

**PROJECT PROFILE  
ON FISH  
PROCESSING UNIT**

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## INTRODUCTION

India is one of the largest producers of fish in the world. The fisheries sector play an important role in income generation, food & security, export and livelihood generation. In the year 2019-20 India produces about 14.2 million metric tonnes of fish. India have a coastal line of 8118 km. Major fish producing states are Andhra Pradesh, West Bengal, Gujarat, Kerala, Maharashtra, Tamil Nadu, Odisha, etc. This sector contributes about 7.28% of the agricultural GDP. About 17% of the total agricultural exports are fish and process fish. This sector generates about three crore employment. This sector is growing at a promising rate of 10% per year. Fish is highly perishable in nature. To increase the self-life of fish, fish is processed. There is considerable scope for fish exports through value addition by processing. Considering the market potential and ease of manufacturing, fish pickling is one of the best-opted method.

## PRODUCTS AND ITS APPLICATION

- Fish or prawn - sea fish likes Pomfret, Mackerel, Prawn; Tuna etc. are suitable for making fish pickles.
- Fish or prawn pickle prepared under hygienic condition with salt, spices and preservative. In this way, it increases a shelf life to 8-10 month.
- The fish pickles are delicacy for non-vegetarians.

## DESIRED QUALIFICATION FOR PROMOTER

Usually in India, fishermen are involved in the manufacturing process of dried fish and fish pickle by using simple tools and traditional methods. However, for the hygienic pickle production requires proper skills and technology know-how.

## INDUSTRY OUTLOOK/TREND

The exports of marine products from India during 2019-20 was 12.9 Lakh MT, valued at INR 46,662.85 crores. Due to COVID pandemic India's export registering a contraction of 10.88 per cent in 2020-21, exported 11,49,341 tonnes of marine products worth Rs 43,717.26 crore (US\$ 5.96 billion). USA, China and European are the leading importer of fish, shrimp from India.

## MARKET POTENTIAL AND MARKETING ISSUES, IF ANY

Fresh fish are mainly available in the coastal areas, so the processed fish like pickles have high demand at other parts of the country. There is a huge scope for fish/prawns' pickles in the domestic market. Except few organized sectors, the entire pickle market is controlled by the unorganized local

manufactures. Fisheries and fish processing industry play a dynamic role in Indian economy. Fish products contribute a major share to our foreign earnings. Like vegetable pickles, fish/prawns pickles also gained popularity in recent past. Households, hotels, restaurants, canteens etc. are few potential customers of fish pickles. In addition, it is necessary to have an authentic traditional taste to product for the market acceptability and success.

## RAW MATERIAL REQUIREMENTS

Fish and prawn are the basic raw material besides salt, spices and preservatives are other raw materials require for pickle makings.

Types of Raw materials	Kg.
Cleaned fish	5 kg.
Onion	2 kg.
Garlic	250 gms.
Mustard	30 gms.
Green ginger	250 gms.
Vinegar	600 ml.
Gingerly oil	2 kg.
Cumin, cloves, cinnamon, nutmeg, Black pepper, chilli powder, turmeric and salt.	25 gms.

### Prawn Pickle

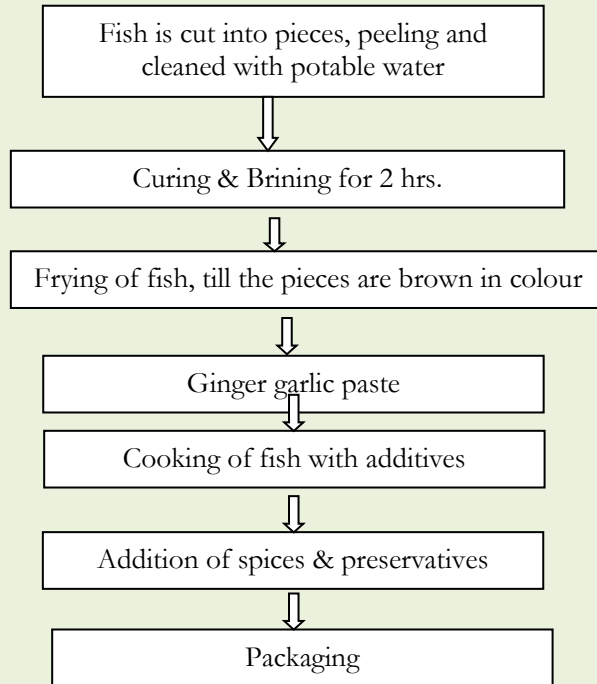
Types of Raw materials	Kg.
Prawn (blanched)	6.25
Salt	1.25
Chilli powder	0.8
Groundnut (blanched) oil	1.25
Turmeric powder	0.25
Asafoetida	0.25
Garlic	0.5
Mustard powder	0.1
Acetic acid	0.08
Lemon pieces	0.1
Green chilli	0.05
White pepper powder	0.1
Fenugreek	0.025
Ginger	0.2
Ascorbic acid	0.02
Sodium benzoate	0.025
Total	11 Kg

