

Present status and future prospects for inland aquaculture in India with special reference to the state of Maharashtra

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Current status of Fish Production

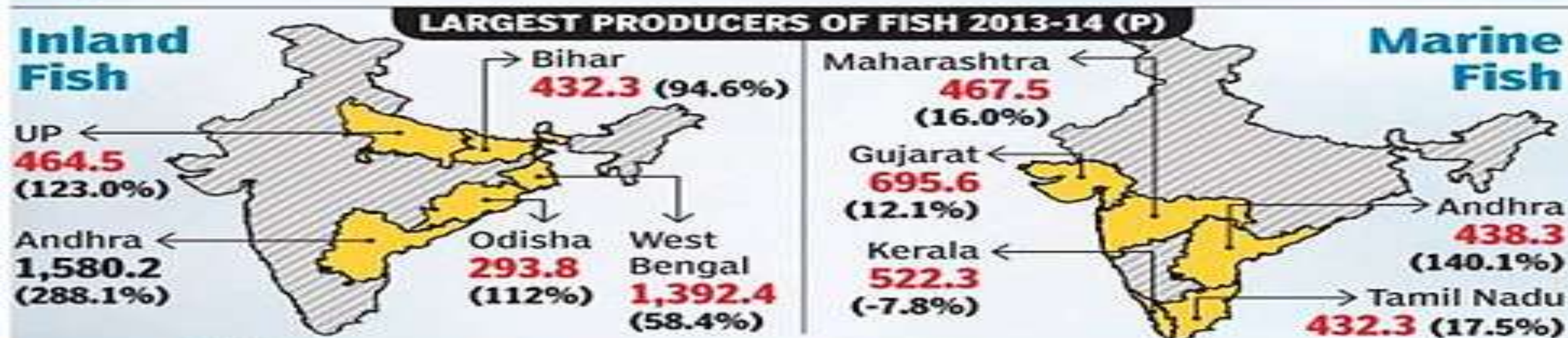
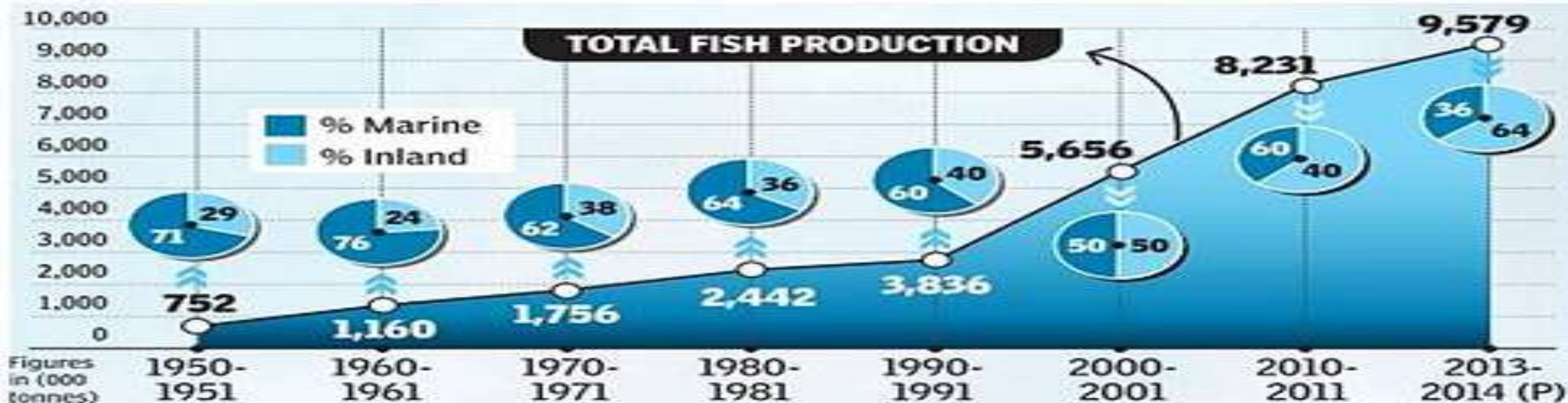
- ▶ India ranks 2nd in farmed fish production after China
- ▶ 5th in Asian Shrimp production

