

Blue Revolution: RSTV – In Depth

Anchor: Aditi Girotra

Context:

With a long coastline of around 7500km and around five lakh fresh water ponds, tanks, etc., India has a huge potential in the fisheries sector. Government of India aims to leverage the potential through Blue Revolution 2.0.

What is Blue Revolution?

- Blue revolution refers to the time period of intense growth in the worldwide aquaculture industry from the **mid-1960s to the present day**.
- It began in China and it saw a **rapid growth** in the production of fish and marine products through a package programme.
- Aquaculture witnessed an average growth rate of **9% per year** during the period, with India among the fastest.
- Worldwide aquatic production increased from 2 million ton/year in the 1950s to **50 million ton/year**.
- The growth was driven by the combined effort of population growth, increased income levels, urbanisation, **expansion of fish production** and a **more efficient distribution channel**.
- It helped the **nutrition security** of around 430 Cr. people worldwide by supplying more than 15% of their animal protein consumption, micronutrients and essential lipids.

What is Blue Revolution 2.0?

- Government of India has announced **Neel Kranthi Mission** or Blue Revolution 2.0 for the development and management of fisheries across inland aquaculture, deep sea fishing and mariculture sectors.
- It will also expand the activities of the **National Fisheries Development Board (NFDB)**.
- It attempts to develop fisheries in a **sustainable manner** keeping in view the concerns of biosecurity and environment conservation.
- The focus areas of Blue Revolution 2.0 include **strengthening** fisheries sector, increasing seafood **output** and **export**.

What are the Objectives of Blue Revolution 2.0?

- Tap the fish potential both in inland and marine sector;
- Triple the production by 2020
- Transform fisheries sector with special focus on new technologies and processes
- Triple export earnings by 2020 With focus on benefits flow to fishers and fish farmers
- Enhance food and nutritional security of the country

History of Blue Revolution in India:

1965-1972: India made great progress in the farming sector through **Green Revolution**. It resulted in doubling the output of wheat by the adoption of improved technology.

1985-1990: First Blue Revolution was launched through the **7th five year plan**, in line with the Green Revolution.

- **Fish Farmers Development Agency (FFDA)** was launched by the government.

- It promoted the sector by adopting new technologies in fish breeding, rearing, marketing and export.

1992-1997: **Intensive Marine Fisheries Program** was introduced in the **8th five year plan**.

- It improved the collaboration with multinational companies (MNCs).
- Fishing harbours were established at Thoothukudi, Porbandar, Honawar, Visakhapatnam, Kochi, Port Blair, etc.
- Research centres were also set up across India.

2014: New initiatives were introduced for transforming the fisheries sector with increased investment, better training programs and infrastructure.

2019: As a significant step, the Government established a separate **Ministry of Fisheries, Animal husbandry and Dairying** and a **Department of Fisheries** under the same. The Interim budget of announced Rs. 3737 Cr. for the new ministry and Rs. 804 Cr. for fisheries sector alone.

2019: Pradhan Manthri Matsya Sampada Yojana was introduced.

2019: 'Taking Blue Revolution to India's Hinterland' was the theme of the 5th edition of **Aqua Aquaria India**, an international expo on fisheries and aquaculture recently held in Hyderabad.

Key stats on Fisheries in India:

- India is the **2nd largest producer** in the world with a production of around **7 Million ton/Annum**. Out of the total production, 3 million ton belongs to marine fishing and the remaining from fresh water fishing.
- Fishing sector contributes to around **1% of the overall GDP** and **37% of agriculture GDP**.
- Contributing to about **10% of total exports**, India is the **4th largest exporter** of fisheries products in the world. India earned around **\$7 billion** (around Rs. 47600 Cr.) from fisheries export in 2017-18. At 20%, fisheries is the single largest portion of agriculture export of India.
- Largest markets for Indian seafood is to **USA (26%)**, South East Asia (25%) and European Union (20%).
- More than **5 million Indians** are employed in the sector out of which nearly 3.5 million and 10.5 million belong to marine sector and inland or aquaculture sector respectively.
- The **growth rate** of fisheries sector in India is around **6-10%** in the past five years compared to an average 2.5% growth rate in the farm sector during the same period. The average growth rate in the past 10 years is 14.8% whereas the global average growth rate during the period is 7.5% only.
- Fish production in India has increased by 5 times since 1947 with the major industries of the sector being located in the coastal areas.

Status of Fisheries Sector Around the world:

- Fisheries sector employs around 14 Cr. people worldwide in marine fishing alone. Rate of **employment growth** in fisheries is higher than the same in traditional agriculture. It is also higher than the overall population growth.
- Fish and seafood are **among the most traded food commodities** Around 53% of the trade originates in developing **countries** alone.
- Aquaculture is practiced in **China and South East Asia** for thousands of years. They have been growing freshwater fish for food in managed ponds. Ex.: Prawn ponds in Thailand.
- **China** is the largest fisheries producer in the world (60 million ton/year). China contributes around two third (by weight) and around 50% (by market value) of total aquaculture production worldwide.
- **Asian countries** contribute to around 90% of aquaculture worldwide. However, only a few species such as milk fish and much lower quantity is grown in Asian brackish waters.