### Raw material requirement per month

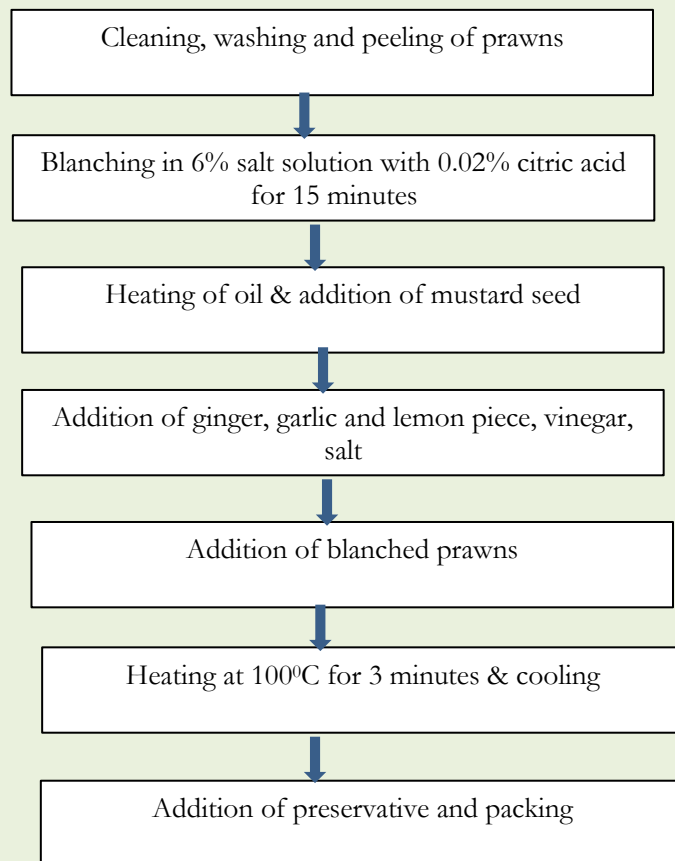
Raw fish 15000 kg @ INR 150 per kg.	22, 50,000
Spices, Oil, etc.	3, 50,000
Polythene bags, glass, bottles, etc. @Rs.20 per kg of pickle	2, 00,000
Total	28, 00,000

## MANUFACTURING PROCESS

Process flow chart of preparation of fish pickle is as follows:



The process flow chart of prawn pickle is as follows:



- **Cleaning** - Removal of dirt and unwanted material.
- **Curing** - Cleaned pieces of fish are mixed with salt, chilli powder, turmeric and kept for 2 hours
- **Cooking with additives** - Fish is cooked after addition of ginger garlic paste, salt, vinegar, turmeric and chilli powder till vinegar is absorbed in the fish.
- **Addition of spices** - After cooling, ground spices and preservatives are added and pickle is packed in airtight bottles

## MANPOWER REQUIREMENT (PER MONTH)

Type	Number	Cost (Rs.)
Manager cum technologist	1	20,000
Clerk cum storekeeper	1	15,000
Labour (semi-skilled)	4	32,000
Helper cum peon	1	8,000
Total per month	11	75,000
Total per annum		9,00,000

## LAND

Particulars	Units	Details
Land (Covered)	Sq. Ft.	5000
If rented area, rent	Rs.	50000

## MACHINERY SPECIFICATIONS

Sl. No.	Description	Qty.	Amount (In Rs.)
1	Bottle washing machine	1 No.	55000
2	Pilfer proof cap sealing machine-table model with automatic sealing and threading operation	1 No.	50000
3	Counter scales balances 25 kg. Cap	3 Nos.	30000
4	Frying pans, wash basins, storage vessels, ladles, mugs etc.	1 No.	45000
5	Heating arrangements (Kerosene stove gas)		10000
6	Working tables with aluminium tops	3 Nos.	30000
7	Stainless steel knives, trays and miscellaneous items	1 No.	15000
8	Pulveriser or grinder	1 No.	4500
9	Weighing machine platform type	1 No.	5000
10	Packing machinery	2 sets	15000

11	Lab and pollution control* equipment		50000
	<b>Total</b>		<b>3,09,500</b>

\* No objection certificate may be obtained from the concerned State Pollution Control Board

### Other Equipment

Sl. No.	Particulars	Amount
1	Erection and Electrification @ 10% of cost of Machinery and Equipment	30000
2	Office furniture and fixtures	50000
3	LDPE, Drums, Cap. 100 kg. 100 nos.	50000
4	Total	1,30,000
5	Pre-operative Expenses such as Consultancy Fee, Project Report Fee, Deposit to Electricity Department etc.	50,000

## COST OF THE PROJECT

Sl. No	Particulars	Cost (Rs.)
1	Land & building rent	50,000
2	Plant & Machinery	3,09,500
3	Other equipment	1,30,000
4	Contingencies @2% of the project	10,000
5	Pre-operative cost	1,00,000
	<b>Total</b>	<b>5,99,500 (Rounding to 6.00 lakh)</b>

