GOA BENEFITTING FROM NATURE’S OWN MEGAFOODPARK FOR SUSTAINABLE WEALTH AND EMPLOYMENT GENERATION BY PROMOTING APPROPRIATE FOOD PROCESSING INDUSTRIES

(The report of Goa State Task Force Committee to give a boost to growth of food processing industries in state of Goa under the Directorate of Industries, Trade and Commerce, Government of Goa)

November 2011
GOA

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Volume I:- (Main report on Terms of reference 1-10)

Volume II:- (Notification, agenda notes, minutes, list of members of subcommittees)

Volume III:- (Important correspondence with respect to work as per the Terms Of Reference-TOR)

Volume IV:- (Select reports / recommendations of major subcommittees constituted by the task force committee)

Volume V:- (Important reference documents/ research papers / data sheets / articles)

November 2011
Dedication

This report is sincerely dedicated to all those unknown creators of Goa’s traditional knowledge in food production, preservation and processing and the nameless culinary artists who invented more than 5000 ethnic Goan recipes
Statement of report submission

I, the undersigned, Dr. Nandkumar M. Kamat, Chairman of the Goa state task force committee (GSTFC-FPI) hereby declare that the work of the GSTFC-FPI has been completed to my satisfaction as per the given terms of reference and the report is being submitted in five volumes for consideration and further appropriate action by the government.

Signature
Dr. Nandkumar M. Kamat
Chairman
Panaji, Goa
November 19, 2011
Acknowledgments

At the very outset I need to admit in all humility that I am not an expert in the area of FPI despite being engaged in research on edible mushrooms and fruit wines and in advocacy of conservation of useful biodiversity. But I always tried to learn from experienced people and policy experts. The CM of Goa had a vast choice of experts in FPI and large consultancy firms to lead the GSTFC but he entrusted me this comprehensive task with full trust and freedom. I agreed to work in public interest for the welfare of my state. This work would have been impossible without consistent support from member convenor of TFC and the dynamic, cheerful, articulate, visionary and hard working Director, DITC, Goa government, Shri Sanjit Rodrigues and his professional and efficient staff. A special mention has to be made of Mr. Muzawar, Mr. S. Kotwale and Mr. Satish Gaonkar and Mr. Hodarkar who gave unstinted support with short notice. I have no words to spare to thank the 22 members of the TFC, the special invitees and the convenors and members of 14 subcommittees. Dr. Sangam Kurade and Shri Vilas Bhangi need special mention for their support. For more than six months a lot of literature had to be collected and studied to understand the evolving global, national scenario of food security, supply, processing, marketing. I was assisted in this background research by Ms. Priyanka Shirodkar during her break from official work. I enjoyed the full support of my Botany department, my research students esp. Sonashia Velho Pereira, Marina Albuquerque and my senior faculty colleagues throughout the work. Vice chancellor, Prof. Deobagkar and the Registrar of Goa University Prof. Vijayendra Kamat were pleased about this task and encouraged me to complete it positively.

I owe sincere unconditional apologies to the Hon. CM, the Govt. of Goa, the TFC members and the people of Goa for the delay in the submission of the report due to circumstances beyond my control.

My wife Melinda nursed me back to health during long periods of illness and indisposition and I owe her special thanks. With her background as agricultural graduate, trained nutritional expert and passionate food anthropologist, she made useful suggestions.

This report represents the aspirations of FPI stakeholders of Goa expecting a new deal from the state government. With support from MOFPI, Govt. of India we can usher in a new era in FPI sector. This report needs to be acted upon by the government urgently as expected by all stakeholders who have right to benefit from existing and new/ proposed schemes.

Dr. Nandkumar M. Kamat
Nov. 21, 2011
Introduction

Think globally, act locally…

Why Goa should be concerned about growth of Food Processing Industries?

After IT and BT is it a new catch-phrase?

Or are there valid logical reasons for preparing this report on FPI?

The most compelling reason is- GOA can claim to be *Nature’s Own Megafoodpark*. There is food in the ocean, in rivers, estuaries, lakes, ponds. The whole fertile landscape has been nature’s own factory to produce a diversity of edible biomass. The ancient name of ‘Gomant’, ‘Gomantak’, Gomanchal’ was derived from a flourishing agro-pastoral culture. Goa has been known as a land of honey, milk and wines (kadambari/sudha/varuni).

This natural megafoodpark sustained the peaceful, enterprising Goans for centuries. The ancient village communities of Goa, the Gaunkaris/communidades had established their natural mini and micro-food parks-coconut groves, cashew and mango plantations.

This endowment is our passport for sustainable wealth and employment generation. Food is good, welcome news in Goa. Droughts and famines have not much harmed this state. Hunger deaths are unheard of. But there had been periods of shortages in colonial and pre colonial history due to shortfall in local production of rice. Overall, Goa enjoyed comfortable food security. When one encounters such a satiated society-discussing food or food related projects and ideas becomes a culture of pleasure. Goa also meets most of the latest, modern criteria for a ‘food system’ as suggested by food policy analysts Simon Maxwell and Rachel Slater (refer to table below)

<table>
<thead>
<tr>
<th>A food system can be judged by whether it:</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>is technically efficient in social prices;</td>
<td>is good for nutrition;</td>
</tr>
<tr>
<td>is allocatively efficient in social prices;</td>
<td>supports higher standards</td>
</tr>
<tr>
<td>leads to increased consumption by the poor;</td>
<td>of education;</td>
</tr>
<tr>
<td>leads to increased asset-holding by the poor;</td>
<td>enables people to have</td>
</tr>
<tr>
<td>is good for health;</td>
<td>status;</td>
</tr>
<tr>
<td>offers security;</td>
<td>reduces vulnerability;</td>
</tr>
<tr>
<td>is good for nutrition;</td>
<td>is good for</td>
</tr>
<tr>
<td>supports higher standards</td>
<td></td>
</tr>
<tr>
<td>of education;</td>
<td>environmental</td>
</tr>
<tr>
<td>enables people to have</td>
<td></td>
</tr>
<tr>
<td>status;</td>
<td>sustainability;</td>
</tr>
<tr>
<td>enables people to have</td>
<td></td>
</tr>
<tr>
<td>dignity;</td>
<td>promotes gender</td>
</tr>
<tr>
<td>enables people to have</td>
<td></td>
</tr>
<tr>
<td>rights;</td>
<td>equality;</td>
</tr>
<tr>
<td>enables people to have</td>
<td></td>
</tr>
<tr>
<td>influence;</td>
<td>promotes equality in</td>
</tr>
<tr>
<td>underpins freedom;</td>
<td>general;</td>
</tr>
<tr>
<td>promotes social</td>
<td></td>
</tr>
<tr>
<td>inclusion.</td>
<td></td>
</tr>
</tbody>
</table>

Globalization and the entry and impact of new market players and forces may change this picture. There are challenges as well as opportunities.

As compared to any other state or region, Goa limited by geographical area and population has a rich food culture. This is demonstrated by over 5000 ethnic Goan recipes. Nothing edible goes to waste in this state. Surplus fish are dried and salted. Cattle are seen munching the vegetable waste and the cooked rice water is used to
fatten the pigs. People have good knowledge of food, drinks and beverages and have diverse, culturally acquired tastes. There is a wealth of traditional technological knowledge in areas of food preservation and primary processing. More than 300 villages in Goa still practice traditional food preservation techniques on different scale after harvesting period. Very few of these are traded products. With planned inputs of knowledge and technology, the new pyramid of Goa’s food processing industrial sector can be erected on this ‘people’s knowledge and base’.

In other words we are compelled to conclude in this report that –Goa has high potential in FPI because local people find it intellectually satisfying sector. Most importantly- the strength of Goa as a destination to attract new investment in FPI sector lies in the rich cultural matrix of the state- where people love to discuss good food and are prepared to patronise quality food products. Higher purchasing power of local consumers and a booming middle class would create excellent marketing opportunities for FPIs.

It is envisaged that decisions related to food processing sector in the 21st century would be governed by global, national, regional, local and micro level realities. A small state like Goa which is yet to make a noticeable mark in FPI sector nationally and internationally needs to locate itself inside the evolving production-marketing, branding matrix.

World population has crossed the threshold of seven billions. Global average life expectancy is increasing. Food demand by growing humanity would drive the value addition in food processing industry. The trend of urbanization would also create and sustain demand for niche, high quality food products.

There are constraints of quantum, magnitude, space and scale to contemplate investment, attract new technologies, create employment and generate wealth sustainably without impacting the natural resources or environment. Goa would need a highly selective, broad based approach in FPI sector. The success of pharma industry in Goa has shown the way. Policies and models which can be planned and executed in large states can not be applied to a small state like Goa which is limited by its’ geographical area, land available for surplus crop production and further industrialization. But we are enriched by experience of other states-particularly Maharashtra, Gujarat, West Bengal, Bihar, Kerala, Haryana, Andhra Pradesh which prepared their own agro-industrial or food processing policies. Some of their best practices esp. incentives in FPI in west Bengal, Gujarat, Maharashtra could be adopted in Goa and have been included where appropriate in this volume.

There are fundamental limits in a small state to develop capacity for making the raw materials for FPI sector available from surplus production. At the same time it has to be acknowledged that historically Goa was never a food surplus state. Goa well linked by air, sea, rail and roads now has the advantage to import raw materials from other surplus regions for processing. This automatically means multiplying the storage capacity for perishable items.

The road to roadmap of Goa’s food processing industries needs to be constructed using a knowledge based global approach.
Goa is one of the most developed state in India, our country still tagged as a developing country. Goa has acquired reputation as a multicultural tourist destination and educated and enterprising work force. The GSTFC has taken into consideration the current discourse in major issues related to food security and food markets. Think globally, act locally…

This applies to issue of food security. Here is a modest compilation of ideas which is engaging the best of minds in the world.

**Global food security issues**

According to USDA report – “Understanding the performance and dynamics of global food markets is no longer a matter of understanding the fundamentals of international trade. At $3.2 trillion, processed food sales are a major component of global food markets and account for about three-fourths of total world food sales. Still, only 10 percent of processed food sales are traded products. Although consumer demand for processed food continues to grow globally, growth in processed food trade has generally stalled since the mid-1990s.

While trade policy may contribute to this disparity between trade levels and market performance, many other factors are at play. Understanding the competitive nature of the global food industry means understanding changing consumer preferences and the food industry’s efforts to meet these demands.

The task of moving food from the farm to the table has become more complex, involving diverse local, national, and global agents and networks. Food markets are constantly evolving, driven not only by changes in consumer preferences, but also by technology, linkages between members of the food supply chains, and prevailing policies and business environments.

Sophisticated supply chains and distribution channels are now being adopted across different regions and national boundaries. Developing countries are expected to largely account for future increases in food demand, resulting from both increases in population as well as increases in per capita food consumption.

Annual growth rates of retail sales of packaged food products in developing countries range from 7 percent in uppermiddle-income countries to 28 percent in lower-middle-income countries, much higher than annual growth rates of 2-3 percent in developed countries. The food industry will continue to evolve in response to specific consumer demands in individual markets, with significant differences between industry strategies in the developing and the developed countries. Across all countries, modern food markets are responding to consumer preferences at a local level, even as the food industry becomes more global. In mature developed-country markets, product differentiation, value added, and consumer trust are important considerations for retailers seeking to retain market share. (*New Directions in Global Food Markets / AIB-794, Economic Research Service/USDA*).

The following figure projects Global food demand.
There are emerging opportunities in food and beverages sector as demonstrated in the figure below.

The global definition of primary and value added products is well illustrated in the figure below.
Food products are classified into primary and value added products based on the value addition.

<table>
<thead>
<tr>
<th>Agriculture</th>
<th>Primary Processed Products</th>
<th>Value Added Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milled Grains, Spices</td>
<td>Beverages, Ready to Eat/Cook/Drink Products, Bakery Products, Processed Dry Fruits</td>
<td></td>
</tr>
<tr>
<td>Fruits and Vegetables</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tea and Coffee</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sugar</td>
<td>Confectionery</td>
<td></td>
</tr>
<tr>
<td>Edible Oil (Depending on processing level)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Livestock</td>
<td>Milk</td>
<td>UHT Milk, Milk Powder, etc.: Icecream</td>
</tr>
<tr>
<td>Eggs, Meat</td>
<td></td>
<td>Egg Powder, Packaged Meat and Preparations</td>
</tr>
<tr>
<td>Fisheries</td>
<td>Processed Aquatic Food (Depending on processing level)</td>
<td></td>
</tr>
</tbody>
</table>

- Primary processed products
  - Include cleaning, grading, sorting and packaging. The products manufactured generally act as inputs for value added products.

- Value added products:
  - Manufacturing these products involves use of processing techniques like blending, high temperature heating & boiling, chilling, etc. where the use of technology is significant.

However, not all food products are traded globally.

**Figure 1**

Only 10 percent of $3.2 trillion global processed food sales are traded products, 2002

There are many such data sets available. The following table depicts the trends in global food sales as in 2002.

**Table 1-1—Global food sales, 2002**

<table>
<thead>
<tr>
<th></th>
<th>Retail stores</th>
<th>Food service</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh food</td>
<td>531</td>
<td>382</td>
<td>913</td>
</tr>
<tr>
<td>Processed products</td>
<td>1,762</td>
<td>1,420</td>
<td>3,182</td>
</tr>
<tr>
<td>Packaged food</td>
<td>1,148</td>
<td>828</td>
<td>1,976</td>
</tr>
<tr>
<td>Beverages</td>
<td>614</td>
<td>592</td>
<td>1,206</td>
</tr>
<tr>
<td>Alcoholic drinks</td>
<td>316</td>
<td>422</td>
<td>729</td>
</tr>
<tr>
<td>Hot drinks</td>
<td>53</td>
<td>12</td>
<td>65</td>
</tr>
<tr>
<td>Soft drinks</td>
<td>245</td>
<td>167</td>
<td>412</td>
</tr>
<tr>
<td>Total food</td>
<td>2,293</td>
<td>1,803</td>
<td>4,096</td>
</tr>
</tbody>
</table>


**Understanding Global trends**

**What IFPRI (International Food Policy Research Institute) predicted?**

IFPRI is an international agricultural research center founded in the early 1970s to improve the understanding of national agricultural and food policies to promote the adoption of innovations in agricultural technology. Additionally, IFPRI was meant to shed more light on the role of agricultural and rural development in the broader development pathway of a country.

Meeting the food needs of a growing and urbanizing population with rising incomes will have profound implications for the world’s agricultural production and trading systems in coming decades. IFPRI research suggests some of the major developments that will characterize the world food situation between 1995 to 2020:

* Almost all the increase in world food demand will take place in developing countries. Developing countries will account for about 85 percent of the increase in the global demand for cereals and meat between 1995 and 2020.
  * However, a developing-country person in 2020 will consume less than half the amount of cereals consumed by a developed-country person and slightly more than one-third of the meat products.
  * A demand-driven “livestock revolution” is under way in the developing world. Between the early 1970s and the mid-1990s, the volume of meat consumed in the developing world grew almost three times as fast as it did in the developed countries. Demand for meat in the developing world is projected to double between 1995 and 2020.
  * In response to the strong demand for meat products, demand for cereals for feeding livestock will double in developing countries. Demand for maize in developing countries will increase much faster than for any other cereal and will overtake demand for rice and wheat by 2020.
  * To meet demand, the world’s farmers will have to produce 40 percent more grain in 2020. Increases in cultivated area are expected to contribute only about one-fifth of the global cereal production between 1995 and 2020, so improvements in crop yields will be required to bring about the necessary production increases.
However, it is worrisome that growth in farmers’ cereal yields is slowing from the heyday of the Green Revolution during the 1970s.

