

CHAPTER - VI

INDUSTRIALISATION IN ORISSA: STRUCTURE, POLICY AND PROSPECTS

This chapter presents an expository analysis of the structural aspects of Orissa's industrialisation using the conventional tools of empirical study and an inter-regional framework. The implications of the recent industrial policies of the state and the prospects of industrial growth have also been discussed. Special emphasis has been given to the developments since the mid-1980s during which India is said to have embarked on the path of radical economic reforms.

Though Orissa is predominantly an agricultural region, a major alternative source of augmenting economic activity as well as generating greater income with a high degree of employment, eventually lies in the growth of the industrial sector. Agricultural restructuring, that would relieve the farm sector of both the factors and techniques of production operating within a traditional socio-economic framework, is surely the most sensible way-out for the development impasse in the state. Nevertheless, the role of industrialisation is certainly of crucial importance, as far as optimum utilisation of natural resources and generation of gainful local employment are concerned.

Accounting for a meagre share of barely 2 per cent of the industrial output, employment and manufacturing value added at the national level (as per the *Annual Survey of Industries: Factory Sector 1997-98*), Orissa continues to rank as one of the least industrially developed states in India, notwithstanding the claims and efforts during half a century of planned development and a decade of reforms.

An inter-state comparison of levels of industrialisation in terms of the share of value added in factory sector is shown in Table- 6.1. The predominance of only five states (Maharashtra, West Bengal, Gujarat, Tamil Nadu and Uttar Pradesh) which constituted over 55 per cent of national

industrial income in 1960-61, has been maintained all through. [1] The recent achievers have been Andhra Pradesh and Rajasthan, and Kerala a remarkable loser. It is important to note that Assam and Orissa have remained at the lowest rungs, with Orissa suffering the status of the least industrialised state among the 15 major states of India throughout the period 1960-61 to 1986-87; only recently there is a marginal improvement in its relative position. As is clear, the share of Orissa in all-India value added has practically remained unchanged at about 2 per cent 1970-71 onwards. It is particularly disappointing to note that with reference to its population base (about 4 per cent of national total) the state has failed to create a sustainable industrial base. Even the per capita value added in manufacturing of the state is the lowest among the major states.

Table - 6.1

Inter-State Disparity in Levels of Industrialisation : 1960-61 to 1997-98

States	Share (%) in value added in factory sector									
	1960-61		1970-71		1980-81		1986-87		1997-98	
	Share	Rank	Share	Rank	Share	Rank	Share	Rank	Share	Rank
Maharashtra	26.7	1	26.8	1	25.0	1	23.8	1	21.7	1
Tamil Nadu	7.9	4	9.8	4	10.3	3	10.4	2	8.7	4
Gujarat	10.5	3	9.1	3	9.5	4	10.2	3	9.2	2
West Bengal	20.5	2	13.6	2	11.5	2	7.8	5	6.2	6
Uttar Pradesh	6.3	6	6.6	5	6.3	5	9.1	4	9.2	3
Madhya Pradesh	2.4	12	3.6	9	5.0	7	4.3	9	5.5	9
Andhra Pradesh	3.1	8	4.0	8	4.9	8	5.4	7	7.4	5
Bihar	6.5	5	5.5	7	4.2	9	5.6	6	6.0	7
Karnataka	3.2	7	5.7	6	5.1	6	5.0	8	5.5	8
Punjab	3.0*	10*	2.3	11	3.2	11	3.1	11	3.0	12
Haryana	--	--	2.2	12	2.9	12	2.9	12	3.0	11
Kerala	2.7	11	2.9	10	3.3	10	2.7	13	2.1	14
Rajasthan	1.0	13	2.1	13	2.8	13	3.3	10	3.5	10
Assam	3.0	9	1.4	14	1.1	15	1.9	14	Neg.	15
Orissa	0.9	14	1.9	15	1.7	14	1.6	15	2.4	13

Source: CMIE (1990) and *Annual Survey of Industries 1997-98: Summary Results for Factory Sector*.

Note: * Includes Haryana.

INDUSTRIAL STRUCTURE

Base and Composition

In order to identify the industry-wise locational status (and its potential for higher growth rate) in Orissa we have tried to analyse the industrial base of the state vis-a-vis that of all-India. [2] The relative shares of different industry groups (at 2-digit level of NIC) in total industrial employment and net value added originating in the factory sector of Orissa during 1966-89 (annual averages) and in 1997-98 are presented in Table-6.2. In 1997-98, close to two-thirds of total industrial employment and above 80 per cent of net value added have been accounted for by only four major industry groups, namely, Electricity, Basic metal and alloys, Non-metallic minerals and Food products. Other important sources of employment come from Paper and paper products and Cotton textiles industries. Similarly, considering the share of value added to the total, the other important industries are: Chemicals and chemical products and Paper and paper products.

It may be useful to note that there is hardly any difference in the first five major industry groups between 1966-89 and 1997-98, so far as their shares in employment and net value added are concerned. The shifts can be considered important, between the two time periods, relate to i. decline in value addition in Cotton textiles (23); ii. improvement in industry group 31, mainly coal sector; and iii. a phenomenal rise in the employment and net value added in the Electricity (40) sector. But as the last mentioned group can only be classified as a service industry, the manufacturing activities in the state, it may be surmised, have hardly diversified. In other words, the state's industrial structure has been primarily concentrated in natural resource based industries.

It is to be noted that even with the predominance of Electricity, Basic metal and alloys and Non-metallic minerals group of industries, the Engineering goods industry (comprising 34, 35, 36, 37 and 38 of NIC codes) has practically been negligible both in its share in employment (about 6 per cent) and the share in value added (only 3 per cent). Generally, engineering industries act as stimulant to technical progress and industrial dynamism. The thin share of this industry in the total industrial sector points to the eventual backwardness of the state's industrialisation. In fact, it is neither necessary nor possible that all regions develop all types of industries. In a multi-regional economy with mobility of factor inputs, the industrial composition of a regional economy will have a tendency to specialise in certain activities depending upon its natural resource base, localisation economies and the local demand base. In any case, inter-regional balance will require a

diversified industrial base of each region in order to ensure the required growth stimuli through inter-industry linkages and agglomeration economies. That Orissa's factory sector is predominantly accounted for by large scale natural resource-based industries and ancillary industrialisation is of a very insignificant nature, reflect the passive industrial base of the economy.

