 cm, 30 cm and 40 cm. The soil samples were analyzed for pH, electrical conductivity, organic carbon, water holding capacity, porosity and texture using standard methods.

----------♦----------

INTRODUCTION

Semi-serious shrimp cultivating which has picked up its pace of advancement in India as of late, has-tumed out to be the significant point ofinterest and talk in the mechanical world, for the most part because of brief length culture period, rewarding returns, fosterage ofrural improvement and tremendous degree for future advancement. Since further increment ofshrimp creation from catch fisheries is maybe impractical due to over abuse ofresources in restricted territories, joined with ceaseless interest ofshrimp in the universal market, the shrimp generation through aquaculture has in this manner developed as the main option forsustaining and extending the business and have driven the beach front states to go in for logical strategy ofsemi-concentrated shrimp cultivating to upgrade our outside trade earningsthrough send out and to improve the financial condition ofa enormous area ofimpoverished seaside occupants.

Present Global Status of Shrimp Farming

Seaside aquaculture, overwhelmingly highlighted by shrimp culture is perceived world over as a solid monetary movement and as a significant industry in numerous Sourth-Asian nations and Latin America. In the 1980's, semi-serious shrimp culture was viewed as one ofthe most rewarding ventures becauseofits high market cost and boundless interest in the worldwide market and in this manner the administration and private areas in may nations in Asia. Focal and South America took a functioning part in advancing shrimp culture develpment. Be that as it may, quicker development ofcultured shrimp industry had been seen since 1987, after the fruitful exhibit ofsemi-escalated culture by Taiwan. The World creation offarmed shrimp has expanded from 175,000 t or 9% ofthe all out world shrimp generation in 1984 to 756,000 t or 25% ofthe all out world shrimp generation in 1994, with 80% commitment comming from Asian nations (Anon, 1995 a) However, in 1995, cultivated shrimp generation was 7,12,0001 which was 27% ofthe world's absolute shrimp generation (Table-1). Eventhough, the present decade has seen overall quick development ofcultured shrimp industry, it has additionally seen the financial debacle in the shrimp business because of developing natural issues in the nineties. Natural issues including ailment flare-up have been knowledgeable about practically all shrimp creating nations, yet shocking monetary misfortune happened for the most part in Taiwan(1989), China (1993) and Ecuador (1993). Subsequently, the worldwide creation of refined shrimp diminished from 733,000t in 1991 to 644,000t in 1993, demonstrating a drop of 12.14%. Numerous nations like Taiwan, China, Ecuador and Indonesia experienced negative development except for Thailand, India, Bangladesh and Vietnam (table-2). Anyway in 1994, the worldwide refined shrimp creation expanded to 756.000t against 644.000t in

1993. While in 1994 Ecuador, India and Vietnam enrolled the main three situations as to development of32%, 27% and 25% separately. Thailand universes driving shrimp maker, since 1991, set another world record, delivering 248,000t, more than twice as much ranch raised shrimp as some other nation. Among refined shrimp species, dark tiger (P. monodon) commands the creation with 61%, western white shrimp (P. Vannamei) and chinees white shirmp (P.chinenesis) contributes 15% and 4% separately in 1994. Other refined species in the Asian district are P.japonicus, P. penicillatus, P.indicus, P.merguensis and P. stylirostris which togather structure 20% oftotalfarmed

Present Status Of Shrimp Farming In India

India, with 7,517 Km of coast line, huge quantities of estuaries, brooks, tidal ponds,, mudflats and changed biological conditions, is invested with 1.2 million hectares of bitter water assets for advancement of beach front aquaculture (there might be critical decrease under CRZ guidelines). Despite the fact that India has long understanding of conventional shrimp culture, sorted out logical shrimp cultivating had its start in the late 80's. Till 1995, just 100,700 hectares have been brought under culture, creating 82,850 MT of shrimp/prawn, be that as it may, the generation of shrimp was 70,573 MT from an expanded region of 1,18,983 ha during 1995-96 (MPEDA 1996).

