



## Blue Economy-Wave 34 (Aquaculture)



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was initiated only in early 1990s, which developed into a major export oriented sector in subsequent years. However, commercial farming was confined to a single commodity, shrimp, due to their high export potential. India has an estimated total estuarine area of 3.9 million hectares; of which, 1.2 million hectares of coastal salt-affected lands have been identified to be potentially suitable for brackish water shrimp farming. Of this, about 15 percent of the potential area has been put into aquaculture purpose. About 9 million hectares of salt-affected land has been estimated in the hot semi-arid

### Brackishwater aquaculture

As far as brackish water aquaculture in India is concerned, it has a long history of traditional practice in bheries of West Bengal and pokkali fields of Kerala. Scientific farm management in the country

(Series on "Blue Economy" By Capt. Gajanan Karanjikar)

### Table : Tweaking the Indicators to Suit India

and arid eco-region of northern plains and central high lands in the states of Haryana, Rajasthan, Uttar Pradesh, Maharashtra and Gujarat with surface and sub-soil saline water. Apart from the giant tiger prawn (*P. monodon*), certain marine/brackish water fish/shrimp species such as milkfish, pearl-spot and mullets have shown a lot of promises for commercial aquaculture in such inland saline soil/water areas. Production potential ranging from 0.5 to 3 tonnes/hectare/year has been demonstrated from such waters. (Handbook of Fisheries and Aquaculture, 2013, ICAR, India).

Sewage-fed fish culture which is not new as far as India is concerned. It is estimated that at present there are more than 130 wastewater aquaculture units in India covering about 10 000 ha. Almost 80 percent of these are located in West Bengal, where sewage is extensively used as a fertilizer for fish pond. Running water fish culture, wherein, the water from hill-streams/streams are made to flow through a series of dug-out embankment ponds constructed along the course of the stream/river using diversion canals/pipes. This helps maintain a mild water flow through the culture ponds. Screens of fine meshed nets are erected at the inlet

State-wise details of Tiger shrimp production 201213\*

Sl. No	State	Total 2011-12			Total 2012-13			Productivity (MT /ha/yr)
		Area (ha)	Production (MT)	Productivity (MT /ha/yr)	Area (ha)	Production (MT)	Productivity (MT /ha/yr)	
1	West Bengal	48 558	45 999	0.95	48 410	52 581	1.09	
2	Orissa	8 597	10 901	1.27	6 256	14 096	2.25	
3	Andhra Pradesh	35 274	51 081	1.45	15 925	25 948	1.63	
4	Tamil Nadu	5 360	12 097	2.26	6 293	17 220	2.74	
5	Kerala	12 809	8 138	0.64	12 917	5 175	0.4	
6	Karnataka	650	609	0.94	240	180	0.75	
7	Goa	53	51	0.96	30	48	1.61	
8	Maharashtra	1 098	1 721	1.57	1047	2 010	1.92	
9	Gujarat	1 971	4 869	2.47	1 992	6 045	3.03	
	Total	114 370	135 465	1.18	93 110	123 303	1.32	

(Source:MPEDA,Kochi)