Even, on the basis of location quotients it is found that the state has a higher than unity point in industries directly linked to locally available natural resources: metals and minerals, forest produce and water (for electricity generation). The above is true both in terms of employment and also value added. However, the engineering goods industries do not have a "fair" share. Even when agriculture constitutes as high as 60 per cent of the Net State Domestic Product (NSDP) and provides for three-fourths of the total employment, agro-based industries, such as Food products (20-21), Beverages (22), Textiles (23) and Textile products (26) [3] do not also have a "fair" share in terms of locational advantages. This implies that the local demand for both Engineering goods as also Agro-industrial products, given a wide resource base, is to a large extent met by imports from other Indian states and abroad.

As the process of industrialisation gains momentum, one expects the industrial base of the region to get diversified. However, that does not seem to have occurred here. In fact, going by the specialisation coefficients, Orissa has a highly concentrated industrial base as compared to major states (excepting Assam). It is important to note that the specialisation coefficient went down slightly from 0.601 in 1965 to 0.566 in 1978 and further increased substantially to 0.730 in 1986-87. [4] This indicates that the policies and processes of industrialisation have essentially thwarted the diversification of the industrial structure in Orissa.

Table – 6.2
Industrial Base of Orissa: 1966-98
(Percentages to respective All Industries Totals)

NIC Code	Industry	Employment		Net Value Added	
		1966-89**	1997-98	1966-89**	1997-98
20-21	Food products	9.19	8.14	3.95	4.10
22	Beverages	1.28	1.05	0.71	0.27
23	Cotton Textiles	9.43	6.51	4.68	0.55
24	*		1.45***		0.12***
25	Jute textiles		1.67		0.22
26	Textile products	0.13	0.59	0.03	0.10
27	Wood & products	3.72	1.13	1.25	0.21
28	Paper & products	13.38	6.91	12.42	2.52
29	Leather & prod.*		0.05***		0.64***
30	Chemical & prod.	3.48	5.60	2.48	0.89
31	Rubber, petrol.etc	0.26	2.90	0.16	3.97
32	Non-met. mineral	11.58	9.02	11.67	6.06
33	Basic met. & alloy	36.53	27.25	50.89	19.82
34	Metal products	1.94	2.66	1.18	0.56
35-36	Ele.Non-ele mach.	3.24	2.65	4.67	2.09
37	Transport equip.	0.70	0.17	0.29	0.05
38	Other manu.	5.13	0.14	5.60	0.01
39	Repair cap goods*		1.63		0.52
40	Electricity*		19.67		56.97
74	Stor. & warehouse*		0.14		0.05
97	Repair services*		0.66		0.28
All Industries		100.00	100.00	100.00	100.00

Sources: For 1966-89, Vyasulu and Kumar (1997: M 46, Table 1.2) and for the rest
Annual Survey of Industries 1997-98, Summary Results for Factory Sector.

Notes: *These industry groups have not been included in Vyasulu and Kumar (1997).
This omission not only renders the industrial base incomplete (if not erroneous),
but also restricts the scope for a meaningful and appropriate comparison of the
respective figures with those of other years, here 1997-98.

** Annual averages

*** data relate to 1996-97

Given the composition of industrial sector in Orissa in terms of types of industries, the absence of diversification over time, the pattern of aggregate growth rate and its divergence from the national

pattern observed all through only speaks about the gross injustice meted out to the state through the negative dynamics of a competitive federal set-up and also the blatant absence of state's own perspective and perseverance of a pertinent industrialisation strategy. Interestingly, the important national debate on the industrial stagnation since the mid-1960s[5] does not particularly apply to Orissa. Firstly, it has been observed that the decline in the country's industrial growth rate was largely restricted to certain product groups, mainly of the engineering industry. Understanding that the engineering industry hardly forms any significant proportion of the state's industrial structure, the stagnation would not have affected its industrial growth. Secondly, there was a significant decline in the metal-based industries, which happened to be the most important major industry in the state. However, even after the recovery started after the mid-seventies these industries, mainly the iron and steel industry, have not shown any sign of a positive change. Again, the consumer non-durables sector (of which agro-based industries form a large share) which was stagnating roughly between 1965 and 1975 has since then picked up its tempo at a national level. However, this again is another set of industries in which Orissa does not have any important share.

What, however, has been found over the period 1960-98 is that the industrial sector has perpetually stagnated and, in fact, between 1971 and 1987 there had been a negative change in this sector and the eighties experienced a declining trend in its share in the state income. It is precisely in this context that the state's industrial structure needs to be looked into with special reference to the structural constraints within.

Decomposition of Net Value Added

An attempt has been made to estimate the industry-wise change in net value added in Orissa by decomposing into three components: a) national effect (the overall national industrial environment); b) industry effect (performance of the particular industry); and c) region effect (concerning specifically to the region of location, here Orissa). A modification of the widely used shift-share technique of forecasting in regional analysis, this method is based on Park (1988). [6]

A brief summary of the findings based on analysis of data of four sub-periods (1965-70; 1970-77; 1980-87 and 1997-98) may be stated as follows: Excepting Non-metallic minerals, for all the four major industries in the state the industry effect has remained lower than the region effect. This implies that the state is still predominant in those industries whose comparative performances vis-

a-vis other industries at a national level are not encouraging, despite their regional advantages and often favourable national industrial climate. The share of the fast growing industries like the Engineering goods and Chemicals (what we have called the crucial industries) has, of course, remained significantly low since mid-sixties.