The all out generation could have contacted 96,000 MT, yet crop misfortune because of yield occasion, reoccurrence of ailment and flood dropped the creation level to 70,573 MT. During ongoing years, shrimp culture in India is being advanced for the most part along the east coast, to a great extent by private areas. Andhra Pradesh, where the majority of the semi-concentrated culture development has occurred, is known as shrimp capital of the nation today, delivering in excess of 26,000 tons or 35% of the all out cultivated shrimp generation in the nation, while Orissa state contributes about 6.4%. Albeit normal shrimp yield per hectare of lake are still low 630 kg/ha yields of dark tiger shrimp by semi-serious creation strategies in India have arrived at 4.0 to 9.0 MT/ha/crop dependent on stocking paces of 20-35 pcs/M2. There has been an extraordinary ascent in the generation of cultivated shrimp over past 3-5 years, made conceivable by change of around 30,000 ha of seaside land into shrimp lakes, combined with specialized accomplishments in shrimp reproducing, larval raising, shrimp sustenance and plan of counterfeit feed. Orissa State in the east coast has risen as of late as one of the potential beach front state for development of business shrimp cultivating. Private segment speculators are likewise intrigued to take up shrimp aquaculture in a major manner along west shore of the nation. The creation of cultivated shrimp in India is relied upon to increment by 40% arriving at in excess of 100,000 MT (Anon, 1995a) in 1996-97. Nonetheless, the quick extension of business shrimp cultivating, especially in the east coast has seen contamination and sickness issue, which has frightened the aquaculture division to take a down to earth view to oversee shrimp culture activity in appropriate logical lines. Be that as it may, India's cultivated shrimp creation has indicated relentless ascent with a yearly development of 17% in 1994 and normal development of 16.4% per annum.

REVIEW OF LITEARTURE

General perspective on Orissa coast

Orissa, a south-eastern state (FOg-5) lies somewhere in the range of 17°48' and 22° 28.5' north and &2°37' and 87" 13.2' east is the tenth biggest sluteoflndia, flanked by the state of West Bengal in the upper east, Bihar in the north, Madhya Pradesh in the west, Andhra Pradesh in the south and Bdy of. Bengal on the East. The entire state lies in the tropical zone and is partitioned into four particular tracts, viz, the northern level, the eastern ghats, the focal tract and the beach front fields. The state is depleted by three incredible streams, the Mahanadi, the Brahmani, and the Baiterani. Every one of the waterways stream into the Bay of Bengal. Asia's biggest bitter water tidal pond, the Chilkawhich is arranged in orissa additionally joinsto the Bay of Bengal. Orissa has a coast line of476 Kms shaping 6.3% of India's absolute coast line, continetal rack of24,000 sq.km, upto 200 mts. profundity (John and Sudarsan, 1990). The atmosphere ofthe state is especially impacted by the Bay of Bengal. The State encounters three seasons-summer from March to mid June, stormy season from mid-June to October and winter from November to February. The mean greatest temperature is 32.8°C and mean least temperature is 22.8°C, while the normal precipitation is 150 cm. The north waterfront belt is portrayed by between tidal clayee soil while that of south seaside belt is sandy-earth, which give better favorable position to harsh water lake unearthing and development ofdykes. Mangrove marshes and backwoods structure a one of a kind situation in the beach front biological system which is extended between scope 20° 15'- 20° 75' N and longitude 88° 40'- 87° E. It give the best nursery regions for seeds/fry of shell-angles and finfishes and furthermore ensures soil erosion. These mangrove situations assume a fundamental job in the existence cycle of prawns and in the foundation of its fishery (Subramanian et al, 1980). Name and area of the investigation site

