

Fish processing and marketing in Paradeep, east coast of India: a sustainable economic goal

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India is one of the largest producers of fish in the world, ranking second in aquaculture and third in overall fish production. With a coastline of 7,516 km and extensive inland water resources, fish processing plays a crucial role in India's seafood industry, contributing significantly to exports, employment, and food security.

Materials for dried fish

Fish

- Norwegian cod
- Bombay duck
- Skipjack tuna
- Ribbon fish

Ingredients

- Preservatives
- Salt
- Spices

Drying Methods


Traditional


- Sun-drying
- Smoke-drying
- Salt-drying


Advanced Technology


- High pressure processing
- Pulse light technology
- Pressure shift freezing
- Pressure assisted thawing
- Pulse electric field

Dried Fish Products


Stockfish


Clipfish


Arabushi


Cakalang fufu

Health Benefits

Disease prevention:

- Osteoporosis
- Cancer
- Cardiovascular diseases

Physicochemical & Biochemical characteristics

pH	Moisture
a _w	Lipid
TBARS	Protein
Colour	Ash

Sensory Attributes

Colour, Flavour, Texture, Appearance, Odour

Microbial Characteristics

Bacteria: *Escherichia coli*, *Bacillus* spp., *Micrococcus* spp.

Fungi: *Aspergillus* spp., *Penicillium* spp.

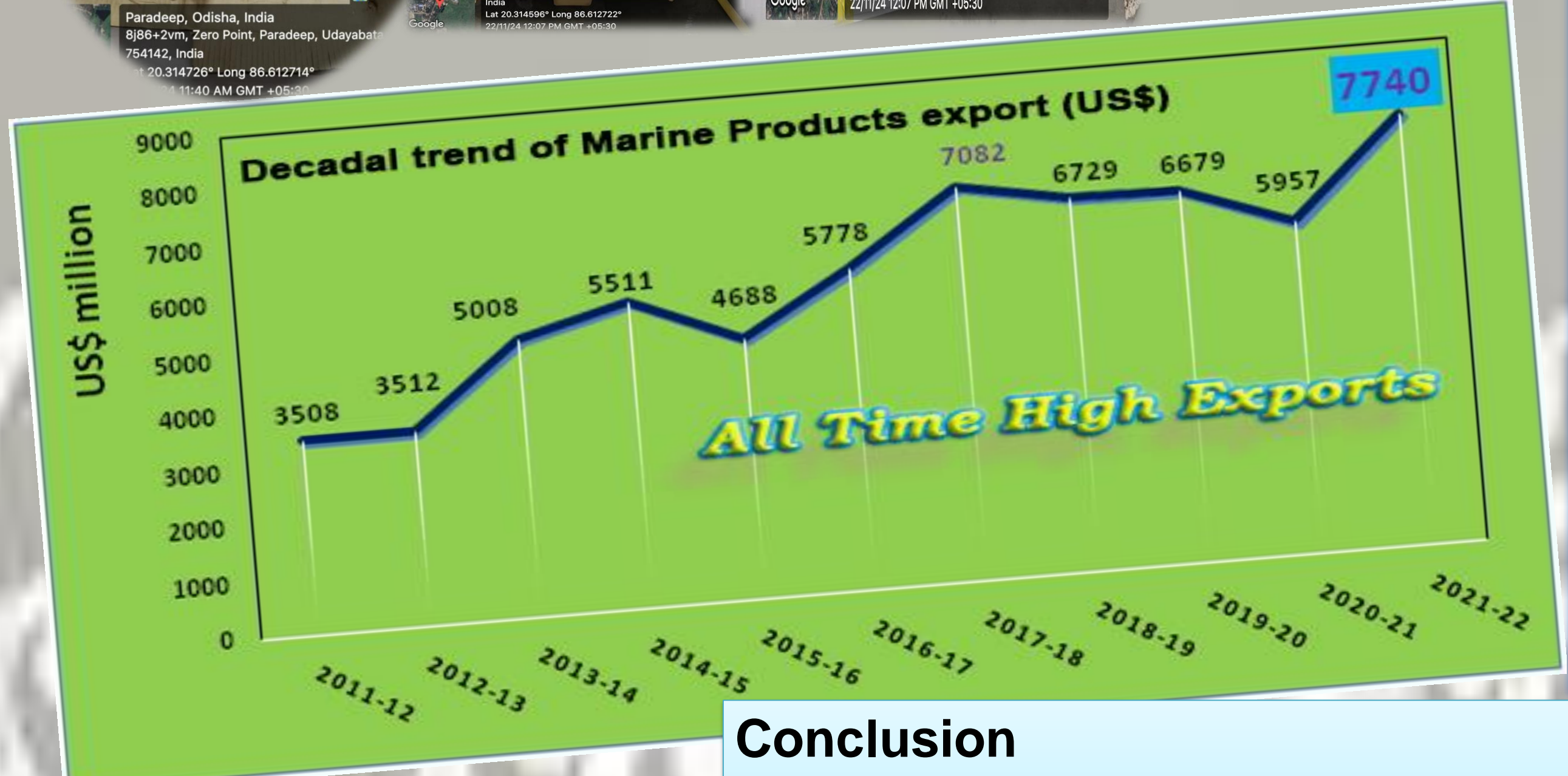
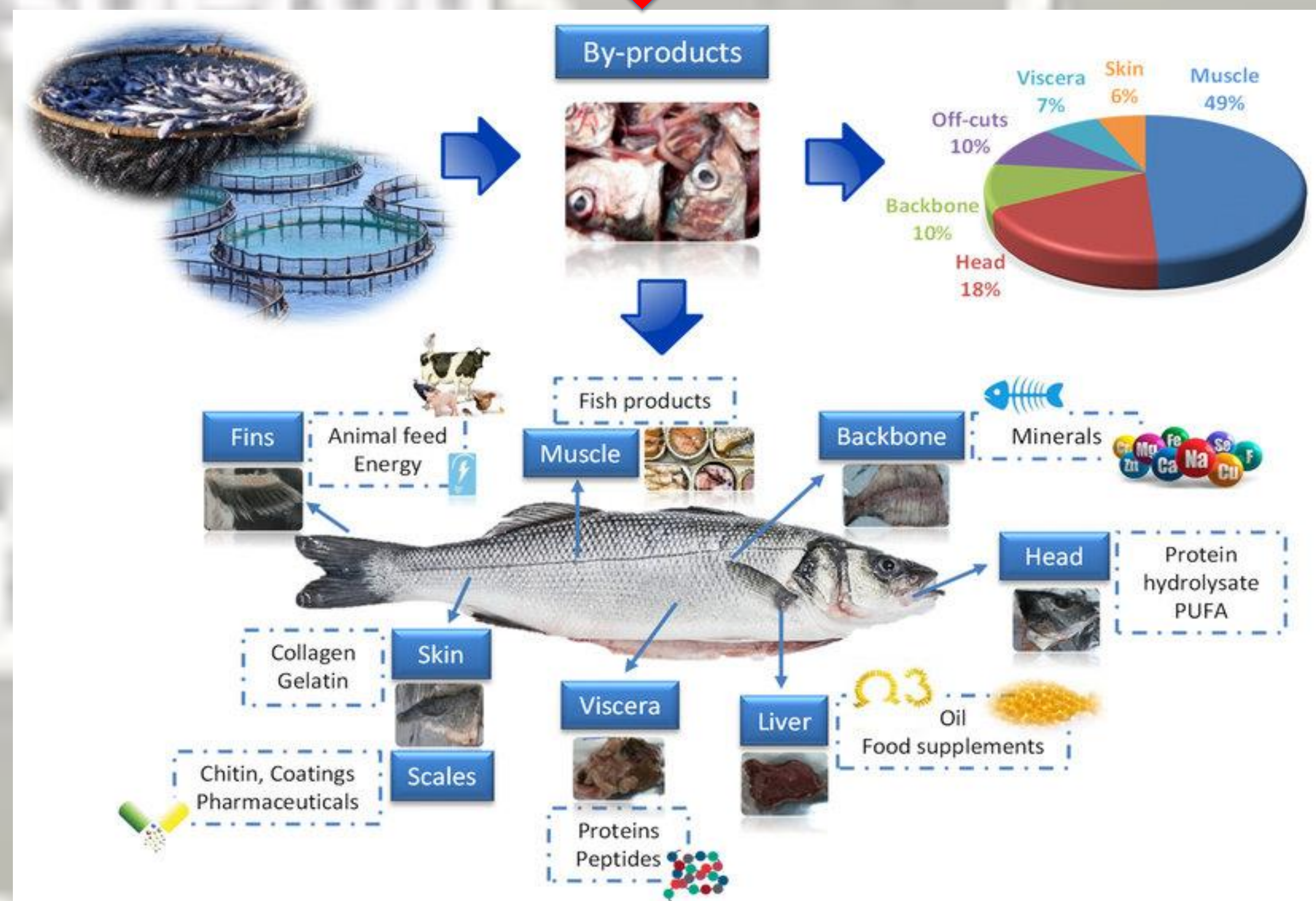
Safety Challenges