Efficiency Indices

With a view to evaluate the relative efficiency of different industries at a regional level (with reference to the national average), the efficiency indices have been estimated based on a modified version of Kendrick's generalised productivity index, as presented by Townroe and Roberts (1980).^[7] It assumes that the cost of capital is uniform across regions within each industry, and it ignores quality differences in the factor inputs, referring only to the use made of those inputs. The index relates the net output in a region as a proportion of the national net output of the industry in relation to the share of that region in the utilisation of primary inputs in relation to the inputs used by the industry nationally. The average level of efficiency of each industry at the national level is obviously unity. A region has a higher than average (national) level of efficiency if the index is greater than unity and *vice versa*.

The values of efficiency indices for the 2-digit level industries in Orissa have been presented in Table- 6.3, for three time points, 1976-77, 1980-81 and 1986-87. Allowing for minor irregularities in the values, the relative efficiency of the following industries has generally remained above the national average: three major industries (Paper and paper products, Non-metallic minerals, and Basic metal and alloys) and one crucial industry (Beverages and tobacco). This again indicates that the state has relatively greater advantages in natural resource based industries. The fact that the crucial industries have hardly been developed in the state is reflected in the fairly low values of their respective efficiency indices.

Table – 6.3
Efficiency Indices: 1976-98

NIC Code	Industry	1976-77	1980-81	1986-87	1997-98
20-21	Food products	0.77	0.83	0.85	
22	Beverages	0.98	1.07	1.02	
23	Cotton Textiles	0.78	1.01	0.72	
25	Jute textiles	0.56	0.75	0.72	
26	Textile products	0.80	0.89	0.79	
27	Wood & products	1.97	1.01	1.02	
28	Paper & products	--	0.49	0.59	
29	Leather & products	0.27	0.52	0.46	
30	Chemical & products	1.01	0.88	0.94	
31	Rubber, petrol.etc	1.11	0.99	1.05	
32	Non-met. Mineral	1.16	1.32	1.20	
33	Basic met. & alloy	0.69	0.66	0.80	
34	Metal products	1.03	1.09	1.00	
35	Non-ele mach.	0.85	0.92	0.78	
36	Ele. Mach.	0.61	0.61	0.47	
37	Transport equip.	0.19	0.65	0.38	
38	Other manu.	0.60	0.84	0.78	
40	Electricity	0.60	0.84	0.78	

Source: Estimated from *Annual Survey of Industries*, relevant volumes.

STRUCTURAL VARIABLES

In order to comprehend the nature of industrial backwardness of the state it will be useful to examine some of the structural ratios and technical coefficients in the factory sector (2-digit level) at both state and national levels (Table-6.4). The capital-intensity (as reflected by capital-labour ratio or, fixed capital per employee) clearly suggests that the state is dominated by more capital-intensive industries as compared to all-India. The industries with high capital-intensity include groups such as 20-21, 23, 26, 27, 28, 30, 39 and 40. The capital-output ratio (fixed capital per unit of value added) is much higher in the overall industrial system and particularly high in the state's two major industry groups, namely, Basic metal and alloy (33) and Paper and paper products (28).

Further, high capital-output ratio is observed in other crucial groups of industries, for instance, Engineering goods (34, 37, 38 and 39) and industry groups 26, 27 and 30. This

Table – 6.4

Structural Ratios and Technical Coefficients, ASI Factory Sector: 1997-98

NIC	Orissa All India	FK/EMP (Rs.)	NVA/EMP (Rs.)	WG/WK (Rs.)	FK/NVA	FK/VO	NVA/VO	TE/NVA
20-21	O	185711	104891	17182	1.77	0.26	0.15	0.21
	I	159706	86818	22562	1084	0.21	0.11	0.33
22	O	53476	53999	15925	0.99	0.14	0.14	0.35
	I	66956	64103	14471	1.04	0.27	0.26	0.27
23	O	43855	17417	22029	2.52	0.47	0.19	1.44
	I	220149	61660	32420	3.57	0.43	0.12	0.59
25	O	76730	27258	21874	2.81	0.60	0.21	0.90
	I	37595	54587	46094	0.69	0.23	0.34	0.87
26	O	119267	35244	14039	3.38	0.54	0.16	0.49
	I	109431	84785	24397	1.29	0.23	0.18	0.35
27	O	196359	38592	17371	5.09	0.70	0.14	0.61
	I	104368	47813	18501	2018	0.40	0.18	0.46
28	O	611634	75985	44260	8.05	1.56	0.19	0.63
	I	351270	104139	45196	3.37	0.63	0.19	0.52
30	O	1115050	33013	60069	33.78	0.85	0.03	2.08
	I	677388	221109	47291	3.06	0.34	0.11	0.26
31	O	217825	284505	44211	0.77	0.16	0.21	0.17
	I	839631	293799	52610	2.86	0.56	0.20	0.24
32	O	416393	139686	32889	2.98	0.74	0.25	0.29
	I	474468	125545	30224	3.78	0.83	0.22	0.31
33	O	520975	151301	78660	3.44	0.54	0.16	0.59
	I	909043	297499	61713	3.06	0.65	0.21	0.24
34	O	114392	44171	29082	2.59	0.44	0.17	0.81
	I	218990	110912	39248	1.97	0.33	0.17	0.44
35-36	O	162905	163734	33783	0.99	0.28	0.29	0.28
	I	250341	200613	56669	1.25	0.27	0.21	0.36
37	O	88925	57003	44292	1.56	0.57	0.36	0.79
	I	277522	179697	65145	1.54	0.31	0.20	0.43
38	O	33333	15079	18462	2.21	0.39	0.18	1.39
	I	205617	157498	43344	1.31	0.28	0.21	0.34
39	O	158266	66397	56667	2.38	0.77	0.32	0.93
	I	56329	72249	50084	0.78	0.21	0.27	0.73
40	O	2606417	602320	66090	4.33	2.03	0.47	0.13
	I	1118519	252536	62312	4.43	1.32	0.30	0.30
74	O	316863	73725	15179	4.30	1.06	0.25	0.28
	I	165513	49143	21706	3037	0.63	0.19	0.52
97	O	184768	88245	36667	2.09	0.10	0.05	0.42
	I	90493	105115	45895	0.86	0.06	0.07	0.50
Total	O	850694	209574	51814	4.06	1.02	0.25	0.29
	I	424673	157113	41496	2.70	0.51	0.19	0.33

