



# STATE INDUSTRIAL PROFILE

GOA - 2014-15

**MSME-DEVELOPMENT INSTITUTE - GOA**

GOVERNMENT OF INDIA  
MINISTRY OF MSME

# **STATE INDUSTRIAL PROFILE – GOA (2014-15)**

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## Goa State at a Glance:

Sl.No.	Item	Unit	2012-13	2013-14
<b>1.</b>	<b>Administrative structure</b>			
	• Geographical area	Sq.Kms	3,702	3,702
	• Districts	No.	2	2
	• Taluks	No.	12	12
	• Towns	No.	70	70
	• Municipal Towns	No.	14	14
	• Census Towns	No.	56	56
	• Villages	No.	334	334
	• Inhabited revenue villages	No.	320	320
	• Villages included in Urban Agglomeration	No.	7	7
	• Village Panchayats	No.	189	189
	Blocks	No.	12	12
<b>II.</b>	<b>Population</b>			
	• <b>Total</b>	Lakhs	14.59	14.59
	• Males	Lakhs	7.39	7.39
	• Females	Lakhs	7.2	7.2
	• Sex Ratio	Females/Thousand Males	973	973
	• Total workers	Lakh	5.77	5.77
	• Density	Persons/Sq.km	394	394
	• Literacy rate	Percentage	88.7	88.7
	• Male Literacy Rate	Percentage	92.65	92.65
	• Female Literacy Rate	Percentage	84.66	84.66
<b>III.</b>	<b>State Income</b>			
	• Net State Domestic Product At constant prices	Rupees in Crore	26951.91 (Q)Quick estimate	29377.59 (A)Advance figures
<b>IV.</b>	<b>Electricity</b>			
	Towns electrified	No.	Fully Electrified	Fully Electrified
	Villages electrified	No.	Fully Electrified	Fully Electrified

Source: Goa Economy in Figures 2014

## **Introduction:**

The State of Goa, located in the West Coast, with an area of 3702 sq. Kms. is a well known tourist destination due to its scenic beauty, abundant greenery, attractive beaches, temples, churches, the architectural splendour, wild life sanctuaries, colourful and lively feasts and festivals. The State of Goa was ruled by Portuguese for nearly 450 years until it was liberated in 1961.

As per 2011 Census, Goa has a population of 14,58,545 which accounts for 0.12% of the country's population. Goa has impressive socioeconomic indicators in terms of literacy rate of 88.70% (4th rank) and per capita income (I rank) compared to other states of the Country.

## **I. Geographical Features:**

### **1.1. Location:**

The state is located geographically between 15° 48' N 14° 53' N latitude and 74 ° 20" E and 73 ° 40" E longitude. It lies along the Western (Konkan) Coast 600 kms South of Mumbai and 300 kms North of Mangalore and is bounded by the river Teracola, in the North, which separates it from Sindhudurg District of Maharashtra State; in the East & South by Belgaum & Uttar Kannada Districts of Karnataka State respectively; and in the West by Arabian Sea.

### **I.2. Climate:**

Goa has tropical and monsoon type of climate. The climate is humid throughout the year. The South-west monsoon brings rainfall to the State. The period from June to September contributes to 89% of annual rainfall with average rainfall ranging from 2500 mm to 4000 mm. Maximum rainfall is received during the month of July. According to a study by National Institute of Oceanography (NIO), Goa there is wide variation in rainfall within the state with Valpoi receiving the maximum rainfall of 4162 mm and Panaji receiving the minimum of 2841 mm. During summer months from March to May, the temperature ranges from 17 °C to 37 °C.

### **I.3. Soil:**

Coastal Alluvial soil, mixed red and black soil, laterite soil and red sandy soil are the main types of soil found in Goa. Soil pH ranges from 4.5 - 6.5.

## **II. Administrative Set up:**

For administrative convenience, the State is divided into two districts, namely, South Goa and North Goa. The districts are divided into Sub divisions and Talukas. Talukas are subdivided into revenue circles and revenue circles into Sazas consisting of a group of revenue villages. Sazas are under the charge of Talathi. Group of Sazas of a revenue circle is headed by a Circle Inspector. Taluka revenue office is headed by Mamladar. Sub divisions are headed by Dy. Collector. District Administration is under the control of the Collector.

North Goa has its administrative headquarters at Panaji. To facilitate revenue administration, North Goa is divided into four Sub-Divisions namely Panaji, Bicholim, Mapusa and Ponda and six Talukas namely Bardez, Tiswadi, Bicholim, Pernem, Ponda and Sattari .

South Goa has its administrative headquarters at Margao. The district is divided into five Sub-Divisions namely Margao, Quepem and Sanguem, Mormugao, Canacona and Dharbandora and six Talukas namely Salcete, Mormugao, Quepem, Sanguem, Canacona and Dharbandora.

## **III. Demographic features:**

### **III.1. Population:**

The population of Goa as per 2011 census is 14,58,545 persons with 7,39,140 males and 7,19,405 females. The taluka wise distribution of population of the State as per 2011 Census is given in the table below.

**Table 1: Taluka wise distribution of Population in the State as per 2011 census:**

State/District /Taluka	Males	Females	Total	Percentage to total population
<b>GOA</b>	7,39,140	7,19,405	14,58,545	100.00
<b>North Goa</b>	4,16,677	4,01,331	8,18,008	56.08
Pernem	38,652	37,095	75,747	5.19
Bardez	1,19,892	1,17,548	2,37,440	16.28
Bicholim	49,931	48,024	97,955	6.72
Sattari	32,574	31,243	63,817	4.38
Tiswadi	90,136	87,083	1,77,219	12.15
Ponda	85,492	80,338	1,65,830	11.37
<b>South Goa</b>	3,22,463	3,18,074	6,40,537	43.92
Mormugao	81,138	73,423	1,54,561	10.60
Salcete	1,45,448	1,49,016	2,94,464	20.19
Quepem	40,722	40,471	81,193	5.57
Sanguem	32,623	32,524	65,147	4.47
Canacona	22,532	22,640	45,172	3.10

*Source : Goa Economic Survey 2014-15*

From the Table it is evident that there are 8,18,008 persons in North Goa district which constitute 56.08 percent of the total population, whereas there are 6,40,537 persons in South Goa district (43.92 percent). Most populated taluka of the state is Salcete with 20.19 percent of the total population (2,94,464 persons). It is followed by Bardez with 2,37,440 persons (16.28%) and Tiswadi with 1,77,219 persons (12.15%). Canacona is the least populated taluka accounting for 3.10 percent of the total population (45,172 persons).

### **III. 2. Density of Population:**

The density of population has increased from 364 persons per sq km. in 2001 to 394 persons per sq. km in 2011. The Taluk wise density of population as per 2011 Census is given in the table below.

**Table 2: Taluka wise Density of Population**

Sl. No.	Name of Taluka	Density of Population
GOA		394
NORTH GOA		471
1	Pernem	301
2	Bardez	899
3	Tiswadi	830
4	Bicholim	410
5	Satari	130
6	Ponda	566
SOUTH GOA		326
7	Mormugao	1416
8	Salcete	1005
9	Quepem	255
10	Sanguem	78
11	Canacona	128

*Source : Goa Economic Survey 2014-15*

The density of population is above the State average of 394 in the talukas of Mormugao, Salcete, Tiswadi, Bardez and Ponda. Mormugao has the highest density of population of 1,416 per sq km, followed by Salcete with 1,005. Bardez, Tiswadi and Ponda have density of population of 899, 830 and 566 per sq km respectively. The density of population is lowest in Sanguem taluka with 78 persons per sq Km.

