

Annual Report *2012*



National Aquaculture Development Authority of Sri Lanka
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Introduction

The performance of the National Aquaculture Development Authority of Sri Lanka (NAQDA) during the 12 months commencing from 1/1/2012 continued to improve as in the previous years.

There are many untapped reservoirs and coastal aquaculture resources in Northern Province which can be used for development of inland fisheries and aquaculture. Northern Province Development Programme was commenced in 2010 after thirty years. Most of the resources especially untapped reservoirs were used for fish culture in the Northern Province in the year 2012 when compared to year 2011.

Inland Fish Production

Table 1- Comparison of Aquaculture and Inland Fisheries production in Sri Lanka over the years

Year	Inland Fisheries & Aquaculture (MT)	Coastal Aquaculture prawn production (MT)	Total Production (MT)	% Increase over previous year
2006	32,810	2,480	35,290	-
2007	34,800	3,580	38,380	8.7
2008	42,270	2,220	44,490	15.9
2009	43,010	3,550	46,560	2.4
2010	48,930	3,480	52,410	12.6
2011	55,410	4,150	59,560	13.6
2012	65,640	3,310	68,950	15.7

The inland fish and aquaculture production was 68,950 Mt. in the year 2012 which was an increase of 9,390 Mt. (15.7%) over that in the year 2011.

Foreign Exchange earned and contribution to rural economy

This inland fish and shrimp production in 2012 is valued at approximately Rs.12,330 Mn. contributing significantly to the rural economy. Further it is estimated that foreign exchange earned through export of cultured shrimps is around Rs. 1,618 Mn.

Fry Production & Distribution

The Aquaculture Development Centers (AQDCs) at Udawalawa, Dambulla, Inginiyagala, Polonnaruwa & Nuwara Eliya produced 76.40 Mn fry in 2012. A major part of these fry were sold to Community Based Organizations (CBO) managed Mini Nurseries and Private Pond Owners (PPO) for rearing to fingerling size. Decrease in fry production and distribution when compared to 2011, is due to the severe drought prevailed in the dry zone during 2012.

Table 2 - Fry Production & Distribution (Million)

	2007	2008	2009	2010	2011	2012
Fry sold to Mini Nurseries	12.08	15.13	17.34	15.79	17.55	10.85
Fry reared at AQDCs	10.99	11.78	13.32	16.14	28.80	40.05
Fry sold to PPOs	7.11	11.34	17.99	26.31	34.88	24.39
Issued to Cages	1.20	3.83	1.35	2.30	1.88	1.11
Total	31.38	42.08	50.00	60.54	83.11	76.40

Fingerling Production

In the year 2012 37.39 Mn fingerlings were produced in Aquaculture Development Centers (AQDCs) of NAQDA, CBO managed Mini Nurseries and Private Ponds. Severe drought conditions prevailed in the country during 2012, resulted in a decrease in fish fingerling production when compared to 2011.

Table 3 - Fingerling Production (Million)

	2007	2008	2009	2010	2011	2012
Fingerlings produced Mini Nurseries	4.6	6.6	8.14	8.03	8.47	5.63
Fingerlings produced AQDCs	5.3	6.7	9.62	13.75	20.35	21.18
Fingerlings produced PPOs	2.9	5.5	8.99	11.70	14.89	9.87
Cages	-	2.0	1.18	1.40	1.11	0.71
Total	12.8	20.8	27.93	34.88	44.82	37.39

Distribution of fingerlings

The fingerlings produced at AQDCs, Private Ponds, Mini Nurseries and Cages were distributed amongst major aquaculture and inland fisheries development areas as given in the following table.