Notes: FK - Fixed Capital; EMP - No. of Employees; WG - Wages; NVA - Net Value Added;
VO - Value of Output; WK - Number of Labuorers; TE - Total Emoluments

prima facie reflects poor capital-productivity both in major industries as well as other crucial industries as compared to their national counterparts. Even when one measures capital-productivity by fixed capital per unit of gross value of output the pattern is practically no different. It is to be noted that the differential between the region and the country is quite substantial and deserves special attention.

Essentially, it suggests that most of the major and crucial industries as have higher capital-output ratios, the region suffers locational disadvantages (compared to the nation) in those specific industries. However, as is well known, merely on the basis of capital-output ratios one cannot make conclusive remarks regarding the efficiency of the industrial system. Eventually, one has to examine the aspects of cost-structure and returns to investment.

Cost Structure and Profitability

The locational advantages/disadvantages for specific industries could be ascertained in terms of total costs and their components. Through this it would be possible to distinguish between physical factor productivity and factor prices for each component of total cost of those industries which have a location quotient less than unity in a given region. This will help understanding whether the lack of a "fair share" of a given industry in a given region is due to its locational cost disadvantages. Ideally, such an analysis would involve cost-output time series data from units of different sizes in a given region. As an alternative method [8], a static comparison of the industry-level cost structure in Orissa with that of the country has been made using ASI factory sector data for 1997-98. Table-6.5 indicates that the region's industrial system is in a disadvantageous position in terms of fuel, inputs other than material cost, interest and depreciation. It is, therefore, no surprise to find that in a number of industries the profitability (profit as a proportion of invested capital or value of output) is either negative and/or lower than that of the respective group at the national level. The industry groups where losses were incurred include Cotton textiles, Wood products, Paper and paper products, Rubber, petroleum and coal products, Metal products and even Basic metal and alloys. In Non-metallic minerals the profitability was below the corresponding national figure.

In an inter-state analysis of the cost and profitability components for the year 1986-87 it is seen that Orissa has notable cost disadvantages in terms of fuel, other inputs, payments to employees, interest and depreciation. The only advantages are in rent and material costs. The cost disadvantages have been so high that the profit as a proportion of value of output carries a negative sign, making it the most cost ineffective state among the major Indian states. In terms of profitability the status is no better than the above. Of the major industries, with the exception of Non-metallic minerals (which made significant profit) and Basic metal and alloys, the rest three Electricity, Paper and paper products and Textiles incurred net losses. Again, with the exception of Metal products (34) and Non-electrical engineering goods (35), both the Engineering goods (36, 37 and 38) and Chemical industries (31) suffered significant losses depressing them far below the corresponding national figures.

Table – 6.5
Cost and Profitability in Orissa and India, ASI Factory Sector: 1997-98

NIC	Orissa All India	TE/VO	INT/VO	TI/VO	P/VO	P/IC
20-21	O	0.03	0.04	0.83	0.07	0.13
	I	0.04	0.04	0.87	0.03	0.06
22	O	0.05	0.01	0.84	0.07	0.25
	I	0.07	0.03	0.71	0.14	0.31
23	O	0.27	0.14	0.78	-0.29	-0.39
	I	0.07	0.06	0.84	-0.03	-0.05
25	O	0.19	0.03	0.75	-0.06	-0.07
	I	0.29	0.02	0.65	-0.02	-0.05
26	O	0.08	0.10	0.81	-0.03	-0.04
	I	0.06	0.03	0.80	0.05	0.11
27	O	0.08	0.13	0.71	-0.09	-0.08
	I	0.08	0.08	0.78	0.01	0.01
28	O	0.12	0.09	0.77	-0.06	-0.03
	I	0.10	0.05	0.77	0.00	0.00
30	O	0.05	0.07	0.94	-0.11	-0.09
	I	0.03	0.04	0.86	0.03	0.07
31	O	0.04	0.03	0.78	0.08	0.25
	I	0.05	0.05	0.77	0.08	0.11
32	O	0.07	0.13	0.70	0.03	0.03
	I	0.07	0.09	0.71	0.04	0.04

33	O	0.09	0.08	0.78	-0.03	-0.03
	I	0.05	0.07	0.74	0.08	0.09
34	O	0.14	0.17	0.80	-0.16	-0.20
	I	0.07	0.05	0.80	0.02	0.04
35-36	O	0.08	0.03	0.69	0.15	0.30
	I	0.08	0.04	0.76	0.07	0.14
37	O	0.29	0.01	0.51	0.06	0.09
	I	0.09	0.03	0.76	0.06	0.08
38	O	0.25	0.03	0.75	-0.29	-0.39
	I	0.07	0.04	0.76	0.08	0.17
39	O	0.30	0.01	0.65	0.00	0.00
	I	0.20	0.00	0.71	0.05	0.18
40	O	0.06	0.13	0.42	0.27	0.13
	I	0.09	0.13	0.62	0.06	0.04
74	O	0.07	0.18	0.67	-0.02	-0.02
	I	0.10	0.07	0.74	0.01	0.01
97	O	0.02	0.01	0.95	0.02	0.11
	I	0.04	0.02	0.92	0.01	0.04
Total	O	0.07	0.09	0.68	0.07	0.06
	I	0.06	0.06	0.77	0.05	0.07

Notes: VO - Value of Output; TE - Total Emoluments; INT – Interest Paid;
 TI – Total Inputs;
 P – Profits; and IC – Invested Capital

An earlier analysis of industrial growth and structure of Orissa by Vyasulu and Kumar (1997), based on ASI data for the period 1966-89, has also highlighted the limited growth of dominant industrial groups, within which only a few large units have contributed the maximum. The increase in growth rates in value addition and fixed capital without commensurate rise in employment and number of units in the registered sector was seen as a disturbing feature of the industrial structure. So far as labour and capital productivities were concerned, all major groups of industries experienced positive growth over the entire period, particularly, in the seventies. Absence of both the diversification in industrial structure and regional dispersal of industries was found to be the critical problem.