Farmed Fish Production

Country	Million Tons	% of total production
China	36.73	61.35
India	4.64	7.76
Vietnam	2.67	4.46
Indonesia	2.3	3.85

* Source - FAO 2012

Trend in Fish Production (Marine & Inland)



Figures in brackets are % increase since 2000-01

Country wise Biodiversity Utilisation in Aquaculture

Country	No. of species cultures	Crude Biodiversity Utilization Index
S. Korea	51	0.50
China	29	0.28
Indonesia	23	0.22
India	13	0.13

Commercially important varieties

➤ Freshwater

Indian Major Carps

Chinese Carps

Magur

Singhi

Pangassius

Tilapia

Murrels

Freshwater Tiger Prawns

➤ Brackishwater

Black Tiger Prawns

Pacific White Prawns

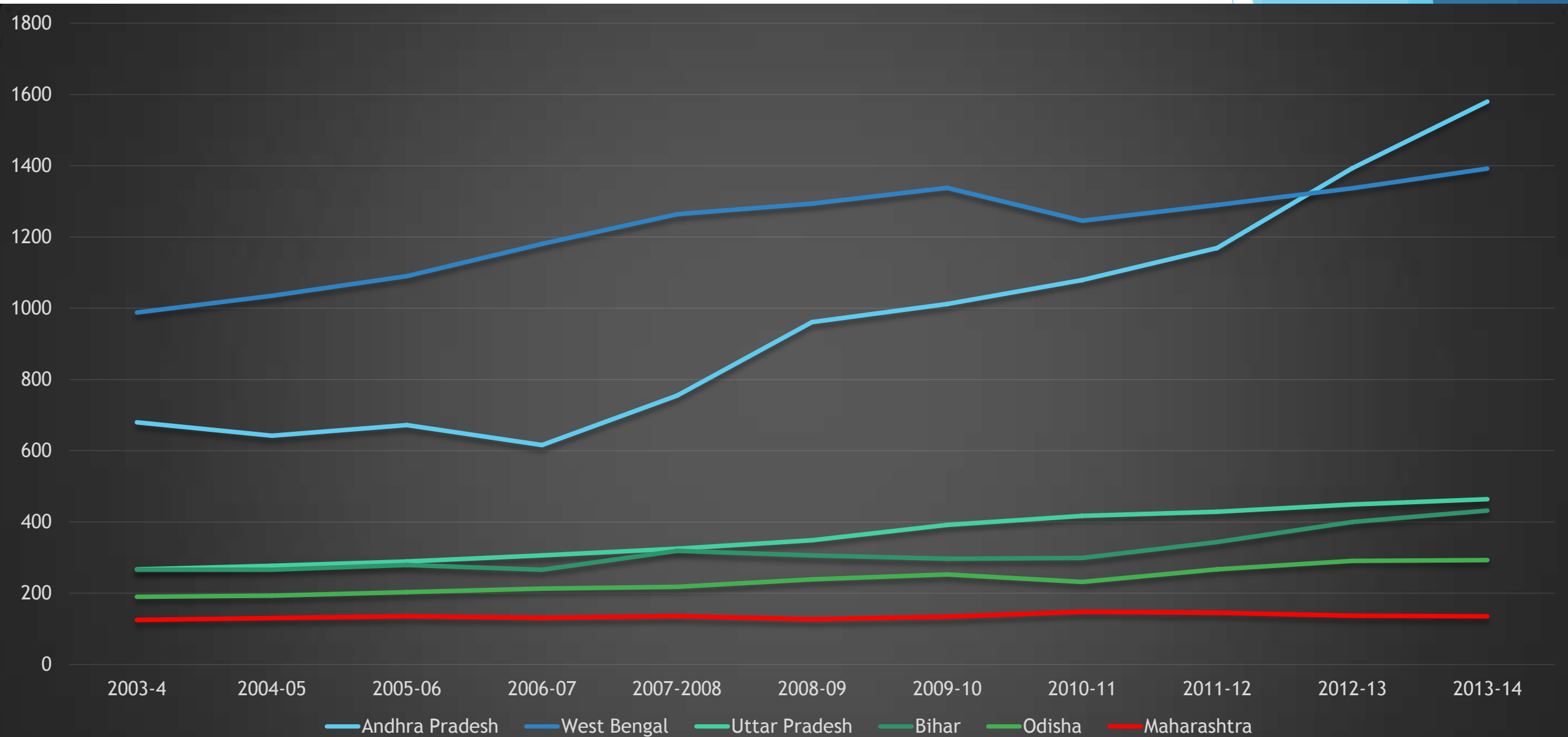
Inland Fishery Water Resources

- ▶ An overview of inland fishery water resources in some key fish producing states of India, in '000 Hectares

State	Rivers/Canals (in '000 km)	Reservoirs	Tanks /Ponds	Brackish Water
A.P	13.9	234	463	150
Maharashtra	16	279	59	100
West Bengal	2.5	17	276	210
All India	196	2116	2514	1686

* Source - Central Water Resources Information System - Sept. 2015

State-wise Fish Production-Time Series



Inland Fish Production by States (2013-14) '000 tons



Inland Fish Productivity comparison

Fish culture productivity of important cultured species

State	Shrimp (<i>P.vannamei</i>)			Freshwater Fish		
	Area ('000 Ha)	Production (MT)	Productivity (MT/Ha/Yr)	Area ('000 Ha)	Production (MT)	Productivity (MT/Ha/Yr)
A.P	20.2	133135	6.59	517	982300	1.90
Maharashtra	0.44	1503	3.42	5	2700	0.54

* Source: MPEDA (2012-2013)