- Food production is increasing much faster in the developing world than in the developed world. By 2020, the developing world will be producing 59 percent of the world’s cereals and 61 percent of the world’s meat.
- Nevertheless, cereal production in the developing world will not keep pace with demand, and net cereal imports by developing countries will almost double between 1995 and 2020 to 192 million tons in order to fill the gap between production and demand. Net meat imports by developing countries will increase eightfold during this period to 6.6 million tons.
- About 60 percent of the developing world’s net cereal imports in 2020 will come from the United States. Eastern Europe and the former Soviet Union are forecast to emerge as major net exporters, and the European Union and Australia are projected to increase their net exports as well.
- Food prices will remain steady or fall slightly between 1995 and 2020. The much slower decrease in food prices compared with past trends is due to the continued slowdown in crop yield increases, as well as strong growth in demand for meat in developing countries.
- With increased production and imports, per capita food availability in the developing world will increase to 2,800 calories per day by 2020, an increase of about 9 percent over 1995.
- In the scenario described here, food insecurity and malnutrition will persist in 2020 and beyond. IFPRI projects that 135 million children under five years of age will be malnourished in 2020, a decline of only 15 percent from 160 million in 1995. Child malnutrition is expected to decline in all major developing regions except Sub-Saharan Africa, where the number of malnourished children is forecast to increase by about 30 percent to reach 40 million by 2020. With more than 77 percent of the developing world’s malnourished children in 2020, Sub-Saharan Africa and South Asia will remain “hot spots” of child malnutrition and food insecurity.
Methodology of GSTFC-FPI

The Goa State Task Force Committee (GSTFC) on Food processing industries (hereafter to be called GSTFC-FPI) was notified by the industries department on Dec. 9, 2010 (no. 3.37/2010-IND). The 23 members included 22 official members and including the chairman two non official members.

Vide the above mentioned notification The GSTFC-FPI was given 12 terms of reference (hereafter called TOR) as under

(i) To draw plan of action and vision document to give and impetus to the development of Food processing sector in the state of Goa

(ii) Formulation of Food Processing Policy for the state of Goa and schemes under the Policy

(iii) Assessment status of various food processing industries

(iv) Identify key reasons for underdevelopment of the processing sector

(v) Evolve strategies for campaigns/marketing to promote setting up of food processing units and consumption of processed foods

(vi) Suggest measures for food safety, standards testing facilities

(vii) establish linkage of technology institutes/Research organizations with industry

(viii) Evaluate current status of infrastructure for entrepreneurs

(ix) Define the role of financial institutions/NGOS, farmers organizations and cooperatives

(x) To motivate farmers for farming clusters so that quantity and quality of raw materials may be produced as per the requirements of processors and market

<table>
<thead>
<tr>
<th>India’s Competitive Advantages in Food Processing</th>
<th>India</th>
<th>Global Rank</th>
<th>Share in Global Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arable Land (million hectares)</td>
<td>161</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>Irrigated Land (million hectares)</td>
<td>55</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Coast Line (km)</td>
<td>8041</td>
<td>19</td>
<td>-</td>
</tr>
<tr>
<td>Major Food Crops (MT)</td>
<td>35</td>
<td>3</td>
<td>4%</td>
</tr>
<tr>
<td>Fruits (metric tonnes)</td>
<td>47</td>
<td>1</td>
<td>10%</td>
</tr>
<tr>
<td>Vegetables (metric tonnes)</td>
<td>82</td>
<td>2</td>
<td>10%</td>
</tr>
<tr>
<td>Rice/Paddy (metric tonnes)</td>
<td>132</td>
<td>2</td>
<td>22%</td>
</tr>
<tr>
<td>Wheat (metric tonnes)</td>
<td>65</td>
<td>2</td>
<td>12%</td>
</tr>
<tr>
<td>Milk (metric tonnes)</td>
<td>88</td>
<td>1</td>
<td>16%</td>
</tr>
<tr>
<td>Sugarcane (metric tonnes)</td>
<td>289</td>
<td>2</td>
<td>21%</td>
</tr>
<tr>
<td>Pulses (metric tonnes)</td>
<td>12</td>
<td>1</td>
<td>21%</td>
</tr>
<tr>
<td>Tea (metric tonnes)</td>
<td>0.88</td>
<td>1</td>
<td>28%</td>
</tr>
<tr>
<td>Edible Oilseed (metric tonnes)</td>
<td>25</td>
<td>3</td>
<td>7%</td>
</tr>
<tr>
<td>Cattle (million)</td>
<td>226</td>
<td>1</td>
<td>20%</td>
</tr>
</tbody>
</table>

Source: Cygnus report, India Food Processing Sector, 2005
(xi) The Task force Committee may constitute as many sub-committees consisting wholly of above members or partly of members or partly of other persons and for such purposes as it may think fit

(xii) Any other relevant agenda with permission of the chairman

**Methodology adopted by GSTFC-FPI**

Considering the voluminous nature of the work as per TOR the following methodology was adopted

1. Study of global trends and practices in food sector and FPI. This required reference to a large number of research papers and reports some of which have been included in Volume V.

2. Study of various policies and schemes of Ministry of Food Processing MOFPI, Govt. of India. These had to be downloaded, printed and studied.

3. Study of food processing policies of states in India-in particular scrutiny of policies of Maharashtra, Gujarat, Haryana, Bihar, Andhra Pradesh, Madhya Pradesh.

4. Study and analysis of previous reports/data/statistics on FPI in state of Goa. This included the report on Betul food processing park.

5. Structured meetings with members and invitees with provision for full videodocumentation for archiving and transparency. Invitees included stakeholders such as NABARD, APEDA, MPEDA, ICAR.

6. Preparation of detail minutes on basis of the transcripts of videodocumentation (the detail agenda notes and minutes are included in Volume II of the report)

7. A decentralized multi stakeholder approach-Most of the states have formulated policies and/or roadmaps by hiring professional consultants (e.g. Bihar). GSTFC-FPI adopted a decentralized approach by forming of multistakeholder subcommittees to give sectoral inputs. In all 14 subcommittees were formed with about 65 members.

8. These were given specific terms of reference, a small budget and full autonomy to meet and discuss. The format to present draft and final reports was circulated and explained.

9. Inclusion of inputs from SC/ST/Women stakeholders in FPI
10. Presentation of reports by subcommittees and discussion (the draft or final reports/suggestions/recommendations are included in Volume IV)

11. Information provided by the state and central government departments/agencies/corporations (important correspondence is included in Volume III)

12. Initiation of urgent departmental action as required in certain cases such as problem of spurious expired imported food products

13. Scrutiny of Betul Food processing park proposal as a case study—for this purpose the stakeholders-local sarpanch, MLA, Goa IDC were invited.

Discussions were also held with members of GSTFC-FPI and subcommittee members and convenors telephonically and by e-mail.

Based on the above methodology the report is presented in five volumes. The present Volume I includes the work as per the terms of reference (TOR) I to X.
Term of reference I
To draw plan of action and vision document to give and impetus to the development of Food processing sector in the state of Goa
GSTFC’s approach was to understand the global trends and mesh the vision of the state with national vision wherever possible and appropriate

FPI-Vision Goa-2022

The time scale of A.D. 2022 has been chosen to include two full central five year plan periods, i.e. XII th (20012-17) and XIII th. (2017-22).

Globally, it would be endeavour of state of Goa to mitigate the concerns of food security by promoting value addition to various types of foods with emphasis on quality and nutritional aspects. For this purpose Government of Goa would seek mutually beneficial national and international collaborations at government – government and PPP levels. Government would identify certain ‘Made in Goa’ niche products for penetrating global markets.

### Box 1.1: Definitions of food security

‘A basket of food, nutritionally adequate, culturally acceptable, procured in keeping with human dignity and enduring over time’ (Oshaug, 1985).

‘Access by all people at all times to enough food for an active, healthy life’ (World Bank, 1986).

‘A country and people are food secure when their food system operates efficiently in such a way as to remove the fear that there will not be enough to eat’ (Maxwell, 1988).

‘Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life’ (FAO, 1996).

(Source:- Simon Maxwell and Rachel Slater)

Goa envisions to emerge as a suitable national and global investment destination for ‘organically produced health foods’, ‘food supplements’, “nutraceuticals’. As a state policy state of Goa would not encourage import, production, processing and marketing of “transgenic foods” in any form to maintain the brand identity of the state which encourages organic farming.
Goa’s vision for 2022 needs to be meshed with National vision and Mission.

Vision and mission of Government of India

Vision:
To make India a global leader in production, consumption and export of safe, hygienic, nutritious and quality processed food items leading to growth of rural income and national GDP.

Consistent with this vision, state of Goa also aims to emerge as a significant contributor to national efforts in production, consumption and export of safe, hygienic, nutritious and quality processed food items. Further State of Goa aims to adopt a knowledge based, selective approach for boosting appropriate FPIs for sustainable wealth generation and employment creation. State of Goa aims to encourage the movement of self help groups, micro food processing clusters and cooperative sector.

Government of India’s Mission aims at the following:

1. Enhancing processing levels
Consistent with this aim state of Goa would enhance the processing levels of perishable with special focus on horticultural crops, meat and marine products.

2. Value addition & reduction in wastage.
Consistent with this aim, state of Goa would identify specific agro horticultural products to reduce waste and add value through primary, secondary and tertiary processing. Government of Goa would also prepare model plans for converting biodegradable waste from agro-horticultural, meat, poultry, dairy and FPI sectors into wealth by using biotechnological routes.

3. Institutional strengthening
Government of Goa would undertake institutional reforms and strengthen creative and productive interlinkages between institutions and stakeholders including cooperatives.

4. Food safety and quality assurance.
Government of Goa would aim to establish world class facilities for food safety and quality assurance in accordance with the new statutes.

5. Capacity building.
Government of Goa aims to create modern training, educational, research and developmental facilities to train adequate, employable manpower for local FPI sector and undertake need based R & D.

6. Enhancing and stabilising the income level of farmers
The state FPI schemes would be tailored for backward integration and the farmers would be assured minimum price support, bulk purchase, technical know how based on a composite package for primary sector strengthening.

7. Providing choice to consumers in terms of greater variety and taste, including ethnic food
The state government would aim for consumer sensitization and education and involve educational institutions, mass media and NGOs for the same. The tourism sector would be actively involved to host thematic food festivals. The health and nutritional sector would be involved to cater to special needs and diets.

8. **Providing greater assurance about safety and quality of food to consumers**
The FDA machinery would be strengthened, decentralized, modernized and awareness would be created at local authority level.

9. **Promoting a dynamic food processing industry**
The state government would facilitate access to knowledge and active followup of proposals seeking support from MFPI. The state government would also provide sector specific additional incentives over and above schemes included Goa industrial policy, 2003 and Goa biotech policy, 2006, as applicable without duplicating the schemes.

10. **Enhancing competitiveness in domestic and international markets**
This would be done in association with various chambers of commerce and trade embassies and by undertaking promotional campaigns in partnership with private investors in FPI.

11. **Making the sector attractive for both domestic and foreign investors**
Buyer sellers-meetings and Roadshows would be organised. An IT based, multimedia approach would be adopted. A single window based E-clearance system would be adopted.

12. **Achieving integration of the food processing infrastructure from farm to market**
The state government would commission an expert study to address this area.

13. **Having a transparent and industry friendly regulatory regime**
The state government would create an administrative culture of full transparency in decision making consistent with RTI regime and by keeping the communication and feedback channels open on 24 X 365 basis ensure friendliness with the industry.

14. **Putting in place a transparent system of standards based on science**
R & D inputs would be used and research agencies and experts would be involved to ensure high standards in food processing, packaging and safety.

**ACTION PLAN**

**SHORT-TERM INTERVENTIONS (by end of F.Y. 2011-12)**

**Formation of State Food Processing Development Council (SFPDC)**

1. Establishment of a dedicated FPI facilitation cell/unit at DITC with trained staff, technical personnel and management trainees
As a nodal agency DITC need to establish a dedicated FPI cell/unit with adequate full time staff, technical personnel such as food technologist and management trainees with experience in production and marketing.

2. The GSTFC-FPI welcomes and recommends the following proposal of Government of India to form a State Food Processing development council (SFPDC).

In September 2009, the government of India has recommended that in order to have a dedicated organizational structure at State level for awareness generation, implementation, monitoring, evaluation, reporting and coordination with Implementing Agencies and Stakeholders, it is extremely desirable to have State level organizations in each State. The central government therefore, proposed to constitute a State Food Processing Development Council (SFPDC) in each State to act as an interface between the Central level NFPDC and the Implementing Agencies at the State level.

As per the government of India proposal, the State Food Processing Development Council will be headed by the Minister (In charge) of Food Processing Industries as its Chairman and Secretary (In charge) of the Food Processing Industries of the State will be the ex-officio Vice Chairman. State Nodal Agency will function as Secretariat for SFPDC.

The GSTFC-FPI recommends to have a more broad based multistakeholder council by giving membership to various organizations of farmers, fishermen, milk producers etc.

The GOI proposal suggests that the State Food Processing Development Council will meet at least once in every 6 months and Chairperson will nominate all members on recommendation of the Secretary of concerned department.

Functions of the SFPDC:

1. Advisory role for promotion and development of Food Processing Sector in the State.

2. To act as interface between the Ministry of Food Processing Industries, State Government and Implementing Agencies.

3. To oversee implementation of the schemes of the Ministry.

4. Monitoring and Evaluation

5. Advice to Central / State Government Ministries.

The GSTFC-FPI recommends that adequate decision making powers may be given to the above council on par with HPCC.
GSTFC-FPI recommends that the proposed GSFPDC need to immediately prepare an approach paper for consideration of priority areas/interventions for XII th and XIII th five year plans.

The following interventions are not detailed as the market and technological situations keep on changing. The list is purely indicative of priority state actions.

3. **Short term interventions (1-3 years)**

3.1 Revisit the Betul Food processing park project by opening fresh dialogue with all stakeholders and by addressing all valid concerns, giving a definite role to the locals or under worst case scenario shift the project site to other areas willing to accommodate the same voluntarily based on a resolution by local authority.

3.2 Appoint a technical consultant to prepare a detail plan for establishment of a network of strategically located state subsidized weather and natural calamity proof cold storages, modern godowns and warehousing in PPP mode with aim to add substantial capacity to store perishable products.

3.3. Government may engage a reputed professional project management agency on contract basis to assist the facilitation cell/unit and the council.

3.4 In association with stakeholder groups such as Goa bagayatdar sangh identify the geographical and sectoral priority areas, including identification of existing and potential agro-horticultural, agro-industrial, dairy products and marine food processing clusters.

3.5 Collect detail micro level data on unorganised food processing sector and create a traditional food technological knowledge base.

3.6 Prepare Detailed Project Report (DPR) for the selected clusters, detailing supply chain and processing linkages aimed at creating models for replication.

3.7 Create a Market Development Fund with a corpus of Rs. 10 crores for promotion of Made in Goa products.

3.8 Identify need based projects in FPI sector to be launched at the proposed Bioincubator facility at Goa University and also take steps to establish a similar bioincubator in South Goa district, preferably at Agnel Polytechnic, Verna to focus on FPI R & D needs of rural sector.

3.9 Promote quality awareness throughout the state including adoption of TQM, HACCP, ISO standards, GMP, GHP, etc.

3.10 Establish world class food testing laboratory.

3.11 Government should take benefit of AICTE scheme to open a new Polytechnic in Food technology, food engineering sector.

3.12. Industrial training institutes to be encouraged to launch courses suitable for FPI.
3.13. Goa University and affiliated colleges need to be supported to start certificate, diploma and degree courses in various aspects of FPI, food safety, food testing etc. Distance education mode to be supported and promoted.

3.14. Following lessons from GIP registration of Feni, cover all local food items/processed products qualifying for GIP registration. For this purpose a standing committee on Food related GIP may be formed at GITC.