## IMPLEMENTATION SCHEDULE

Project Stages	Months.....						
	1	2	3	4	5	6	7
Acquisition of Land	Yellow	Yellow					
Ordering of Machinery	Green	Green					
Delivery of Machinery			Red	Red	Red		
Term/Wkg Loan Sanction		Blue	Blue				
Installation of Machinery				Brown	Brown		
Commissioning of Plant						Red	
RM/Inputs Procurement						Purple	
Manpower Appointments					Dark Purple		
Commercial Production							Orange

## INSTALLED CAPACITY & CAPACITY UTILIZATION

The installed capacity of the plant is 60 MT per year. The capacity utilization of 40%, 80% and 90% has been considered during first, second and third year onwards respectively.

## SALES REVENUE

Particulars	Rate (INR Lakh)	Sales (INR Lakh)
Fish Pickle (60 MT)	3.00	180.00
Prawn Pickle (60 MT)	4.00	240.00
Total Sales		420.00

## WORKING CAPITAL ASSESSMENT (per month)

Particulars	Value (in INR lakh)
Manpower	0.75
Raw materials	28.00
Utilities (Electricity, oil, grease, water, etc.)	0.15
Contingencies	0.10
Total	29.00
Total for 3 months	87.00

## TOTAL CAPITAL INVESTMENT

Particulars	Value (in INR lakh)
Fixed capital	6.00
Working capital for 3 months	87.00
Total	93.00

## PROFITABILITY CALCULATION

Sl. No.	Particulars	Amount (in INR Lakh)
A.	Cost of production per annum	
1	Recurring expenses	372
2	Depreciation on machineries	0.31
3	Depreciation on furniture	0.10
4	Interest on capital investment (@15%)	8.7
	Total	381.11
B	Turnover	420.00
C	Net Profit (before tax)	38.89
	Net Profit Ratio (%)	9.72

## BREAK EVEN POINT ANALYSIS

Break-even point

$$\frac{\text{Annual Fixed Cost} \times 100}{\text{Annual Fixed Cost} + \text{Profit}} = \%$$

Sl. No.	Particulars	Amount (in INR Lakh)
A	Annual Fixed Cost	
1	Interest	8.70
2	Depreciation on machineries	0.31
3	Depreciation on furniture	0.10
4	40% of salary, wages, utilities, contingencies	3.70
5	Insurance	0.10
	Total Annual Fixed Cost	12.91
6	Break Even Point	24.92%



## References

- Nabard Consultancy Services Reports by Fish Processing
- Report on Fish Processing by Directorate of Food Processing Government of West Bengal
- TIMEIS Report on Fish Pickle
- NIFTEM Project Report on FISH PROCESSING
- Fish Processing: <https://www.youtube.com/watch?v=UYHgfzh5r00>

## MANUFACTURES/ SUPPLIERS OF MACHINERY

1. M/s. Gardners Corporation, 6, Doctors Lane, New Delhi - 110 001.
2. M/s. T. Ali Mohammad and Co., 144-146 Sarang Street, Mumbai.
3. M/s. Bhuvaneshwari and Co., No. 36, 28th Cross, 10th Main, 2nd Stage, Bangalore - 10.
4. Anjoplus Machines, Shree Sankalp Siddhi, Unit. No. 5, Range Office Junction, Ground Floor, Sativali Road, Vasai (East), Maharashtra. Pin: 401 208
5. Blue Point, Sudder Street, Kolkata - 700 016, West Bengal, India

## Addresses of Raw Material Suppliers

### Bottles

- M/s. Borosil Glass Works Ltd. 23/24 Second Lane Beach, Chennai-1.
- M/s. Alambic Glass Industries Ltd. White Field, Bangalore - 560 066. 3. M/s. Mysore Crystal Glass Works Bangalore - 560 045

### Caps

- M/s. Metal Box Co. Ltd. 17, Parliament Street, New Delhi - 110 001.
- M/s. Premier Caps and Co. Cochin - 19.
- M/s. Indian Aluminium Co. Ltd. Air India Building, Mumbai - 1.

Other Raw Materials are locally available.

## STATUTORY/ GOVERNMENT APPROVALS

There is statutory requirement of FSSAI license for setting up of food processing industry. Moreover, MSME & GST registration, IEC Code for Export of end products and local authority clearance may be required for Shops and Establishment, for Fire and Safety requirement and registration for ESI, PF and Labour laws may be required if applicable. Entrepreneur may contact State Pollution Control Board wherever it is applicable.

### DISCLAIMER:

This is an indicative illustration of project profile; the above calculation can vary with the locations. Only few machine manufacturers are mentioned in the profile, although many machine manufacturers are available in the market. The addresses given for machinery manufacturers have been taken from reliable sources to the best of knowledge and contacts. However, no responsibility is admitted, in case

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