

Chapter – X

INDUSTRIALIZATION IN MANIPUR

10.1 Introduction

Manipur is an industrially backward state, but at the same time offers opportunities for the expansion of trade. The story of Manipur's industrialization is a story of missed opportunities. In the early 20th Century, even prior to the advent of motor vehicles in the state, it witnessed a brief period of industrial development. As a result of the development of the Imphal–Dimapur road (now NH 39) during the Second World War, the few infant industries in the state were hard hit by the inflow of cheaper goods from British India leading to their extinction. After the state's formation, the attempt to initiate the process of industrialization in the early 1970's was once again undermined by the opening up of the Indo-Myanmar border trade which led to the steady influx of cheap products from Southeast Asian countries. While initially the industries that closed down were iron, paper, glass, etc. this time round those that were unable to withstand the onslaught of competition included batteries, candle manufacturing, polythene bags industry, soap manufacturing, etc. Manipur's experience with industrialization might well have been very different had there been appropriate state intervention to protect the fledgling industry.

The constraints to industrialization in Manipur were:

- Inadequate availability, unreliability and poor quality of all infrastructural services like power, transport, roads, communication, credit and banking
- Shyness of capital and the tendency of the existing small class of moneyed people to extract, rather reinvest the profit earned
- Underdevelopment of entrepreneurial and technical skills
- Smallness of the domestic market and lack of access to markets outside the region
- Growing insurgency which discouraged investment and escalated costs

Detailed discussion on Manipur's infrastructure has already been undertaken in Chapter-IX. The local markets are controlled by outsiders. In the last 20 years the Manipur Chamber of Commerce, the apex body of trade and commerce, has had only one general secretary belonging to the indigenous communities in Manipur. One of the biggest problems faced by industries in Manipur is the limited size of the local market. Since the late 1970s insurgency in the state has spread to urban areas leading to blatant illegal collection of tax. Many ventures had to be closed down as a result. The incentives offered to hasten the pace of industrialization such as transport subsidy, capital loan, etc. have become ineffective and there is an overall reluctance to invest in industry.

Table 10.1 shows the comparative share of industry in NSDP of the states in NER. Manipur has the highest share in 2000-01, though it is below the national average. Between 1993-94 and 2000-01 its share rose by 38.27 per cent. Table 10.2 shows that if only manufacturing is considered, the share of Manipur comes second to Assam due to the high share of the construction sub-sector in Manipur. Table 10.3 shows that amongst the states in the region, Manipur had the biggest decline in the share of manufacturing by a hefty 43.74 per cent. In 1996-97, the state had the lowest share in the region.

Table 10.1: Evolving Share of Industries+ in Real NSDP

State	1993-94	2000-01
Arunachal Pradesh	22.73	21.29
Assam	19.34	21.01
Manipur	15.73	21.75
Meghalaya	15.27	19.36
Nagaland	12.24	11.11*
Tripura	8.80	16.43
India**	23.68	24.91

Source: EPW Research Foundation (2003), Domestic Product of States of India, 1960-61 to 2000-01 pp-40-41.

Note: * 1999-2000

** Share of Gross Domestic product at factor cost

+ Mining, manufacturing, electricity, gas & water supply and construction

Table 10.2: Share of Manufacturing in NSDP in the NER in 2000-01 at 1993-4 Prices

State	NSDP originating in manufacturing (Rs. Lakhs)	% of NSDP
Arunachal Pradesh	3262	3.31
Assam	166731	10.69
Manipur	11683	7.53
Meghalaya	4314	2.00
Mizoram+	1574	1.22
Nagaland*	1249	0.77
Tripura	4907	1.87

Source: EPW 2003, DPS 1960-61 to 2000-01.

Notes: + for 1999-2000 at current price

* For 1999-2000.

Table 10.3: Share of Manufacturing in Total NSDP in the NER (at 1980-81 Prices as Percentage of NSDP)

State	1980-81	1990-91	1995-96
Arunachal Pradesh	6.51	6.04	6.68
Assam	6.53	6.47	5.50
Manipur	4.61	5.99	3.37
Meghalaya	3.22	4.15	4.20
Nagaland	2.06	8.01	7.89
Tripura	4.59	3.30	3.90

Source: EPW (3rd edition) (1998), NAS 1950-51 to 1996-97.

In 1998 (Table 10.4), as per the Fourth Economic Census, the ownership pattern of the enterprises in Manipur was: (i) 74.54 per cent were own account enterprises operating with the help of household members without engaging hired workers, (ii) 84.61 per cent were operating without power, (iii) 94.35 per cent were privately-owned, (iv) 90.68 per cent of the own account enterprises were in the non-agricultural sector while 97.17 per cent were categorized as establishments. Only 3.18 per cent of the enterprises used electricity. The most widely used fuel was firewood. The distribution of the enterprises across the districts is also highly uneven as is shown in Table 10.5. In 1998, 50.4 per cent of the enterprises were concentrated in Imphal East and Imphal West. In 2002 (Table 10.6), out of 2014 registered factories, 80.3 per cent were rice mills, another 10.3 per cent were saw-mills and 4.76 per cent were oil mills. In 2000-01 the unregistered sector dominated the manufacturing sector in Manipur.