Microbes, Heavy Metals, Preservatives, Too much salt



Paradeep has several seafood processing and export units approved by MPEDA. These facilities handle:

- Shrimp Processing** (Frozen & Value-Added)
- Fish Freezing & Export** (Pomfret, Ribbonfish, Seer Fish, Mackerel, etc.)
- Dry Fish Production** (Sun-dried fish for domestic markets)
- Surimi Processing** (Fish paste for ready-to-eat products)
- Fish Meal & Fish Oil Extraction** (Used in animal feed and nutraceutical)



SOARING SEAFOOD EXPORTS IN 2023-2024

India's seafood exports to the UAE saw significant growth in 2023-2024

Total Exports

+36%
Quantity (MT)

+5%
Value (USD)

Frozen Fish

+240%
Quantity (MT)

+253%
Value (USD)

Chilled Items

+8%
Quantity (MT)

+1%
Value (USD)

Frozen Shrimp

+17%
Quantity (MT)

Frozen Squid

+15%
Quantity (MT)

Despite increased quantities, some items saw a dip in value due to lower unit prices.

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Conclusion
Despite its huge potential, India's fish processing industry faces **infrastructure gaps, quality challenges, sustainability issues, and market risks**. Strengthening cold storage, adopting modern technology, ensuring traceability, and diversifying exports can improve the sector's long-term growth and global competitiveness.