Infrastructure comparison

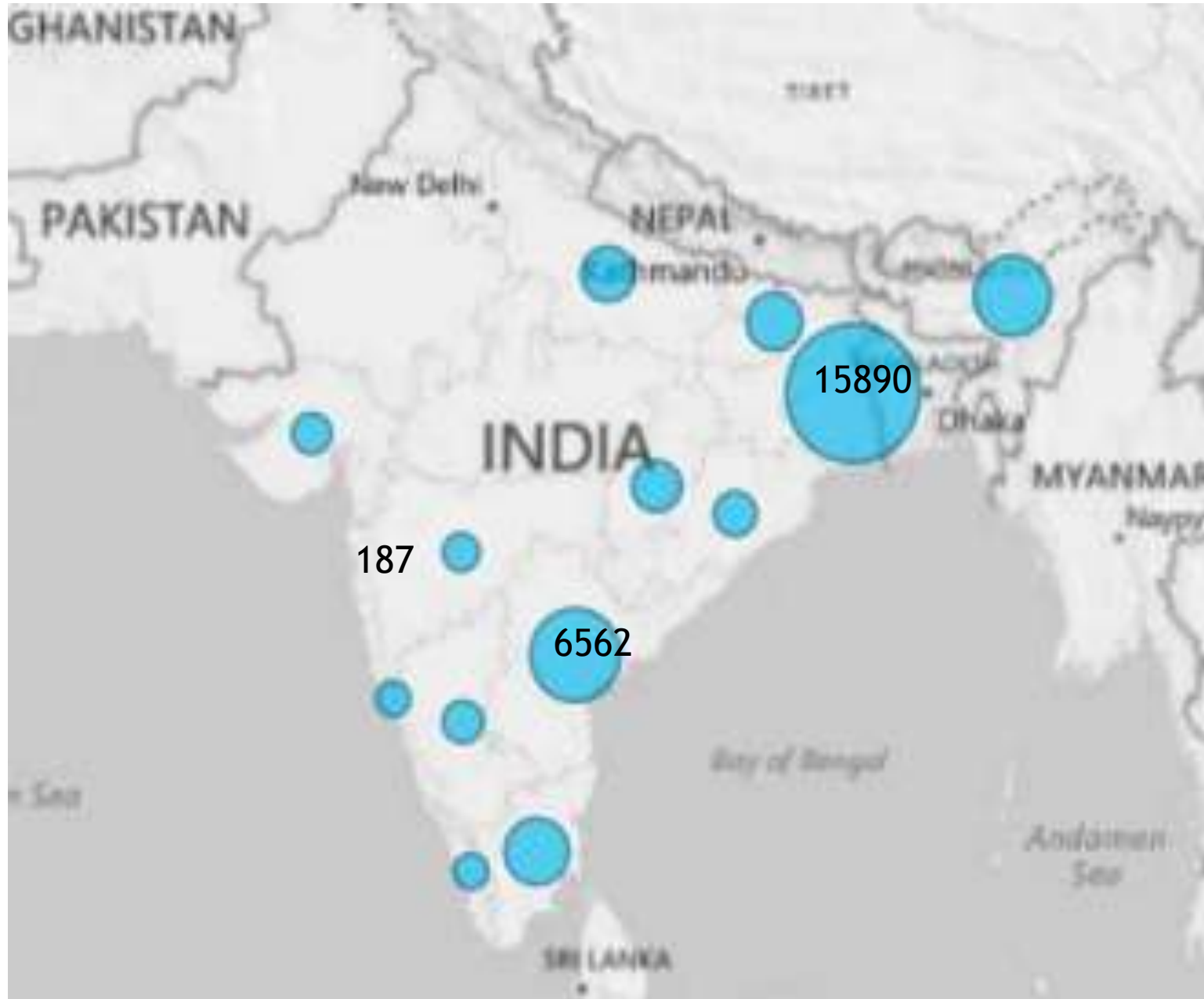
Hatcheries - IMC

State	No. of Hatcheries	Spawn Production in Millions P.A
A.P	22	550
Maharashtra	28	106