SMALL ENTERPRISES: PERFORMANCE AND POTENTIAL

Promotion of small enterprises remains the crucial mechanism not only to generate large scale employment and ensure a high degree of self sufficiency but also to actually help reducing inter-district disparities in growth. It is important to note that due to the policy efforts during the eighties, substantial growth had occurred in the small scale sector, as can be gauged from Table- 6.6. In fact, the state ranked first in the country in terms of number of units set up in rural areas through DICs during 1979-90.[9] It was held, however, that even this "meteoric" rise in the small scale sector in *rural* areas was not adequate to have benefited the industrially most backward districts, such as Phulbani, Bolangir, Kalahandi, Koraput, Mayurbhanj and Kendujhar. Only three coastal districts of Cuttack, Puri and Ganjam accounted for over 40 per cent of total number of units, 45 per cent of invested capital and nearly 40 per cent of employment during 1987-88. But as has been pointed out, the state's efforts at small enterprise promotion had been quite commendable during the eighties. Except in case of capital investment, the inter-district disparities in both the distribution of units and employment generation, with reference to population shares, have been much less.[10]

The nineties, however, failed to pay proper attention to this vital sector of industrial development. The neglect is obvious from Table- 6.6. Whereas during the 1980s (between 1979-80 and 1989-90) the growth record of small firms was remarkably impressive (with four fold increase in the number of units, above six fold increase in capital invested and about four fold rise in employment generated), the much hyped reforms era witnessed an insipid growth. The neglect of the small enterprises is one of the most unfortunate features of Orissa's industrialisation during the 1990s, especially at a time when even industrially advanced nations have realised the tremendous potential of this sector. With growing industrial sickness in the state [11], sector and area specific strategies to promote small enterprises so as to make them competitive and viable are designed on a priority basis.

Table – 6.6
Status and Growth of Small Enterprises in Orissa, 1979-97

(Cumulative figures)

Year	Units		Investment		Employment	
	Number	Average Annual Growth Rate (%)	Amount (Rs. Lakh)	Average Annual Growth Rate (%)	Number	Average Annual Growth Rate (%)
1979-80	9119	--	6894	--	75798	--
1989-90	35867	26.67	43726	48.57	265332	22.73
1996-97	52709	6.71	90890	15.41	365429	5.39

Source: Directorate of Industries, Orissa, Cuttack and *Economic Survey 1997-98*.

REGIONAL CONSTRAINTS

It is of utmost importance to mention here that the persistent backwardness (and the often negative growth rate) of the industrial sector has to be understood in terms of region-specific factors. The question that must be asked is why a certain region, notwithstanding its richness of resources - both natural and human, has perpetually remained at the lowest rung of industrialisation and no diversification in the industrial structure has taken place during over three decades of efforts at reducing disparities through stress on industrialisation in the backward areas. It is particularly significant to find as to why a state's major industries (constituting more than three-fourths of the total) based practically on locally available natural resources have not diversified to related industries, for example, engineering goods, chemicals, food products and wood based industries. The problem, from the angle of region specific demand and supply constraints, is dealt with in the following.

Demand Aspect

As regards lack of local demand a few major aspects may be mentioned. In the first place, the single most significant sector that generates about two-thirds of total state income and provides employment, directly or indirectly, to three-fourths of its population, is agriculture. As is well known, besides being the predominant source of livelihood, this sector's growth determines demand for both consumer goods and services through a variety of linkages. Particularly, the demand for industrial goods by the massive rural population is to a great extent dependent upon increased income from agriculture.[12] Similarly, a growing agriculture enhances demands for production inputs and supplies raw materials to processing, transport and marketing units. Further, the rural non-farm activity is closely linked to agriculture.[13]

The share of agriculture in the SDP at constant (1970-71) prices has been fluctuating and often declining, at least since the 1970s. In fact, from 63.1 per cent in 1971-72 it has come down to 61.2 per cent in 1981/82 and to 60.2 per cent in 1986/87. Moreover, the rate of fall of income from agriculture in the state is much higher than that at the national level.[14] It is to be noted that even in a situation of shrinking share of agriculture in the SDP, the proportion of agricultural workforce (cultivators and agricultural labourers) to total population has hardly declined over the period of three decades: 73.8 per cent for 1961, 77.4 for 1971, 74.7 for 1981 and 73.1 per cent for 1991.[15] This is an alarming situation implying a relative reduction in per worker income compared to the other sectors. The most striking aspect of the workforce is the tremendous growth of the agricultural labourers, both in absolute and relative terms. Their proportion in the total main workers has steadily increased from 17.0 per cent in 1961 to 28.9 per cent in 1991.[16] These are significant trends depressing the income of three-fourths of the total workforce.

The pattern of land ownership largely determines the extent of gains that could be derived from the sector through advanced technology and scientific farm management. However, whereas the area of operational holding has dwindled by about 18.4 per cent between 1970-71 and 1985-86, the marginal and small farmers (landholding below 2 hectares) continue to account for three-fourths of the total farmers cultivating about 40 per cent of the total operational area, over the period 1970-86.[17] This has seriously constrained any scope for modernising agriculture and resulted in poor land management and low productivity. Besides, the utter inadequacy of the crucial input of irrigation has severely impaired agrarian development in the state.[18]

Regarding the current state of agriculture in Orissa it has been observed that "no remarkable attention has been given to agriculture which is almost primitive, dependent on the vagaries of the weather; starved of inputs; modern technology and marketing facilities. All these factors are responsible for low productivity"[19]. Further, the agro-based industries, particularly, Food products (20-21), constitute a meagre share both in terms of employment (5.6 per cent) and value added (2.8 per cent), as in 1986-87 in the factory sector of Orissa.