Table 10.4: Economic Census 1990 and 1998

Item	Economic Census 1990	Economic Census 1998	% Change
I. No. of Enterprises			
a. Own account enterprise	46571	59998	28.55
b. Establishments	14693	20491	39.46
Total	61264	80489	31.38
II. Persons actually working in			
a. Own account enterprises	70955	83542	17.74
b. Establishments	86413	117184	35.61
Total	157368	200726	27.55
III. Average no. of workers per enterprise	2	2	0.00
IV. Average no. of workers per establishment	6	6	0.00
V. Hired workers in all establishments	76520	103921	35.81
VI. No. of enterprises according to principal characteristics			
1. Seasonal	3765	140	(-) 96.28
2. Without premises	12223	12506	2.31
3. With power/fuel	9045	12387	36.95
4. Type of ownership			
a. Private	10666	15787	48.01
b. Co-operative	180	159	(-) 11.67
c. Public	NA	4545	NA

Source: RFEC 1998

Table 10.5: Number of All Enterprises by District and by Use of Power and Some Other Important Substitutes

District	Electricity	Coal/soft coke	Petrol/diesel	Fire wood	Enterprises without power	Total enterprises
Senapati	53	57	204	156	4336	4806
Tamenglong	15	3	46	43	1328	1435
Churachandpur	89	41	78	239	2713	3160
Chandel	40	35	68	215	2684	3042
Thoubal	383	300	657	841	10533	12750
Bishnupur	239	189	403	426	10864	12143
Imphal West	1400	892	1119	1597	23427	28695
Ukhrul	55	17	261	297	2041	2581
Imphal East	288	159	592	638	10176	11877
Total	2562	1693	3428	4362	68102	80489

Source: RFEC 1998

Table 10.7 shows that the proportion of workers engaged in the manufacturing sector was the highest in Manipur among the states in the Northeast region though this was substantially lower than that of All India. Table 10.8 shows that the proportion of female workers engaged in manufacturing exceeded that of male workers during the period between 1987 and 2000. The declining proportion of female workers in the manufacturing sector between 1993-94 and 1999-2000 may be attributed to the growth of less labour intensive industries in the post-reforms period.

Table 10.6: Number of All Enterprises by District and Type of Registration
No. of Enterprises Registered under:

District	Factory Act 1948	SDI	KVIC/ KVIB	Powerloom/ Handloom	Textile commissioner	Coir Board	Silk Board	Unregistered Enterprises
Senapati	3	198	1	1	0	0	0	4603
Tamenglong	1	47	0	0	0	0	0	1387
Churachandpur	0	91	0	0	1	0	0	30680
Chandel	0	62	0	0	0	0	0	2980
Thoubal	0	448	1	0	0	0	0	12301
Bishnupur	0	239	0	1	0	0	0	11903
Imphal West	5	837	0	0	0	1	1	27852
Ukhrul	0	247	0	0	0	0	0	2334
Imphal East	0	350	0	0	0	0	0	11527
Total	9	2519	2	2	1	1	1	77955

Source: RFEC 1998

Table 10.7: Distribution of Usually Working Persons (55th Round) Per 1000 in Manufacturing sector

State	Principal status		Principal and subsidiary status	
	Rural	Urban	Rural	Urban
Arunachal Pradesh	30	4	28	4
Assam	34	66	40	72
Manipur	57	83	74	105
Meghalaya	7	38	7	38
Mizoram	10	38	10	38
Nagaland	7	48	6	62
Tripura	39	37	40	37
All India	74	226	74	227

Source: NSSO Publications

The Industrial Policy of Manipur, 1982 laid primary emphasis on development of large and medium industries. It was followed by the Industrial Policy of Manipur, 1989, 1990, 1996 and 2002. The New Industrial Policy of Manipur, 2002 aimed to provide industry high quality infrastructure, institutional support for technology upgradation, deregulation of the business environment and tapping of human resources. It recognises the limited impact of the earlier policy measures in initiating the process of industrialization on a sustainable basis.

Direct state participation in the process of industrialization started in 1974 with the incorporation of the Manipur Spinning Mill. The important public sector undertakings established under the Government of Manipur include: Manipur Cycles Corporation Ltd., Manipur Cement Ltd., Manipur Spinning Mills Corporation Ltd., Manipur Pulps and Allied Products Ltd., Manipur Food Industries Corporation Ltd., Manipur State Drugs and Pharmaceuticals Ltd., Manipur Vanaspati and Allied Industries Ltd., Manipur Handloom and Handicrafts Development Corporation Ltd., Manipur Electronics Development Corporation Ltd. and Manipur Industrial Development Corporation Ltd.. Since all the Corporations made big losses right from their inception, the state government was compelled to wind up all of them except the last three.

Table 10.8: Distribution of Usually Working Persons in Manufacturing Per 1000 Among NER States

State	NSS round	PS		PS+SS	
		Rural		Urban	
		Male	Female	Male	Female
Arunachal Pradesh	43	15	1	15	
	50	4	13	141	86
	55	28	27	5	0
Assam	43	20	98	91	129
	50	22	87	95	165
	55	29	83	75	59
Manipur	43	31	101	77	196
	50	37	262	44	342
	55	22	186	55	215
Meghalaya	43	14	5	59	4
	50	11	9	19	33
	55	9	4	37	41
Mizoram	43	8	2	65	19
	50	6	4	47	40
	55	6	14	43	29
Nagaland	43	NA	NA	58	30
	50	2	NA	48	NA
	55	8	3	50	90
Tripura	43	52	75	60	13
	50	45	90	89	81
	45	37	64	37	40

Source: NSSO publications

The state's Industrial policy during the Tenth Plan accords high priority to the following areas:

- Infrastructural development projects like industrial growth centres, integrated infrastructure development centres, export promotion and industrial parks, etc
- Agro-based industries
- Handloom industries
- Mineral exploration to develop mineral-based industries and
- Revitalization of industrial corporations

Table 10.9 profiles the growth of nominal Plan expenditure on industry and mining over the Tenth Plan. The first serious attempt towards industrialization in the state was made in the Fourth Plan in terms of a quantum hike in the share. It also coincided with the inception of planning in the state after it attained statehood.