### **III.3. Sex Ratio:**

Goa has 10th rank in the country in respect of sex ratio with 973 females per thousand males which is much higher than the national average of 940. The district wise sex ratio in the State since 1900 is given in the table below.



**Table 3. District-wise Sex Ratio 1900 – 2011**

Sr. No.	Census Year	Sex Ratio (Number of Females per thousand males)		
		North Goa	South Goa	Goa
1	1900	1,102	1,074	1,091
2	1910	1,118	1,091	1,108
3	1921	1,154	1,069	1,120
4	1931	1,111	1,052	1,088
5	1940	1,100	1,058	1,084
6	1950	1,142	1,107	1,128
7	1960	1,083	1,041	1,066
8	1971	998	959	981
9	1981	979	971	975
10	1991	963	971	967
11	2001	953	972	960
12	2011	963	986	973

*Source : Goa Economic Survey 2014-15*

Figures from the table tells that the State which had a high sex ratio during the pre-liberation era started declining after 1971 onwards. The sex ratio which stood at 981 females per thousand males in 1971 declined to 975 in 1981 and further to 960 in 2001. Government has taken efforts to arrest the declining trend in the States' sex ratio the result of which shows improvement in the sex ratio to 973 as per 2011 census.

Taluka-wise Sex Ratio as per 2011 Census is given in the Table below.

**Table 4: Taluka-wise Sex Ratio -2011 Census**

Sl. No.	Taluka	Sex Ratio
1	Pernem	960
2	Bardez	980
3	Tiswadi	966
4	Bicholim	962
5	Satari	959
6	Ponda	940
7	Mormugao	905
8	Salcete	1,025
9	Quepem	994
10	Sanguem	997
11	Canacona	1,005

*Source : Goa Economic Survey 2014-15*

The taluk-wise sex ratio shows that Salcete has the highest sex ratio of 1,025 females per thousand males followed by Canacona (1,005). Six talukas of the State Mormugao, Ponda, Sattari, Pernem, Bicholim and Tiswadi have sex ratio below that of the State average.

### III.4. Literacy:

There are 1165487 literate persons in Goa comprising of 615823 males and 549664 females as per 2011 Census. The total literacy rate in the State is 88.70 percent, with literacy rate of 92.65 percent among males and 84.66 percent among females.

Taluka wise Literacy Rates as per 2011 Census is depicted in the Table below.

**Table 5: Taluka wise Literacy Rates -2011 Census**

State/District /Taluka	Total Literate Population	Literacy Rate
Goa	1165487	88.70
North Goa	663060	89.57
Pernem	60615	88.05
Bardez	196015	90.98
Tiswadi	145014	90.37
Bicholim	78628	89.24
Satari	48929	85.24
Ponda	133859	89.21
South Goa	502427	87.59
Mormugao	123188	89.30
Salcete	236082	89.34
Quepem	60364	82.93
Sanguem	48468	83.43
Canacona	34325	84.68

*Source : Goa Economic Survey 2014-15*

The literacy rate is highest in Bardez taluka (90.98%), followed by Tiswadi Taluka (90.37%). Nine talukas namely Pernem, Bardez, Bicholim, Tiswadi, Satari, Ponda, Mormugao, Salcete and Quepem have literacy rate of more than 85 percent. The literacy rates in Sanguem and Canacona talukas are 83.43 and 84.68 percent respectively. The male – female literacy gap in the State as per 2011 Census stood at 7.99 percent.

### III. 5. Workers and Non Workers:

The total workforce of the state as per 2011 Census stood at 5,77,248 persons which comprised of 4,76,053 main workers and 1,01,195 marginal workers. The taluka wise distribution of workers by category of occupation is given in the table below.

**Table 6 : Taluk wise distribution of workers into four categories**

State/District /Taluka	Cultivators	Agricultural Labourers	Household Industries	Other Workers/ Workers in Service Sector	Total Workers
Pernem	2655	1876	918	22989	28438
Bardez	3054	1821	3199	86588	94662
Tiswadi	2091	1072	1680	68643	73486
Bicholim	2272	1864	993	32474	37603
Satari	2564	4654	529	16605	24352
Ponda	2766	2833	1543	61975	69117
<b>NORTH GOA</b>	<b>15402</b>	<b>14120</b>	<b>8862</b>	<b>289274</b>	<b>327658</b>
Mormugao	1332	732	877	59221	62162
Salcete	3269	2169	2926	99845	108209
Quepem	3684	4289	708	24209	32890
Sanguem	2658	3530	568	20525	27281
Canacona	5009	1920	767	11352	19048
<b>SOUTH GOA</b>	<b>15952</b>	<b>12640</b>	<b>5846</b>	<b>215152</b>	<b>249590</b>
<b>GOA</b>	<b>31354</b>	<b>26760</b>	<b>14708</b>	<b>504426</b>	<b>577248</b>

*Source : Goa Economic Survey 2014-15*

The table shows that out of 5,77,248 workers in the State, 3, 27,658 workers (56.76%) are from North Goa district and the remaining 2,49,590 workers (43.24%) from South Goa district. Taluk wise distribution of workers shows that, Salcete accounts for 18.75 percent of the total workers in the State followed by Bardez (16.40%). Out of the total work force, 504,426 persons (87.38%) are employed in service sector. Cultivators account for 5.43 percent of the total work force followed by agricultural labourers (4.64%) and workers in household industries (2.55%).

There are 8,81,297 persons (3,19,604 males and 5,61,693 females) reported as non-workers in the State including students, persons engaged in household duties, dependents, pensioners, rentiers, beggars and others.

#### **IV. Gross State Domestic Product at Constant (2004-05) Prices:**

The growth rate of GSDP at constant prices which was almost stable at around 10 percent in the years 2008-09 and 2009-10 registered an upward trend of 16.89 percent in 2010-11 and 20.20 percent in 2011-12. But it has shown a declining trend in 2012-13 to 4.17 percent which was mainly due to the slowdown in the growth of mining sector in the State. As per the provisional estimates there is slight improvement in the growth rate to 7.71 percent during 2013-14.

**Table 7: GSDP at Constant (2004-05) Prices - 2006-07 to 2013-14**

<b>Sl.No</b>	<b>Year</b>	<b>GSDP at constant (2004-05) prices (in crore)</b>	<b>Annual Growth Rate</b>
1	2006-07	15,042	10.02
2	2007-08	15,875	5.54
3	2008-09	17,466	10.02
4	2009-10	19,248	10.20
5	2010-11	22,499	16.89
6	2011-12	27,045	20.20
7	2012-13	28,173	4.17
8	2013-14 (P)	30,345	7.71

*Source : Goa Economic Survey 2014-15*

Sector wise Growth Rate of GSDP at Constant Prices (2004-05) over the previous year is shown in the table below.