- **Indian Ocean Rim countries** alone have a fisheries potential of around \$1.2 trillion even though India's share is not much.
- Global aquaculture industry is worth **\$243 billion** with an average growth rate of 6% per year.
- **Trout and salmon** are grown in brackish and salt waters of Northern Europe, North America, Western South America, New Zealand, etc. Ex.: Salmon cages in Norway
- Freshwater species cultivated in North America and Europe are blue trout, rainbow trout, etc.
- Other major species cultivated across the world are coys and other oysters, shrimps, etc.

What is the Importance of Blue Revolution in the Context of India?

- Blue economy is a term used for describing an aquatic or water based economy.
- It can help ensure prosperity of farmers by providing **additional income** and more **employment**
- It is an instrument for realising the target of **doubling farmers' income by 2022**.
- With the help of '**blue economy**', India could transform from a \$2.7 trillion economy to a \$10 trillion economy.
- Fishing is a primary source of **livelihood** for several communities in India. In the recent years, **mariculture** is also growing with the production of mussels, oysters, etc.
- Mariculture is the cultivation of marine organisms in the open-ocean or enclosed spaces filled with sea water.
- The **peninsular region** of India is covered on all 3 sides by ocean. There is tremendous fresh water resources as well.
- Blue Revolution is a tool for promoting fishing which is an activity **closely allied with farming**.
- It helps realise the aquaculture potential as an **environment friendly** instrument for the socio economic development of rural India.
- Aquaculture is a solution accepted worldwide for **food and nutritional security**.

Pradhan Manthri Matsya Sampada Yojana:

- It was announced in the **interim Budget** of 2019-20.
- It aims to increase the production in the fisheries sector to **15 million ton/year by 2020** and to 20 million ton/year by 2022-23.
- It is a scheme under the **Department of Fisheries** and it aims to realise a robust fisheries management framework.
- The purpose of the scheme is to address critical gaps in the value chain such as **infrastructure modernisation, traceability, production, productivity, post-harvest management, quality control**, etc.
- It intends to make India **hotspot for fisheries** and aquatic production through appropriate policy measures, marketing and infrastructure support.
- It aims to bring fishermen under the ambit of **farmer welfare programs** and **social security schemes**.

What are the Challenges in India's Fisheries Sector?

- India is able to exploit only a fraction of the **fishing potential** Only around 40% and 15% of fresh water bodies and brackish water resources respectively are utilised so far.
- **Sustainable fishing** is a challenge to India just like any other major fishing countries. Reckless exploitation of limited aquatic resources including endangered marine species.
- According to the **Food and Agriculture Organization (FAO)**, due to overfishing, around 90% of the global marine fish stock has been either fully exploited or depleted to an extent in which a recovery is impossible biologically.
- Discharge of **harmful substances** like plastic and other wastes deteriorates the aquatic ecosystem.
- **Global warming and climate change** adversely impacts the marine habitats and life forms.

- The fast growth in human **population** poses additional challenges of food and nutritional security.

Way Forward:

- There should be more focus on increasing the **export** of fisheries products with a target of realising the potential of Rs. 4.5 lakh Cr.
- There should be **expansion** of both freshwater and marine fishing through utilising the unutilised and underutilised potential of resources. Mari-culture needs to be encouraged utilising the long coastline.
- A **coordinated effort across all food systems** is required against **climate change**.
- **Responsible fishing practices** using newer **scientific technologies** in fishing, freezing, packaging and exporting need to be promoted, regulated and monitored.
- **Logistic capacity** through freshwater, seawater, road, airways, etc. need to be enhanced. Ex.: Banaras-Kolkata water way inaugurated recently.
- **Shipping lanes** need to be developed across the coasts towards North East India, Bangladesh, Myanmar, Sri Lanka, South East Asia, Thailand and upto China accompanied by the acquiring of new vessels.
- Respective authorities must ensure that the **economic benefits** are reaching the primary producers, the fishermen and fish farmers.
- Government schemes like **Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)** need to be utilised more for developing of farm ponds.
- It will supplement water for irrigation along with providing additional income through pisciculture (fish farming).
- Increased irrigation will help improve the productivity from the present level of 1-1.25 ton/hectare to 2.5-2.6 ton/hectare.

Conclusion:

- India's long coastline and fresh water bodies have tremendous potential to strengthen the economy, especially through the Blue Revolution 2.0.
- The development of fisheries sector needs to be a coordinated effort considering the livelihood security of producers and the conservation of the environment.