LONG-TERM INTERVENTIONS (4–10 YEARS)

4.1. FPI sector to generate a minimum 10000 new sustainable jobs

4.2. A chain of modern mini abattoirs to be established

4.3. Target of zero effluent, zero pollution from FPI sector to be achieved

4.4. FPI sector to be guided to use Carbon trading mechanism through GMP

4.5. Using new technologies/biotechnology, cogeneration of power to be encouraged utilizing the biodegradable food processing waste

4.6. Establish Goa International Institute for Food technology, research and development in PPP mode

4.7. Each taluka to have a mini food processing park utilizing the local strengths

4.8. Develop a novel basket of exportable ‘Made in Goa’ food products

4.9. Get major national trade share of fermented food products, food supplements and neutraceuticals

4.10. Food based value added tourism to be promoted
Terms of reference II
Formulation of Food Processing Policy for the state of Goa and schemes under the Policy
And
Terms of reference VII and VIII
Establish linkage of technology institutes/Research organizations with industry and Evaluate current status of infrastructure for entrepreneurs
<table>
<thead>
<tr>
<th></th>
<th>Food policy ‘old’</th>
<th>Food policy ‘new’</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Population</td>
<td>Mostly rural</td>
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<tr>
<td>2</td>
<td>Rural jobs</td>
<td>Mostly agricultural</td>
</tr>
<tr>
<td>3</td>
<td>Employment in the food sector</td>
<td>Mostly in food manufacturing and retail</td>
</tr>
<tr>
<td>4</td>
<td>Actors in food marketing</td>
<td>Grain traders</td>
</tr>
<tr>
<td>5</td>
<td>Supply chains</td>
<td>Short – small number of food miles</td>
</tr>
<tr>
<td>6</td>
<td>Typical food preparation</td>
<td>High proportion of pre-prepared meals, food eaten out</td>
</tr>
<tr>
<td>7</td>
<td>Typical food</td>
<td>Basic staples, unbranded</td>
</tr>
<tr>
<td>8</td>
<td>Packaging</td>
<td>Low</td>
</tr>
<tr>
<td>9</td>
<td>Purchased food bought in</td>
<td>Local stalls or shops, open markets</td>
</tr>
<tr>
<td>10</td>
<td>Food safety issues</td>
<td>Pesticide poisoning of field workers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Toxins associated with poor storage</td>
</tr>
<tr>
<td>11</td>
<td>Nutrition problems</td>
<td>Under-nutrition</td>
</tr>
<tr>
<td>12</td>
<td>Nutrient issues</td>
<td>Micronutrients</td>
</tr>
<tr>
<td>13</td>
<td>Food-insecure</td>
<td>‘Peasants’</td>
</tr>
<tr>
<td>14</td>
<td>Main sources of national food shocks</td>
<td>Poor rainfall and other production shocks</td>
</tr>
<tr>
<td>15</td>
<td>Main sources of household food shocks</td>
<td>Poor rainfall and other production shocks</td>
</tr>
<tr>
<td>16</td>
<td>Remedies for household food shortage</td>
<td>Safety nets, food-based relief</td>
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<tr>
<td>17</td>
<td>Fora for food policy</td>
<td>Ministries of agriculture, relief/rehabilitation, health</td>
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<tr>
<td>18</td>
<td>Focus of food policy</td>
<td>Agricultural technology, parastatal reform, supplementary feeding, food for work</td>
</tr>
<tr>
<td>19</td>
<td>Key international institutions</td>
<td>FAO, WFP, UNICEF, WHO, CGIAR</td>
</tr>
</tbody>
</table>

Source: *Simon Maxwell and Rachel Slater*
“A policy is defined as a specific statement of principles or guiding actions that imply clear commitment by the government; a statement of values or intent that provides a basis for consistent decision making and resource allocation; or a definite method or course of action selected to guide and determine present and future decisions.”

As indicated in the above table the food analysts give top precedence to ‘food policy’ of any state or nation. The food processing policy of any state is a subset of the food policy. Without meeting the local food and nutritional needs it is difficult to envisage a realistic food processing policy.

A policy document outlines the plan or course of action and helps make procedures simple and transparent.

GSTFC-FPI recognises that a conducive policy environment is essential for triggering growth of any industry including food processing. Measures to catalyse investment need to be aggressively adopted and pursued. The food processing industry needs a special focus taking into consideration a host of infirmities the sector has to confront such as extreme perishable nature of raw materials, seasonality of production, long and complex value chain, small and fragmented production base and capital intensive technology and infrastructure.

Goa’s food processing policy document will help convey the Government intent and commitment to promote/energise the food processing industry. Goa’s food processing policy needs to be consistent with State industrial policy, 2003 and Goa biotech policy, 2006. It would motivate the entrepreneurs.

Policy components provide government strategy, reforms and actions on behalf of the government and monitor regulatory mechanisms proposed, if any.

Goa food processing policy aims at accelerating growth in food processing sector focusing on areas that show potential for rapid growth.

**Goa food processing policy**

**I. Introduction**

The agricultural, fisheries and related industrial and processing sectors operate today in a new and evolving business and social environment. It is a competitive, consumer-driven environment, global and rapidly changing, with enormous implications for the role of the agriculture sector in the overall food system. It is highly inter-dependent, blending the efforts of many industries to add value to agricultural and fisheries products. Effective policies must recognize the wide diversity in the agriculture, fisheries sector, fermentation practices in Goa, in terms of size, location, financial status, crop and other products produced, managerial abilities, income sources, and goals and aspirations. The problems faced by these groups are widely different and require solutions tailored to address particular needs.
2. Strengths
The domestic food market of Goa is Rs. 10000 crores and growing at a rate of 4-5%.
The tourism related food market in Goa is Rs. 5000 crores and growing at a rate of 5-10%.

The Goa food processing policy aims at value addition from agricultural, fisheries, dairy, meat and poultry and other edible biomass produce by induction of modern technology into food processing, encouraging research and development, minimization of wastage across the food processing chain by development of infrastructure for storage, transportation and processing of these raw materials to fill in the gaps of supply chain from farm/harbour to consumer, and promotion of investment in all these fields. The objective is also to increase participation of entrepreneurs, pastoralists, fisherpeople and farmers in food processing and related sectors, creating new employment opportunities, and increasing incomes, particularly of the rural population. Goa food processing policy aims to address all the sectors and target groups.

3. DEFINITIONS:

a) Agro Industries:
'Agro Industry' means units which add value to agricultural products/intermediates/residues, both food and non-food, by processing into products, which are marketable or usable or edible or by improving storability or by providing the link from farm to the market or part thereof. Agro industry also includes hitech and biotechnology based agriculture.

b) Agricultural products:
'Agricultural Product' means produce of Agriculture - Horticulture - Sericulture - Floriculture - Fisheries and includes minor forest produce and live stock based products, except dairy and dairy based products.

c) Hi-tech and Bio-technology based Agriculture:
'Hi-tech and Bio-technology based Agriculture' means and includes projects, which involve any one of the processes such as Tissue Culture, Production of Transgenic Plant, Mass Multiplication of parasites/predators, Fermentation Plant for biofertilizers, Gene Mapping, Cloning, Genetic Engineering, Green House, Aquaculture or any other frontier technology having agro industrial application.

d) Fermented products
Edible foods, beverages, nutraceuticals, food supplements or feeds produced using fermentation processes

e) Units having the following mechanized facilities jointly or severally will also be considered as Agri & Food Processing Industries:

i) Grading, sorting, washing & pre-cooling, ii) Ripening chamber and fumigation chamber
iii) Controlled atmosphere/modified atmosphere, packaging, system & storage, cold storage for potato and refrigerated vehicle.

f.) Multi-purpose cold storage units suitable for storing fruits, vegetable, flowers, fish, meat, milk and milk products.

g.) Seed processing & packaging.

h.) Centre for production of intermediate products and semi processed products for preservation of raw materials to supply the processing units.

i.) Units engaged in production of fermented vegetables, dehydrated fruits & vegetables, pickling, nutrient pulp from fruit and vegetable, crude oil extraction from aromatic and medicinal plant.

j.) Bee keeping, honey processing, mushroom cultivation and processing unit in artificially controlled atmosphere.

k). Setting up of Irradiation Centre and also irradiation of fruits/vegetables/fish / meat/ egg etc. following all safety norms

l) other products as declared by the government from time to time under FPI sector

Note: Any ambiguity/difference of opinion in interpretation of the above definition will be decided upon by DITC

4. The guiding principles of this Policy are

I. Focus on core sectors (Plantation crops, fisheries, organic farm products, meat, poultry, milk, dairy, fermented products) based on production strengths, and specific interventions to make these sectors more commercially viable, taking advantage of the strengths and potential of different areas in the State.

II. Focus on the development of food processing clusters and end-to-end integrated value chains so as to make them domestically and globally competitive, including support to SME clusters for providing links between the farms, fish landing jetties, aquaculture units, dairies, poultries and large industrial processing units.

III. Attracting large investments in food processing industry, which would help catalyse the entire supply chain, create an enabling environment for the development of smaller units, and increase value addition at all levels for the benefit of farmers and the rural economy generally.

5. Policy Components

These are divided into general, sectoral and additional financial incentives
5.1 General

To develop the Food Processing Sector, the state of Goa will endeavour to:

1. Augment export of both primary agricultural-horticultural, marine produce and processed food products,

2. Produce and supply safe, hygienically processed balanced nutritious food to the domestic and export market

3. Avoid wastage of primary agricultural-horticultural produce at all stages of production, encourage technology for up gradation and strive to create a brand image of the processed food products from Goa (Made in Goa)

4. Create symbiotic partnership between farmers’/growers’ cooperatives/ self help groups with the processing industries,

5. Produce raw materials conducive for processing and export through integration of research and extension facilities in all sectors of raw material production,

6. Dovetail policies and programmes of all the Depts. of the State Government responsible for agriculture, fisheries, animal husbandry and allied activities,

7. Encourage investors for creation of infrastructures of common facility and marketing.

8. Develop human resource base through novel training programmes and Entrepreneurship

9. Undertake Development Programme including information, education and communication.

10. Provide technical, financial incentives in setting up of food processing industries

11. Government would amend, simplify and harmonise application of all Acts, Rules and Regulations governing the sector to fast track setting up of Food Processing Industries

12. Process proposals received for investment under the Food Processing Sector in a time frame manner so determined by proposed Goa state food processing development council

13. Ensure strict implementation of the Prevention of Food Adulteration Act and other such Acts, Rules and Regulations for production of processed food of highest quality and standard.
14. Encourage and provide assistance to public and private sector, particularly the small and medium units to adopt latest quality assurance measures, such as, Good Manufacturing Practices (GMP), Hazards Analysis Critical Control Point (HACCP), and ISO 9000. Individual Quick Freezing (IQF), Good Laboratory Practices (GLP), Total Quality Management (TQM), Food Labelling, Food Packaging and Irradiation Technology etc. for production of safe and hygienic products.

15. The Government shall facilitate setting up of new and upgradation of the existing Food Testing Facilities for food quality assurance at par with the international standards.

16. The Govt. will actively support the creation of cold chain, pre and post harvest networks near the production sites for meaningful utilisation of these facilities; the Govt. shall treat cold chain, pre and post harvest network infrastructures in the private/public sector as a part of the processing industry and shall award priority sector status in providing power, water connections, etc. Public-Private Partnership will be encouraged to establish coldchain, pre and post harvest network infrastructures.

17. Creation of primary processing facilities within an area of 5-15 Kms of the center of raw material production and management of such centers by trained rural people/SHGs/Farmers’ groups and on cooperative basis will be encouraged.

18. To meet the growing shop floor demand of the Food Processing Industries Sector for trained and skilled technical personnel, academic and professional training institutes will be encouraged to develop training programmes and make changes in the existing curriculum to include Food Processing as a subject.

19. Capacity building of PRIs, NGOs, Farmers Organisations, Cooperatives, Self Help Groups including women and persons belonging to the backward classes and minority communities will be fast tracked.

20. Priority will be accorded to women's role in food sector through their capacity building and access to inputs such as land, credit and technology for setting up FPIs.

21. Training centers will be established with the help of NGOs for imparting training to all the stakeholders;

22. Holding of FPI product exhibitions, Conferences and Seminars with the stakeholders for wide scale dissemination of information/knowledge and adoption of technology will be encouraged.

23. For the purpose of development of entrepreneurship, transfer of technology and quality control, a Centre for Technology Business Incubator will be established at a central location.
24. The Govt. will take steps to improve market efficiency through amendment of existing and or adopt new Acts/Rules and Regulations to facilitate investment, encourage private sector investment for development of marketing infrastructure, fiscal initiatives/ interventions, like, rationalization of tax structure, financial incentives, etc., will be introduced to facilitate setting up of the Processing Industries as well as to remove the disparity between the branded and unbranded products

25. A Packaging Development Centre will be established for promotion of low cost packaging and common service for processing.

26. The Government shall encourage blending of indigenous and traditional knowledge, skills, wisdom, technology and practices for storage, preservation and preparation of different processed produce; the Government shall encourage development and promotion of locally produced Goan ethnic food products

27. The Government will encourage promotion of non-traditional food processing industries such as edible mushroom production, where there is scope for creation of mass employment

5.2 Specific Sectoral

A) Infrastructural aspects

1) Government would revisit Industrial and Biotech Policies and additional incentives would be considered for Food Processing Industries (F.P.I) on these lines.

2) Capital Contribution Scheme to have special preference to Food Processing Industries.

3) Government may consider Capital Incentive Subsidy of ` 25 Lakhs (on lines of Biotech Policy but higher limit) for FPI.

4) Government would lower Power tariff by ` 1/- per unit for S.M.E’s operating in Cold-chain logistics and Perishables including cold storage.

5. QUALITY CONTROL

While large units have their own well equipped Quality Control lab and infrastructure, the S.M.E’s and Micro units are unable to have the infrastructure. M/s Choksey, Newcon and Italab in the Private sector and F.D.A in Government sector exist. These need to evolve “pro-food”, rather they are presently more involved in Quality Control and testing for drugs / pharmaceuticals and mining sectors. For this to happen, infrastructure of these labs to be upgraded through existing M.O.F.P.I. schemes and G.O.G. Food Safety and Standards Act which is being implemented across India now, will help in enforcement and adherence to the standards by operating units.
6. EXPORT LOGISTICS.
Government aims to develop Goa to be the logistics hub for exports from Goa as well as South Maharashtra and North Karnataka. This would also help ancillary units in F.P.I to thrive.

In Goa, the Seaport, Airport, Railway Container Yard and Container Freight Station (Verna) are all located within 10 kms radius.

**Seaport:** The government would prepare a strategy and plan in consultation with exporters for speedy clearance. The delays would be reduced. The government would also depute Asst. Drugs Controller (A.D.C) at Ports.

**Airport:** Government would consider appointment at Dabolim airport of a Phyto Pathologist with M.Sc degree for issuing “Phytosanitary Certificate”. This may boost exports to 5 tons per day in immediate future. Government would also consider potential of proposed Mopa Airport to manage containers handling 50 tons per day of perishables.

**B) Agro-horticultural sector**

1. Government declares Goa as “transgenic free, organic food producer” state.

2. The government would prepare a detail developmental master plan for the period 2012-22 for agro-based FPIs

3. Govt. would remove all the loopholes in the Goa plant (fruits and flowers) nurseries act and bring it on par with international phytosanitary norms.

4. Govt. would prepare a special package for farmers to create processable surplus of elite, high value local fruits, vegetable, tuber crops

5. Cashew and mango orchards would be developed in a mission mode

6. Food processing and other agro-industrial units add value to the produce, which increases the sales realization and reduces wastage. Apart from benefits to producers themselves, enterprises or farmers’ groups undertaking processing benefit due to value addition. The Government would support them by providing assistance in finance, technology upgradation and market linkages over and above the fiscal incentives of MoFPI for technology upgradation, establishment and modernization of food processing units.

