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Seminar -1

Coastal Community: Livelihood Diversification for Resilience and Opportunity

Synopsis

India has 7,516 km coastline spans nine states—Gujarat, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu, Andhra Pradesh, Odisha and West Bengal, sustaining millions through fishing, tourism and maritime industries. These coastal communities are the backbone of the blue economy, yet they face mounting threats from climate change, rising sea levels, coastal erosion and depleting fish stocks. India recorded 175.45 lakh tonnes of fish production in 2022-23, yet some regions like Dakshina Kannada saw a 43 per cent decline in fish production due to climate change and El Niño effects. Frequent cyclones, habitat destruction and economic instability have made traditional livelihoods increasingly uncertain. Many communities struggle with poor infrastructure, resource depletion and market fluctuations, further deepening their vulnerabilities. To adapt, they are embracing aquaculture, eco-tourism and seaweed farming, creating new economic opportunities and strengthening coastal resilience.

With this brief background, the current seminar has been conceptualized with the following objectives:

- 1) To understand the concept of livelihood diversification
- 2) To explore various livelihood strategies of coastal communities
- 3) To enlist the strategies for development of seaweed value chain
- 4) To review the research studies related to coastal community diversification

Concept of Livelihood diversification: Livelihood diversification is rooted in socio-economic and environmental theories. The Sustainable Livelihoods Framework (SLF) highlights asset-based adaptation through natural, financial, human, physical and social capital in securing livelihoods. The Push-Pull-Mooring (PPM) model explains why coastal communities shifts to new economic activities driven by environmental distress (push), new opportunities (pull) and external factors influencing transitions (mooring). These frameworks help assess diversification strategies.

Livelihood strategies of coastal communities: Various livelihood strategies of coastal communities are, **Mangrove Based Livelihoods**-Restoration, sustainable honey harvesting, eco-tourism and adventure sports; **Marine-Based Enterprises**-Sustainable fisheries, mariculture and marine ecotourism; **Non-Marine Activities**-Handicrafts and Cottage Industries, Coir products, seashell crafts and drift wood aesthetic; and **Vertical Ocean Farming**- Cultivation of seaweed, shellfish and marine crops for food, biofuel and pharmaceuticals.

Seaweed Value Chain Development strategies: India's vast seaweed potential remains underutilized despite rich marine resources. Expanding cultivation can drive industries like food, biofuels and pharmaceuticals. Value addition through bio-fertilizers, animal feed and biodegradable products enhances

economic benefits. Strengthening market linkages, research and private investment will boost industry growth and coastal sustainability. Various Government Initiatives to support coastal livelihoods are, Pradhan Mantri Matsya Sampada Yojana for fisheries, Blue Revolution for aquaculture and Sagar Mala for port-led development. Marine Fisheries Policy ensures sustainability, while the National Coastal Mission strengthens climate resilience. The Seaweed Mission promotes large-scale cultivation and industry growth, strengthening coastal economies and sustainability.

Challenges: Coastal communities face resistance to change, risk aversion and attachment to traditional fishing. Limited financial access, weak market linkages and lack of skills hinder diversification. Climate change, habitat degradation and policy gaps further challenge sustainable livelihood transitions.

Innovative approaches: Storytelling and cultural integration strengthen community identity, fostering entrepreneurship. Community-led innovation labs and cooperative ventures support small businesses and economic resilience. Showcasing successful role models and promoting autonomy inspire diversified livelihoods. Micro-entrepreneurship programmes enhance financial independence and sustainable coastal development.

Review of research studies:

Salim *et al.* (2019) studied 1,259 fishermen in Elamkunnappuzha and Poonthura, finding 67 per cent lacked alternative livelihoods, causing economic vulnerability. Awareness of climate change was high, but adaptation was limited by financial and social constraints. Preferred livelihoods were daily wage labour at 70.56 per cent in Poonthura and Self-help groups at 61.15 per cent in Elamkunnappuzha. The study highlights the need of policy support and skill development for climate resilience.

Patil *et al.* (2024) assessed mariculture's viability in Udupi, Karnataka, highlighting the 2S+L cage system as a sustainable alternative to overfished open-access fisheries. Sea bass farming had a 56% mortality rate, yielding 2,835 kg, while red snapper had 4.35% mortality, producing 990 kg. Feed costs were ₹2,80,890 for sea bass and ₹1,24,541.25 for red snapper. Net returns per kg were ₹233.37 and ₹122.94 respectively. Mariculture ensures economic stability and conservation and highlights the need for strategic investment to enhance its scalability.

Conclusion:

The future of coastal communities depends on how effectively policies and initiatives align with their evolving needs. The focus should be on investing in skill development, infrastructure and financial inclusion to empower these communities. With the right support, they can transition into resilient, self-sustaining economies. Strategies must integrate local strengths with modern opportunities, ensuring long-term prosperity. The responsibility lies in making this vision a reality through proactive governance and community-driven action.

References:

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- SALIM, S. S., JOSEPH, L., JAMES, H. E., SHINU, A. M., ATHIRA, N. R. AND SMITHA, R. X., 2019, Assessing the alternative livelihood options for climate change vulnerable coastal fishing villages in Kerala, India. *Int. J. of Environ. Clim. Change.*, **9**(4): 204-216.