Table 4 – Stocking of Fish Fingerlings - 2012

Type of the water body	Number of tanks	Fingerling Stocked (Mn)
Major Reservoirs	28	6.15
Medium Reservoirs	41	7.95
Minor Tanks	232	14.57
Seasonal Tanks	611	6.59
Ponds	686	1.34
Estate Tanks	9	0.03
Rivers and Lagoons	4	0.35
Total	1611	36.98

Fresh Water Prawn Production (Post Larvae)

16.75 Mn. Post larvae of fresh water prawn were produced at Pambala and Kahandamodara centers and stocked as follows.

Table 5 – Stocking of Freshwater Prawn Post Larvae - 2012

Type of the water body	Number of tanks	Post larvae stocked (Mn)
Major Reservoirs	18	5.29
Medium Reservoirs	24	3.43
Minor Tanks	86	5.08
Seasonal Tanks	91	0.57
Ponds	27	0.09
Lagoons	2	0.08
Total	248	14.54

Freshwater prawn production has shown a gradual increase and has resulted in enhancing income of fishermen. In 2012, freshwater prawn production was about 1160 Mt and thereby Rs. 406 Mn were contributed to the rural economy.

Programme to issue Fingerlings Free of Charge

Based on a Cabinet Approval dated 16.07.2008, stocking of fish fingerlings in the reservoirs free of charge basis commenced from 2009. The total sum allocated for this programme was Rs: 150 Mn. NAQDA received Rs: 27.30 Mn. during 2012. Under this programme 28.61 Mn. fish fingerlings and freshwater prawn post larvae were stocked in reservoirs during 2012.

Development of Reservoir Fisheries

To improve the management of inland fisheries in perennial water bodies (by preventing illegal methods of fishing) the Authority conducted 224 raids during the year 2012. In addition, to this 331 management licenses were issued and 600 fishing crafts and sets of fishing gear were distributed.

National Inland Fisheries and Aquaculture Training Institute, Kalawewa

During 2012, it provided facilities for 85 training programmes and generated an income of Rs 8.30 Mn.

Shrimp Farming Industry

Various activities were implemented during last few years through the Shrimp Farm Monitoring and Extension Unit of NAQDA to rehabilitate the shrimp farming industry, which was devastated by the White Spot disease. Main activities undertaken were Dredging of Dutch Canal; Introduction of a crop calendar and zoning; Formation of relevant rules & regulations and implementation; Regulation of shrimp hatcheries and Screening of post larvae of shrimp and broodstock. In addition, services are being provided at the Shrimp Disease Diagnosis and Health Management Laboratory at Battuluoya for shrimp farmers to detect shrimp diseases.

During 2012 under monitoring activities, 12 awareness programmes were held and 229 Aquaculture Management licenses including 186 Shrimp Farms, 38 Shrimp Hatcheries, 05 Brooders Stocking Center were issued. Further, NAQDA conducted 2,992 no. of PCR tests to screen brooders and post larvae and tested 178 water samples for improving the quality of water in shrimp hatcheries in the area. These tests were carried out by the Brackish water fish health and environmental monitoring laboratory at Battuluoya. Further to improve quality of post larvae, all the shrimp hatcheries were monitored by testing for Monodon Bacula Virus and white spot disease by officials from the brackish water fish health and environmental laboratory.

In 2012, 63 Shrimp Hatcheries and 789 Shrimp Farms were operated in Puttalam District. Shrimp post larvae production during the year was 271 Mn.

Action is being taken to expand shrimp farming under cluster farming system in North and East of the country and suitable sites have been identified. Area under shrimp farming in the District of Batticaloa is increasing gradually.

Development of Shrimp Farming in Batticaloa District

Aquatic Resource Development and Quality Improvement Project (ARDQIP) on behalf of NAQDA established a Shrimp Hatchery with the capacity to produce 20 million post larvae at Pudukudirippu. The cost of this project was Rs. 80 Mn. This hatchery was commenced operation during first quarter of 2011 on Public- Private Sector Partnership Basis and supplies the seed requirement of the shrimp farmers of the area. A private company manage the hatchery and 30.4 million post larvae were produced in 2012. This is the only hatchery available in the East and caters to the needs of the expanding shrimp industry in the Batticaloa District.

Demonstration Shrimp Farm at the Air Force Base Camp in Batticaloa continued to train shrimp farmers of the area on Best Management Practices (BMP) & sustainable development of Shrimp Farming. At present this Demonstration Farm is managed by the Air Force, Batticaloa for Shrimp Farming. 425,000 post larvae were stocked and the shrimp production obtained in 2012 was 3.5 Mt.