**Table 8: Sector wise Growth Rate of GSDP at Constant Prices (2004-05)**

Sector	in crore		
	2011-12	2012-13	2013-14 (P)
Primary	2265	1361	1496
Percentage growth over the previous year	<i>(-1.22)</i>	<i>(-39.89)</i>	<i>9.86</i>
Secondary	8767	9155	9668
Percentage growth over the previous year	<i>4.45</i>	<i>4.43</i>	<i>5.60</i>
Tertiary	16014	17657	19182
Percentage growth over the previous year	<i>35.56</i>	<i>10.26</i>	<i>8.64</i>
Total	27045	28173	30345
	<i>20.20</i>	<i>4.17</i>	<i>7.71</i>

*Source : Goa Economic Survey 2014-15*

The table reveals that the growth rate under Primary Sector declined drastically from -1.22 percent in 2011-12 to -39.89 percent in 2012-13. During 2013-14 the growth rate improved and stood at 9.86 percent. This was mainly attributed by the improvement in agriculture, forestry and fishing wherein the growth rate improved from 4.53 percent in 2012-13 to 13.50 percent in 2013-14 as a result of the steps taken by the Government to revamp the agriculture sector. Though the growth rate under Secondary sector, which was 12.75 percent in 2010-11 slowed down in the subsequent years to around 4 percent in 2011-12 and 2012-13, improved slightly to 5.60 percent by 2013-14. The growth rate under Tertiary Sector which was 35.56 percent in 2011-12 slowed down to 10.26 percent in 2012-13 and 8.64 percent in 2013-14. This was due to the slowdown in transport, storage and communication sub-sectors.

## **V. Important Economic Activities of the State:**

### **V.1. Agriculture:**

At the time of liberation of Goa, about 70% of the population was engaged in Agriculture. Share of workers in Agriculture sector has come down since past few years. Paddy, Cashew and Coconut are the major crops grown in the state. The cultivation of horticultural crops are gaining importance because of better returns and low risk.

Various schemes have been implemented by Government of Goa to encourage rural youth to take up agriculture and allied activities. Government has appointed, 25 Kissan Mitras, to work at the grass root level and assist the farmers in works related to schemes under Agriculture and allied activities. 25 villages across the State have been selected under Village Level Agricultural Development Plan. To provide prompt services to the farming community, two District level Offices, one in Margao, South Goa and the other at Tonca, Caranzalem, North Goa has been set up.

### **V.2. Mining & Quarrying:**

Goa is blessed with rich mineral resources. Major minerals include Iron ore, Manganese ore, Bauxite. Minor minerals available in the State are Basalt, Laterite stones and rubbles, River sand, Murrum etc., which are of great demand in construction sector.

Exploration for Iron ore in Goa started at the beginning of the 20th Century. Present day mining and export of iron ore resumed in 1947. The Iron ore deposits are distributed over the Northern, Southern and Central Blocks of Goa. The Northern Block deposits are richer both in terms of quality and quantity of the ore, as compared to the Southern and Central Blocks.

The contribution of Mining & Quarrying to the State's Gross GDP at Factor cost is estimated at Rs. 203482 lakhs (at current prices) for 2013-14.

The Supreme Court had banned iron ore mining in all 90 mines in Goa from October 2012 based on the findings of the Justice MB Shah Commission report, a major loss to the exchequer due to illegal mining over 12 years. According to Goa's Grant of Mining Leases Policy, 2014, stoppage of mining had a cascading impact on other sectors. Not only those

who are directly involved in mining such as the mining companies, truck operators, barge transporters, mining machinery owners, but small time business / industry such as tea stalls, automobile workshop, petrol pump, consumer goods vendors, tyre service providers etc. were all affected by ban. The policy estimates loss of Rs 3,000 crore due to the 2012 ban on iron ore mining in the state. The ban was lifted on April 2014, with the condition that the iron ore mining will be restricted to 20 million tonnes annually and the mining leases for which renewals were not sought post 2007 have expired and mining there is illegal. Though the ban was lifted, miners and exporters are pessimistic, as the international market conditions are now occupied by Australian and Brazilian suppliers

### **V.3. Fishing sector:**

Fishing industry forms the second largest industry both in terms of employment and income in the state. Numerous ancillary and subsidiary activities around fish harvesting, is also contributing to Goa's economy. Goa experiences favourable Climate for fishing activity. From September to March climate is ideal for fishing activities.

Two types of fish catching are adopted in Goa namely Inland Fisheries and Marine Fisheries. Inland Fisheries of Goa is spread over 250 kms. Inland fisheries are of two types, Brackish and Fresh water fisheries. Brackish water fisheries include extensive estuaries or river mouth, lagoons, back waters and brackish water lakes. Fresh water fisheries include river system, fresh water lakes, irrigation canals, tanks, reservoirs and ponds.

Marine Fishery Resources comprises of coastline of maximum 104 kilometers. Flexible network of transport in Goa enables quick and safe disposal of fish and fish products. Goa has well established fish marketing centres. There are many major and minor fish landing centres such as Betim (malim) Chapora, Khariwado, Cutbona and Betal from where large quantity and variety of fish is caught. Infrastructure facilities are well established. Cold storage facilities as well as IRS Digital Visual systems are developed at important locations, which help in increasing fish catch.

The quantity of fish exported and foreign exchange earned is depicted in the table below:

**Table 9: Export of Marine Products 2004 – 2013 from the state**

Sl . No.	Year	Qty (in Tonnes)	Value (In Lakh)
1	2004	8855	3907
2	2005	11002	6178
3	2006	14117	7299
4	2007	18268	9339
5	2008	21533	19783
6	2009	27009	19563
7	2010	37212	28891
8	2011	37829	33125
9	2012	42675	37918
10	2013	33939	41181

*Source : Goa Economic Survey 2014-15*

From the table it is clear that export of fish which was showing an increasing trend from 2004 to 2012 has shown a reverse trend from 2012. Though the quantity of export has declined from 42675 Tonnes in 2012 to 33939 Tonnes in 2013, the value has increased from 37918 Lakhs to 41181 Lakhs.

Various measures are taken by Government of Goa to promote fishing sector. A project through Rashtriya Krishi Vikas Yojana (RKVY) named ‘Open sea cage culture’ is set up in South Goa for culturing high valued fish viz. Cobia and Lates Under this scheme the fishermen have formed self help groups and undergone special training by Central Marine Fisheries Research Institute(CMFRI), Karwar.

Fish Festival “Aqua Goa” for three days is being conducted in the State to create awareness about fisheries and sea food. The event provides a platform to entrepreneurs/Fishermen/farmers from all over the State to exhibit their products.

#### **V.4. Tourism Sector:**

Goa is blessed with beautiful beaches, rich cultural heritage and the architectural splendours of its Temples, Churches and ancient houses which attracts tourist from all over the world



Government has taken measures in diversification of tourism activities and providing necessary infrastructure to boost tourism sector. Several key tourism infrastructure projects like beautification of areas around major tourist's spots, completion of Panaji jetty, mega tourism circuit development at Calangute, Candolim, Sangolda and Anjuna were undertaken to improve the facilities for the tourists. A policy for regulating water sports in the State has been finalised. The Department of Tourism is participating in National and International events for promoting tourism and are giving widespread publicity campaigns by releasing advertisements through Print and Electronic media.