In an interesting paper Prasad (1989) argues that first, resource transfer from the Centre to the poor states (through mainly, Finance Commission awards, Plan assistance, investment by non-departmental public sector undertakings, the Central and Centrally-sponsored schemes and

public sector financial institutions (excluding commercial banks)) "has hardly been adequate" and the "structure of per capita incomes of the states over time shows that regional inequality has been rising".[20] Secondly, "while the `rate of tax' of the rich states are not commensurate with their high incomes, ... the poor states' effort goes beyond their means... Bihar, Orissa and Madhya Pradesh (belonging to the poor states set) *tax at a rate higher than the desired level and still fail to attract adequate resources through the institutions created for this very purpose.* This excessive burden of tax... curbs the... entrepreneurial effort and investment to develop trade and industry and, therefore, proves to be counter productive".[21] This observation is further corroborated by the fact that even with a very low taxable capacity, due mainly to the pervasive poverty in the state, [22] Orissa has certainly made efforts to generate resources within, while, going by the ratio of state's income has, in fact, been relatively higher than those of some of the advanced states.[23]

Entrepreneurship

In an economy like that of Orissa where the rate of saving is far too below compared to those in the rich states, the private investment cannot be expected to be of a high order. Moreover, since the savings of the poor states have a tendency to get invested in industrialised states (because they enjoy the benefits of external economies and concomitant high profits) the rate of private investment in Orissa would naturally be lower than that in advanced states. Even in terms of share in both large and small scale industries in the private sector Orissa's position is deplorable and the lowest. The issue of lack of local entrepreneurial drive has often been pointed out as a main factor responsible for the dismal performance of the industrial structure in the state. It is well known that without proper infrastructural development, especially power and transport, and in the absence of an encouraging local demand base, attracting entrepreneurial involvement becomes both a difficult and non-viable proposition. Going by the index of relative development of infrastructure of 15 major states, Orissa's position has been one of the lowest all through.[24]

INDUSTRIAL POLICIES AND IMPERTINENT INDUSTRIALISATION

Starting in 1968, till the beginning of the Sixth Plan (i.e., 1980), a number of industrial policies[25] had been announced in the state, offering to promote small scale and village and khadi industries. However, those have been essentially *ad hoc* and *piece-meal* measures and lacked any

intelligible "vision" for the future industrialisation.[26]

Probably, the industrial policy resolution of 1980 was the most explicit in its objective to bring about rapid industrial development in the state. Launched on a grand scale, in an unprecedented populist style, the State Government announced to set up "one thousand industries in one thousand days with an investment of one thousand crore of rupees".[27] It provided for a large number of subsidies, procedural relaxations and various concessions to the intending entrepreneurs.[28] Furthermore, in 1986, offering a 'new deal' the State Government (with the same Congress Party in power) announced one more industrial policy whereby thrust was placed on developing sophisticated industries, technology upgradation, modernising existing units, developing functional industrial areas, improving technical and managerial skills and boosting entrepreneurship in the state. Special concessions were offered to women entrepreneurs and technically qualified SC and ST entrepreneurs.[29] Eventually, there was a phenomenal growth in the number of industrial units.[30]

The point, however, is that the absence of proper integration between the industry and agricultural sectors, with the latter languishing, could eventually thwart the effectiveness of even those policy measures giving major thrust on industrial development through various instruments and incentives. Further, within the state there was a tendency to concentrate the units and capital in advanced districts adding to intra-regional distortions in growth. A number of criticisms has been made regarding the project reports which were based on faulty data, improper analysis and escalating cost estimates. Given that a majority of the units had been started during 1980-85 and were at various stages of implementation, the 'new' package of incentives and concessional finance was to be made available to units started in or after 1986, rendering the earlier units deprived of the advantages. Such irrational policy measures have contributed to the growing industrial sickness in the State. Though the policy towards high-tech industries establishment was pursued, there was no proper integrated framework of coordination between these industries and the state of infrastructure, technical skill availability and resource generation position within the state.[31]

During the recent years, especially since the mid-nineties, much interest has been shown by

private investors, both Indian large companies and transnational companies, in investing in Orissa. Incidentally, Orissa has emerged as one the most preferred investment destinations in India. The proposed projects, involving massive capital investment, naturally concern industries based on mineral resources plentifully available in the state, namely, power, steel, pig iron, aluminium, oil refinery and fertiliser. Although actual investment could be much less than intended, the relevance of such mega/large scale industries growth for the common people of Orissa, who may not be 'eligible' to participate in the process of industrialisation, seems inexplicable. The very high degree of persistent poverty and dismal record in both social and crucial physical infrastructure shall eventually, come in the way of their involvement in the process of industrial progress. Questions have been raised if it is a sensible strategy by the State Government to offer large concessions in power and other areas, to attract foreign and domestic private investments and even encouraging privatisation of public sector units.[32]

POSSIBILITIES AND PROSPECTS

The above discussion brings out various aspects of the industrial economy of Orissa in an inter-regional framework. Through the adoption of conventional empirical techniques, it is found that Orissa's industrial structure has hardly shown any improvement compared to other states.

The presence of highly capital intensive industries with cost disadvantages in fuel, interest payment and depreciation has resulted in heavy losses in most cases. Further, the prevalence of low wages in most industries points to the low productivity of labour. A poor agricultural base implying meagre farm surplus has adversely affected the emergence of an active local entrepreneurial class and also has depressed rural income. The persistently disadvantageous position of the state all through the planned development phase raises basic questions of neglect and misdirected policies both of the Centre as well as the state itself.