\* Production from Aquaculture farms

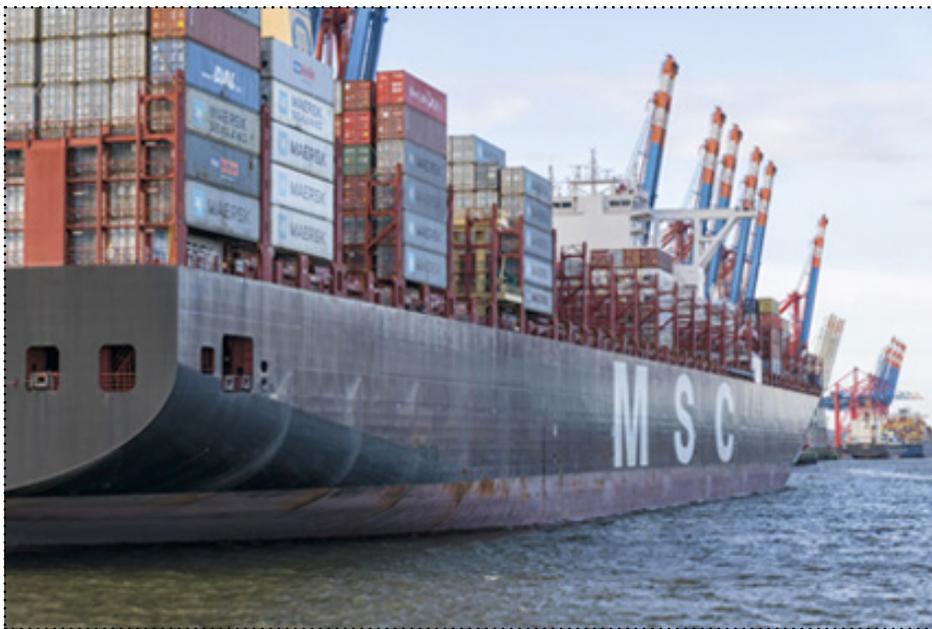
and outlet of the ponds to prevent the entry and escape of organisms to and from the ponds.

According to the Food and Agriculture Organization (FAO), aquaculture "is understood to mean the farming of aquatic organisms including fish, molluscs, crustaceans and aquatic plants. Farming implies some form of intervention in the rearing process to enhance production, such as regular stocking, feeding, protection from predators, etc. Farming also implies individual or corporate ownership of the stock being cultivated.

Food and Agriculture Organization (FAO), oldest permanent specialized agency of the United Nations, established in October 1945 with the objective of eliminating hunger and improving nutrition and standards of living by increasing agricultural productivity. Its Latin motto, fiat panis, translates to "let there be bread". Founded in October 1945, the FAO is the oldest existing agency of the U.N.

(To be continued...)

## MSC to Roll-Out Carbon Offsetting Option for Customers



The Geneva-headquartered company added that it was "actively exploring and trialling a range of alternative fuel and propulsion technologies to support the container shipping industry's long-term goals to decarbonise

Since early 2019, it has been developing its 'MSC Carbon Neutral Programme' with low carbon solutions provider South Pole, which will "deliver measurable benefits aligned with the goals of the Paris Agreement and the UN Sustainable Development Goals".

Under the programme, shippers and forwarders can compensate the emissions from the transport of their cargo by financially contributing to two selected projects that reduce emissions.

### The carbon footprint of shipments are measured

The carbon footprint of shipments are measured, then South Pole certifies that a corresponding amount of carbon credits from the selected two projects is permanently cancelled on behalf of MSC customers in the Verra Registry – a trusted emissions registry run by Verra, an internationally recognised, third-party verification standard.

These carbon credits are assigned serial numbers in a publicly accessible registry to ensure claims are not counted twice.

"MSC clients are given the opportunity to contribute to projects that not only mitigate global CO2 emissions,

but also improve lives on the ground in communities in China and Zimbabwe – from the development of cleaner energy and combating poverty to improving skills and ensuring food security," said Natalia Gorina, commercial director at South Pole.

"We congratulate MSC on this important effort to further green its fleet and for facilitating their customers to be more climate-friendly," added chief executive Renat Heuberger. "Transformational change won't happen overnight, but each step we take along a shared, ambitious climate journey is bringing us closer to where we need to be."

### We have partnered with South Pole, a leading, certified third party, to help bridge the gap between shipping today and the zero-carbon future we all aspire to

MSC chief operating officer Claudio Bozzo said: "We have partnered with South Pole, a leading, certified third party, to extend the MSC Carbon Neutral Programme and help bridge the gap between shipping today and the zero-carbon future we all aspire to."

The Geneva-headquartered company added that it was "actively exploring and trialling a range of alternative fuel and propulsion technologies to support the container shipping industry's long-term goals to decarbonise".