## **VI. Industrial Scenario of the State:**

Goa witnessed a boost in Industrial Sector during 1993 to 2002 as a result of special income tax status from the Government of India and sales tax holiday from the Government of Goa. The manufacturing sector continued to grow at a rate of 14% upto 2009-10. The sector have been adversely affected since last few years due to the economic slowdown, lack of a robust framework for industrial growth, closure of mining activities etc.

The infrastructural facilities in the state are conducive for industrial development due to the availability of sea port, airport rail and road connectivity, educated population, reliable and economical power supply and plentiful water resources in addition to the availability of social infrastructure.

In order to rejuvenate investment under manufacturing sector, Government has approved the Goa Investment Policy-2014, to create 50,000 jobs and facilitate 25,000 crores of new investments in the next five years.

### **VI.1. Micro Small and Medium Enterprises:**

As per the statistics from Directorate of Industries trade and commerce Goa, upto 2014-15, 874 units have registered under EM part II with an investment of 52620.28 lakhs in, Plant & machinery generating Employment to the order of 18851 numbers

**Table 10: Year wise data on details of units registered under EM part II in Directorate of Industries Trade and Commerce Goa.**

Year	UNITS				EMPLOYMENT GENERATED				INVT. In Plant & Machinery (In Lakhs)			
	Micro	Small	Medium	Total	Micro	Small	Medium	Total	Micro	Small	Medium	Total
Oct. 06 To Mar.07	9	3	0	12	151	81	0	232	60.47	600.67	0.00	661.14
2007-08	44	13	0	57	498	394	0	892	217.38	1065.18	0.00	1282.56
2008-09	54	20	2	76	590	707	78	1375	300.78	2355.35	686.00	3342.13
2009-10	74	35	3	112	577	1617	128	2322	530.30	4164.25	2225.25	6919.80
2010-11	62	25	1	88	437	1127	39	1603	436.89	3317.56	765.00	4519.45
2011-12	62	35	0	97	495	1634	0	2129	543.54	5458.89	0.00	6002.43
2012-13	58	43	2	103	385	2080	240	2705	370.01	6701.15	1266.00	8337.16
2013-14	115	46	8	169	1194	2117	667	3978	789.81	6129.73	4129.45	11048.99
2014-15	99	56	5	160	862	2412	341	3615	625.79	6722.23	3158.60	10506.62
<b>TOTAL</b>	<b>577</b>	<b>276</b>	<b>21</b>	<b>874</b>	<b>5189</b>	<b>12169</b>	<b>1493</b>	<b>18851</b>	<b>3874.97</b>	<b>36515.01</b>	<b>12230.30</b>	<b>52620.28</b>

*Source: Directorate of Industries Trade and Commerce, Goa*

Major share of units registered under EM part II are under Micro Enterprises (66.01%), followed by Small Enterprises (31.57%). Share of Medium Enterprises is meagre (2.2%)

Product-wise Classification of MSMEs for two years 2012-13 and 2013-14 are pictured in the Table below.

**Table 11: Product-wise Classification of MSMEs**

Sl. No.	Product Group	No. of units Registered	
		Up to 2012-13	up to 2013-14
1	Food Products	1323	1340
2	Beverages & Tobacco products	485	486
3	Jute, hemp & Mesta Textile	15	15
4	Textile Products & Garments	233	234
5	Wood Products & Wooden Furniture, Fixture	526	530
6	Paper Products including Printing/publishing	641	650
7	Leather & Leather Products	34	34
8	Rubber, Plastic, Petroleum and coal products	625	640
9	Chemical Products (except Petroleum and coal products)	461	473
10	Non Metallic Minerals	481	485
11	Basic Metal & Alloys	222	222
12	Metal Products & parts (except M/c. & transport eqpt.)	979	992
13	Machinery, Tools & Parts (except & electrical m/c.)	95	101
14	Electrical Machinery & Apparatus & Supplier Parts	482	489
15	Transport Equipment & Parts	122	123
16	Other Mfg. Industries	315	325
17	Repair/Services	496	499
	<b>Total</b>	<b>7535</b>	<b>7638</b>

*Source: Directorate of Industries Trade and Commerce, Goa*

Product wise classification reveals the fact that more number of units are registered in the categories namely Food products(17), Rubber, Plastic, Petroleum and coal products(15), Chemical Products(12), Metal Products & parts(13) during the year 2013-14.

#### **VI.2. Prime Minister's Employment Generation Programme (PMEGP):**

Under the Prime Minister's Employment Generation Programme, 30 proposals have been sanctioned during 2014-15 with a total project cost of 123.76 lakh and involving subsidy of 42.86 lakh generating employment for 123 people.

#### **VI. 3. Large Scale Industries:**

As per the data received from Directorate of industries trade and Commerce, Goa there are 192 large scale industrial units working in the state with an Investments of Rs.8474.02 crores generating Employment of 33741 persons. The Government of Goa has enacted Goa Investment Promotion Act 2014 for facilitating single window clearance of investors to invest in Goa.

#### **VI.4. Goa Industrial Development Corporation: (IDC)**

Goa IDC has acquired land measuring 7330m<sup>2</sup> at Tuem village of Pernem Taluka for expansion of Tuem Industrial Estate Phase-III and the infrastructure development works are in progress. The proposal for land acquisition for setting up of new industrial estate at Latambarcem in Bicholim taluka is in progress.

#### **VI.5. Agencies/schemes for promoting self employment in the state**

##### **a. Khadi & Village Industries Board**

The Goa, Daman & Diu, Khadi and Village Industries Board is a statutory organization engaged in the promotion of Village Industries and other activities under the purview of the Khadi & Village Industries Commission, Mumbai.

##### **b. The Goa Handicrafts, Rural and Small Scale Industries Development Corporation Ltd. (GHRSSIDC):**

GHRSSIDC aims at generating self employment through various schemes/training programmes. During the year 2014-15, under various schemes, eligible Mahilas are

provided with sewing machines, necessary accessories, tools, etc. for undertaking embroidery and tailoring jobs as self employment. Under “Goa Clay Idol maker’s scheme” 513 claims have been received and the Corporation is in process of finalizing the beneficiaries.

**c. Economic Development Corporation of Goa (EDC):**

The EDC Limited, formerly known as the Economic Development Corporation of Goa, Daman & Diu Limited (EDC) incorporated on 12th March 1975, as a development bank, enjoying the twin status of a State Finance Corporation (SFC) & an Industrial Development Institution. Over the last 35 years of its existence it has been a catalyst for industrial growth in Goa.

EDC has so far financed more than 5,350 entrepreneurs for establishing various activities like dental clinics, ayurvedic and homeopathic clinics, medical stores, photography units, bakery units, beauty parlours, software development, Xerox centres, communication centres, tailoring units, flour mill, repairs, sales and service/servicing centre / Mechanical workshops, acquisition of fishing canoe, sound system, tourist taxi, goods carriers etc., thus providing opportunities for self employment.

**d. National Rural Livelihood Mission (NRLM):** The scheme “Swarnjayanti Gram Swarozgar Yojana” (SGSY) is restructured and renamed as “National Rural Livelihood Mission” (NRLM) which is a centrally sponsored scheme and the financing of the scheme is shared between the Centre and the State in the ratio of 75:25. The aim of the scheme is to uplift the rural families living below the poverty line, by covering them under all aspects of self employment, such as organizing the poor to form Self Help Groups for starting any economic activity and providing them training, credit, technology, infrastructure and marketing support. 1,392 Self Help Groups have been formed since inception of the scheme of SGSY. During the current year 2014-15, National Level Exhibition-cum-sale of handicrafts and other products made by Self Help Groups was organized at Margao making a sale of order 80.00 lakhs. These Self Help Groups were also sponsored to participate in exhibitions held at Gujarat, Hyderabad, Punjab, New Delhi, etc.