Though a further disaggregated analysis both at industry as well as district levels would throw light on constraints and prospects of individual industries, even with the present exercise a few important policy implications may be noted.

- Lack of proper infrastructure, especially transport and power, has severely impaired both growth and diversification of industries in the state. A serious rethinking on the issue of greater use of power for the state's industrialisation rather than mere selling it is essential. Development of the hitherto neglected railways, connecting depressed regions and also mineral resources, shall activate the industrial sector. Further, the state must press for

enlarging its aviation sector which should connect the main metropolitan cities including Bangalore and Ahmedabad.

- A greater investment in agricultural development, in particular small and medium scale irrigation, would prompt higher production of food crops and also provide impetus towards cultivation of high-valued crops. This would help generate income in the rural sector and promote a viable rural industrial base.
- A dynamic small enterprise promotion policy for the state is a crucial need for future industrial development. In fact, an analysis of the factory sector at 3-digit level has also brought out the fact of the absence of notable shift towards down-stream production activities. Focusing on industrial clusters especially, supporting their technology upgradation and promoting external orientation shall be a potential area of intervention.
- As the state is endowed with a range of high-grade minerals, mere extraction, often through unscientific methods, and export in the 'raw' form have not generated adequate value added in the mining sector. Greater prospects lie in upgrading the mining activity to the status of manufacturing industry wherein mineral processing up to certain stages could be undertaken in the region. Further, due to the existence of large scale mineral-based industries, a highly promising area appears to be the engineering and machine tools industry. This, apart from creating substantial employment, would also help growth of the related service sector.
- Modern agro- and forest-based industries, for which there exists ample scope needs to be encouraged in the state.
- For new projects preference should be given to newer areas of industrial activities with special emphasis upon location in underdeveloped districts.

NOTES

- 1 A number of studies, focusing on the period anywhere between early 1960s and early 1980s, exist on regional industrialisation in India. Some of the important ones include, Dhar and Sastry (1969); Alagh *et al.* (1971a, 1971b and 1983); and Dholakia (1979 and 1989). All these studies confirm the fact that the relative positions of the states in regard to levels of industrialisation have virtually remained the same all through.
- 2 The original ideas of estimating locational advantages were developed by Florence (1948 and 1969) and many of his later studies.
- 3 Unless otherwise mentioned, all through this paper the numbers in brackets following industry names refer to the respective NIC Codes.

- 4 Estimated by using ASI factory sector data for the relevant years. For 1965 and 1978, see, Subrahmanian and Pillai (1986: 583); for 1986-87 by us.
- 5 For a comprehensive account of the debate, see, Ahluwalia (1985).
- 6 See, for details of methodology, Park (1988: 271-2).
- 7 For methodology details, see, Townroe and Roberts (1980: 48-52).
- 8 As has been presented in Subrahmanian and Pillai (1986).
- 9 See, for evidence, CMIE (1991), Table 9.28.
- 10 Meher (1993: 78-9).
- 11 As per Orissa State Financial Corporation, the number of sick units has risen from 985 in 1986-87 to 1331 by February 1990. See also, Panda and Meher (1992; 35).
- 12 For details, see, Rangarajan (1982).
- 13 Whereas a sizeable proportion of rural industries involves agro-processing and the manufacturing, repair and supply of farm inputs, "dominant sectors in the non-farm economy consist of trade and service establishments that cater largely to rural consumer demand." Hazell and Haggblade (1991: 515).
- 14 Whereas for all-India, the percentage share of agriculture in national income (at current prices) has fallen from 46.4 per cent (average of 1970-73) to 33.8 per cent (average of 1986-89), the same has declined from 63.8 per cent to 44.0 per cent for Orissa over the same period.
- 15 Compiled from Government of Orissa (1987) and Government of India (1991).
- 16 The absolute numbers have gone up from 13 lakhs to 30 lakhs during the same period.
- 17 In fact, the number of marginal farmers has witnessed a rise of about 30 per cent over the same period.
- 18 For details on this aspect, see, Reserve Bank of India (1984), Vol.I, Part I, esp. Ch.9, and Vol.II, Part III, pp. 135-6.
- 19 See, Government of Orissa (1985, 24). Also, see, Government of India (1985) for a better exposition of the issues.
- 20 See, Prasad (1989: 108-9).
- 21 *Ibid.*, pp. 117-8. Emphasis ours.

- 22 In fact, as revealed by the various National Sample Surveys (32nd round: 1977-78; 38th round: 1983; 42nd round: 1986-87; 43rd round: 1987-88; and 44th round: 1988-89) the per capita rural household consumer expenditure in Orissa has remained the lowest among all the major States. See, CMIE (1991), Table 14.7 for evidence. Also, the highest proportion (44.7 per cent in 1987-88) of population below poverty line is found in Orissa.
- 23 See, for instance, Kar (1989: 119-20). Also, for the State's own efforts to generate income, see, Wallich (1987: 102-5). Dar (1981) also provides similar evidence.
- 24 For evidence, covering the period 1966-90, see, CMIE (1991), Table 6.1. Also, the Report of the Eleventh Finance Commission.
- 25 The other important policy packages were announced in 1971 and 1977. One of the notable achievements during the seventies was the establishment of District Industries Centres (DICs) in all the districts. For a comprehensive account of state's industrial policies, see, Patnaik (1988: 111-22).
- 26 This was reflected in the substantial decline in the State's share in the national industrial output. From 2.5 per cent in 1965-66, it declined to 1.6 per cent by 1978-79.
- 27 This was a major political slogan which aroused hopes in the public for an industrialised Orissa, as if it was a 'miracle'. The then chief minister, J.B. Patnaik, had made this announcement.
- 28 These included expedite clearance of applications, One Point Contact Forum at IPICOL and DICs; 15 per cent investment subsidy up to Rs. 15 lakh, profit and sales tax relief and agreement to bear part of cost incurred for acquiring technical know-how as well as preparing feasibility reports.
- 29 See, document on Industrial Policy Resolution of 1986, Government of Orissa (mimeo).
- 30 During 1980-8, 113 medium and large industries with an investment of nearly Rs.300 crore went into production and another 67 units with an investment of Rs.251 crore were being implemented. Again, 102 new projects comprising sophisticated and high-tech industries, with an investment of Rs.1241 crore were being finalised. As of the latest formation, by 1988-89, there were 33,820 units in the small scale and unregistered sector with an invested capital of Rs.386 crore employing 2,51,237 persons. See, Panda and Meher (1992: 28-9).
- 31 For a critique of the Industrial Policy Resolutions in Orissa, see, Patnaik (1988: 122-9). See, also, Rath (1987).
- 32 See, Singh (1999).