In the Tenth Plan, the annual growth potential of industry in Manipur was estimated at 8.33 per cent, which is slightly lower than the national growth rate of 8.86. However, during 1990-01 and 2000-01 the (CAGR) of gross domestic product of Manipur originating in the secondary sector industry (in the broadest sense) at 1993-94 prices was only 5.95. During the period, 1972-96, (at 1980-81 prices) manufacturing grew at the rate of 3.99 per cent per annum, indicating a deceleration. The estimated growth rate in the Tenth Plan appears to be an overestimate and the achievement of this target may involve large scale displacement of workers.

Table 10.9: Planwise Expenditure on Industry and Mining

Plan	Exp. On Industry & Mining in Rs. lakhs	Total Plan Expenditure in Rs. lakhs	Exp. On Industry and Mining as % of total
First Plan	0.63	102.56	0.66
Second Plan	12.08	596.93	2.02
Third Plan	35.28	1281.28	2.75
Ad hoc Plan	18.90	719.89	2.62
Fourth Plan	215.00	3100.00	6.93
Fifth Plan	474.76	6661.91	7.13
Ad hoc Plan	322.55	6113.34	5.28
Sixth Plan	1352.44	24312.32	5.56
Seven Plan	2759.61	50486.19	5.47
Eight Plan	5281.11	122450.97	4.31
Ninth Plan	12517.29	199656.43	6.27
Tenth Plan *	33294.00	280400.00	11.87

Note: * Proposed
Source: SPD.

Part 'B' of the second part of this Chapter takes a close look at the tourism industry in the state, in view of its enormous potential for growth and development. In this section the growth potential and constraints of some industries.

Table 10.10: Growth Targets: Potential of NER States in the Tenth Plan (Annual average in %)

State	Agriculture	Industry	Services	GSDP Growth
Arunachal Pradesh	4.00	8.90	10.05	8.05
Assam	3.82	5.00	9.00	6.17
Manipur	3.59	8.33	7.39	6.46
Meghalaya	4.00	6.87	7.05	6.30
Mizoram	2.00	4.16	6.84	5.29
Nagaland	4.00	7.29	5.78	5.56
Tripura	3.90	9.37	8.43	7.31
All India	4.00	8.86	9.35	8.00

Source: Tenth Plan Document

PART A

10.2 Major Traditional Industries of Manipur

(i) Forest-based Industries (See Chapter- V, pp 103-104)

Manipur is rich in natural resources. The total annual yield of muli bamboos in Manipur is estimated at 11.4 lakh tonnes (air dry) and that of clump forming bamboos at 3.08 lakh tonnes (air dry). The total potential bamboo output in Manipur is 14.48 lakh tonnes per annum (air dry). A 500 tonnes daily capacity paper mill working for 330 days a year will, however, need only 4.12 lakh tonnes of bamboo. Canes such as Calamus Tinuis, Sundi, Harna and Deamonorops Jinkinianus are available in plenty in the Barak drainage forests. The total growing stock or the annual production potential of the tree forests in Manipur is estimated to be 724.12 lakh cm. A huge amount of teak and other timber from Myanmar enter into Manipur ending up in saw mills and furniture shops/factories.

(ii) Plantation and Horticulture (See Chapter- VI, pp 128-129 for Horticulture)

The Manipur Plantation Crops Corporation Ltd. took up the plantation of tea at Manipur Tea Estate, Jiribam in 1982 and coffee in Churachandpur and Ukhrul in 1994-95. The Tea Board

encourages farmers in the hills to grow tea on a commercial basis. Though the climate is ideal for the cultivation of spices like turmeric and ginger, these are regularly wasted due to lack of storage facilities and markets. Contract farming in spices was introduced in villages where the farmers have access to bank loans along with an assured market at remunerative prices. Farmers can get higher prices if the initiative to declare it ‘organic farming’ is taken soon. However, one of the common problems is the non-payment of pre-determined prices on the pretext of poor quality. A co-operative model along the lines of Amul may afford better protection to farmers and maintain profits.

(iii) Handloom

The handloom industry is the largest cottage industry in Manipur. Most of the workers are self-employed artisans who work in their own homes with their family members. The loom once formed an integral part of the gifts a bride received from her parents and no home was without this ubiquitous symbol of self-reliance. This sector declined in the past few decades due lack of market access, changing taste of traditional consumers, and influx of the products of the mill sector, based in the mainland and cheap imports.

(iv) Minerals and Mines (See Chapter-II)

The survey of Manipur undertaken by the Geological Survey of India in Ukhrul, Churachandpur and Chandel covering 52 per cent of the state reveal the availability of limestone, asbestos, chromite, copper, nickel, lignite and salt in Manipur. The places where deposits of these minerals have been found are listed below (Table 10.11):

Table 10.11: Minerals and Areas of their Availability in Manipur.

Limestone	Hundung, Phungyar, MeiringMata, Khangoi, Shokvao, Lambui and Kasom in Ukhrul,
Asbestos	Nepali basti, Kwatha, Moreh in Chandel
Chromites	Vicinity of Shiroy hill, Ukhrul; Nepali Basti in Chandel
Copper	Ningthi and Kwatha in Chandel; Humie in Ukhrul.
Nickel	Nampesh and Kwatha of Chandel
Lignite	Kangbai village of Turenloo valley in Churachandpur
Salt	Waikhong, Sikhong, Chandrakhong and Keithel Manbi

Source: ER, pp 24-26

A cement factory in Hundung (Ukhrul) closed down due to political unrest. Under the New Exploration Licensing Policy of the Government of India, the 24 new oil fields to be put into operation include Manipur with oilfields spread over 3850 sq. km. in Churachandpur, Tamenglong and Jiribam in Imphal East district. The ONGC has applied for a license to extract petroleum from a 220 sq.km. oilfield in Jiribam and Churachandpur.

