

<b>S. No.</b>	<b>State / Union Territory</b>	<b>Population in Million (2001)</b>	<b>Quantity Consumed (kg)</b>	
			<b>Rural</b>	<b>Urban</b>
<b>16.</b>	<b>Mizoram</b>	<b>0.7</b>	<b>0.17</b>	<b>0.10</b>
<b>17.</b>	<b>Nagaland</b>	<b>1.2</b>	<b>0.26</b>	<b>0.39</b>
<b>18.</b>	<b>Orissa</b>	<b>31.6</b>	<b>0.29</b>	<b>1.94</b>
<b>19.</b>	<b>Punjab</b>	<b>20.2</b>	<b>Neg.</b>	<b>Neg.</b>
<b>20.</b>	<b>Rajasthan</b>	<b>44.0</b>	<b>Neg.</b>	<b>0.01</b>
<b>21.</b>	<b>Sikkim</b>	<b>0.4</b>	<b>0.01</b>	<b>0.08</b>
<b>22.</b>	<b>Tamil Nadu</b>	<b>55.8</b>	<b>0.17</b>	<b>0.17</b>
<b>23.</b>	<b>Tripura</b>	<b>2.7</b>	<b>0.89</b>	<b>0.89</b>
<b>24</b>	<b>Uttar Pradesh</b>	<b>139.1</b>	<b>0.04</b>	<b>0.02</b>

<b>S. No.</b>	<b>State / Union Territory</b>	<b>Population in Million (2001)</b>	<b>Quantity Consumed (kg)</b>	
			<b>Rural</b>	<b>Urban</b>
<b>25.</b>	<b>West Bengal</b>	<b>68.0</b>	<b>0.54</b>	<b>0.72</b>
<b>26.</b>	<b>Andaman &amp; Nicobar</b>	<b>0.3</b>	<b>1.40</b>	<b>1.05</b>
<b>27.</b>	<b>Chandigarh</b>	<b>0.6</b>	<b>0.02</b>	<b>0.01</b>
<b>28.</b>	<b>Dadra &amp; Nagar Haveli</b>	<b>0.1</b>	<b>0.39</b>	<b>0.28</b>
<b>29.</b>	<b>Daman &amp; Diu</b>	<b>0.1</b>	<b>1.07</b>	<b>4.12</b>
<b>30.</b>	<b>Delhi</b>	<b>9.4</b>	<b>0.03</b>	<b>0.03</b>
<b>31</b>	<b>Lakshadweep</b>	<b>0.05</b>	<b>3.79</b>	<b>3.61</b>
<b>32.</b>	<b>Pondichery</b>	<b>0.8</b>	<b>0.69</b>	<b>0.71</b>

# Fishery Resources in Andhra Pradesh

<b>Resources</b>	
<b>Rivers and Canals (km)</b>	<b>11,514</b>
<b>Rersorvoirs (lac ha)</b>	<b>2.0</b>
<b>Ponds, Tanks (lac ha)</b>	<b>2.0</b>
<b>Lakes, Water bodies (lac ha)</b>	<b>2.0</b>
<b>Brackish Water (lac ha)</b>	<b>1.0</b>

# Fishery Resources in A.P.

<b>Cultivable Fish Species</b>	<b>Rohu, Catla, Mrigal, Murrel, Magur, Singhi</b>
<b>Cultivable Prawn Species</b>	<b>River prawn, Scampi, Black Tiger, Indicus</b>

# Fish Production and Revenue Generation

<b>Production levels</b>	<b>Fish</b>	<b>7.5 MT/ha</b>
	<b>Prawn</b>	<b>750 k/ha</b>
<b>Annual Production</b>	<b>Fish</b>	<b>8.0 lac MT</b>
	<b>Prawn</b>	<b>0.3 lac MT</b>
<b>Farm Gate Price</b>	<b>Fish</b>	<b>28/- per kg</b>
	<b>Prawn</b>	<b>150/- per kg</b>

# Revenue Generation from Aquaculture

<b>Item</b>	<b>Rate</b>	<b>Amount (Rs. Crore)</b>
<b>Market Cess</b>	<b>0.5%</b>	<b>9.0</b>
<b>Sales Tax</b>		
<b>Seed</b>	<b>4.0%</b>	<b>2.0</b>
<b>Feed</b>	<b>4.0%</b>	<b>50.0</b>
<b>Water Cess</b>	<b>500</b>	<b>12.50</b>
<b>Indirect taxes</b>		<b>27.00</b>
<b>Total</b>		<b>100.00</b>

# Why Freshwater Aquaculture is important?

- **Marine produce remained static during last 5 years**
- **Brackish water resources over exploited through coastal trawler operations**
- **Construction of dams and barrages, increase in riverine pollution, absence of auto-stocking lead to depletion of capture fishery resources**

- Sustained food grain production in the country achieved the goal **“Food for all”**
- Objective for the present day is **“Protein food for all”**
- Fish is an ideal animal food for providing quality and healthy protein at an affordable price for poor man



# Direct Rural Employment Generation through Aquaculture

<b>Watch and ward employment on pond</b>	<b>0.5 lac work force</b>
<b>Contingent employment for miscellaneous operations &amp; Netting operations</b>	<b>1.0 Crore man days</b>
<b>Expenditure on employment (Rs.)</b>	<b>70.0 Crore</b>