7. Government would bring a new Goa agricultural marketing act and strengthen the agricultural markets, sub yards.

8. In order to promote value addition by processing within the State in the case of produce grown locally but which may otherwise be processed outside Goa, the Government will reimburse the net amount of VAT paid by local processors
9. Govt. would support Goa Bagayatdar sangh maryadit to launch agro-marketing projects and set up FPI in cooperative sector


### Agricultural Production

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Crop</th>
<th>Unit</th>
<th>Estimated Production</th>
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<td>2006-07</td>
</tr>
<tr>
<td>1</td>
<td>Paddy</td>
<td>Tonne</td>
<td>193418</td>
</tr>
<tr>
<td>2</td>
<td>Ragi</td>
<td>,,</td>
<td>254</td>
</tr>
<tr>
<td>3</td>
<td>Maize</td>
<td>,,</td>
<td>-</td>
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<tr>
<td>4</td>
<td>Pulses</td>
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<tr>
<td>5</td>
<td>Groundnut</td>
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<td>6</td>
<td>Sugarcane</td>
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<tr>
<td>7</td>
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<tr>
<td>8</td>
<td>Coconut</td>
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<tr>
<td>9</td>
<td>Arecanut</td>
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</tr>
<tr>
<td>14</td>
<td>Other fruits</td>
<td>,,</td>
<td>39804</td>
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</table>

Source: Directorate of Agriculture, Government of Goa.
C) Fisheries, Marine products

1. Govt. would enforce sustainable fisheries management policy consistent with FAO norms within the fishing zone of Goa.

2. Scientific and ecologically sustainable aquaculture would be promoted in estuaries and backwaters and reservoirs, lakes, ponds by training local people.

3. Artificial shellfish production (mussels, clams, crabs, bivalves) would be encouraged with help of NIO.

4. Govt. would enter into a long term MOU with NIO, Goa University, CMFI, CFTRI, MPEDA for surplus fish, shellfish, edible sea weed production and value addition.

5. Govt. would set up a modern eco-friendly fish processing plant.

6. Govt. would promote sea food festivals to promote tourism.

7. Govt. would support projects to catalogue and document the ethnoicthyological traditions of coastal and interior Goa.

8. Goa University would be supported to introduce courses in Fisheries development.

9. Export oriented FPI units involved in local production of edible algae, sea weed based foods would be given special incentives.

10. The local techniques of drying and salting fish would be standardized and training would be imparted for quality improvement and packaging.

11. Govt. would consider the techno-economic feasibility of setting up ‘Goa Fisheries development corporation’ and establish an exclusive ‘marine food processing park’ with stakeholders support.

12. Govt. would strictly enforce Marine fisheries regulation act and disallow catching of juvenile fish as also marine mammals and notified species of sharks.

13. Urgent steps in association with law and order machinery would be taken to completely halt the dangerous practice of ‘blast fisheries’ in rivers in violation of Indian fisheries act, 1897.

14. At least one fishing village each in north and south Goa would be developed as model village with facilities for value addition and processing.

15. Sports fishing/angling would be promoted and competitions held annually in association with tourism department.

16. A modern aquarium would be centrally set up. Taluka level aquariums would be promoted.
17. Counters/kiosks selling local cooked fish items would be supported
18. Routine market inspections in association with local authorities and medical officers would be ordered to inspect the quality and safety of marketed fish
19. Locally produced crude salt – Agrachem mith would be actively promoted for use in ice plants and for curing fish

**Trend of Fish Catch 2004-2009**

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Year</th>
<th>Marine</th>
<th>Inland</th>
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<td>4397</td>
<td>88794</td>
</tr>
<tr>
<td>2</td>
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<td>2007</td>
<td>91185</td>
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<td>5</td>
<td>2008</td>
<td>88771</td>
<td>3078</td>
<td>91849</td>
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<td>6</td>
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<td>80680</td>
<td>3283</td>
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*Source: Directorate of Fisheries, Government of Goa*

**Export of Marine products 2004-2009**

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Year</th>
<th>Quantity (in tones)</th>
<th>Value (Rs. in lakhs)</th>
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<tbody>
<tr>
<td>1</td>
<td>2004</td>
<td>8856</td>
<td>3909</td>
</tr>
<tr>
<td>2</td>
<td>2005</td>
<td>11001</td>
<td>6178</td>
</tr>
<tr>
<td>3</td>
<td>2006</td>
<td>14117</td>
<td>7299</td>
</tr>
<tr>
<td>4</td>
<td>2007</td>
<td>17531</td>
<td>8849</td>
</tr>
<tr>
<td>5</td>
<td>2008</td>
<td>21434</td>
<td>19747</td>
</tr>
<tr>
<td>6</td>
<td>2009</td>
<td>27009</td>
<td>19563</td>
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</table>

*Source: Directorate of Fisheries, Government of Goa*
## Important Variety wise Quantity of Inland Fish catch (in M Tones)

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of the Fish</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
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<tbody>
<tr>
<td>1</td>
<td>Prawns</td>
<td>Big</td>
<td>64</td>
<td>46</td>
<td>48</td>
<td>15</td>
<td>11</td>
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<td></td>
<td></td>
<td>Medium</td>
<td>150</td>
<td>111</td>
<td>158</td>
<td>77</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Small</td>
<td>987</td>
<td>716</td>
<td>979</td>
<td>811</td>
<td>571</td>
</tr>
<tr>
<td>2</td>
<td>Lady Fish</td>
<td></td>
<td>74</td>
<td>80</td>
<td>76</td>
<td>38</td>
<td>26</td>
</tr>
<tr>
<td>3</td>
<td>Mullet</td>
<td></td>
<td>186</td>
<td>207</td>
<td>196</td>
<td>233</td>
<td>304</td>
</tr>
<tr>
<td>4</td>
<td>Gerres</td>
<td></td>
<td>65</td>
<td>80</td>
<td>70</td>
<td>79</td>
<td>81</td>
</tr>
<tr>
<td>5</td>
<td>Lutianus</td>
<td></td>
<td>35</td>
<td>45</td>
<td>37</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>6</td>
<td>Cat Fish</td>
<td></td>
<td>205</td>
<td>210</td>
<td>196</td>
<td>111</td>
<td>115</td>
</tr>
<tr>
<td>7</td>
<td>Anchovy</td>
<td></td>
<td>31</td>
<td>34</td>
<td>35</td>
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<td>1</td>
</tr>
<tr>
<td>8</td>
<td>Pearl Spot</td>
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<td>59</td>
<td>71</td>
<td>64</td>
<td>116</td>
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</tr>
<tr>
<td>9</td>
<td>Betki</td>
<td></td>
<td>5</td>
<td>7</td>
<td>4</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>10</td>
<td>Milk Fish</td>
<td></td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>30</td>
<td>26</td>
</tr>
<tr>
<td>11</td>
<td>Megalops</td>
<td></td>
<td>1</td>
<td>1</td>
<td>0</td>
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<tr>
<td>12</td>
<td>Scatophagus</td>
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<td>31</td>
<td>31</td>
<td>33</td>
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<td>37</td>
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<tr>
<td>13</td>
<td>Ambasis</td>
<td></td>
<td>83</td>
<td>92</td>
<td>88</td>
<td>9</td>
<td>27</td>
</tr>
<tr>
<td>14</td>
<td>Crabs</td>
<td></td>
<td>143</td>
<td>161</td>
<td>138</td>
<td>116</td>
<td>116</td>
</tr>
<tr>
<td>15</td>
<td>Black Water Clamps</td>
<td></td>
<td>756</td>
<td>716</td>
<td>718</td>
<td>604</td>
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</tr>
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<td>16</td>
<td>False Clamps</td>
<td></td>
<td>179</td>
<td>163</td>
<td>155</td>
<td>70</td>
<td>360</td>
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<tr>
<td>17</td>
<td>Oysters</td>
<td></td>
<td>380</td>
<td>184</td>
<td>167</td>
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<td>1</td>
</tr>
<tr>
<td>18</td>
<td>Balle</td>
<td></td>
<td>0</td>
<td>0</td>
<td>4</td>
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<td>0</td>
</tr>
<tr>
<td>19</td>
<td>Green clamps</td>
<td></td>
<td>364</td>
<td>464</td>
<td>358</td>
<td>88</td>
<td>0</td>
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<tr>
<td>20</td>
<td>Miscellaneous</td>
<td></td>
<td>594</td>
<td>765</td>
<td>607</td>
<td>625</td>
<td>905</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td>4392</td>
<td>4185</td>
<td>4131</td>
<td>3072</td>
<td>3078</td>
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</tbody>
</table>

Source: Directorate of Fisheries, Government of Goa
D) Livestock
As shown in the box item below a “livestock revolution’ is taking place. Government of Goa aims to benefit from this revolution.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of Species/Year</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mackrals( Bangdo)</td>
<td>6303</td>
<td>12006</td>
<td>12244</td>
<td>19930</td>
<td>16597</td>
<td>151169</td>
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<tr>
<td>2</td>
<td>Sardines( Tarlo)</td>
<td>34203</td>
<td>28246</td>
<td>30558</td>
<td>28574</td>
<td>34062</td>
<td>23496</td>
</tr>
<tr>
<td>3</td>
<td>Cat Fish ( sangot)</td>
<td>1043</td>
<td>1303</td>
<td>2586</td>
<td>1821</td>
<td>1480</td>
<td>2279</td>
</tr>
<tr>
<td>4</td>
<td>Shark Fish ( Mori )</td>
<td>1305</td>
<td>1716</td>
<td>988</td>
<td>1007</td>
<td>1019</td>
<td>792</td>
</tr>
<tr>
<td>5</td>
<td>Seer Fish ( Wiswan )</td>
<td>3478</td>
<td>9556</td>
<td>3522</td>
<td>4407</td>
<td>3777</td>
<td>2285</td>
</tr>
<tr>
<td>6</td>
<td>Prawns( Sungtam)</td>
<td>5586</td>
<td>10599</td>
<td>9065</td>
<td>8642</td>
<td>7458</td>
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<td>7</td>
<td>Promperts( Paplet)</td>
<td>568</td>
<td>720</td>
<td>446</td>
<td>559</td>
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<td>8</td>
<td>Cuttle Fish ( Manki )</td>
<td>1737</td>
<td>73</td>
<td>1919</td>
<td>330</td>
<td>710</td>
<td>1595</td>
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<tr>
<td>9</td>
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<td>609</td>
<td>2459</td>
<td>589</td>
<td>1916</td>
<td>1210</td>
<td>1044</td>
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<td>10</td>
<td>Ribbon Fish ( Balle )</td>
<td>3647</td>
<td>5791</td>
<td>5354</td>
<td>1368</td>
<td>2551</td>
<td>558</td>
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<tr>
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<td>Reef Cod ( Gobro )</td>
<td>2371</td>
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<td>12</td>
<td>Kowalkawal ( Velli )</td>
<td>421</td>
<td>854</td>
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<td>226</td>
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<td>395</td>
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<tr>
<td>13</td>
<td>Golden Anchovy( Kapsali )</td>
<td>9</td>
<td>17</td>
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<tr>
<td>14</td>
<td>Silver Belly ( Karli )</td>
<td>2489</td>
<td>2046</td>
<td>3187</td>
<td>1664</td>
<td>1688</td>
<td>1976</td>
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<tr>
<td>15</td>
<td>Soles ( Lepo )</td>
<td>2016</td>
<td>2054</td>
<td>2339</td>
<td>1950</td>
<td>1795</td>
<td>1532</td>
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<td>16</td>
<td>Silver Bar ( Karii )</td>
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<td>849</td>
<td>435</td>
<td>251</td>
<td>336</td>
<td>637</td>
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<tr>
<td>17</td>
<td>Crabs ( Kurlo )</td>
<td>972</td>
<td>994</td>
<td>1092</td>
<td>819</td>
<td>1021</td>
<td>1349</td>
</tr>
<tr>
<td>18</td>
<td>Sciaenoides ( Dodiaro )</td>
<td>2634</td>
<td>3211</td>
<td>2404</td>
<td>1938</td>
<td>2780</td>
<td>2207</td>
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<tr>
<td>19</td>
<td>Butter Fish ( Soundale )</td>
<td>340</td>
<td>598</td>
<td>892</td>
<td>665</td>
<td>655</td>
<td>1353</td>
</tr>
<tr>
<td>20</td>
<td>Others</td>
<td>14327</td>
<td>19995</td>
<td>17952</td>
<td>15115</td>
<td>10586</td>
<td>13675</td>
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<td><strong>TOTAL</strong></td>
<td><strong>84394</strong></td>
<td><strong>103087</strong></td>
<td><strong>96326</strong></td>
<td><strong>91185</strong></td>
<td><strong>88771</strong></td>
<td><strong>80687</strong></td>
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Source: Directorate of Fisheries, Government of Goa
1. Government would consider increase in support price for milk. It is proposed that subsidy schemes could be linked to milk production and a per liter additional support price may encourage milk producers to supply additional milk to Goa Dairy. The government would appoint a committee to study the matter.

2. Government would attempt to reduce the cost of feed and promote fodder development

2.1 Concerted efforts would be made to grow more green fodder in the State. Commercial growing of green fodder and maize, through co-operative farming
of barren and fallow lands would be explored. Government would survey uncultivated/barren/Forest/Communidade/agriculture land and necessary LEGISLATION would be brought to utilise it under Green Fodder mass Cultivation on the lines with agriculture cash crops.

2.2 90% subsidy on equipments and accessories required for Dairy Farming be considered to encourage rural youth to take up dairying as self employment.

2.3 Cattle feed, green fodder and dry fodder [kadba kutty] need to be provided with transport subsidy of Rs 2/ per kg.

2.4 Since the practice of feeding dairy cattle with adequate quantities of good quality green and dry fodder, besides ensuring that the cost of production of milk is kept low, also ensures the health of the animals and thus better reproductivity, the Agriculture Department would create a specially designed package to promote exclusive “FODDER GROWERS”.

2.5 This would be done by projecting the growing of fodder as a commercial crop, where the fresh harvest is supplied/ sold to the dairy farmers on a daily bases, thereby ensuring a healthy cash income to the fodder producer and the vital support to the dairy farmer to bringing down dependence on the expensive concentrates to a level of supplements.

2.6 The Agriculture Department will promote appropriate crops with a focus on dry fodder being generated for the stalks, as even sugarcane bagasse is finding competing demands. Green fodder would be notified as one of the cash crop in the state and all the facilities be made applicable to it at par with other agricultural cash crops.

3. A very special effort would be made in the area of live stock raising . The state would aim to have at least a yearly 25 % increase in the milch animal cattle population directly contributed from the calves raised by the farmers.

4. The support pattern for calf raising (in the form of concentrate feed and medicines) would be extended to the 33 month age of the animal OR date of first calving – whichever is earlier and would be linked to the target weight and health of the calf. There would be check every 3 months the body weight of the calf to evaluate the progress.

5. Support for milk procurement, processing and marketing : Goa Dairy is the only co-operative Milk Union in the state and shoulders the responsibility of procuring, processing and marketing of milk and milk products in the state. GSTFC-FPI strongly recommends a need based financial support for development of required infrastructure in processing and marketing of quality milk is to be considered, there by strengthening the dairy enterprise in the state.

6. Government would take steps in consultation of stakeholders to prepare a MASTER PLAN for Dairy development to achieve self sufficiency in Milk Production within next 10 years be prepared taking into consideration the specific issues related to the Milk Production and Productivity well defined with year wise targets.
7. All the schemes available with the A.H. Department would be continued till next five years and withdrawn thereafter in a phased manner so as to avoid the discouragement to the milk producers and adverse impact on the existing dairying in the state if the same are withdrawn suddenly.