10.3 Information Technology

The Information Technology sector, particularly the I.T. Enabled Services (ITES) sub-sector, is regarded as one of the most promising industries for geographically remote and isolated locations. Manipur has an established base of producing middle-level IT qualified manpower at B.E. (Computer Sc.), MCA, B.Sc.(Computer Science), DOEACC O/A/B level courses through Manipur University, DOEACC Centre, Imphal, Manipur Institute of Technology, IGNOU and a large number of private IT Training Centres. IT should be treated as a thrust area for skilled employment generation. The Software Technology Parks of India (STPI) has a unit at Imphal which has led to growth of IT entrepreneurs in areas like Medical Transcription, domestic software application development etc. The STPI unit at Mantripukhri, Imphal, is

functioning with reasonable success, but expansion of IT industry activities to provide employment generation has been limited by the lack of office space for letting out to IT firms/entrepreneurs and the security fears. The setting up of an IT Park with ready-to-use office working space and resolution of political unrest is essential to attract IT firms to the State.

10.4 Impediments to Growth

Industrialization in Manipur is hampered by several factors. Local demand is inadequate on account of poverty, unemployment, inadequate purchasing power and geographical separation and distance from the national market on the one hand and breakdown of traditional regional trade routes on the other. Presently, every consumption item is imported. NSCN (IM) and other outfits impose hefty illegal tax on commercial vehicles plying on NH-39. Looting and arson are common. This results in high prices of goods and low industrial development, which adversely affects the consumers and the economy as a whole.

Unfortunately, industries in Manipur have failed even where a sound infrastructural base exists and the raw materials are abundantly available. This is because whatever local demand exists is met by mainland firms. Cheap, mill-made textiles out compete them. Artisans and weavers are reduced to piece-rated workers in a putting out system where Marwari businessmen give yarn to the women artisans who weave the clothes on pittance.

Recommendations

Industrialisation in Manipur should be consonant with its economy and human and natural resource base. This requires a four-pronged strategy:

- (a) Import-substitution: It is vital that regional demand be expanded (see (d)) and met to the extent possible by production within the region itself. Trade with other Asian countries can play a role in this by supplementing internal demand, provided every care is taken to protect local industry.
- (b) Public investment in infrastructure.
- (c) Higher and easier availability of credit.
- (d) Employment generation and agricultural growth to expand purchasing power.

The National Industrial Policy, besides setting out its own policy initiatives, takes into account the regional diversity in the pattern of industrialization. This is evident from the measures recommended for the industrial development of the Northeastern region.

- Provision of entire expenditure on growth centres as central assistance subject to a ceiling of Rs 15 crores per growth centre
- Change of the funding pattern for the Integrated Infrastructure Development Centres from 2:3 to 4:1 between Government of India and the Small Industries Development Bank of India with GOI funding as a grant
- Extension of transport subsidy scheme up to 31st March 2014.
- Designation of the Northeast Development Financial Corporation as a nodal agency for releasing of transport subsidy in NER states
- Conversion of the growth centres and IIDCs into total tax free zones for a period of 10 years from the commencement of production.
- Provision of capital investment subsidy @15 per cent in plant and machinery to industries located in growth centers subject to a maximum of Rs 30 lakh.
- Setting up of dedicated branches/counters of commercial banks and NEDFI.

- Offer of an interest subsidy of 3 per cent on working capital loans.
- Extension of similar benefits to the new industrial units or their substantial expansions in other Growth Centres/IIDCs/Industrial Estates/Parks/Export Promotion Zones set up by states in any zone.
- Offer of incentives to piggery, poultry, fishing, small tea gardens, etc. so as to cover all economically viable activities.

The measures (medium and long term) recommended for initiating industrial development in Manipur on a sustainable basis are:

- (i) Expansion in employment and income-generating activities to increase local purchasing power.
- (ii) Ensuring proper project preparation and monitoring: Project funding can be assured only if properly planned projects are submitted to the donor. The Indian Institute of Management, Kolkata could be approached to provide requisite assistance in this area.
- (iii) The handloom sector should receive special attention as it lies at the interface of the social and industrial sector. It also remains fairly healthy. Similarly bio-medical industry and bio resources should be developed. Compulsory use of handloom products for school uniforms: As of now the entire requirement for uniforms in Manipur schools is met by industries in other states. The initiatives taken by industry to meet the huge local demand will restore its commercial viability.
- (iv) Maximum utilization of the opportunities provided by the Tenth Plans: The funds allocated for several schemes are not effectively utilized due to the lack of preparation. The 10 per cent allocation from the budgets of various ministries add up to Rs 5000 crores annually. The proper utilization of the non-lapsable central pool of resources and Border Area Development Programme can take care of most of Manipur's infrastructural needs.
- (v) Augmenting the flow of credit from the banking sector to the industrial sector: In order to prevent the credit-deposit ratio from declining, the target should also include the market outside Manipur and the NER.
- (vi) Vertical integration of agro-processing: It is cheaper and more profitable to set up processing units in the local growth centres instead of transporting the fruit, etc. outside.
- (vii) Conducting extensive market research to access the expanding world market: This is important due to the opening up of the transnational highway linking Manipur with Thailand and Myanmar. In the next five years railways will enter Manipur in a big way. The Northeast Express Highway will link all state capitals in the Northeast. The local industries can be expected to respond favorably both to demand and supply factors.
- (viii) Better utilization of cost subsidies like transport and interest.
- (ix) Upgrading of technology: This must not however be labour-displacing.
- (x) Liberalizing the funding of industrial projects to enable the industrial units to become viable and reap the economies of scale.