# Cost effectiveness of different animal proteins

Source	Protein (Rate / k)
Fish	65.00
Chicken	125.00
Mutton	230.00

# Fish – A Source of Nutrition

- **High nutritive value with high digestibility**
- **Rich in high quality protein with all essential amino acids**
- **Rich in vitamins A, B & D**
- **Rich in essential minerals such as zinc, selenium, calcium, phosphorous and iodine**

**Fish Protein** – High biological value and protein efficiency ratio

**Fish oil** – rich in w-3 polyunsaturated fatty acids (PUFA) with many therapeutic values

# Health Benefits of Fish

- **Protects from coronary heart diseases**
- **Reduces blood clot formation and thrombotic problems**
- **Reduces cholesterol and triglycerides in blood.**
- **Controls diabetes and consequent renal problems.**
- **Improves functioning of the nervous system**
- **Inhibits development and progression of a range of human cancers**
- **Reduces rheumatoid arthritis**

# Development of Allied industries

- **Transport sector for transporting manures, seed, feed and fish**
- **Ice industries to production the order of 6.0 lakh tons supporting more than 200 ice plants**
- **Packing industry providing 5.0 lakh plastic crates, 1.0 lakh syntex tanks, polythene bags for feed and seed every year**
- **Nets, Gears and Crafts, Boats, Biofertilizer and other industries**

# Ancillary aquaculture activities

- **Promotion of short term corps in aquaculture with supplementary fishes**
- **Supplementary food fishes for diversification**
- **Ornamental fish breeding**
- **Aqua shops for single window operations to meet farmer requirements**
- **Value addition for fish and fishery product**

# Marketing Practices

- **Undressed Fish Marketing is in vogue at present**
- **Marketing Capacity 2000 Mt/day**
- **Average selling price 28/- per kg at Farm gate**
- **Transport System under compact and frozen ice**

# Scope for innovative Marketing

- **Dressed and processed fish meat sales should be encouraged**
- **Value addition to fish food products**
- **Caning and ready to eat fish**
- **Establishment of modernized fish markets**
- **Packed and frozen fish meat**



# Scope for Aquaculture in Government policies

- **Include fish in menu of mid day meal schemes**
- **Procure fish for supply in defence, jails and institutional canteens**
- **Aquaculture must be treated at par with agriculture**
- **Exempt sales tax on feed ingredients**
- **Stop collecting sales tax on prawn seed sales**

## **Development activities for aqua industry**

- **Fisheries paying 0.5% market cess. Proportionate allocation of funds to this sector is not available**
- **Infrastructure like roads are lacking for fish ponds**
- **Common auction platforms are not available.**

# Opportunities in freshwater aquaculture

- **Enhancement of aquaculture productivity (present national average 2.0 ton/ha) through multiple harvests and stock replenishment**
- **Increasing aquaculture production for export market**
- **Diversification of culturable species Murrel, Magur and Singhi**
- **Fingerling Stocking in short seasonal tanks**
- **Integration of freshwater aquaculture with organic farming**
- **Intervention of Genetic and Biotechnological techniques for improving quality of aqua crops**

# Thrust Areas in Aquaculture

- **Aquaculture diversification**
- **Genetic improvement of fish and prawns**
- **Molecular biology and Biotechnology**
- **Fish, Nutrition and physiology**
- **Water budgeting**
- **Waste Water management**
- **Farm mechanization and automation**
- **Farmer support services through aquaclinics at mandal levels**
- **Post Graduate Fishery education in the state**





**A large commercial fish pond in Andhra Pradesh (40 ha)**



**Progressive farmer Sri M.V.S. Nagireddy with marketable size grownout Catla from his culture pond located under Krishna Delta**



**Progressive farmer Sri K. Bhaskara Rao monitoring netting operations from his culture pond located under Krishna Delta**





**Final harvesting of fish from large commercial ponds in Krishna Delta**



**Cooking of Feed and broadcasting is one of the feeding practices adopted by fish farmers in A.P.**



**Harvest of all female Scampi Prawn from a large watershed pond (40 ha) in Andhra Pradesh (Farmer : S. Nagireddy)**



**Commercial pond culturing Tiger Prawn in freshwater using long arm paddle wheel aerator (Farmer : N. Tejopati Rao)**



**Harvested Tiger Prawn from a freshwater pond (1.0 ha)  
in Andhra Pradesh (Farmer : N. Tejopati Rao)**



**Seed of 45 day old Jayanti Rohu (>1.5 inch size)**



**Seed of 45 day old Jayanti Rohu, >1.5 inch size  
(Farmer : S. Suparna)**



**Fully grown Jayanti Rohu harvested from culture pond in Krishna Delta area (Farmer : Co-operative pond, Yaganamilli)**





**Progressive farmer Sri M.V.S. Nagireddy with marketable size grownout Pungassius from his culture pond located under Krishna Delta**



**Stocking of Singhi in commercial fish pond for mixed culture with major carps (Farmer : Ch. Narasimha Raju)**



**Introduction of cage in Krishna reservoir near Vijayawada**

**Fish for Health**

**Fish for Wealth**

**Thank You**