8. To create immediate required enthusiasm amongst the milk producers and to ensure them that the Govt is serious and very keen in developing the Dairy Sector within the state with sustainable efforts by implementing the need based programmes and activities to support Dairy Husbandry in the State GSTFC recommends the following immediate steps

a] Constitute Goa Dairy Development Corporation entrusting it with specific objectives with priority to the following two basic components.

b] Implementation of calf to cow rearing scheme with year wise targets of 3000 cows to be developed with expected productivity of average 15 litres of milk per day

c] Necessary infrastructure would be planned and developed to cater to the needs of the better yielding and increased cattle population so that there is adequate breeding facilities and efficient system to provide Veterinary Health Cover.

d] It is proposed that few of the existing Veterinary Dispensary be upgraded to Zonal Veterinary Hospitals or Polyclinics to ensure round the clock Veterinary Services so as to create confidence in the minds of the Milk Producers to take up Dairying on large scale as self employment.

e] The Veterinary Hospitals /Dispensaries be provided with atleast one four wheeler vehicle and two motorbikes to meet the future work demand as result of the programme implementation

f] The Sub Centres be supported with the Motorbikes for ensuring immediate need based service.

g] All the vacant posts in the A.H Department be filled on priority and new additional posts be created in relation with the expected work in Veterinary Health Care as well as Breeding activities.

h] Government would prepare a suitable scheme for the care and custody of unproductive/ uneconomical cattle and buffaloes owned or disowned/ moving on streets or unclaimed to avoid immeasurable loss to public /private properties. Govt. would support NGOs in this regard.

i] The government would extend support to Goa dairy to develop its infrastructure for processing storage and marketing to ensure that the Milk produced locally gets assured optimum returns as well as it is available to the consumers at reasonable rates.

j] Government would initiate steps to develop Cooperative Dairy Farms on the lines of Industrial estates at taluka level consisting of 40-50 units. Each such Dairy unit shall maintain 20-30 milch animals having fully machanised milking system
9. Each area shall have bulk milk coolers of adequate capacity and number be installed. Full time Veterinary facility should be the compulsory component of such a scheme with adequate required quota of medicines and other accessories. The Daily requirement of Cattle Feed, Green Fodder, Dry feed shall be worked out and provided by outsourcing on regularly basis. Adequate quantity of electricity and water availability shall be ensured. The calves born shall be made available for calf rearing under specific scheme mentioned above. The milk shall be arranged for lifting on daily basis. The cow sheds shall be constructed by the Govt along with accommodation in the same area for the farm workers. The sheds shall be auctioned for at least a minimum period of 5 years to the unemployed rural youths for the purpose of self employment. The Farm Yard manure shall be arranged to be lifted from the sites and transported to the areas developed with Green Fodder Cultivation

10) The government would rationalize payment of proportionate amount as insurance for animals purchased under kamadhenu scheme for the actual value and the additional amount paid by the farmers above the purchase value.

11). Government would encourage directorate of tribal welfare to prepare a special package for tribals of Goa especially the pastoral Dhangar/Gouly community under the guidance of Goa state cooperative milk producers union (GSCMPU).

12). The government would extend full support to GSCMPU for cattle feed plant under the Rahtriya krishi vikas yojana and the project on mass scale green fodder cultivation.

13). The government would assist GSCMPU technically and financially to modernize and upgrade the Goa dairy plant and machinery and bring it to international level.

14.) The government would give preferential treatment, remunerative price for inclusion of the dairy products of GSCMPU in the mid day meal scheme and ICDS schemes.

15). Government would encourage and support Goa University and affiliated colleges to start courses in Dairy sciences and technology.

**E. Meat production**

Government acknowledges that there remains a substantial inadequacy in the manner in which the slaughter of small animals & birds is carried out and the way in which sale of mutton, beef and pork as also poultry is conducted in Goa under the food category – “fresh meat”. The issues to be addressed here are predominantly two fold; (1) Hygienic Slaughter of the animals and birds for human consumption and (2) Post slaughter handling and sale of the fresh meat and meat product.

To address the issue of Hygienic Slaughter Houses and Sales facilities, government proposes set-up at the initial stage One facility of Stand-alone Hygienic Service Slaughter Houses cum Sales Counters at each of the bigger Municipal Markets. The Municipalities that would already qualify and should be considered are (starting from the North – Mapusa, Panjim, Vasco, Margao and Ponda). It would be ensured that the
land requirement for this kind of a facility would not be in excess of 6000.00 sq. meters per market, designed to house Poultry, Mutton, Beef and Pork in independent wings. However the STP and other support systems need to be common and the facility would be designed to use renewable energy such as Solar energy and Bio gas for heating of water and lighting while Bio-gas may also be used to generate electricity. Land acquisition for this purpose is the first step and would be considered under the MOFP assistance at the earliest, with a detailed plan to follow, for setting up the markets in the next one and a half year thereafter.

A Model/Concept drawing has been created (see the figure below) based on the concept that the slaughter of only healthy animals and birds is ensured in a controlled and hygienic facility as opposed to the present pathetic and uncontrolled manner in which the operation is carried out today. The slaughter operation must be backed by an appropriate handling/storage and display method under the direct supervision of a Food Safety Officer. Here the use of Walk in Cold Rooms post slaughters are a must and have been proposed. To ensure that the display and sale of the fresh meats is done in a safe manner, the structure’s roof and ventilation will have to be designed appropriately. Adequate quantity of potable water should be available, for which provision must be made. As the activity needs an extremely large quantity of water, the output from the STP will also be an issue if not specifically addressed. It is thus proposed that the design of the STP adopted be such the output water from the STP can be directly used for watering the Municipal gardens without having issues of odour and TSS. The approximate cost of each such Market Cum Service Slaughter House based on the concept drawing attached might be in the region of 10.00 Cr.
F) AERATED SOFT DRINKS AND PACKAGED WATER
1. Government would consider reduction in VAT for Packaged Drinking to brands owned by local manufactured trade marked users.

2. Carbonated Flavors such as Kokum, Jeera, Ginger etc manufactured by local registered trade mark owners to be taxed at 5% similar to Juices.

3. Excise Duty exemption slab would be revised upwards

4. Industries manufacturing packaging material such as closures, pre-forms, corrugated boxes would be exempted from collecting tax when supply made to local brand beverage industries.

5. Considering High annual fees, product and raw material fees for Packaged Drinking Water under mandatory BIS certification the govt. would approach Ministry of Micro, Small and Medium Enterprises (MSME), to provide the financial assistance for reimbursement.

6. Government would provide suitable investment subsidy for non polluting Pet Recycling Plants and exempt tax on sale of such recycled material.


II) FENI

Auction system
1. The government would examine the present auction system and come out with a better alternative.

2. The Goa DSTE would support Pilot Project on Feni distillation to be an example for farmer distillers for optimum quality and quantity output. This will include initiation of anaerobic distillation instead of the present aerobic distillation, which will result in better output.

3. Government may lease out machinery to the ‘bhaticars’ during the season or can come up with subsidies for these people to procure the required equipment so that the turnout of the end product will be of better quality when stored in stainless steel containers.

4. Government would form a committee to ascertain the set quality of the distilled and bottled products.

5. Government would address the issue of fuelwood for feni distillers.

6. Government would sponsor in part or full a delegation of local distillers, bottlers and related people to places like Mexico, Brazil and Sri Lanka whereby the delegation can make a comprehensive research and study of the GI alcohols of those countries.

7. Government would ensure synergy between different department to promote ‘Feni’
8. Government would take effective steps required to increase cultivation of cashew.

9. Government would involve FDA, Excise and Health in the constant monitoring of the quality of the product wherein a special logo on the label may be allowed to be used by bottlers to enable the consumer to identify and have assurance of quality ‘Feni’.

10. Government would direct Excise Department to sensitize each and every distiller (all over the state) for creating awareness of the GI acquisition for feni.

11. Government would provide adequate resources for promotional campaigns for GI of Feni. Roadshows would be held in important cities in India.

12. government would examine the issue of reclassification of ‘Feni’ from Country liquor status to Indian Made Liquor

13. The issue of Export of feni to Maharashtra through interstate agreement would be examined.

14. Government would organize an annual Cashew festival during the month of May or during the fruit season in January, February, on a real large scale.

G) Packaged foods

The box below indicates the future trends in FPI. Goa could grab the opportunities in packaged foods and FMCG market.

According to a Deloitte research on good and beverage industry, some of the future trends that could shape the sector are as follows:

<table>
<thead>
<tr>
<th>Some of the trends that would shape the food processing industry in the near future</th>
<th>Explanations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quick fix foods</td>
<td>Demand for easy to prepare, open and pre-cooked foods</td>
</tr>
<tr>
<td>Natural goodness</td>
<td>Higher consumption in fresh fruits, vegetables and salads</td>
</tr>
<tr>
<td>Premium food products</td>
<td>Higher growth in premium beverages like wine, tea, etc.</td>
</tr>
<tr>
<td>Farm friendly</td>
<td>Increasing demand for organic foods</td>
</tr>
<tr>
<td>Flavorizing</td>
<td>Demand for international flavors set to rise</td>
</tr>
<tr>
<td>Grab and go value foods</td>
<td>Growth in foods which provide value by clubbing health with convenience</td>
</tr>
<tr>
<td>Low fats, transfats, carbs</td>
<td>Demand for low fats, calories, Transfats and allergen free foods</td>
</tr>
<tr>
<td>Functional food</td>
<td>Demand for “healing” food products like nutraceutical food products</td>
</tr>
</tbody>
</table>
1. **Government would encourage branding and naming of Traditional Goan sweets & snacks** and other products in attractive packets using names such as Aparant, Sunaparant, Mandovi, Zuari, Surbus sweets ‘N’ Snacks, Sushegad snacks & sweets etc.

2. Government would encourage brand equity for brand name of Goan sweets and snacks to be marketed throughout Goa for consumption of local population as well as tourists. These products could also be made available in state emporiums “Aparant Mand”.

3. Government would facilitate distribution channels to distribute these products in Goa & other parts of India. Government would also explore possibility of exporting these products to other parts of the world where substantial number of Goans have migrated.

4. Government would promote production of these items in a centralized factory where essentially women workers could be employed. Alternatively products could be made by self help groups at different locations under strict quality control by quality control inspectors.

5. Government would facilitate manufacture of these products under specially established entity such as co-operative society. This entity can also market products or marketing & distribution could be assigned to different.

The GSTFC-FPI has identified different product ranges in FPI sector of local sweets and snacks as under. These products would be entitled for benefits under different FPI schemes.

**PRODUCT RANGE (A):**
Chivda of a high quality standard with raisins, cashew pieces and dry coconut slices. Shev with different flavours including traditional, tomato, garlic, etc. Tikhashe Fov, Churamo, Chakali, Shankarpali, Khaja, Mysore Pak, Besan Ladu, Munganche Ladu, Cashewnut (Biyanche) ladu, Bundi Ladu, Pithyache Ladu, Khajachye Ladu, Ravayache Ladu, Tilanche Ladu, Kadayanche Ladu, Batatachi kapan, Chanachi kapan, Ambachi Kapan, Pedhe, Bhakkam Pedhe, Fenoryo, Godachyo Gulio., Nevaryo – God ani Tikheshyo, Khaje, Revadi

**PRODUCT RANGE (B)**
Papad, Pickles of different varieties e.g. raw mango, lime, God Londche, etc., Shevayo, Vadayo, Kangenche Ghons, Sandage, Roasted, flavoured groundnuts

**PRODUCT RANGE (C)**
Cashewnuts of different flavours e.g. plain, with shell, salted, sweetened, with masala, etc.
PRODUCT RANGE (D)
Bebinca, Dodol, Batica, Doce, Pinache, perad, Bulhinhas & Cocad, Marzipan fruits

Product Range (E)
Mango Polli (sath), Jackfruit Polli (Sath), Tradational Mango jam, Pineapple Jam, Guava Jam, etc., Babana chips (Kapan), Jackfruit Chips (Gare) Sweet potato chips (Kapan)

Product Range (F)
Sponge Cakes (Madeira)
Tradational Goan Black cakes, plum cake, fruit cake, etc.

BISCUITS
Tradational Goan biscuits such as Fan, toast, Khari, butter & Wine Biscuits.

CHOCOLATES
Chocolates such as éclairs, boutique chocolates with rum, dry fruits, etc.

PRODUCT RANGE (G)
GIFT PACKS
Having assorted dry fruits (with cashewnut, raisins, almonds, pista, walnut, etc.), Tradational Goan Hampers with Christmas goodies, wine bottles, etc., Gift hampers with Easter eggs, Gift packs with assorted chocolates, Gift packs with assorted Biscuits, Gift packs with Goan cashew Feni and wines

PRODUCT RANGE (H)
MASALAS
(a) Tradational Goan masalas such as Racheado masala, Xacutti masala, cafreal masala, fish curry masala, etc.
(b) Ginger paste, turmeric paste, chilly powder, turmeric powder, coriander powder, Garam masala powder, cumin (jeera) powder, cloves, clove oil, pepper powder, pepper, nutmeg, cardamom.

PRODUCT RANGE (I)
Goa can also market edible coconut oil through attractive packs. Desiccated coconut has a fairy good market from the biscuit, chocolate & confectionary manufacturers.

PRODUCT RANGE (J)
Honey

PRODUCT RANGE (K)
Bottled Vinegar

PRODUCT RANGE (L)
Dry Fish such as dry prawns, mackerels & Bombay Ducks in proper packing.

PRODUCT RANGE (M)
Ready to cook marinated & frozen cut fish of popular Goan varieties such as Kingfish, Pomfrets, Mackrels as well as Tiger Prawns & Medium Prawns.
PRODUCT RANGE (N)
Packaged Crab Meat.

PACKAGING OF NON TRADITIONAL GOAN FOODS

1. The government would encourage manufacturing non-traditional food items in Goa so that markets in rest of the country & abroad for developing package foods in food processing Industry (traditional & non-traditional) can be captured. Government would focus on FPI investors to develop appropriate packing material in order to enhance shelf life of the product and also to enhance productivity of the manufacturing operations.


PRODUCT RANGE (A)
Instant Chapatis
This could also be served throughout Goa by Government channels for Mid Day meals.

PRODUCT RANGE (B)
JUICES & CARBONATED BEVERAGE PRODUCTS
Goan entrepreneurs could venture in packing of various juices which have high growth rate due to rising health consciousness throughout India. Leading manufacturers of reputed brands such as REAL Juices, DABUR, TROPICANANA may be invited to set up their plants in Goa. Goa could also have a number of manufacturing units such as bottling of off beat soft drinks in pet bottles such as Tonic water, Gingerade, ice cream soda, raspberry besides the normal range of Cola, orange & lime (Including clear lime.)

PRODUCT RANGE (C)
SAUCES
There is also a great scope to market sauces which are required in the preparation of desserts as well as used as Add-ons on ice creams. These sauces include chocolate sauce, dark chocolate sauce, mango sauce, strawberry sauce, raspberry sauce, etc.

PRODUCT RANGE (D)
CANNING OF FRUITS & FISH
3. The canning units which were canning fruits may have failed in Goa basically because of bad management & marketing. There are a number of Canning Units in Konkan belt as well as North/South Canara Districts. There is every room for success for canning Pineapple, mango, mix fruits, etc. There is also a great scope for canning fish and Meat products and packaging of sausages in airtight pouches after studying the shelf life for the same.
PRODUCT RANGE (E)
Packaging of frozen Egg Liquid in pouches for consumers & bulk packs for industries.

PRODUCT RANGE (F)
Dehydrated Vegetables.

PRODUCT RANGE (G)
Rice Mill / Flour Mill

4) The government would attempt to attract investment by Leading FMCGs manufacturing food products such as Britannia, cadbury’s, Kraft, Nestle, ITC, Priyagold, Hindustan Liver, Parle, Cremica, Parry confectionary, Chitale sweets, Dynamix, Amul, Parag Foodsetc to set up their plants in Goa so that Goa is looked upon by Corporate sector as ideal destination for Food processing Industry. Government would promote local collaborations.

