Blue Revolution: RSTV – In Depth

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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 cops 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.