REFERENCES

- Ahluwalia, I.J. (1985). ***Industrial Growth in India: Stagnation Since the Mid-Sixties***, Oxford University Press, New Delhi.
- Alagh, Y.K. *et al.* (1983). 'Indian Industrialization: Regional Structure and Planning Choices', ***Man and Development***, Vol.V, No.1, March.
- Alagh, Y.K. *et al.* (1971a). 'Inter-regional Industrial Structure in a Developing Economy: A Conceptual Frame with a Case Study', ***Journal of Regional Science***, Vol.II, No.3.
- Alagh, Y.K. *et al.* (1971b). 'Regional Industrial Diversification in India', ***Economic and Political Weekly***, Vol.VI, No.15, April.
- Centre for Monitoring Indian Economy (CMIE) (1990 and 1991). ***Basic Statistics Relating to the Indian Economy***, Vol.2: States, CMIE, Bombay.
- Dar, R.K. (1981). 'The Role of States in the Indian Planning System', in Mathews, R.L. (ed.). ***Regional Disparities and Economic Development***, Centre for Research in Federal Financial Relations, The Australian National University, Canberra.
- Dhar, P.N. and Sastry, D.U. (1969). 'Interstate Variations in Industry', ***Economic and Political Weekly***, Vol.IV, No.12, March.
- Dholakia, R.H. (1979). 'An Inter-state Analysis of Capital and Output in the Registered Manufacturing Sector', ***Indian Journal of Industrial Relations***, Vol.15, No.1, July.
- Dholakia, R.H. (1989). 'Regional Aspects of Industrialization in India', ***Economic and Political Weekly***, Vol.XXIV, No.46, November.
- Florence, P.S. (1948). ***Investment, Location and Size of Plant: A Realistic Enquiry into the Structure of British and American Industries***, Cambridge University Press, Cambridge.
- Florence, P.S. (1969). ***Economics and Sociology of Industry: A Realistic Analysis of Development***, C.A. Watts & Co. Ltd, London.
- Government of India (1985). ***Report of Study Group on Agricultural Strategies for Eastern Region of India***, Planning Commission, New Delhi.
- Government of India (1991). ***Census of India, Series I, India, Provisional Population Tables: Workers and Their Distribution, Paper-3 of 1991***, Registrar General and Census Commissioner, New Delhi.
- Government of Orissa (1985). ***Economic Survey (1983-84)***, Directorate of Economics and Statistics, Bhubaneswar.
- Government of Orissa (1987). ***Agricultural Statistics of Orissa***. Directorate of Agriculture and Food Production, Bhubaneswar.

- Government of Orissa (1997). **Annual Survey of Industries**, (Various volumes), Directorate of Economics and Statistics, Bhubaneswar.
- Hazell, P.B.R. and Haggblade, S. (1991). 'Rural-Urban Growth Linkages in India', **Indian Journal of Agricultural Economics**, Vol. XLVI, No.4.
- Kar, G.C. (1989). 'Economy of Orissa - Its Problems and Prospects', in Adiseshiah, M.S. (ed.), **The Economies of the States of the Indian Economy**, Lancer International, New Delhi.
- Meher, R.K. (1993). 'Industrialisation Drive and the Functioning of Small Scale Industries in Orissa', **Indian Journal of Regional Science**, Vol. 25, No. 2.
- National Commission on Development of Backward Areas (NCDDBA) (1981). **Report on Industrial Dispersal**, Planning Commission, New Delhi.
- Panda, R.K. and Meher, R.K. (1992), **Industrial Sickness - A Study of Small-Scale Industries**, Ashish Publishing House, New Delhi.
- Park, Se-Hark (1988). 'A Decomposition of Manufacturing Value Added and Structural Change by Industry and Region, 1963-80', **The Developing Economies**, Vol. XXV, No.3, September.
- Patnaik, S.C. (1988). **Industrial Development in a Backward Region: Dynamics of Policy**, Ashish Publishing House, New Delhi.
- Prasad, P.H. (1989). **Lopsided Growth: Political Economy of Indian Development**, Oxford University Press, Bombay.
- Rangarajan, C. (1982). **Agricultural Growth and Industrial Performance in India**, Research Report No. 33, International Food Policy Research Institute, Washington D.C.
- Rath, B. (1987). 'The Industrial Policies of the Government of Orissa: Progress and Prospects', **Orissa Economic Journal**, Vol. 20, Nos. 1 & 2.
- Reserve Bank of India (1984). **Agricultural Productivity in Eastern India**, Vols. I and II, RBI, Bombay.
- Singh, K. (1999). 'Industry Flocks to "Backward" Indian State', at <http://twinside.org.sg/title/1907-cn.htm>.
- Subrahmanian, K.K. and Pillai, P.M. (1986). 'Kerala's Industrial Backwardness: Exploration of Alternative Hypotheses', **Economic and Political Weekly**, Vol. XXI, No.14, April.
- Wallich, C. (1987). **State Finances in India, Vol.2 : Studies in State Finances**, World Bank Staff Working Paper No.523, World Bank, Washington D.C.