5. Government would encourage setting of reputed franchises in packaged food sector.

6) Government of Goa would establish SFRZ (special Food retailing Zone) This Zone could have a number of retail shops selling food products locally produced as well as produced in rest of India and also imported from other countries. It could have a special section of having a wide range of local and imported liquor which includes wine, whisky, Vodka, Rum, Bacardi, Canned Beer, Gin, etc. The proposal of import duty concession for importing food products, liquor would be explored so that this retail Hub is popular among tourists visiting Goa. The retail Hub could also have a number of food outlets including cake shops, restaurants, pubs, etc. Ideally the retail hub should start in Verna in South Goa as it is equidistant from Margao, Panjim, Vasco & Ponda.

4) The Government of Goa would organize the following festivals to give a boost to food processing Industry in the State:
   a) Goan shopping festival on lines with Dubai shopping festival. All the 5 major towns in Goa i.e. Margao, Panjim, Mapusa, Ponda & Vasco would participate in the Goan Shopping Festival.
   b) Goan Sea Food Festival ideally in the proximity of the Beach where not only packed tinned sea food products are sold but also readily made fish dishes are served.
   c) Goan Fruit Festival with special thrust on Mango, Pineapple & Cashew.

5) Museum approach to promote food ethos
State government would take expert help to establish thematic museums such as Mango, cashew and coconut museums. Besides a Bakery museum would also be considered at a central location.
H) Health foods, food supplements, nutraceuticals

Government of Goa would draft, formulate, circulate, discuss with stakeholders and notify ‘Goa state nutrition policy’ in accordance with international norms and expert opinions.

Revival of Traditional Goan Food

A nutritional transition is noticeable in Goa. The stages of this transition are shown below based on studies in developed countries.

Modernization, industrialization and globalization have resulted in changes in the traditional food habits and lifestyles of Goans.

Traditional foods which were part of Goan Food Culture are now under the threat of growing consumerism and changing lifestyles arising out of globalization of national economy.

Traditional foods items such as Khaje (deep fried besan sticks coated with jaggery syrup), ravdi (jaggery based til candies), khatkhate (jaggery based ginger candies) to be popularized at the National and global level.

Use of indigenous food material and development of processed, preserved items for e.g. bread fruit papad / chips, sweet potato extruded and dehydrated products, bimbli squash, salted raw mangoes, amla preserves, raw mango squash, Kokum Jam, jack fruit seed powder, etc.

a) Short Term Measures

1. Government would order extensive survey of traditional Goan food consumption pattern and identification of local skilled personnel for e.g. traditional Goan Khajekar, (local sweet maker), pickles, papads, masala paste etc. who can then train unemployed youth / Mahila Mandal in the preparation of traditional food for self employment avenues.

2. Government would support projects to identify, standardize and popularize traditional Goan recipes in local domestic and International markets:
   a) government would extend help for Setting up specialty stalls selling exclusive traditional food items at prominent tourist destinations on the lines of SWAGRUHA, exclusive traditional food of Andhra Pradesh.
Financial assistance (60% being the Government subsidy for 5 years and 40% being their own contribution) can be provided. The relevant scheme has to be studied and proposed.

b) Government would involve Department of Tourism in popularizing traditional Goan food. The brochure / literature developed by Department of Tourism would include relevant information on traditional Goan food. The Aparant outlets of GHRSSIDC may also be included in this regard in a similar manner as also as a sales outlet in promoting the sale of traditional Goan food.

c) The Department of Art & Culture would provide financial assistance, schemes, incentives and scholarships to those desirous of documenting traditional Goan food.

d) Final Year students of Degree Colleges who carry out project work as an integral part of the curriculum would be involved in the popularization of traditional Goan food.

e) Training in packaging techniques and marketing strategies for existing rural food industry.

f) Development of novel food items using indigenous food material such as breadfruit, amla, bimbli, jackfruit seeds and other locally available foods for which appropriate R&D set up is required.

b) Long Term Measures

a) Government would providing subsidized food preparation and packaging equipment suitable for traditional Goan food.

b) Govt. would promote aggressive marketing of Goan traditional sweets and savories in domestic and International market.

c) Govt. would establish a state of the art Food Science laboratory for the purpose of standardization, product development and testing; its infrastructure and man power development.

Revival of traditional Goan food which was part of Goan Food Culture now under the threat of growing consumerism and changing lifestyles arising out of globalization of the National Economy.

d) Standardizing and popularization of traditional Goan recipes. Identification of local skill to train Master trainers.

Government would create awareness about the use of indigenous food material and development of processed, preserved items for e.g. bread fruit papad / chips, sweet potato extruded and dehydrated products, bimbli squash, salted raw mangoes, amla preserves, raw mango squash, Kokum Jam, jackfruit seed powder etc.

e) Govt. would sponsor projects to identify, standardize and popularize traditional Goan food.
Development and Introduction of health foods, beverages and nutraceuticals.

Leavened bread occupies a prominent place in the Goan Dietary not only in the urban areas but also in the rural areas, thereby providing a huge market for the development and production of leavened bread with enhanced nutritive value. The danger of high trans fat and low fibre content of Bakery & Confectionery products is well known increasing the risk of developing chronic degenerative diseases such as coronary Heart disease, Diabetes Mellitus, some type of Cancer etc. Hence, there is a pressing need to educate bakery establishments and personnel about the development of:

f) leavened bread with enhanced nutritive value i.e. high in fibre, protein, vitamins and minerals and zero / low trans fat bakery / confectionary

g) Imparting nutrition education in selected areas for the consumption of healthy bakery / confectionery products.

h) Introducing nutritious bakery products in the mid-day meal scheme.

i) Use of Maida and whole wheat flour (50:50) for the preparation of bread (whether pav, unddo or sliced bread)

j) Encourage bakers and consumers to increase the production and consumption of Poi (a type of bread traditionally made from maida and bran that is available in Goa) made from whole wheat flour and bran.

k) Develop and standardize a recipe for multigrain bread that will not only be nutritious but also economical. For example maida, jowar, ragi, flax seeds, sesame seeds etc.

l) Educate and encourage bakery personnel to use locally available protein sources such as kuleeth, buckwheat, water chestnut, lotus seeds, rajgira seeds etc. to increase protein and fibre content of the bread.

m) Development of healthy bakery products by reducing trans fat content by replacing part of trans fat with vegetable oils.

n) Providing bakeries with subsidized state of the art Equipment.

Development and testing of bakery / confectionery products that will not only be appealing to the consumer but also nutritious and affordable.

o) The govt. would support The Department of Food and Nutrition of the Goa College of Home Science and Catering Colleges in nutritional education. Govt. would establish a state of the art Food Science Laboratory at the Goa College of Home Science for trial, development of healthy bakery products/ standardization in the XII th five year plan period.

Revival of rural economy

p) Small scale industries for the production of rice flakes, puffed rice, kuleeth flour etc.

Govt. would support attempts by PRIs and NGOS to revive the small scale village industries for the production of parboiled rice, rice flakes, kuleeth flour which were earlier in existence in rural Goa.

q) Govt. would support FPI projects for indigenous food items and medicinal plants in the development of novel food supplements and nutraceuticals.
Nutrition Education

The development of health foods, food supplements, health foods, health beverages, nutraceuticals has to go hand in hand with a strong base of nutrition education component to be effective in the long run of improving over all health and nutritional status of the Community

r) Govt. would Identify and develop necessary infrastructure for Nodal Centre for planning, formulating, implementing and evaluating need based programmes (food processing and preservation, nutrition and health, family life etc.

s) Govt. would support involvement of NSS units / establishing nutrition clubs in Institutions.

t) Govt. would encourage local FPI products -healthy beverages like lemon grass, tulsi, and ginger tea, amla juice, kokum juice, half ripe mango panna, tamarind and jaggery sauce, which provides nutritive value as well as boosts immunity.

u) FPIs based on development of home made locally available fruit jams (mango, pineapple, beal)would be supported. As also some healthy recipes such as “Mutli” brings great effect in reducing malnutrition and fatigue, which can be prepared and sold in local snacks stalls.

v) Govt. would support FPI involved in development of weaning food by using healthy foods such as ragi, moong, masoor, mace, green peas, til (sesame) in the form of powder for porridge, or in the form of laddu, idli, parathas, shevya.

w) Govt. would support awareness and training programmes on development of nutraceutical (Ayurvedic) health supplements / tonics / jams by using bala, Aswagandha, Shatavari, Tulsi leaves, Yashtimadhu, vacha, “Shatavari kalp”, karane, kangas, kanna, chunna etc. by trained man power.

I. HUMAN RESOURCES

The approach for HRD in FPI should be need based and consistent with trends in technology and in market. The HRD presupposes certain state policies in place e.g. state nutritional policy, state policy on food quality and food safety etc. A four pronged strategy is envisaged

1. Decentralization –rural and urban areas. PRIs

2. Diversification –diverse courses at various skill levels

3. Development –tieups with industries, R & D in FPI

4. Differentiation-SC, ST components, Gender justice

Government would adopt a structured approach to introduce the students in rural areas to edible natural resources, traditional and modern techniques of food production, harvesting, processing and preservation, concepts of food quality and food safety would be explained in summer schools, winter schools, workshops. PTAS and local NGOs, women’s self help groups and experts would be involved.
a) Giving basic scientific training with incorporation of traditional knowledge would be the focal point in designing any course for this purpose.

b) Training would cover the aspects of- Collection/ acquisition of raw materials preferably from local source. Handling of the raw material scientifically. Processing the raw materials to final products (Procedures). Value addition, Preservation, Packaging, Storage, advertising and Marketing of the product after significant surveying of the market.

c) THE SUGGESTED AREAS OF THE COURSES may be as given below:
Making of Pickle (Mango, lemon, bamboo shoots, mixed vegetables, chilies, Fish)
Making of Jam (Papaya, guava, mixed fruits)
Making of Fruit juices (Mango, jamun, amla, kokam, pineapple, jackfruit, tamarind, oranges, lemon)
Making of Papads (Jackfruit, Bread fruit, Urid,)
Making of sweet papads(Saaths) Jackfruit and mango
Making of Chips/wafers (Jackfruit, Bread fruit, potato)
Making of local sweets (From Coconut, nachni, moong, besan etc.)
Baking different types of cakes and biscuits
Wine from local fruits

d) Govt. would also support research with respect to production, storage, packaging and marketing of different types of herbal teas produced from local spices and herbs as also research of some lesser used local fruits like Grewia (Asade) in preparation of juices, jams or small sweets.

e) Govt. would arrange Demos on use of solar energy in food preservation.

f) Govt. would introduce a scheme for Students apprenticeship programme –for students above 14 years. One week to be spent in a food processing unit. In urban areas focus would be given on diet and health, food quality and safety education.

SC and ST component:- Special knowledge and skill sets would be documented and standardized. Directorate of education and Goa board has to play an important role in the above.

g) HRD at level of technical education

Focus would be given in it is to improve existing courses related to FPI and introduce new courses. A list of such potentially useful courses would be prepared.

h) Strengthening of FPI courses at polytechnics and engineering colleges
Food engineering and technology option should be available.

i) Vocational stream
Special incentives and stipends to be made available for courses in food processing. Campus recruitment drives are possible after plus 2 stage. Goa board for SHSE needs to appoint a committee on FPI related vocational courses. Target should be two institutions each in north and south Goa and about 50 students per year.
j) Undergraduate level  
Colleges close to agrohorticultural, dairy, fishing zones should be supported to introduce certificate and diploma level courses and special training programmes. Government colleges, at Sanquelim, Pernem, Quepem and Khandola have been identified as potential centres.

k) Goa University to introduce new courses  
Government would support two year or an integrated five year course in MSc in food microbiology and PG diploma courses, certificate courses in distance learning mode

l) R&D activities and linkage with University and research institutions  
Government would sponsor field level studies/surveys by the administrative Departments to improve “food technology information base” of the State and encourage networking of organizations/stakeholders, particularly with Goa University, ICAR, NIO, GIM, GEC, Govt. Polytechnic, Goa College of Home science and Agnel Polytechnic and other research institutions such as CFTRI, CMFRI, IITs for development and implementation of appropriate processing technologies, modernisation and up gradation of the existing manufacturing/processing plants and units for large scale production of scientific and hygienic processed food, development of traditional and innovative products which are market driven.

5.3 Additional Financial incentives

1. Govt would provide a customized package of incentives for new and expansion projects with large investment or employment generation and taking into account the existing incentives and other State schemes

2. Considering their importance for employment generation and value addition, small scale industrial agro-industrial and food processing units will be provided the following enhanced incentives

   i. Reimbursement of 50% of the net VAT paid
   ii. 5% interest subsidy on term loans for fixed capital investment for 5 years;
   iii. In the case of products attracting zero VAT, incentives against the amount of VAT retained and not refunded on input purchases.

3. The State Govt. will levy Value-Added Tax (VAT) at the floor rate on all locally processed and packed food products, and on packaging materials. Alternatively, in order to ensure that only State processors benefit from this dispensation, the net VAT paid would be reimbursed to the extent of the difference between the applicable VAT rate and the floor rate. The same principle would also be applied when the proposed Goods and Services Tax (GST) is introduced.
Terms of reference III
Assessment status of various food processing industries
The tables given below indicate the industrial data in Goa. It doesn’t specifically capture FPI units. MOFPI in national Food processing Policy has identified the following categories as major areas in FPI. This nomenclature is not in use in Goa. Perusal of policy documents of different states showed lack of uniformity in the definition, categorization and classification of FPI. This has resulted in ambiguity in data sets. The data from DITC does not match with the published data in trade and commercial directory-2010 of GCCI.

**MOFPI categories in the Food Processing Sector**

Food processing involves any type of value addition to the agricultural produce starting at the post harvest level. It includes even primary processing like grading, sorting, cutting, seeding, shelling packaging etc.

The sector comprises of the following major areas:

**I. Fruits & Vegetables**

Major Products :- Beverages, Juices, Concentrates, Pulps, Slices, Frozen & Dehydrated products, wine, Potato Wafers/Chips etc.

**II. Fisheries**

Major Products :- Frozen & Canned products mainly in fresh form.

**III. Meat & Poultry**

Major Products :- Frozen and packed mainly in fresh form, Egg Powder (only a couple of units).

**IV. Milk & Dairy**

Major Products :- Whole Milk Powder, Skimmed milk powder, Condensed milk, Ice cream, Butter and Ghee

**V. Grain and Cereals**

Major Products :- Flour, Bakeries, Biscuits, Starch Glucose, Cornflakes, Malted Foods, Vermicelli, Pasta Foods, Beer and Malt extracts, Grain based Alcohol.

**VI. Consumer Industry**

Major Products :- Chocolates, Confectionery, Soft/Aerated Beverages/Drinks.

**VII. Plantation**

Major Products :- Tea, coffee, cashew, cocoa, coconut etc.

The FPI units in Goa can be classified as:-

1. Those in organised/ unorganised sector

2. Permanent/ Seasonal

3. Registered/ unregistered

4. Operating from industrial estate/ from outside it
FPI units in unorganised sector have not been surveyed.

There needs to be a computer coded system for designation, categorization and classification of FPI units. DITC need to create a searchable computerized database of all such units. This should be uploaded on website.

It is seen from third table below that from 2005-08, net value addition in food processing sector increased from Rs. 300 crores to Rs. 500 crores.

It has been observed that many local brands such as bakeries and confectionaries, aerated drinks, sea food, canned food products, alcoholic beverages, pickles, Button mushrooms are doing well. Domestic and cottage level micro FPIs are also in good position in marketing local sweetmeats and savouries. MNC brands such as NESTLES, PEPSI, COKE are well established.
But there is in general no diversification in all the categories despite the potential.