- (xi) Ensuring the flow of raw materials and finished products along national highways: A peaceful solution to ethnic problems in the region must be worked on because no industry can thrive amidst a deteriorating law and order situation.
- (xii) Among the most important industries, which can bring about the optimal utilization of locally available resources is fruit processing and horticulture. Other industries that merit mention are dehydration plants, ginger oil, pineapple fibre yarn (from leaves of pineapples), citronella oil, cinnamon leaf oil papain manufacture, handloom and power loom, spinning mills, sugar mill, herbal medicines, cornflakes, paper mills, cement, etc. Mass demand-based industries will benefit if employment expands. These include: bakeries, aluminium and steel utensils industry, hosiery, units producing school uniform, re-rolling mill, plastic goods, water containers, water filters, mineral water, bicycle accessories such as tyres and tubes, bus and truck body building, tyre retreading, hair oil, soaps, metal trunks, wooden and plastic furniture, construction, electronic lighting equipment.
- (xiii) The problems of industrialization are many. The industrial parks, such as they are, have not really taken off. While one is located at a very inconvenient place without a connecting road so that there are no takers, for the other land has not been acquired yet. Clearly, site selection is very important and the Park should be close. Furthermore, land acquisition is apparently posing a challenge. A food park by NABARD, which has common facilities on the basis of needs, is doing better. Industry should be protected for at least another 10 years. Sick industries should be revived and usually, a little more investment by the government can revive sick PSUs like the Iribam tea Estate.

PART B.

10.5 Tourism- Potential for Growth in Manipur

In keeping with the national policy on tourism, its development was accorded an important place in Manipur's industrial development programmes. The Tenth Plan target of creating 18 million jobs through tourism requires a substantial investment, both for the public and the private sectors. The investment required too is large and most concomitants to basic hospitality have to be provided by the state.

Described as a 'flower on lofty heights', 'a jewel of India' and 'Switzerland of the East' Manipur with its wealth of flora and fauna and its breathtaking scenic beauty is truly a tourist's paradise. Tourism was declared an industry in Manipur in 1987. It became a full-fledged department of the State Government in 1993. However, it failed to take off as expected. Table 10.12 shows that though the arrival of foreign tourists in Manipur doubled during the period between 1988-89 and 2003-04, it was very low, while domestic tourism remained stagnant. At present the places open to foreign tourists are: Loktak Lake, Moirang; Imphal; INA Memorial, Moirang; Keibul Lamjao wildlife sanctuary, Loktak lake; Waithou lake, Thoubal; and the Khongjom War Memorial, Thoubal. The places open to foreign tourists in groups are: (a) Imphal-Bishnupur-Phubala-Moirang-Sendra-Keibul lamjao-Imphal, (b) Imphal-Moirang-Loktak lake-Keibul lamjao-Churachandpur-Khuga Imphal, (c) Imphal-Ukhrul-Siroi-Sangsak-Imphal, (d) Imphal-Thoubal-Waithou lake-Khongjom-Kakching-Thonjao-Waikhong-Sugnu-Imphal, (e) Imphal-Khonghampat-Kanglatombiu-Kangpokpi-

Senapati-Karong-Mao Gate-Imphal, and (f) Imphal- Noney- Khongshang- Nungba- Jiribam- Imphal

Table 10.12: Pattern of Tourist Arrivals in Manipur

Year	No. of domestic tourists	No. of foreign tourists	Total no. of tourists
1988-99	121195	137	121332
1989-90	119602	78	119680
1990-91	90685	185	90870
1991-02	91290	374	91664
1992-93	62374	221	62595
1993-94	72980	350	73330
1994-95	82798	370	83168
1995-96	84025	288	84313
1996-97	87074	219	87293
1997-98	91620	173	91793
1998-99	95897	294	96191
1999-00	99399	335	99734
2000-01	103854	409	104263
2001-02	73842	131	73973
2002-03	89829	227	90056
2003-04	93430	296	93726
2004-05	97054	248	97302
2005(upto July, 2005)	29639	127	29766

Source: Tourism Department, GOM & Annual Plan (2006-07) Proposals, Government of Manipur, Planning Department, December, 2005 vol. I (p.87)

In 2003-04, the maximum number of Restricted Area Permit (RAP) applications came from the U.S.A., followed by the U.K., Germany, France, Holland, Japan, Australia and Korea. Table 10.13 shows the district-wise employment of workers in restaurants and hotels, a major component of the tourism sector. Only about 9000 workers depend directly on this sub-sector.

Table 10.13: Employment in Restaurants and Hotels set up as Own Account Enterprise and Establishment

District	Own Account Enterprise		Establishment	
	Number	Employment	Number	Employment
Senapati	117	244	45	160
Tamenglong	33	59	20	64
Churachandpur	207	333	31	94
Chandel	123	276	122	399
Thoubal	467	850	127	442
Bishnupur	262	461	106	322
Imphal West	1039	1749	518	2276
Ukhrul	75	152	105	335
Imphal East	431	754	55	166
Total	2754	4878	1129	4258

Source: RFEC 1998

Additionally, there are several villages/hamlets at hill tops that have enormous tourist potential by virtue of their scenic beauty.