## VII. Infrastructural Facilities in the State:

**VII.1. Transport & Communication:** The state has well-developed transport and communication facilities.

### VII.1.1. Transportation by road:

Transportation by road in Goa is considered to be the dominant medium for both passenger and freight. It has 224 Km of National highway, 232 Km of State Highway and 815 Km of District Highway. Two National Highways namely NH-17 and NH-4A are passing through Goa. NH-17 links Goa to Mumbai in the North and Mangalore to the South. NH-4A connects capital city of Goa, Panaji to Belgaum in the east. The NH-17 A connects NH-17 to Mormugao Harbour from Cortalim and the new NH-17B, four lane highway connects Mormugao Harbour to NH-17 at another location, Verna via Dabolim airport.

To avoid traffic congestion near Panaji area, where the three National Highways meets, Government has initiated construction of “New Mandovi Bridge” across river Mandovi at Panaji at a cost of 403 crore, which will serve as a traffic link between North and South Goa. There is also plan to construct a new six-lane bridge across river Zuari with assistance from Government of India.

#### VII.1.1.a Vehicle Population

The number of vehicles registered during the period 2011-12 to 2014-15 (upto Dec. '14) is given in Table below.

**Table 12: Distribution of Vehicles by type from 2011-12 to 2014-15 (till Dec. 2014)**

Type of vehicles	2011-12	2012-13	2013-14	2014-15 (upto Dec. '14)
Motor Cycles for Hire	3798	1249	1399	1361
Goods Vehicles	5018	2403	1466	1094
Taxis	495	1089	1122	848
Buses , Mini Buses & KTC	606	443	969	232
Auto Rickshaws	81	102	129	64
<b>Total</b>	<b>9998</b>	<b>5286</b>	<b>5085</b>	<b>3599</b>
<b>Non-Transport</b>				
Motor Cycles & Scooters	47443	50217	50732	38324
Private Cars & Jeeps	17675	17087	15016	12510
Tractors /Others	224	163	144	98
Government Vehicles	194	10	13	6
<b>Total</b>	<b>65536</b>	<b>67477</b>	<b>65905</b>	<b>50938</b>
<b>Grand Total</b>	<b>75534</b>	<b>72763</b>	<b>70990</b>	<b>54537</b>

Source : Goa Economic Survey 2014-15

It is seen from the Table that the number of vehicles registered has shown a declining trend from 2011-12 onwards. The number of vehicles registered during 2011-12 was 75,534. It has declined to 72,763 in 2012-13 and further to 70,990 in 2013-14. The registered vehicle population became 54537 numbers during 2014-15. Majority of vehicles registered comes under the category of Motor Cycles.

### **VII.1.2. Rail Connectivity:**

Two railway lines are running through Goa, the Konkan railway line from north to south and the South Western railway line from west to east. They meet at the most important junction of the state namely the Madgaon railway station. Vasco da Gama is the other important railway station of Goa from where the South Western railway operates.

The South Western railway track was constructed in the 19th century by the Portuguese. It links the port town of Vasco da Gama to Karnataka at Londa junction from where one can have connectivity to other parts of India like Bangalore, Hospet, Hyderabad and Kolhapur.

On January 26, 1998, the Konkan Railway was thrown open to the public. Konkan Railway connecting Mumbai to Mangalore which traverses the entire length of the state is considered as a blessing to the state especially to the growth of trade & industry.

### **VII.1.3. Inland waterways:**

The state of Goa has about 555 kms. of Inland Waterways out of which only 255 kms. are navigable through the rivers Mandovi, Zuari and their tributaries. It is being used by the mining and export Industry for transportation of Iron ore to the port of Mormugao and Panaji outer anchorage, from the loading points in the hinterland.

### **VII.1.4. Sea Port:**

Mormugao Port, Goa is one of the oldest ports in India with a fine natural harbour. The Port was declared a Major Port in 1963. It is the premier iron ore exporting Port of India. The Port has tremendous potential to cater to the needs of trade and industry.

Major Facilities available in the Mormugao Port are Harbour data, Berths, Moorings and Anchorage Facilities, Berths, Mooring Dolphins, Cargo handling and Cargo facilities, Mechanical Ore Handling Plant , Stream loading , discharging facilities, Port Railway facilities, Water supply, Bunkering .

During the financial year 2013-2014 the port handled a traffic of 11.74 million tonnes which is 2% of the total traffic of 555.49 million tonnes handled by all the twelve major ports of India. The traffic during the year consisted of 0.04 million tonnes of iron ore 7.87 million tonnes of coal/coke and 0.87 million tonnes of petroleum products and other liquid cargo. Other traffic included cargoes like Fertilizer, Bauxite, Containerized cargo, H.R.Steel Coil, Steel Sabs, Raw Sugar, Granite, Wheat, Wood chips, Pig iron, etc.

Minor ports are located at Panaji, Tiracol, Chapora Betul and Talpona, out of which Panaji is the main operative port.

#### **VII.1.5. Airport :**

Goa is well connected by airline services to most major cities in India. All flights, national and international, to and from Goa, operate from the Goa Airport at Dabolim near the port town of Vasco-da-Gama. The airport is about 30 kms from the capital city of Panaji and is owned by the Indian Navy. Major airline operators such as Air India, Jet Airways, Spice Jet, Kingfisher Airlines, Go Air, Jet Lite & Indigo have flights carrying passengers and cargo in and out of Goa. Besides these, a number of chartered flights land in Goa from UK and other European countries.

At present only domestic cargo flights operate at the Dabolim airport. Shortly it will be able to handle international cargo operations. Work to convert the old airport terminal into a full - fledged cargo terminal has already started.

The Greenfield International Airport at Mopa in Pernem is proposed to be constructed on Public Private Partnership basis. 78,41,739 sq.mts. of land has been acquired in the villages of Mopa, Chandel, Uguem, Casarvarnem and Varcand. In addition, 2,87,725 sq.mts. of Government land has also been transferred for the project in Amberem village.

## VII.2. Power:

Only seven towns were electrified at the time of liberation of Goa in the year 1961. The Electricity Department under the Government of Goa was formed in the year 1963 and electrification drive was started in the year 1965.

The table below give clear picture of the status of electricity in Goa during 2013-14

**Table 13: The status of electricity consumption in Goa during 2013-14**

Sl.No.	Item	Unit	2013-14
1	Towns electrified	Numbers	Fully Electrified
2	Villages electrified	Numbers	Fully Electrified
3	Electricity consumed	M. Kwh	3034
4	Domestic consumption	M. Kwh	912
5	Commercial consumption	M. Kwh	224
6	Industrial consumption	M. Kwh	1411
7	Consumption for irrigation Purposes	M. Kwh	21
8	Other purposes	M. Kwh	466
9	Per capita consumption	Kwh	2041

*Source: Goa Economy in figures-2014*

As per the table, the towns and villages of Goa are fully electrified.