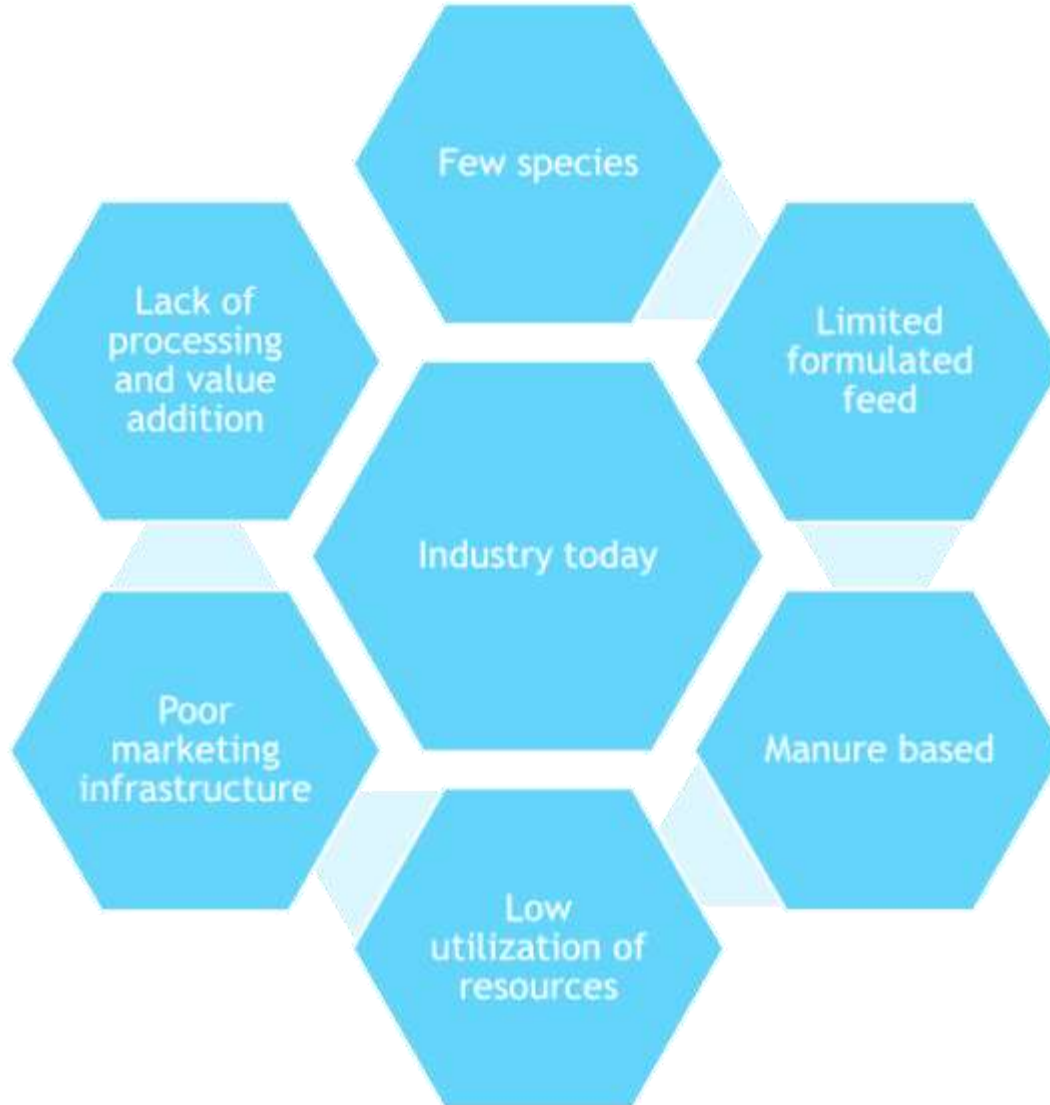
Feed mills

State	No. of mills	Production
A.P	26	2.88 MMT
Maharashtra	0	0

Fish Seed Production by States (2013-14) Million fry



Inland Aquaculture in Maharashtra



Infrastructure challenges - Maharashtra

- ▶ Lack of access to good quality fish seed leading to high cost and low survival of seed during transport
- ▶ Inability to check and confirm seed quality
- ▶ Too many intermediaries due to absence of near vicinity hatcheries
- ▶ High feed cost due to absence of feed mills.
- ▶ Under developed marketing channels and cold chain
- ▶ Absence of demonstration farms and training facilities
- ▶ Lack of adequate pathological and analytical labs for soil/water/disease testing
- ▶ Redundant, outdated, vague and despotic policies and regulations

Socio-economic challenges - Maharashtra

- ▶ Inter and Intra sectoral competition and conflicts (capture fisheries / agriculture / construction)
- ▶ Lack of investment and credit availability due to perceived high risk nature of business
- ▶ Unorganised sector with limited participation from qualified professionals in farming
- ▶ Government apathy towards development and advancement of the sector in the state

Path to look forward to - Maharashtra

- ▶ Urgent need for improvement in infrastructure like hatcheries/feed mills/testing labs through a cluster development approach
- ▶ Changes and improvements in regulations to encourage and support the ailing sector in Maharashtra
- ▶ Development of a robust and efficient distribution channel and cold chain
- ▶ Large scale investment and availability of credit to enable a rapid growth from current state
- ▶ Opportunity for cross border farmer-to-farmer co-operation
- ▶ Development of professional management and scientific base through technology transfer at the grass root level
- ▶ Immediate need to improve resource utilization and increase production significantly

Conclusion

- ▶ India in general and Maharashtra in particular has been complacent in developing its resources for aquaculture. only 15% of the potential water resources are utilized, implying huge potential for the growth of this sector.
- ▶ Very strong efforts have to be made to boost aquaculture on the basis of lessons learnt by neighboring countries
- ▶ Policies need to be opened up for cross border exchanges especially at the grass root levels. “The wheel need not be invented” AGAIN AND AGAIN
- ▶ Apart from development of technology a holistic approach taking into consideration technical, environmental and socio-economic factors needs to be taken.