The presentstudy was bound to "shrimp culture pilot venture" ofS.U. Constrained at Parikhi, nearChandipur coast ofBalasore region and "shrimp culture venture" of S.F.I.L.matNarendrapur ofBhadrak region. The "shrimp culture pilot venture" at Parikhi a 32.06 ha venture with 25 nos of growout lakes (Fig-6) is associated with the Budhabalanga estuary by two regular streams which finally joins • the Bay of Bengal, with a separation of around 2 km between the homestead site and ocean coast, while the Narendrapurproject,a 144.0 ha venture with 110 nos of growout lakes (Fig-7) is legitimately associated with Bay of Bangal by Karanjamala characteristic

rivulets. The separation between the two ventures is roughly 70 km

OBJECTIVES

1. To study the merits and demerits of the existing design of shrimp ponds/farms and the suitability of sites Ratnagiri.

2. To study the inter-relationship of various hydro-biological parameters of the shrimp ponds under semi-intensive culture and to suggest appropriate water quality management strategies.

3. To suggest appropriate stocking density suiting to the given site conditions.

RESEARCH OF METNODOLOGY

Feed Quality Assessment

As feed tallies over half of the all-out operational expense and is in charge of good development and endurance ofshrimp, legitimate appraisal ofhigh vitality quality feed for growout practices is of basic significance. Feed quality was surveyed for four progressive harvests according to the recommended rules (Chwang, 1989; Anon,1990 and Clifford, 1992). 3.6

Feeding Management and Feed Calculation

Feed the executives is the most basic factor in deciding the gainfulness of a shrimp ranch. Different perspectives offeeding the board were completed according to the proposals and rules pursued by Anon (1988), Chaimberlain (1989), Anon (1993-an), Anon (1994-an) and Chanratchakoolet. al. (1994). Careful computation offeed necessity ofshrimp so as to maintain a strategic distance from wastage and for appropriate usage offeed in the lake is very import. Along these lines figuring offeed according to the interest of shrimp and investigation ofcheck plate reports were finished utilizing the accompanying plans.

Average Daily Growth (A.D.G.) in gm. Present weight (gm) - past weight (gm) Time interim of both weighing (days) Sample weight (gin)

Average Body Weight (ABW) in gm. - - Sample size (n) Feed/day (Kg)% feed utilized = - - X 100 Biomass (kg)

Number ofsurvived shrimp in lake = Biomass (gm) A.B.W (gm) Number ofshrimp in lake at present % endurance = - - - - X 100 Number ofshrimp in the underlying stocking Feed/day (kg) Biomass (kg) = - - X 100 % feed

Amount of complete feed =A.B.W. (gm) X % feed X number ofsurvived shrimp in lake (Kg/day) (h) Feed to be given per Feed/feast (kg) X LN % 1650 checktrayoflife net (LN) — - - - Pond zone (m2)

DATA ANALYSIS

Both the exploratory destinations were appropriate for doing semi-escalated shrimp cultivating as the geography, biological system, meteorological conditions, financial contemplations, water and soil quality, accessibility of manpower, feed, seed and foundation offices and openness elements were reasonable. Lake and ranch configuration was additionally appropriate to embrace shrimp culture up to 30 pcs/m2 stocking thickness. Lake arrangement was done, after different advances, for example, flushing and predator control, drying and evacuation of pond base residue, furrowing, liming, obsession of screens and water filling, treatment and manuring. When stocking were done in the early mornings with appropriate pre-stocking lake air circulation and shorter durationof acclimation utilizing acclimation tanks outfitted with air circulation framework, added to higher endurance of P. monodon (Crop-3 and Crop-4).

Despite the fact that stocking was done in the early morning hours for the initial two harvests, there were no plans for-stocking air circulation and the length of customary acclimation was extremely long. Accordingly, endurance of first two harvests was poor in comparison to the last two yields. In the present investigation, test were done on six diriment stocking densities (35 pcs/m2, 30 pcs/m2, 25 pcs/m2,20 pcs/m2,15 pcs/m2, and 10 pcs/m2) for four progressive yields. In any case, it was discovered that higher the stocking thickness, higher is the F.C.R. also, lower is the A.D.G. Since A.D.G... Diminishes as stocking thickness increments; lesser the stocking thickness higher is the development. Mortality checking utilizing endurance confines in any case, demonstrated better sign of early survivability in the lake.