For meeting the present and future power requirements of the State, various measures are being taken by Goa Government. The underground cabling works in the predominantly tribal inhabited areas of Raia, Nuvem, Verna, Nagoa, Majorda, Utorda, Calata and Loutolim taken up earlier are on the verge of completion.

Government has secured 20 MW additional allocation of power from the Central Sector Generating Stations. The work of erection of 2x10 MVA, 33/11 KVA Sub-Station at IT



Park, Dona Paula, replacement of 2x40 MVA by 2x50 MVA power transformers at 110/33 KV Sub-station at Tivim and providing additional 50 MVA power transformer at Tivim Sub-Station is completed by 2014.

### **VII.3. Irrigation Facilities:**

#### **VII.3. 1. Major and Medium Irrigation Projects:**

The Salaulim Irrigation Project (SIP) in South Goa is a major irrigation project which caters to the irrigation needs of Sanguem, Quepem and Salcete talukas. It also provides raw water for domestic and industrial use to Mormugao, Sanguem, Quepem and Salcete talukas to the extent of 160 MLD. The Anjunem Irrigation Project (AIP) is a medium irrigation project which caters to the irrigation needs of Sattari and Bicholim talukas.

#### **VII.3.2. Minor Irrigation**

With a view to bring the maximum possible area under irrigation, various minor irrigation schemes are undertaken. These include storage tanks, lift irrigation schemes, bandharas, irrigation wells etc. Subsidy is given to farmers on a reimbursement basis for construction of new open wells/bore wells under well subsidy scheme. Three minor irrigation tanks have been constructed in the State to provide water for irrigation at Chapoli-Canacona, Panchwadi-Ponda and Amthane-Bicholim.

### **VII.4. Water Supply facilities:**

The present water supply demand in the State is catered through seven regional water supply schemes installed at Opa, Assonora, Sanquelim, Salaulim, Canacona, Dabose and Chandel. The Salaulim water supply scheme is the largest amongst all the regional water supply schemes having capacity of 160 MLD covering most part of the South Goa district. The total capacity of Water supplied is 528 MLD for the entire State of Goa. Most of the villages are covered under the seven regional water supply schemes. Majority of rural population in Goa are covered under treated water. At present the average supply level in villages is 82 LPCD as against 40 LPCD as per the norms of Government of India for rural areas.

### **VIII. Financial Institutions in the State and their performance:**

As on 31st March 2014, there were 42 commercial banks and 14 cooperative banks functioning in the State. The 42 commercial banks together had 545 branch networks accounting for 79 percent of the total bank branches in the State. State Bank of India, Lead Bank for the State has the maximum number of branches (87), followed by HDFC Bank (65), Corporation Bank and Bank of India with 47 branches each. Goa State Cooperative Bank Ltd. has the maximum number of branches (58) among the cooperative banks, followed by Mapusa Urban Co-operative Bank Ltd. (24) and Goa Urban Co-operative Bank Ltd. (16). As a whole there are the 694 bank branches in the State.

Year wise number of Bank Branches in the State is shown in the table below.

**Table 14: Year wise number of Bank Branches in the State**

Sl.No	Year	Number of Bank Branches
1	2009-2010	547
2	2010-2011	598
3	2011-2012	643
4	2012-2013	674
5	2013-2014	694

*Source : Goa Economic Survey 2014-15*

Bank Branches has shown an increasing trend from 2009-10 to 2013-14.

The deposit mobilisation has increased by 22.81 percent from 39,661 crores in March 2013 to 48,708 crores in March 2014. There is also an increase of 29.04 percent in the gross credit advanced by the banking institutions in the State, from 12,490 crores in March 2013 to 16,117 crores in March 2014.

The Credit Deposit Ratio of the State was 33 percent as on 30.06.2014. The C:D ratio in respect of North Goa district was 38.74 percent and that of South Goa was 24.85 percent. The lower C: D ratio was due to heavy influx of deposits, including NRI deposits

**Table 15: Performance under Annual Credit Plan as on 30.06.2014** (in crore)

Activity	Target for the quarter 30.06.2014	Achv. as on 30.06.2014	% Achv.
Agricultural Crop loans	108.02	26.35	24
Agricultural Term loans	106.10	51.68	49
Total Agriculture	214.12	78.03	36
Industries	132.98	474.67	357
Other Priority Services	529.56	467.63	88
Total	876.66	1020.33	116

*Source : Goa Economic Survey 2014-15*

Performance under Annual Credit Plan as on 30.06.2014 shows that the achievement under agriculture sector was 78.03 crores as against the target of 214.12 crores. It was 102.28 crore during the corresponding period of last year. Under Industries sector, there was a disbursement of 474.67 crores against the target of 132.98 crores. The disbursement of 467.63 crores has been made under other Priority Sector, which was less by 61.93 crores, over the targeted disbursement of 529.56 crores. In percentage terms it was 88 percent as against 67 percent during corresponding period of previous year.

## **IX. Prospects for Micro, Small and Medium Enterprises based on Material Resources:**

Goa has rich treasures of material resources namely fertile agricultural land, agricultural produces, Forest resources, Mineral resources, Marine resources. An idea of availability of these resources will enable one to identify suitable activities to set up under MSME Sector based on these resources.

### **IX.1. Agriculture:**

Fertile agricultural land available in Goa is suitable for cultivation of paddy, pulses, sugar cane, garden crops like coconut, cashew, areca nut, mangoes, jackfruits, bananas, pineapples. As per the analysis of area under different crops since last three years it can be seen that Cashew nut covers major area under cultivation followed by Paddy and coconut. Cashew is cultivated in 55936 hectares (2013-14) followed by Paddy, which is cultivated in 42820 hectares (2013-14) and Coconut in 25750 Hectares. Pulses, Groundnut, Vegetables and Sugarcane are other minor crops grown in the state

**Table 16: Area coverage and Production under different crops during last three years**

Sr. No.	Crops	2011-12		2012-13		2013-14	
		Area in ha	Prod tonnes	Area in ha	Prod tonnes	Area in ha	Prod tonnes
1	Paddy	47237	182945	45830	184282	42820	189760
2	Pulses	9949	8286	9949	8974	8100	8926
3	Groundnut	3194	8000	3108	7469	2591	6590
4	Vegetable	6498	78201	6645	80511	7004	79920
5	Sugarcane	915	46584	854	46006	872	47669
6	Cashew	55737	23240	55747	23804	55936	24332
7	Coconut	25730	129.28 (million nuts)	25712	122.72 (million nuts)	25750	128.15 (million nuts)

*Source : Goa Economic Survey 2014-15*

The table reveals that area covered under most of the crops in the state is declining or stagnating during the years from 2011-12 to 2013-14. The cropped area under vegetables has increased from 6498 ha in 2011-12 to 7004 ha in 2013-14. Marginal increase in production is visible in some crops namely Paddy and Sugarcane. Except Coconut and Cashew, other crops are being produced only for domestic consumption and surplus is not generated for Industrial activities.

Major activities that can be started based on Coconut are preservation and packing of tender coconut water in pouches , Snow ball tender nut, Coconut water concentrate, Coconut jelly, Coconut Vinegar, Desiccated Coconut, Coconut Chips, Bottled coconut milk, Coconut cream, Coconut jam, Virgin Coconut Oil, Coconut Flour, Coconut bites, Coconut shell powder, Coconut Shell Charcoal, Activated Carbon and Coconut shell based handicrafts.