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<th>Sr. No</th>
<th>Year</th>
<th>No of units</th>
<th>Employment</th>
<th>Fixed investment (Rs. in Crore)</th>
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Source: Directorate of Industries, Trade & Commerce, Government of Goa
### Large scale industries Units Registered in Goa

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<th>Sr. No</th>
<th>Year</th>
<th>No of units</th>
<th>Employment</th>
<th>Fixed investment (Rs. in Crore)</th>
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<td>2010-11(upto Jan 2011)</td>
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Source: Directorate of Industries, Trade & Commerce, Government of Goa
## Net Value Added by Major Industry Division

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<td>329525</td>
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<td>390527</td>
<td>9.63</td>
<td>8.10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Directorate of Planning, Statistics and Evaluation, Government of Goa
Terms of reference IV
Identify key reasons for underdevelopment of the processing sector
Recently, the situation of the global food markets has been being rapidly restructured and entering on a new phase by new dynamic and driving forces. The factors such as economic growth and income increase, high energy price, globalization, urbanization, and global climate change are transforming patterns of food consumption, production, and markets. In addition, the prices and markets of world food and energy are getting increasingly linked each other. Since 2000, the prices of wheat and crude oil have almost tripled, while the prices of rice and corn have practically doubled. Food and fuel are the global dilemma issues associated with the risk of diverting farmland or of consuming cereals for biofuels production in detriment of the cereals supply to the global food markets.

Situation in Goa in FPI sector is part of national reality.

Only two percent of the fruits and vegetables are processed in India. This is against a processing of 30% in Thailand, 70% in Brazil, 78 percent in the Philippines and 80 percent in Malaysia. The Government of India targets to bring it to 10 percent by 2010 and 25 percent by 2025.

The post harvest losses in fruits and vegetables are estimated to be Rs.50000 crores at the national level.

Major bottleneck is the lack of demand for processed foods in the country due to the tastes of the people.

The chain of intermediaries in the marketing of fruits and vegetables is very long and this leads to very small fraction of every rupee of profit to the farmers.

Food Processing Industry in Goa constitutes about 12 large scale units and about 2000 small and medium enterprises of which many are seasonal in nature. Sectors are as diverse as marine / fishing (frozen and canned), milk and its products, snack foods, pickles, traditional snacks and meat based products, biscuit, bread, confectionary, mineral water and beverages, liquor and IMFL, nuts (cashew), pulses, dal milling, fruits and vegetables (processed, canned and dehydrated), etc.

Some of the key reasons for underdevelopment of the FPI sector in Goa are as follows.

1. Vast knowledge gaps about FPI sector in organised/ unorganised form. Lack of awareness about MOFPI schemes
2. Lack of coordination between government departments and agencies
3. Lack of interest among PRIs to create awareness on FPI
4. Unreliability of water and power supply
5. High costs of lands for setting up industries
6. Inadequate crop yields and low availability of processable surpluses
7. Inadequate warehousing, rural godowns and cold storage facilities
8. Low income and the high share of basic food in the household consumption
9. Socio-cultural factors such as preference for freshly plucked / cooked food
10. Low productivity, high wastage
11. Inadequate infrastructure for sorting, grading, packing, etc., in addition to the high cost of raw material (at processor’s level)
12. Complex land tenureship and lack of a common policy on contract farming
13. Lack of trained manpower for processing, storage, marketing and branding
14. Lack of access to modern technology
15. Low share of sale of food products through organised retail, which are the usual drivers of quality, scale and integration.
16. Access to credit for farmers as well as small and medium food processors is a key issue. Over 75 per cent rely on informal credit at very high interest rates leading to increase in cost of production affecting competitiveness
17. Inability to attract investment by large corporate houses who complain of unreliable sources of supply of raw material
18. Inability to induce investor confidence
19. Low inflow of Foreign Direct Investment (FDI) despite permission for 100 per cent FDI in the food processing sector (except in food retailing, alcoholic beverages and plantations)
20. Inability of government schemes to have the desired impact on productivity, technology and market arrivals
21. The NIMBY syndrome as demonstrated by opposition to Betul food park
22. People’s general perception of large FPI as polluting units
23. Lack of focus in the government budgets and schemes for FPI units
24. Apprehensions about FDA regulations, licensing procedures
25. Poor export promotion infrastructure, delays at port and airport
26. Non availability of food quality testing laboratory
27. Seasonal nature of some FPI units
28. Tendency to stock tradable products in domestic FPI units
29. Lack of technology and skill upgradation
30. No state policy on market intervention

Some specific sectoral issues are highlighted below as illustrative cases

A) MILK & MILK PRODUCTS
The production of milk in the State for last few years has been stagnating at the level of around 1.40 lakh liters per day. In fact the milk production in the State was on decline from a peak of about 1.50 lakh liters per day in 2000 and it is only in the last 5 years or so that with proper support from the Government and Goa Milk Union that the milk production in the State has been stabilized at the current rate.

As per statistics available with the Government, the number of milch animals in Goa as at December 2010 was as under.

<table>
<thead>
<tr>
<th>Sl No</th>
<th>Type of animals</th>
<th>Number of milch animals</th>
<th>Average Milk Yield lts/day</th>
<th>Average Milk Production lts/day</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Crossbred Cows</td>
<td>11,153</td>
<td>8</td>
<td>89,224</td>
</tr>
<tr>
<td>2</td>
<td>ND Cows *</td>
<td>22,265</td>
<td>1.5</td>
<td>33,397</td>
</tr>
<tr>
<td>3</td>
<td>ND Buffaloes</td>
<td>21,800</td>
<td>2.5</td>
<td>54,500</td>
</tr>
</tbody>
</table>

* Due to stray nature of rearing milk is utilized by calves only.
The State has about 18,000 registered milk producers, out of which only about 5,700 are actually in milk production throughout the year. Out of the above only 285 producers are producing milk in excess of 50 ltrs per day, 2355 producers are producing 10 to 50 ltrs of milk and the balance 3060 are producing less than 10 ltrs per day. Currently the total production of milk in Goa is about 1.42 lakh ltrs per day. Out of this about 1 lakh ltrs is utilized for own consumption by milk producers; for calves and other people locally. The balance 0.42 lakh ltrs is made available to Goa Dairy for processing. Goa Dairy has capacity to process 1.50 lakh ltrs per day. However in the absence of enough local produce, Goa Dairy procures another about 0.44 lakh ltrs from outside the State so as to keep its operations economical. The net milk processed and sold by Goa Dairy is 0.86 lakh ltrs per day. Sale of processed milk by other brands from outside the State account for another 1.47 lakh ltrs, taking the total amount of processed milk sold in Goa to 2.33 lakh ltrs per day.

According to the nutritional standards (As per ICMR per capita availability of milk should be 275 gm), Goa should be consuming 4.86 Lakh lts of milk per day and thus there is a deficit of 1.55 (4.86 – 1.00 – 2.33) lakh ltrs per day in milk production in Goa. Thus there is enough demand for milk in Goa. However, the farmers in Goa are reluctant to turn to milk production as a main occupation for various reasons;

a. Education: With increase in the educational level, the locals are slowly moving away from agriculture and allied activities.

b. Cost of Labour: Agricultural labour has become both scarce and expensive.

c. Cost of Feed: The cost of cattle feed and feed ingredients in Goa is very high – almost about 50% higher than in the neighboring states.

d. Fodder availability: Non availability of sufficient quantity and good quality green and dry fodder in the state.

e. Availability and cost of live stock: High yielding milch animals population is less in the state. The quality of live stock sold by neighboring states do not perform well and the cost of livestock is high.

f. Calf rearing: Poor support from Milk producers to generate genetically potential milch animals from calves born out of their own animals.

B. CO-OPERATIVE SECTOR, FARMERS CLUSTERS, COTTAGE INDUSTRIES AND SELF-HELP GROUPS

Presently, few co-operative societies like Goa Bagayatdar S.K.V.S. Maryadit, Adarsh Co-op. Society at Quepem, Pernem Taluka Farmers’ Co-op. Society at Pernem are associated with the agricultural community at large.

Secondly, the Self-Help Groups are associated with the manufacturing and processing of the food items which are locally available; however, due to certain difficulties like financial viability of the project, availability of labour, marketing chain and the availability of raw materials there is no much success in their endeavour.
It may be noted that for the food processing industry in Goa the emphasis has to be laid on the horticultural and agricultural products that are locally available. The focus should be on produce like coconut, mangoes, cashew apples, kokam, jambul, jackfruit, etc. for the purpose of processing of horticultural produces.

However, it is observed that there is gradual decline in the agricultural and horticultural production due to factors like deforestation, dust pollution, growing tendency for the production of grafts, climate change, abandoning agricultural activities, etc.

The younger generation and the locals, to some extent, are slowly moving away from agricultural and other allied activities. The agricultural labourer has become expensive and scarce.

Food processing requires continuous, uninterrupted supply of raw materials. The smaller size of land holdings in Goa adversely affect the production level. There is also need for establishing a marketing chain for sale of the processed food. Though an attempt is being made by few Self-Help Groups to sell their products through their outlets, however, the same has found to be economically non-viable in view of higher rent, expensive labour, ever increasing cost of raw materials, non-availability and sufficient quantity of quality materials, etc.
Terms of reference V

Evolve strategies for campaigns /marketing to promote setting up of food processing units and consumption of processed foods
1. Government needs to identify a marketing consultant and media promotion agency to organize roadshows, exhibitions, workshops, buyer-seller meetings.

2. A dedicated portal on FPI schemes needs to be designed.

3. A directory of all the FPI units in Goa needs to be published.

4. An annual national fair on FPI could be hosted in PPP mode.

5. Attractive promotional brochures need to be prepared and widely circulated.

6. EDC to design FPI entrepreneurship development programmes.

7. Agnel polytechnic, Verna and Govt. Polytechnic, Panaji need to be supported for organizing training programmes in FPI.

8. An Information and assistance cell for entrepreneurs need to be established at DITC.

Financial and other support is available for food processing and other agro industries under several Central and State schemes from different Ministries, Departments and agencies. However, entrepreneurs are often not aware of these schemes or need more information. They have to deal with different agencies for various schemes across the value chain. There is, therefore, a need to bring them together at one place.

9. A large number of project profiles and model project reports have also been prepared by various agencies, and are available with District Industries Centres (DICs), banks, etc., particularly for MSEs. DITC will coordinate with these agencies to update or prepare new model project reports to make them more relevant to different regions, products and investment levels by having new reports prepared, with funding by Goa Govt.

10. A cell will be created in DITC through outsourcing to professional agencies, including some personnel engaged on contract basis, and a digital portal developed to...
provide information and assistance online. The cell would provide details of the various schemes, the application forms and documentation required. It would also provide information on regulations, taxation and clearances required, subsidies across various departments along with model project reports for reference.

11. The Ministry of Commerce/APEDA assists agro-industrial units to participate in international exhibitions and trade fairs to promote their exports. In order to support other units from Goa to market their products within the country, the State Government will reimburse 50% of the space rent, etc., with a ceiling of Rs. 5 lakh per year, to small-scale agro-industrial units participating in national/international exhibitions in India identified by DITC in consultation with organizations such as ITPO.
Terms of reference VI
Suggest measures for food safety, standards testing facilities
FSSA AWARENESS

Multiplicity of food laws, standards setting and enforcement agencies pervades different sectors of food, which create confusion in mind of consumers, traders and manufacturers. Hence there was a demand for a comprehensive legislation on food with a Food Regulatory Authority concerning both domestic and export markets. The need to converge all present food laws and to have a single Regulatory Body had been emphasized at various level. The new comprehensive legislation which consolidates the laws relating to food was enacted namely “Food Safety & Standard Act, 2006” with the aims to establish Food Safety and Standards Authority of India for laying down science based standards for food articles and to regulate their manufacture, storage, sale and import to ensure availability of safe and wholesome foods for human consumption. The Ministry of Health & Family Welfare has been entrusted to implement the Food Safety & Standards Act, 2006.

Box 2: Food Quality and Safety: Global and Developing Country Issues

- An estimated 70 per cent of the approximately 1.5 billion annual cases of diarrhoea in the world are caused by biological contamination of foods
- Contaminated food plays a major role in the epidemiology of cholera and other forms of epidemic diarrhoea, substantially contributing to malnutrition
- Overuse of antibiotics has led to the appearance of resistant strains of bacteria. Factors contributing to this include overuse of antibiotics in farm animals and crops.
- Microbial contamination is commonplace where hygiene is poor, frequently because of lack of access to clean water.
- Misuse and excessive use of pesticides sometimes lead to dangerously high residues in food
- Where inspection systems are weak, countries are vulnerable to dumping of unsafe food by unscrupulous traders
- Exports of poor-quality food to developed countries can lead to rejection of shipments, depriving the exporting countries of foreign exchange and causing hardship in farming communities.
The Act is characterized by certain salient features such as organized as well as the unorganized food sectors, such as street vendors are required to follow the same food law. Also there is an exclusion of plants prior to harvesting and animal feed from its purview.

This Act gives more importance for ensuring a very safe food product to consumers and provides for quicker disposal of cases within the state. The Act describes and provides for strict penalty and punishment which would make the retailer/wholesaler be more cautious in their dealings. The penalties are graded depending upon the nature of the offences. The standards for quality and safety laid down in this Act are harmonized standards and applicable throughout the country, and all other standards/specifications become null and void.

For the first time, regulations are going to be made for the manufacture, distribution or trade of any novel foods, GM foods, irradiated foods, organic foods, foods for special dietary uses, functional foods, nutraceuticals, health supplements, proprietary foods, etc. thus this Act gives scope for innovation by industry, use of new ingredients, etc.

RECOMMENDATIONS

Considering the mandate of the regulation and nature of enforcement that would be pitched in the State, the industry, trade and consumers should be empowered so that the regulation can guide them to acquire all the skills that are basically required to ensure the food safety and for this purpose, certain broad outline concepts were floated for further development.

A) BUILDING PRIVATE LABORATORY INFRASTRUCTURE

With the new enactment, the traders, as well as industry including the consumers would have a right to test the food articles in which they dealt, so as to have an equal and adequate opportunity along with the regulators to test their products, so that they also get a fair opportunity to ensure that the food products are tested impartially and by accredited laboratories to rule out any errors or incorrect analytical reports. This meant that availability of such NABL accredited laboratory facilities was very critical for the success of the spirit and requirement of the law that was enacted for the interest of the consumer.

Existence of Private Drugs Approved Testing Laboratories in the State: As on date, the State has only one Government sponsored Food & Drugs Laboratory operating at Bambolim, which is mainly engaged in the analysis of statutory food samples referred by the Food Inspectors or other Government related organizations. Further, the State Food & Drugs Administration has granted approval under the Drugs & Cosmetics Rules 1945 for setting–up two Private Approved Testing Laboratories, namely NEUCON LABORATORIES PVT. LTD and CHOKSHI LABORATORIES, both based at Verna Industrial Estate and both exclusively engaged only in the analysis of drugs and pharmaceutical products; But with the basic infrastructure available in place, there would not be any difficulty to these two laboratories in equipping their testing laboratories to up-grade their facilities in whatsoever manner to cater to the needs of the food industry too.
Therefore, Need was felt that the State should promote initiatives from the private sector to venture into investment that would promote setting up private food testing laboratory equipped with all sophisticated testing facilities to analyse all categories of food articles and which laboratory would also be equipped with good and sound technical man power and possessing NABL accreditation.

Such laboratory in the private sector would provide access to industry that cannot invest in laboratory set-up of their own and make also available avenues where consumers too can get the market products tested for its quality.