CONCLUSION

The development of shrimp culture is a new concept in the state of Orissa. The government of Orissa took initiatives for the improvement in production and marketing of cultured shrimps by opening the first regional office of MPEDA at Bhubaneswar during 1978 and the first Brackish water, development agencies (BFFDAS) of the country at Puri and Balasore in 1983. Until recently, all the coastal districts are having BFDAs and the primary fishermen co-operative societies (PFCCs) to substantiate the activities of BFDAs. In spite of all these, the state could convert only 6,038.29 hectares (18.53 percent) of the total available suitable brackish water areas of 32,586.85 ha for shrimp culture as on 31st March 2002. Hence, it is evident that 26,548.56 ha (81.47 percent) of potential suitable area is still available for shrimp culture in the state. The study of world trend

in cultured shrimp reveals that between 1991-92 and 2001-02, the production could increase from 564.8 Thousand Metric Tons (TMT) to 800.75 TMT by registering an increase of 41.77 percent. But in Indian context, it could increase from 40.79 TMT to 96.01 TMT with an overall growth of 135.38 percent during the same period. In Orissa, it could increase from 8.9 TMT to 18.3 TMT by registering an increase of 105.62 percent.

Likewise, the export of cultured shrimp in India increased from 26,000 MT to 74,170 MT by registering an overall increase of 185.27 percent and from Rs.544.76 crores to Rs.3,645 crores with an overall growth of 569.10 percent by value during 1991-92 to 2001-02. But in Orissa, the shrimp export increased from 4,563 MT to 10,074 MT by registering an overall increase of 120.78 percent and from Rs.8,355 lakhs to Rs.32,284.50 lakhs with an overall growth in value by 286.64 percent during 1991-92 to 2001-02. This indicates that the share of Orissa in the national average in production of shrimps increasedfrom 358.31 percent to 425.14 percent and the export of shrimps also could increase from 496.80 percent to 636.25 percent during 1991-92 to 2001-02. As on date, few research studies have been made to find out the reasons for the decrease in growth of area, production, productivity and marketing of cultured shrimps in Orissa. Therefore, an attempt has been made in this research topic “Production and Marketing of Shrimps in Orissa” to bring about a comprehensive study of production and marketing of shrimps with specific reference to brackish water shrimp culture practices in Orissa state.

REFERENCES

1. Prematurely end, J.C. (1958). Marketing issues and Improvement Program, F.A.O., Rome.
2. Acharya, S.S. what's more, Agarwal, N.L. (2002). Agricultural showcasing in India, Oxford and IBH Publishing Co., New Delhi.
3. Acharya, S.S. (1988). Agricultural generation, promoting and value strategy in India, Mittal Publication, New Delhi, 1988. Anon
4. World shrimp cultivating (Ed.) Rosenberry, B, 1991.
5. Boyle, J.E. (1956). Marketing of Agricultural Produce, the Corporate Boom Depot.
6. Dark Colored, E.E. (1983). World shrimp cultivating: Cultivation and Economics, second Edn. AVI Publishing Co. Inc., Westport Connecticut.
7. Bhattacharya, H. (2002). Commercial Exploitation of Fisheries, Oxford, New Delhi.
8. Cummings, R.W. (1967). Jr., Pricing Efficiency in the Indian Wheat Market, Impex, New Delhi.
9. Directorate of fisheries, Government of Orissa, cuttack, The Chilikalake, 1970.
10. Heardy, E.O. (1964). Economics of Agricultural Productions and Research USE, Prentice Hall of India ltd.
11. Heardy, E.O. (1968). what's more, Dillon, J.L., Agricultural Production Functions, Kalyani Publishers, New Delhi.
12. Hornbell, J. (1984). Marine fish cultivating in India, Vishnu Offset Printers, New Delhi.
13. I.I.M. (1984). Ahmedabad, Marine fish promoting in India, Vol. Ila.

Corresponding Author

Renapure Laxman Narayanrao*

Assistant Professor, Rajaram Shinde College of MBA Pedhambe, Tal Chiplun, District: Ratnagiri

renapure.laxman@gmail.com