

# **Annual Report**

## **2010**



**National Aquaculture Development Authority of Sri Lanka**  
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**Pelawatta, Battaramulla.**

## Introduction

The performance of the National Aquaculture Development Authority of Sri Lanka (NAQDA) during the 12 months commencing from 1/1/2010 continued to improve as in the previous years. The Authority has shown a modest improvement, in fish fingerling production and breeding activities at Aquaculture Development Centers and Extension and Regulation Activities carried out in the field by Aquaculture Extension Division as well, in the year 2010 when compared to the previous year.

The Aquatic Resource Development & Quality Improvement Project funded by Asian Development Bank has made tremendous contribution to support in major development activities, mainly providing the much needed infrastructure facilities in increasing the fish seed production of Aquaculture Development Centers (AQDCs) and extension and regulation activities of NAQDA since 2003. Though this project was closed on scheduled in June 2010, the infrastructure facilities has been supporting NAQDA for increasing fish seed production and extension and implementing the regulatory activities in developing aquaculture and aquaculture industry in Sri Lanka. One of the important facilities provided by the above project is the new building for the NAQDA head office. 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.

## 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

The inland fish and aquaculture production was 52,410 Mt. in the year 2010 which was an increase of 5850 Mt. (12.6%) over that in the year 2009.

## Foreign Exchange earned and contribution to rural economy

This inland fish and shrimp production in 2010 is valued at approximately Rs.10,524 Mn. contributing significantly to the rural economy. Further it is estimated that foreign exchange earned through export of cultured shrimps is around Rs.1,521 Mn.

## Fry Production & Distribution

The AQDCs at Udawalawa, Dambulla, Inginiyagala & Nuwara Eliya produced 60.54 Mn fry in 2010. 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. This is an increase of 21%, when compared to fry production in 2009.

*Table 2 - Fry Production & Distribution (2006-2010)*

	2006	2007	2008	2009	2010
Fry sold to Mini Nurseries	7.42	12.08	15.13	17.34	15.79
Fry reared at AQDCs	10.54	10.99	11.78	13.32	16.14
Fry sold to PPOs	13.48	7.11	11.34	17.99	26.31
Issued to Cages	-	1.20	3.83	1.35	2.30
<b>Total</b>	<b>31.44</b>	<b>31.38</b>	<b>42.08</b>	<b>50.00</b>	<b>60.54</b>

## Fingerling Production

In the year 2010 34.88 Mn fingerlings were produced in AQDCs, CBO managed Mini Nurseries and Private Ponds compared to 27.93 Mn. in 2009. This is a significant increase (25%), when compared to fingerling production in 2009.

*Table 3 - Fingerling Production (2006-2010)*

	2006	2007	2008	2009	2010
Fingerlings produced Mini Nurseries	3.6	4.6	6.6	8.14	8.03
Fingerlings produced AQDCs	5.2	5.3	6.7	9.62	13.75
Fingerlings produced PPOs	2.7	2.9	5.5	8.99	11.70
Cages			2.0	1.18	1.40
<b>Total</b>	<b>11.5</b>	<b>12.8</b>	<b>20.8</b>	<b>27.93</b>	<b>34.88</b>

## Distribution of fingerlings

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

*Table 4 – Stocking of Fish fingerlings - 2010*

Type of the water body	Number of tanks	Fingerling Stocked (Mn)
Major Reservoirs	32	5.59
Medium Reservoirs	63	9.66
Minor Tanks	293	11.23
Seasonal Tanks	443	6.60
Ponds	569	1.12
Estate Tanks	8	0.06
Rivers and Lagoons	6	0.08
<b>Total</b>	<b>1414</b>	<b>34.34</b>

### Fresh Water Prawn Production (Post Larvae)

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

*Table 5 – Stocking of Freshwater Prawn post Larvae - 2010*

Type of the water body	Number of tanks	Post larvae stocked (Mn)
Major Reservoirs	18	2.10
Medium Reservoirs	38	2.91
Minor Tanks	92	4.15
Seasonal Tanks	90	1.72
Ponds	28	0.10
Rivers & Lagoons	9	0.56
<b>Total</b>	<b>275</b>	<b>11.54</b>

Freshwater prawn production has shown a gradual increase and has resulted in enhancing income of fishermen. In 2010, freshwater prawn production was about 240 Mt and thereby Rs. 96 Mn were contributed to the rural economy.

### Programme to issue Fingerlings on Free of Charge

On a Cabinet Approval dated 16.07.2008, to stock fingerlings in the reservoirs on free of charge basis for five years, commenced from 2009. The total sum allocated for this programme was Rs: 150 Mn. NAQDA received Rs: 30 Mn. during 2010 and will receive further Rs: 95 Mn. during 2011– 2013 from General Treasury to continue the above programme. Under this programme 20.87 Mn. fish fingerlings and 10.20 Mn. post larvae of fresh water prawns were stocked in reservoirs during 2010.

### **Polonnaruwa Aquaculture Development Centre**

In order to increase fingerling production, NAQDA has taken back Polonnaruwa Aquaculture Development Centre, which was leased out to Ujay Aqua Enterprises in 1992 under policy decision taken by the government in 1990 to withdraw state patronage provided to inland fisheries sector. Polonnaruwa Centre was in very neglected state and major rehabilitation of infrastructure is required. Production of fish fry commenced in latter part of 2010, using available facilities.