Based on cashew apple, products that can be manufactured are Cashew Apple Juice, cashew apple juice concentrate, cashew apple preserve and candy, cashew apple jam, cashew apple pickle and chutney. Cashew Feni was being processed in Goa since olden days. Cashew Feni of Goa has obtained GI registration (Geographical Indication) in February 2009. This attracts benefits like higher revenue to local producers, control on spurious production of Feni and a boost in sales.

Jack fruit trees are found abundantly in the Western Ghats area of Goa. Two types namely firm fleshed (kappa) and soft fleshed (rassal) jack trees are available in Goa. Most of the trees bear fruits in peak during June-July. These fruits are not being harvested properly. Processing and value addition is negligible. The full potential of jack fruit has not been utilized in Goa. and hence it is a commercially unexploited fruit. Hence there is scope for value added products based on Jackfruit.

The immature Jackfruits can be sold in ready to use chopped form, packed in pouches. This product will be in good demand even in Goan market. The mature bulbs can be blanched and packed for sale as vegetable in the super markets. The pulp of ripe fruits can be preserved in tins and sold in Indian as well as international markets. Half mature jack fruit can be used for preparation of Pickle. From fully matured jackfruit, Pappad, pakoda, chips can be made. Riped Jack fruit pulp can be the raw material for Halwa, Jam, Wine, and Squash. Jack fruit seeds can be used for the preparation of flour.

Arecanut leaves are available in Goa out of which environmental friendly disposable cups and plates can be made which are having great demand in catering field.

Horticulture is an important segment of the agriculture sector. Mangoes and pineapples are the two important horticultural crops, which are available in Goa. From Mango, value added products like frozen mango pulp, mango bar, dehydrated mango powder, dehydrated ripe mango slices, unripe and fallen mango pickle, mango nectar and mango syrups can be manufactured. From Pineapple value added products like Squash, Jam etc. can be prepared.

Goa State Horticultural Corporation Ltd. has launched Flower Point outlet in November, 2014. Prospective applicants are trained in bouquet making and supply them flowers at cheaper rates for selling standardized bouquets at fixed prices. Making use of this facility, Bouquet making activity can be taken up by prospective entrepreneurs.

Polyhouses are used in Goa for cultivation of premium flowers like orchids, gerbera, chrysanthemum, anthurium, etc. and vegetables like capsicum, cucumber etc. There is scope for starting such polyhouses in Goa availing benefits from Government.

Assistance for all types of fruits and spices cultivated on an area of 0.2 ha and above is provided to the extent of 75 percent of the cost of cultivation or maximum 30000/- per ha for crops other than banana, papaya and pineapple. This scheme can be utilized by prospective entrepreneurs in growing fruits and spices on commercial basis.

Farmers cultivating vegetables of suitable commercial variety are identified and selected by the Goa State Horticultural Corporation Ltd. and their produce is procured at prefixed rates. During the year 2014-15 (upto Dec' 2014), 192 MT of vegetables and fruits worth 0.60 crore were procured from farmers. Farmers can take up this activity on commercial basis by utilizing this scheme.

## **IX.2. Fisheries:**

Varieties of fish namely Prawns, mackerels, sardines, etc. are available in plenty in Goa coast. The annual fish catch has risen from 92,662 tonnes in 2013 to 1,31,825 tonnes in 2014 registering an increase of 42.26 percent over the previous year.

**Table 17: Trend in Fish Catch 2004 -2014 (in Tonnes)**

Sl. No.	Year	Marine	Inland	Total
1	2004	84394	4397	88791
2	2005	103087	4194	107281
3	2006	96326	4131	100457
4	2007	91185	2447	93632
5	2008	88771	3077	91848
6	2009	80687	3283	83970
7	2010	87062	3311	90373
8	2011	86185	3538	89723
9	2012	86628	3887	90515
10	2013	87984	4678	92662
11	2014	128107	3718	131825

*Source : Goa Economic Survey 2014-15*

90% of total population of Goa consume fish on daily basis. Hence the availability of fish for value addition is less and hence scope for activities based on fish are limited in Goa.

Being a tourist place, there is great demand for processed fish items. Few units on value added fish products are suggested.

There are a number of Fresh Water bodies and lakes like Anjunem reservoir, Selaulim reservoir, Mayamlake, Carambolian and Churchodem, etc., facilitating the development of Fresh water fish culture. Short and long seasonal tanks present in the villages are suitable for cultivating fresh water fish and shrimps.

Goa has a large scope for fisheries production, particularly, through brackish water. Brackish water prawns farming is considered to be the most lucrative enterprise due to high local demand.

### **IX.3. Animal Husbandry:**

The primary milk producing talukas are Sanguem Bicholim, Sattari, Pernem and Ponda. The requirement of milk in Goa is around 4 to 4.50 lakh litres per day, to meet the growing population and tourists who visit the state. The domestic production of milk is not sufficient to meet the requirement which is fulfilled by purchasing from the neighbouring states.

In order to augment the production of milk, the Government is implementing many schemes to encourage farmers. The Kamadhenu Scheme offers subsidy ranging from 40 % to 75% of the cost of milch animal. The Govt gives subsidy of 25% restricted upto Rs. 3.00 lakh to any individual for setting up of Modern Dairy Unit, expansion of existing dairy unit, purchase of modern dairy equipment for existing dairy unit. A scheme called Pashupalan is also being implemented to cover local breeding and special calf rearing.

There is a wide gap between demand for and supply of milk and milk products. Therefore, there is a huge scope for dairy farming, calf rearing, modern dairy units etc.

### **IX.4. Tourism:**

The State was visited by 4058226 tourists in 2014 (January to Dec.) compared to 3121473 tourists in the previous year, thereby reflecting a growth of over 30 percent. The number of

tourists (both domestic and foreign) who visited the state in the last four years is given in the Table below.

**Table 18: Number of tourists visited the state**

Year	Domestic	Percentage increase	Foreign	Percentage increase	Total	Percentage increase
2011	2225002	-	445935	-	2670937	-
2012	2337499	5.06	450530	1.03	2788029	4.38
2013	2629151	12.48	492322	9.28	3121473	11.96
2014	3544634 (P)	34.82	513592 (P)	4.32	4058226 (P)	30.01

*Source : Goa Economic Survey 2014-15*

It can be seen from the above Table that the growth of domestic tourists which was 5.06 percent in 2012 went up to 12.48 percent in 2013 and further to 34.82 percent in 2014. Similarly growth of foreign tourists which was 1.03 percent in 2012 went up to 9.28 percent in 2013. However in 2014, the percentage increase in foreign tourists dropped to 4.32 percent which was due to a decrease in the number of tourists coming from the continents of North America, Africa and some parts of Europe.

Tourism related activities: The locals are encouraged to invest in the tourism sector, under which interested people are issued NOC for erection of tents/huts in their private properties to enhance accommodation to tourists. The Govt. of Goa has accorded the status of "Industry" to the tourism sector for the purpose of availing loans from financial institutions.