(i) Special Attraction

Among the noteworthy tourist attractions in the state are:

- (i). Exquisite handicrafts and handlooms.
- (ii). Plentiful facilities for playing polo, locally known as Sagol Kangjei, and a large number of other indigenous games such as Khongkanjei (local name of hockey) Yubi Lakpi, Manipuri rugby, Kang Sanabi, Mukna (wrestling), boat racing and the martial arts.
- (iii). Flora and Fauna: Picturesque and unique forests and vegetation ranging from sub alpine to tropical are a special feature of Manipur's landscape. Various types of rare and beautiful plants, trees, shrubs, and flowers grow throughout the state. Out of the estimated 600 orchid species found in the NER, Manipur alone has around 450 varieties. The National Parks and Biosphere reserves of Manipur include: Keibul Lamjao National Park, Yangpokpi Lokchao Wildlife Sanctuary, Bunning Wildlife Sanctuary, Zeliad Wildlife Sanctuary, Keilam Wildlife Sanctuary and Jiri- Makru wildlife Sanctuary near Jiribam.

Table 10.14: Spots of Tourist Interest in Manipur.

HILL		VALLEY	
Name of Tourist Spot	Location	Name of Tourist Spot	Location
Koubru Mountain Peak	Senapati district at a height of 2562 metres. Is a sacred place and believed to be the abode of God and a place of pilgrimage.	Keibul Lamjao National Park	Bank of Loktak Lake. Only habitat of brown Antlered deer.
Tharon Cave	Tamenglong district	Loktak Lake	Biggest fresh water lake in the Northeast
Khoupam Valley	Situated near Nungba at a height of 685 meters. A small township midway between Jiribam and Imphal it is called the miniature of the central Imphal plain	Indian Nation Army/Memorial	Moirang. Venue of the hoisted of the tricolor for the first time by INA
Ukhrul Town	Situated on a ridge. It is the highest hill station in the state.	Khongjom War Memorial Place	Scene of Last War of Manipur independence
Khangkhui Caves	South east of Ukhrul district. Besides caves they include tunnels with chambers, stalactites and associated features	Second World War Cemetery	Imphal
Shiroi Peak	Ukhrul district	Shree Shree Govindajee Temple	Sacred center for Vaisnavites

(ii) Plan Allocation

During the Ninth Plan the state government allocated a sum of Rs. 900.00 lakhs for this sector against which an expenditure of Rs. 522.97 lakhs¹ was incurred. During this period a major thrust was given to tourist accommodation facilities. A sum of Rs. 1542 lakhs was allocated for tourism during the Tenth Plan (Table 10.15), which lays emphasis on construction of tourist centres/complexes.

¹ Tenth Five Year Plan (2002-07) & Annual Plan (2002-03) Proposals. Volume – I, Planning Department, Government of Manipur, March 2002. p. 55.

Table 10.15: Scheme-Wise Outlay for Tourism During the Tenth Plan (Rs. in lakhs)

Major Heads	Tenth Plan 2002-07 Projected Outlay	Annual Plan 2002-03 Actual Expenditure	Annual Plan 2003-04 Actual Expenditure	Annual Plan 2004-05 Actual Expenditure	Annual Plan 2005-06		Annual Plan 2006-07
					Agreed Outlay	Anticipated Expenditure	Proposed Outlay
Tourist centres/buildings	727.02	1.06	15.26	60.17	200.00	200.00	200.00
Tourist transport	25.00	5.35	0.00	0.00	8.00	8.00	0.00
Promotion and Publicity	116.93	4.28	10.97	13.40	22.00	22.00	38.00
Direction & Administration	131.05	6.80	0.00	4.00	0.00	0.00	15.00
Total	1000.00	17.49	26.23	77.57	230.00	230.00	253.00

Source: Annual Plan (2006-07) Proposals, Government of Manipur, Planning Department, December, 2005, p.88

(iii) Major Constraints in the Development of Tourism

Factors affecting the long-term growth of tourism in the state are:

- Absence of community participation and awareness of benefits
- Lack of involvement of the rural sector
- No concern for sustainability
- Unresolved political unrest

Specifically, people in the hills are faced with certain problems and difficulties in actualizing the tourist potential of the region. These include:

1. Poor development of connectivity and uneven distribution of public resources: As a result today practically none of the hill districts have proper tourist guest houses, and the few that exist are not usable due to the total neglect of maintenance.
2. Problem of law and order: Problems of law and order in the state along with the ethnic conflict have made it difficult for tourists to visit the hill districts.
3. Absence of road infrastructure and poor availability of transport facilities and modern communication in all the hill districts: There is no motorable road connecting two hill districts and the only way to reach one hill district headquarter from another is through Imphal, which is both costly and time consuming.
4. The inadequacy of trained personnel in the hospitality sector results in a lack of skilled manpower.
5. Absence of tourism infrastructure like basic hotel accommodations is also a serious problem outside the valley.

(iv) Measures to Boost Tourism

Given the above constraints, the proposals recommended to develop tourism into a vibrant force are:

- In the tourism sector, the inner line permit should be done away with.
- Preservation of cultural heritage.
- Promotion and development of INA Museum & Loktak Lake as tourist sites. The INA museum in Moirang houses a veritable treasure of World War II relics built in the memory of Japanese soldiers who died during the Second World War in Manipur. This memorial has always attracted many Japanese tourists to Manipur and needs to be further developed.
- The Loktak Lake should be given its due among the tourist attractions in the state. The vast expanse of fresh water, migratory birds and the adjoining Keibul Lamjao National Park with its world famous Sangai, the brown antlered deer are a tourist's delight. Besides, the hut dwellers on the floating biomass in the lake are a testimony of human endeavour and adaptation. The Loktak Development Authority and NHPC

should join hands to save this lake and develop the site as an attractive tourist center. The state government needs to set up more sanctuaries to attract tourists.