NAQDA has completed development of infrastructure facilities for cluster shrimp farming in Vakarai in order to create livelihoods to coastal communities who were affected by Tsunami 2004, by engaging them in shrimp farming on a cluster system. International Fund for Agriculture Development (IFAD) provided funds amounting to Rs.90.57Mn. This will be a model for the ecosystem approached shrimp farming.

Ornamental Fish and Aquatic Plant Farming

NAQDA is involved in development of new ornamental fish strains, development of technology, provide brood fish, fish disease diagnosis, provide training and technical assistance etc. to support development of ornamental fish and aquatic plant culture and exports. Aquaculture Development Centres at Rambodagalla and Ginigathena is dedicated for

ornamental fish and plants. A tissue culture laboratory established at Rambodagalla is involved in tissue culture of ornamental aquatic plants.

These centers sold 0.96 Mn ornamental fish for farmers and exporters and earned Rs. 6.51 Mn. 28,287 brooders were also sold in 2012. 45 training programmes were conducted and 1206 people were trained in ornamental fish farming in the year 2012.

“Divi Neguma” Programme

Under the above programme of the Ministry of Economic Development, following projects were implemented by NAQDA

- Fry to fingerling rearing in ponds
- Ornamental fish farming
- Food fish/prawn culture in ponds
- Integrated fish farming
- Fish culture in seasonal tanks
- Fish culture in estate tanks
- Oyster farming
- Sea bass farming
- Expansion of facilities in existing small scale ornamental fish farms

This programme provide assistance for aquaculture development at the house hold level and benefiting people who are interested in engage in aquaculture to provide nutrition and generate an additional income. Assistance provided to 2,141 small scale enterprises in Fry to fingerling rearing, Food fish culture in ponds, Integrated fish farming, Oyster farming, sea bass farming and Ornamental fish farming under this programme. Financial and technical assistance and training provided to these small scale enterprises. Around 6,430 ha of seasonal reservoirs were brought under fish culture under “Divi Neguma”.

A special programme is being implemented to support establishment of fish ponds in Estates, involving estate communities. Main aim of this programme is to enhance nutrition among estate communities and also to provide additional income for them. This programme commenced in Nuwara Eliya District is being expanded to other districts in 2013.

Sea bass Hatchery

NAQDA succeeded in breeding Sea bass under public private partnership. NAQDA provided expertise to breed Sea bass in a private hatchery. This will pave the way for expansion of Sea bass farming in Sri Lanka.

Uthuru Wasanthaya Programme - 2012

Several programmes were implemented in the North under “Uthuru Wasanthaya” for the development of Inland Fisheries and Aquaculture.

- **Details of fish fingerlings stocked in the Northern reservoirs during 2012 are given below.**

District	No. of Reservoirs	No. of Fingerlings (Mn)	No. of Freshwater Prawn Post Larvae (Mn)
Kilinochchi	5	480,000	100,000
Vauniya	41	1,435,490	384,000
Mannar	20	615,000	-
Mullaitivu	15	2,046,500	650,000
Total	81	4,576,990	1,134,000

- **Distribution of fishing boats**

28 No's fishing crafts have been distributed among Inland fishers to commence Inland fishing in Kilinochchi.

- **Mini nurseries**

Established mini nurseries at Akkarayankulam, Kilinochchi, and Vavunikulam, Vavunia to in order to increase the fish fingerling production in Northern Province.

- **Aquaculture Development Centre at Iranamadu**

Site was selected to establish an Aquaculture Development Centre at Iranamadu, Kilinochchi to produce and supply fish seed required for stocking in northern

reservoirs. Total estimated cost is Rs. Mn. 400. Perimeter survey was completed and design is in progress. Construction will commence in 2013.

- **Sea cucumber fattening in pens**

NAQDA facilitated Sea cucumber farming in Thewanpitti, Mannar south bay, Ambupuram, Valaipadu and Nachchikuda by the private sector on pilot scale.

- **Stock enhancement programme**

4.7 Mn *Penaeus monodon* were stocked in Chundikulam lagoon, Kilinochchi to increase the income of fishermen by increasing the shrimp production on lagoon.

- **Sea weed farming**

NAQDA facilitated sea weed farming in Jaffna and Mannar by the private sector on pilot scale.