There is scope for erection of shacks, tents, huts to entertain tourists. There is also scope for cruise tourism, medical tourism, Cultural tourism, and Adventure tourism in Goa. With an extensive coast line, water sports are having much scope. The rivers in Goa are suitable for rafting, canoeing and kayaking. The land area of Goa is suitable for trekking, rappelling, biking, bird watching, jeep safaris or wild life safaris. Other adventure activities that are having scope in Goa include dolphin cruises and crocodile spotting, island trips, paragliding and para sailing.

## **IX.5. Forest Resources:**

The state of Goa is endowed with rich forests. More than 33% of its geographical area is covered by forest occupying 1224.46 sq. kms of which, reserved forests constitute 20.67 percent and about 65 percent has been declared as Protected Area (PA) encompassing one



National Park at Mollem (107 sq. kms.) and six Wildlife Sanctuaries (755 sq. kms.) In terms of density, the State has 543 sq. kms. of very dense forests, 585 sq. kms. of moderately dense forests and 11 sq. kms. of open forests.

An area of 338.75 Ha of arid forest land has been brought under plantation in the State with 4.77 lakh seedlings of a variety of species including commercial species like Teak, Madat, Nano, Gothing, Assan, Terminalia, Mahagony, Bamboo and Cashew.

The State Government has banned cutting of trees as a measure to conserve forests. Hence there is not much scope for wood based industries.

To promote eco-tourism in the State, infrastructure has been upgraded in terms of improvement of forest roads, construction of wooden bridges and embankments to facilitate better movement of the eco-tourists, maintenance and better accommodation facilities at the eco-tourism complex and eco-villages etc. There is scope for various activities related to ecotourism.

## **IX.6. Human Resource:**

The state has achieved universalization of elementary education. Several steps have been taken by the Government to improve the quality of education at all levels by introducing modern e-learning and teaching aids in its educational Institutions. To create Smart classrooms, schools are being provided with internet connectivity and online access. 10 smart class rooms utilizing ICT are being set up in Engineering, Pharmacy colleges and Polytechnics in the State on a pilot basis. The Government is in the process of setting up NIT-Goa, IIT-Goa and create an educational hub in the State.

Details of education Institutions and enrollement in Goa until 2013 is shown in the Table below.

**Table 19: Details of education Institutions and enrollement in Goa until 2013**

Sl.No.	Educational Institutions	No.	Enrolment
1	Primary level	1234	98,724
2	Middle level	441	72,529
3	Secondary level	395	73,529
4	Higher secondary level	92	30,465
5	Vocational and professional	31	8,641
6	University & Colleges for general education	25	18,931
7	University & Colleges for professional education	27	10183

*Source: Goa Economy in Figures 2014*

During 2014-15, 2403 students enrolled as trainees in 52 trades in 10 Government ITIs under Apprenticeship Training scheme.

In the year 2014, Employment Exchanges in the State had registered 21,945 persons, notified 4,308 vacancies, gave vocational guidance to 1,500 persons and made 1,753 placements.

Goa has the pre-requisites like highest literacy rates in the country and enough educated people conducive for setting up of IT Industry, Call Centre and other IT enabling service operations. The Government of Goa has taken the following steps to enable Promotion of Information Technology Industry in Goa namely setting up of Electronic Manufacturing Cluster (EMC) for the Electronic System Design Manufacturing (ESDM) at Tuem, Pernem, Goa over an area of around 5,00,000 sq. mts. under the EMC scheme of the Department of Electronics and Information Technology, setting up of IT Park at the Kadamba Plateau, Tiswadi, Goa over an area of around 4,50,000 sq.mts. The proposed IT Park / EMC will include all types of businesses from IT and ITES sector. Viz. Software Development, BPO, KPO, Hardware Manufacturing, IT Training Institutes etc.

## **X. Illustrative List of Potential Activities:**

The below mentioned products/ activities are given taking into consideration the factors such as availability of material resources and demand for the products/activities. The activities are both in the Manufacturing and Servicing Sectors. The list is illustrative and suggestive only.

### **X.1. Agricultural Resource based Activities:**

- **Based on Coconut**

1. Preservation and packing of tender coconut water in pouches and aluminium cans
2. Snow ball tender nut
3. Coconut water concentrates
5. Coconut jelly
6. Coconut vinegar
7. Desiccated coconut
8. Coconut chips
9. Bottled coconut milk
10. Coconut cream
11. Virgin coconut Oil
12. Coconut shell powder
13. Coconut shell charcoal
14. Activated carbon
15. Coconut shell based handicrafts.

- **Based on cashew apple**

1. Cashew apple Juice
2. Cashew apple juice concentrates
3. Cashew apple preserve and candy
4. Cashew apple jam
5. Cashew apple pickle
6. Cashew feni

- **Based on Jackfruit**

1. Ready to use chopped Jackfruit, packed in LDPE pouches.
2. Jackfruit Pickle.
3. Jackfruit Pappad, pakoda, chips
4. Jackfruit Halwa, Jam, Wine, Squash.

- **Based on Arecanut leaves**

Disposable cups and plates

- **Based on Mangoes**
  1. Frozen mango pulp
  2. Mango bar
  3. Dehydrated mango powder
  4. Dehydrated ripe mango slices
  5. Mango pickle

## **X.2. Activities under Horticulture**

1. Flower bouquets making
2. Polyhouses for
  - a. flowers like orchids, gerbera, chrysanthemum, anthurium,
  - b. vegetables like capsicum, cucumber
3. Fruits and spices cultivation
4. Vegetable cultivation
5. Mushroom Cultivation

## **X.3. Fisheries related activities**

1. Value added fish products
2. Brackish water prawns farming
3. Fresh water fish culture

## **X.4. Animal Husbandary related**

1. Dairy farming
2. Calf rearing
3. Modern dairy units

## **X.5. Tourism related activities:**

1. Erection of shacks, tents, huts to entertain tourists
2. Cruise tourism
3. Medical tourism
4. Cultural tourism
5. Adventure tourism
  - a. in water like water sports
  - b. in land area like trekking, biking, wild life safaris.
6. Dolphin cruises and crocodile spotting, island trips, paragliding and parasailing.
8. Ecotourism

## **X.6. Based on Human Resource:**

1. Call Centre and other IT enabling service operations.
2. Software Development
3. BPO
4. Hardware Manufacturing
5. IT Training Institutes etc.

## **X.7. Demand based activities:**

1. Bread & Bakery products
2. Masala Powder
3. Packaged Drinking Water
4. Cold Drink and Aerated Water
5. Paper Bags
6. Paper disposable cups/plates
6. Uniforms for Hotels & Restaurants and Industry
7. Consumer Chemical Products like Phenyl, liquid soap, floor cleaner, Air fresheners, naphthalene Balls,
8. Decorative Candles
9. Handicrafts including terracotta, sea-shell products.
10. Cotton & Jute Bags
11. Artificial/imitation jewellery
12. Herbal Products
13. Modular Kitchen

## **X.8. Service units:**

1. Photography units
2. Beauty parlours
3. Xerox centres
4. Tailoring units
5. Mechanical workshops
6. Hiring of sound system
7. Tourist taxi.
8. Cleaning activities.
9. Power laundry
10. Vehicle Service Station
11. Event Management Services
12. Fast Food Kiosks
11. Tourist information and support services
12. Interior Design Services
13. AC Servicing & Repair Workshop
14. Fitness Centres/Gyms
15. Paying Guest Services
16. Packet Meals Services
17. Aquarium
18. Crèches

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