- Promotion of Polo and Manipuri cuisine: Polo should be popularized and played in the place of its origin as any annual event during the tourist season, or as a part of the festival. Manipuri cuisine is widely appreciated by visitors. This must be promoted through proper advertising and served in roadside cafes.
- Development of adventure tourism: Activities such as rafting expeditions on the Barak river, climbing the Shiroy hills in April/May when the rare Shiroy lily is in full bloom and trekking across frozen rivers on way to the Dzukou valley in winter need to be promoted.
- Promotion of fairs and festivals: The important festivals observed in Manipur are Gan-ngaï, Lui-Ngai-Ni, Doljatra, Cheiraoba, Heikru Hitongba, Ningol Chakouba, Ratha Jatra, Id, and Christmas, besides Lai Haraoba in various localities to appease clan gods and goddesses. Manipur can also organise a festival on the lines of the Hornbill festival in Nagaland where the Naga way of life is showcased to visitors.
- Setting up shopping centers for traditional crafts: This will go a long way in encouraging local handlooms and handicrafts.
- Upgrading tourist infrastructure: The state government should provide assistance for upgrading tourist infrastructure in Manipur. It could promote government-community partnership in tourism development by leasing out tourist infrastructure to village or district councils. However, the fragile ecological balance must be preserved.
- A medium to long term tourism plan should replace the present ad hoc policy measures and package tours should be offered by the Tourism Department from Kolkata, Delhi, etc.
- Top priority should be given to development of hotels.

The government must formulate a comprehensive tourist promotion policy and initiate prompt steps to ensure its implementation in order to promote socio-economic development of the state as a whole. The Tourism Development administration must be revamped so that Tourism infrastructure is adequate and potential is widely publicized nationally and internationally. Innovative measures such as advertising and tour packages for India's greatest 'travelers'—Gujaratis and Bengalis—could be offered. These would work best with the participation of the local community. It will also give people a greater stake in peace and have high multiplier effects in terms of economic gains for the local people.

PART C.

10.6 Science & Technology

Significant progress in various spheres of science and technology over holds the key to addressing several developmental challenges of Manipur, including energy, water management, education and training. The State needs a stronger network of S & T institutions, skilled personnel and higher investment in research and development.

The Government of Manipur established the Department of Science, Technology & Environment in 1985 to plan, co-ordinate and promote research, development and application of science and innovation, including the Non-Conventional Sources of Energy programme. This Programme is meant to offer alternatives to forest products and provide energy in locations not accessible to conventional sources of energy. The other Programme

implemented by this Department is the district-level Integrated Rural Energy Planning (IREP) programme.

The Department was the technical secretariat to the State Council of Science, Technology and Environment, Manipur till 1994-95. In 1995, the Department of Science & Technology, Government of India, set up the State Council of STE (now renamed Manipur S&T Council) MASTEC with a separate Office and manpower funded by DST. MASTEC is a Registered Society under the Department and was also required to implement the Environment related Schemes of the Department since 1985. In 1998, Ecology and Environment schemes were entrusted to the Forest Department.

In 1998-99 two autonomous organizations were registered as societies of the Department, namely, Manipur Remote Sensing Application Centre (MARSAC) and Manipur Renewable Energy Development Agency (MANIREDA).

The Manipur Department of Science and Technology is also the nodal agency for Information Technology for which an IT cell was created.

Table 10.16 presents the annual, total and sectoral expenditure for the Tenth Plan (2002-07). Scientific Research is the highest priority, with over 60 per cent of the total outlay.

Table 10.16: Sectoral Expenditure of Science & Technology (Rs. in lakhs)

Sectors	10th Plan Outlay (2002-07)	Approved Outlay 2004-05	Actual Expenditure 2004-05	Approved Outlay 2005-06	Anticipated Expenditure 2005-06	Proposed outlay 2006-07
Scientific Research	1226.50	459.61	415.04	181.00	181.00	110
Non-Conventional Sources of Energy	165.00	82.63	55.69	104.00	104.00	115
Integrated Rural Energy	572.00	124.00	99.99	95.00	95.00	105
Grand Total	1963.50	666.27	570.72	380.00	380.00	330

Source: Annual Plan (2006-07) Proposals, Volume-I, Planning Department, December, 2005, p. 76

Popularisation of Science within the community was the main thrust, through improvement of District Level Science Centres, State/District Level Science Exhibitions, setting up of Model Science Laboratories, Science Awards, Publication of Scientific Books/Journals, etc. 30 Model Science Laboratories were given financial assistance in Higher Secondary Schools/Science Colleges. Science Laboratory Buildings were constructed in two colleges.

NIC is preparing a Master Plan for E-Governance in Manipur. Employment to Computer Entrepreneurs was facilitated by several Centrally Sponsored Schemes like CICs and a Software Technology Park. The Secretariat and departments are now being linked up through the Local Area Network (LAN) by Wireless RF link and cables.

The State Government had provided Rs. 1.00 crore as its share to STPI along with 3.5 acres land and building at Mantripukhri for setting up of the technology park, Imphal Centre. The Human Resource Development scheme in collaboration with Manipur University, offers a few Research Fellowships to Ph.D. scholars, and financial assistance to Scholars to attend International Workshops/Seminars/Conferences. School Computer Training Centres were set up in nine schools with the Eleventh Finance Commission Award.

Schemes like Biogas, Solar Lighting, Wind and Improved Chulhas etc. are implemented by MANIREDA under the Non-Conventional Sources of Energy Schemes. Several individual beneficiaries were assisted.