**MOFPI Financial Assistance to Up-grade laboratory:** Ministry of Food Processing Industries, Government of India, in the larger interest for the qualitative growth of Food Processing Sector extends financial assistance for setting-up or up-grading Quality Control or Food Testing Laboratories

This financial assistance scheme shall benefit not only the existing two drugs private testing laboratories to up-grade their testing facilities to cater to the needs of food industry, but will also provide avenues and opportunity to new players who would like to have an investment in this sector. The sustainability as well as feasibility on any new such venture in the State would not be any issue, as once such setting-up of laboratories is in place, the food industry that is engaged in the manufacture for sale of food articles or the imported food articles that enter the State as well as all other food stake holders would have opportunities in getting their products tested with these private testing players in the State, rather than setting-up their own in-house testing facilities which again would require huge finance in procuring sophisticated instruments and sustaining its feasibility and economical viability.

**B) OPPORTUNITY FOR EMPOWERING TECHNICAL SKILLS THROUGH IDENTIFIED PROFESSIONAL COURSES IN FOOD SECTORS**

Exploring the idea and initiative for development of private food accredited testing laboratories to assist the food processing industry and the trade, would mean that such initiatives of private testing laboratory would depend on its success, sustainability and survival on availability of technical and expertise qualified man power within the State. This availability of qualified personnel would be required not only by the testing laboratory, but also by the industry and also in the regulatory sector. Hence, the State would support Goa university and affiliated colleges offering Microbiology/Biochemistry which could cater to specialized food related courses being made available to the youths and students of this State, which could in turn provide them with adequate employment opportunity in the State whilst boosting the food processing industries.

For empowering the State with the availability of such technical competent man power, the following strategies are proposed for attracting talented and potential students in taking up careers in the food related industries as under:

1. Adding on such graduate imparting degree courses in the existing educational Institutes like the Goa college of home science, Food Catering College, Hotel Management School or the Government run polytechnic;
2. Government of Goa would request those States where such degree as well as courses in Food Technology, Dairy technology, Marine technology, etc are being conducted to reserve certain number of seats for the students of Goa State and once such numbers rise and opportunities built and grow in the State, then such educational Institutes within the State can be explored upon.

C) CONCEPTS OF STREET FOOD PARKS IN CLUSTERS

Goa being today a major tourist destination, it had its own identity in terms of rich culture in cuisines, Goan food, etc and today, with an un-organized set up largely available at street food stalls all across the country as well as available in the State, whose hygienic and sanitary conditions are always being questioned, it was felt that boosting Food Processing Industries in the State did not only mean to industry per se, but also making available wide variety of good delicious and safe food on the streets too for the consumers to have a flavour of the State culture too.

Street Food not only is palatable, inexpensive and convenient but also is a large source of employment generation; major beneficiaries being women and the urban poor. Further, Street Food is a treasure house of local culinary traditions and is increasingly playing an important role as an enhancer and force multiplier of tourism sector all over the world. The National Policy on Urban Street Vendors suggests that almost 2% of the urban population consists of street vendors, of which a significant proportion consists of street food vendors. Food vending activity on the streets pertains to the unorganized sector of the economy. However, the main concern involved is the quality of food that is served. At times, it is not adequately hygienic and totally safe for human consumptions, having adverse effect on public health. On the other hand, the issues of vendors identity, their economic sustainability & health conditions, etc. are also the areas of concern.

It is therefore very pertinent and essential to see that these concerns associated with the Street food vendors are also addressed and in order to ensure the economic sustainability and betterment of the livelihood of street food vendors one one hand and to ensure safe and hygienic food to the consumers on the other hand, the MOFPI has formulated the Scheme of ‘Up-gradation of Quality of Street Food’. This has two components:

1. Safe Food Towns
2. Up-gradation/Establishments of Food Street in cities of tourist importance.

The palatability, affordability and easy accessibility of the Street food make it highly popular in all the income-groups of the Society. Its demand needs no testimony. With the increasing influx of youth to the cities, increased participation of women in the work force and present lifestyle has made more and more people dependent upon the street food. It meets the food requirement of a large section of the society; primary consumers being low-income group people, office-goers, women and children. But as it suffers from certain safety & hygienic issues as well as the bad economic conditions of the vendors as stated above, there is a need to address these concerns, by providing an identity to the street food vendors, their economic sustainability and betterment in their livelihood as well as providing for social security cover to them in the form of health insurance, life insurance for accidental
death and also insurance for the cart, kiosk of the street food vendors and simultaneously up-grading the quality of food served on the streets.

**Up-gradation & Establishment of ‘Food Street’**: Local ethnic dishes are one of the major factors that attract the tourists. If the varieties of these ethnic dishes are made available at one place with all sorts of civic amenities and infrastructure, it will certainly cause a tourist-delight and give a considerable boost to the industry. Here, the emphasis is to provide a rich experience of the traditional culinary expertise to the tourists.

As such, 25 potential sites of tourist attraction like theatres, beaches, famous temples, churches, bus stands, etc shall have one street identified as Food-Street. Each Food Street shall have a minimum of 15 – 20 food stalls catering different varieties of prepared food, so as to avoid any duplication or replication of same food but provide the consumer a choice for variety of food.

Infrastructure facilities would be required to be provided for the food vending activities in terms of the following:
1. Ideally designed layout of the food cart, enclosed adequate to prevent access to dust, flies, etc;
2. Provision of installation and up-gradation of modern food stall;
3. Water supply and drainage;
4. Waste disposal system;
5. Public Utilities; toilets, wash rooms, etc
6. Adequate availability of parking system;
7. Environmental beautification in the form of fountains, lighting arrangements, seating arrangements like benches, etc
8. Training to all Food vendors in Good Hygienic & Sanitary Practices; promoting use of disposal items;
9. Giving all food vendors with colourful and attractive head-gears, gloves and aprons;
10. Regular and timely health check-up schemes at the site;

The objectives of the above MOFPI scheme are to:

1. Promote clean, safe and good sanitary food service at affordable rates in locations of tourist importance;
2. Reduce the risk of food borne diseases to the tourists;
3. Promote Indian Food;

For this a simple ambitious idea is proposed that instead of allowing mushrooming of street food carts all over the streets and parks of the State, where even the enforcement and regulators find it difficult to monitor and supervise their activities, it is felt that such street food carts should be brought at potential identified prominent places of tourist importance at bus-stops, theatres, famous temples, churches, beaches, etc in the city, where such street food carts are allowed to park in clusters and provide a bare minimum of essential services platform of making available all varieties of street food to the consumers at a hygienic and sanitation level, where the street food carts are specially designed to ensure that food is covered and protected from access to all flies, insects, dust, pollution, weather adversaries, etc; making provision of availability of packaged drinking water booths, manned through corporate houses; identified areas for disposal of all wastes, etc.
One would also like to stretch the concept further that if one has to even ensure that the cooking of these street food vendors are under clean and hygienic environment, feasibility of setting up cooking chambers/rooms at these sites on co-operative and chargeable basis, where the street food vendors by paying a nominal fee, can access the cooking facilities, where all essential cooking amenities are provided, which will definitely help all the stakes-in-charges like the street food vendor, consumers and the regulators at Municipality, Panchayats, Health, FDA, environment, etc in providing greater level of assurance and confidence in the safety of food that is available in the State. The services enumerated would have to be provided by the various Government agencies, as applicable to them.

Such concepts street food carts could be envisaged in each of the major cities of the State of tourist importance at every available and potential identified sites in clusters, where all the Government related agencies like the Panchayat, Municipalities, Health, FDA, etc could ensure that the bear minimum services required to assure cleanliness, hygienic and sanitary conditions are made available at affordable price and which sites and its beneficiaries could be imparted training on good handling practices, good cooking practices, which in turn would bring about greater assurance and confidence amongst the consumer in the overall food safety.

D) MANPOWER EMPOWERING CENTRES

This concept is being looked upon as a service that will provide as an added value to the industry in terms of centers being made available which could impart training to the qualified personnel to suit the industry and trading needs, which will accordingly make the tasks of the regulatory and the enforcement machinery to be more pro-active and friendly rather than be more of the policing nature;

This sector would be very focal and important as for the success of ensuring that safe food is made available all across the State whilst boosting the food sector related industry, man power would be required to be provided with training in two major areas; One being to be able to adapt to the regulatory requirements and other understanding the concepts of ‘food safety’ in its true and proper perspective.
Terms of reference IX
Define the role of financial institutions/NGOS, farmers organizations and cooperatives
There are separate documents by SBI and NABARD highlighting the position on this TOR specific to Goa in Volume IV. These address some of the issues for FPI in Goa.

CREDIT AND FINANCE in FPI

Overview:-
The Indian food processing industry is highly fragmented. The sector largely comprises of small and medium scale companies, who have limited ability to invest in developing backward and forward linkages and lack advantages of scale. Majority of these units are involved in primary and secondary processing. The newer units involved in tertiary processing mainly produce unbranded products that occupy the lower segment of the food market and are unable to compete with branded products. Given the small scales of units, their limited volumes and higher risks associated with them because of their stand alone nature, and seasonality of produces, credit availability for the sector is a matter of concern.

STATUS OF CREDIT FLOW TO FOOD PROCESSING SECTOR
In 2006, the value of bank credit disbursed to food processing sector stood at Rs 30,843 crore as against total Gross Bank Credit to all sectors amounting to Rs 549,057 crore. This is just 5.6 per cent of the Gross Bank Credit deployed to industries (including small, medium and large) even as the industry accounts for around 14 per cent of SGDP.

SOURCES OF FINANCE

♦ Banks: The food processing sector has access to credit from commercial banks, cooperative banks and the regional rural banks for long term loans for capital investments and short–term loans for working capital. Commercial banks dominate credit scene in the country but remain wary of providing long term credit to the sector.

♦ National Bank for Agricultural and Rural Development (NABARD): NABARD is the apex financial institution which offers refinance facilities for food processing, agri infrastructure, developmental assistance to banks and financial institutions. However, in recent years, credit off take under refinance has come down as refinance rates are no longer attractive for banks.

♦ Small Industries Development Bank of India (SIDBI): SIDBI is the dedicated financial institution engaged in providing term loan to Micro Small and Medium Enterprises (MSMEs) in the country. Food processing sector is a very small fraction of its loan portfolio.

♦ Export Import Bank (EXIM Bank): EXIM Bank assists in financing and facilitating foreign trade. The bank also refines commercial working capital for exports.

♦ National Cooperative Development Corporation (NCDC): NCDC assists in promoting, planning and financing the agricultural supply chain from production, processing, storage and trade of agricultural produce and food products. NCDC also
provides assistance for marketing of certain notified commodities, like fertilisers, pesticides and agricultural machinery etc.

♦ Ministries/Government bodies
Ministry of Food Processing Industries (MFPI): MFPI is the Nodal agency for development of the processed food sector in the country. MFPI’s financial assistance schemes include schemes for technology upgradation, HRD, Quality testing, R&D, TQM, backward and forward integration, development of infrastructure including food parks, abattoirs, cold chains etc.

Agricultural and Processed Foods Products Export Development Authority (APEDA): APEDA facilitates market linkages between Indian Producers’s, manufacturers and the international market. APEDA provides financial assistance for market development, infrastructure development and development of quality enhancing facilities.

♦ Ministry of Agriculture (MoA), Government of India: The Ministry of Agriculture under various schemes provides financial assistance for development of specific crops for investment in seeds, irrigation, farm implements, inputs, infrastructure and training.

♦ National Horticultural Board (NHB): NHB promotes integrated development in horticulture, assists in development of post-harvest management infrastructure, promotes production and processing of fruits and vegetables, strengthening of market information systems and assists in R&D programmes in cultivation and processing. NHB’s financial schemes are directed towards commercial horticulture and infrastructure related to post-harvest techniques financial assistance from these organisations are in the form of grants, back-ended subsidies, soft loans, refinance, etc., with most of the schemes directed to specific sub-sectors of the agri/food processing industry.

KEY ISSUES IN FINANCING

One of the main reasons cited by bankers behind low credit flow to sector is the high Non Performing Assets (NPA) level in the sector because of seasonal availability of raw material and thus underutilisation of capacity.

For the very same reason, inventory holdings are also high. The working capital finance issued through normal maximum permissible bank finance method does not address the funding requirements for the sector adequately. The high rate of interest on credit for funding working capital requirements restricts the small players from accessing working capital when the prices of raw material are favourable.

This affects procurement of raw material and results in underutilisation of capacities. The banks incur high loan servicing costs due to limited volumes, lack of reliable information and high costs of information on demand-supply, pricing trends, raw material availability, high supervision costs etc. These are passed on to the borrowers in the form of high interest rates. Concerns about transparency in the financial statements of the small-sized food processing units that would like to access credit, results in banks levying a higher risk charge. This increases the cost of borrowing for the small firms.
It has been observed that most of the credit in agriculture is of short term nature and it suits the asset–liability profile of the banks better. As a result, projects requiring investments for capital formation, which are long term in nature, such as infrastructure development projects, do not have adequate access to credit. Investments in food processing sector directly benefit the farmers in better realisation of value for their produce, advances to food processing sector should be considered for qualification under direct agriculture sub-target of priority sector lending. However, as of now, food processing sector with investments in plants and machinery up to Rs 5 crore qualify as priority sector credit. This limit is not sufficient to take advantages of scale.

Cooperative Act and Warehousing Act prohibit cooperatives and Central and State Warehousing from banking with private sector banks.

**Initiatives suggested by IL & FS**

One of the reasons leading to high risk perception about borrowers in the food processing industry is lack of information about borrowers on part of the credit institutions. Credit Information Bureau of India Ltd. (CIBIL) aims at providing credit granting institutions information pertaining to commercial borrowers. CIBIL could be mandated to maintain a separate database of those availing credit in the food processing sector. Under the Credit Guarantee Trust Fund for Small Industries (CGTSI) set up by SIDBI and GoI, any collateral free credit up to Rs 25 lakh can be extended guarantee cover. The guarantee cover available is up to 75 per cent of the loans. This fund may be used more actively to cover the cases in the food processing sector. While there are Venture Capital Funds operating in the country, need is for dedicated Venture Capital Funds for the Food Processing Industry preferably in the private sector, especially to finance innovative products. Finally, MSMEs in the sector have to be linked to large corporate units, which may act as a guarantor for credit facilities in the sector.

(Source:-IL & FS, Report for Govt. of Bihar)
Terms of reference X
To motivate farmers for farming clusters so that quantity and quality of raw materials may be produced as per the requirements of processors and market
Establishment of food processing clusters

1. Government of Goa would seek the active co-operation of farmers’ co-operatives, self help groups etc. to establish FPI clusters or microclusters.

2. Government of Goa would encourage and technically and financially support MSE units to come together in a SPV and operate the cluster facilities.

A “micro cluster” is a geographic concentration of food processing companies, their suppliers, service providers, and associated institutions located in an area between 20 to 80 hectares depending upon the volume of Agri products, which would be processed. Such micro clusters would increase the productivity of players operating in the area, and help in integrating the back-end operations for processing units. The micro clusters will have a common facilities centre providing infrastructure for collection and storage of produce, grading, processing and packing units, basic level of processing, cold storage, extension and information counter. The common facility centre at the micro cluster will help in reducing wastage at farm level and to protect farmers from price volatility and realize better value. The micro clusters would supply their output to large processing units, and hence will also work as an aggregation point for larger processing units.

The Ministry of Micro, Small and Medium Enterprises (MSME), Government of India has adopted the cluster development approach as a key strategy for enhancing the productivity and competitiveness as well as capacity building of micro and small enterprises in the country. The objectives of the scheme, which requires MSE units to come together in a SPV and operate the cluster facilities, are to

1. Support the sustainability and growth of MSEs by addressing common issues such as improvement of technology, skills and quality, market access, access to capital, etc.

2. Build capacity of MSEs for common supportive action through formation of self-help groups, consortia, up gradation of association, etc.

3. Create/upgrade infrastructural facilities in new/existing industrial areas/cluster of MSEs

4. Set up common facility centers (for testing, training centre, raw material, depot, effluent treatment, complementing production process etc)

The Government would also draw a new scheme to permit establishment of sale counters by the road sides which would enable the farmers from nearly locations to sell their processed food from the said outlets.