### **Management Measures**

To improve the management and regulatory activities of inland fisheries in perennial water bodies (by preventing illegal methods of fishing) the Authority conducted 247 raids during the year 2010. Further this Authority issued 3348 management licenses and registered 1518 fishing crafts.

### **National Inland Fisheries and Aquaculture Training Institute, Kalawewa**

During 2010, it provided facilities for 53 training programmes and generated an income of Rs 5.30 Mn.

### **NAQDA Head Office Building**

NAQDA moved to a new building in January 2010 as its Headquarters at Battaramulla. The total cost of construction of this new headquarters was Rs. 260 Mn and funded by Aquatic Resource Development and Quality Improvement Project.

### **Shrimp Farming Industry**

Various activities were implemented during last few years to rehabilitate the shrimp farming industry, which was devastated by the White Spot disease through the Shrimp Farm Monitoring and Extension Unit of NAQDA. Main activities implemented 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 2010 under monitoring activities, 03 court cases were completed against unauthorized farmers, 10 awareness programmes were held and 112 Aquaculture Management licenses were issued. Further NAQDA conducted 1299 no. of PCR tests to screen brooders and post larvae and tested 130 water samples for improving the quality of water in shrimp hatcheries in the area by the Brackish water fish health and environmental monitoring laboratory at Battuluoya.

In 2010, 63 Shrimp Hatcheries and 777 Shrimp Farms were operated in Puttalam District. This Unit renewed licenses of 46 Shrimp Farms, 42 Shrimp Hatcheries and 07 Brooders Stocking Centers. Shrimp post larvae production during the year was 296 Mn.

Action is being taken to expand shrimp farming under cluster farming system in North and East of the country and suitable sites has been identified.

#### ***Development of Shrimp Farming in Batticaloa District***

ARDQIP on behalf of NAQDA established a Shrimp Hatchery with the capacity to produce 20 million post larvae/year at Pudukudiruppu. The cost of this project was Rs: 80 Mn. This hatchery will commence operation during first quarter of 2011 on Public- Private Sector Partnership Basis and supply the seed requirement of the shrimp farmers of the area. Kings Aquaculture (Pvt) Ltd was selected as the private party to manage this hatchery.

NAQDA also established a Demonstration Shrimp Farm at the Air Force Base Camp in Batticaloa at a cost of Rs. 11.24Mn under the IFAD funds. This demonstration farm will train officers of NAQDA and 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.

NAQDA has completed plans to develop 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. Survey, Demarcation of the lands and Designing of the cluster shrimp farm at Karyankerni completed during the year 2009. Beneficiaries were selected in 2010. International Fund for Agriculture Development (IFAD) providing funds for this and estimated cost is Rs. 109 Mn.

## 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 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 0.93 Mn ornamental fish for farmers and exporters and earned Rs. 6.5 Mn. 17 training programmes were conducted and 328 people were trained in ornamental fish farming.

## Uthuru Wasanthaya Programme

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 are given below.**

District	No. of Reservoirs	No. of Fingerlings (Mn)	No. of Freshwater Prawn Post Larvae (Mn)
Kilinochchi	06	0.41	-
Vauniya	25	0.91	0.40
Mannar	01	0.15	-
Mullaitivu	04	0.34	0.30
<b>Total</b>	<b>36</b>	<b>1.81</b>	<b>0.70</b>

- **Distribution of fishing gears, boats, bicycles and fish boxes**

640 No's fishing crafts, 640 sets of fishing gear, 175 bicycles and fish boxes have been distributed among Inland fishers to commence Inland fishing and fish sales.

- **Mini nurseries**

Four sites were selected at Giant Tank – Mannar, Muthiyankaddu - , Puthumurippu, and Kariyalainagapaduwa – Kilinochchi districts to establish mini nurseries in order to increase the fish fingerling production in Northern Province.

- **Aquaculture Development Centre**

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

- **Sea cucumber fattening in pens**

Pilot project of sea cucumber farming in pens was started at Pllamunai, Mannar in order to introduce technology for sea cucumber fattening in pens and popularize among the community. Construction of pen completed and farming will be commenced in 2011

- **Oyster culture**

Oyster culture project was started at Achchankulam, Mannar and proposed to install 30 racks and 10 rafts. 6 Racks & 10 Rafts were installed and balance racks construction is in progress. Monitoring of growth performance of Oysters is in progress. The objective of this pilot project to, demonstrate and transfer technology of oyster culture for livelihood development of internally Displaced People (IDPs), use the available resources for aquaculture and reduce poverty among the IDPs by enhancing their income.

- **Sea Cucumber Hatchery**

Land has been allocated to construct a sea cucumber hatchery at Oleithuduwai, Mannar to supply Juveniles of sea cucumber required for culture and livelihood development of coastal communities

- **Stock enhancement programme**

1.5 Mn *Penaeus monodon* were stocked in Nandikadal lagoon, Mullaitivu to increase the income of fishermen by increasing the shrimp production on lagoon.

- **Resource survey for coastal aquaculture and mariculture development**

Resource survey for coastal aquaculture and mariculture development commence in Kilinochchi, Mannar, Mullaitive and Jaffna districts for the Identification of land area for Coastal aquaculture and brackishwater shrimp farming, Identification of suitable lagoons for cage culture, pen culture and for stock enhancement