The implementation of IREP Programme covered 12 Blocks upto 1995-96. This rose to 19 by 1998-99. Thereafter, the approach became district level rather than Block level. Different energy devices like Biogas, Improved Chulha, Solar Lantern, Tube light with electronic choke, Solar Cooker, Pressure cooker, Improved Crematorium, Compact Fluorescent Lamp etc. are given to the beneficiaries for efficient use of Energy for domestic purposes.

The Ecology and Environment Wing, under the Forest Department, implements various programmes for awareness generation. It is the nodal agency for the National Bio-diversity Strategy and Action Plan, preparation of State of Environment (SoE) Report of Manipur, the National Green Army programme and National Environment Awareness Programme of the Government of India. At present, it implements ten different schemes, including two CSS schemes. Amongst the activities taken up are the improvement of State Botanical Garden, Biodiversity Park for Biodiversity Conservation of Luwangsangbam, Lamphelpat Wetland Conservation Programme, and improvement of Nambul River Conservation. Mass afforestation, Environment Awareness, Wetland Monitoring & Conservation, Survey/study of Natural Resources improvement of Solid Waste management, etc. have also been taken up.

Details of scheme-wise financial progress and proposals are given below:

Table 10.17: Scheme-wise Financial Progress & Proposals

(Rs. in lakh)

Major Heads/Minor Heads of Development	Tenth Plan 2002-07	AP 2002-03	AP 2003-04	AP 2004-05	Annual Plan 2005-06		Annual Plan 2006-07
	Projected Outlay	Actual Expenditure	Actual Expenditure	Actual Expenditure	Revised Outlay	Anticipated Expenditure	Annual Plan 2006-07
Ecology Development Programme	51.00	6.93	15.65	64.00	14.00	14.00	20.00
Environment information dissemination	20.00			4.30	2.00	2.00	8.00
Environment Education programme	50.00	2.80	4.90	5.50	4.00	4.00	14.00
Environment monitoring cell	38.00	16.13	16.06	39.80	8.30	8.30	14.00
Solid waste management	45.00	1.60	1.60	10.80	0.50	0.50	8.00
State share of CSS					97.00	97.00	301.00
Prevention and control of pollution	120.00	30.00	37.00	37.00	116.00	116.00	80.00
Direction	140.00	12.64	15.35	13.00	6.90	6.90	16.00
Information Technology	16.00	1.57	2.00	4.40	4.00	4.00	14.00
Multidisciplinary Scientific Study of catchment area of major river basins	15.00	2.00	2.00	1.20	0.30	0.30	5.00
State Component of EAP		1.00	4.98				
Total	495.00	74.67	99.54	180.00	253.00	253.00	480.00

Source: Annual Plan (2006-07) Proposals, Volume-I, Planning Department, December, 2005, p. 80

The ecological features of Manipur are such that the highest priority should be given to stopping soil erosion and rapid run-off in the hills through vegetative measures and earth and masonry works as well as flood proofing. This does not receive the attention it deserves. Furthermore, location-specific modules for watershed management and up-gradation of Jhum are two other areas that require research and application. The expenditure on Joint Forest Management which will increase participatory resource management too is very low.

Table 10.18: Tenth Plan 2002-07 Total Projected Outlay at 01-02 prices of Science, Technology & Environment (in Rs. Lakhs)					
S.No.	(I) Scientific Research (incl S & T)		S.No.	(II) Ecology & Environment (Plan)	
1	3425 00 Directorate of S&T	59.50	1	Eco-Development Programme	51.00
2	Science Centre & Science Popularisation	50.00	2	Environment Infn Dissemination	20.00
3	Research & Dev Prog	25.00	3	Environment Education Programme	50.00
4	Human Resources Development	50.00	4	Environmental Monitoring Cell	38.00
5	Grants-in-Aid to MARSAC	50.00	5	Solid Waste Management	45.00
6	State Computer Centre	500.00	6	State Component of EAP	0.00
7	Setting up of Bio Tech Park	80.00	7	Prevention & Control of Pollution	120.00
8	Grants-in-Aid to MASTEC	25.00	8	Direction	140.00
9	11TH Finance Commission Award	387.00	9	Information Technology	16.00
10	NABARD Loan	0.00	10	Multi-Disciplinary Scientific Study of Catchment Areas of Major River Basins	15.00
	Total (Scientific Research)	1226.50		Total (Eco & Env)	495.00
	Information Tech & E-Governance	0.00			
(III) Forestry of Wild Life					
1	Dir. & Admin.	200	15	Dev.of MFP	72.5
2	Information Technology	0	16	Forest Research	24.5
3	Resource utilization	50	17	HRD (Training)	23.5
4	Resource Survey	8	18	Captive Breeding	25
5	Working Plan	102	19	Control of Poaching	27.1
6	Plg. Moni & E (Statistics)	31.3	20	Dev.of Keibul Nat. Park	64
7	Communication	10	21	Wildlife Management	11
8	Forest Infra. (Building)	58.15	22	Dev. Of Yangoupokpi WL Sanct.	45
9	Joint Forest Management	2	23	(i) Dev.of Zoological Garden	70.95
10	Forest Protection	55		(ii) Dev.of Zoological Garden	0
11	Forest Publicity	15	24	State share of CSS (IFPS)	0
12	Social Forestry Plantation Social & Farm Forestry	434.5	25	Koubru Range mudslide Project	0
13	Urban & Recreational Forestry	4	26	12th Finance Commission award	0
14	Restocking of RF (Eco. Pltn.)	353			
(IV) Plantation					
1	Rubber Plantation	57			
	Total (Forestry & Wild Life):	1686.5			
	Total (Forest & Wild life)	1743.5			
	Total (IX):	3465			

Source: Draft Annual Plan (2006-07) Proposals, Volume-II, Planning Department, Government of Manipur December, 2005, p. 26-28