Chapter 1

PROFILE OF DEVELOPMENT AND CHANGE

Punjab is a classic example of a fast developing economy with agriculture at its foundation. It is credited for ushering in the green revolution in the country. A progressive mix of irrigation, fertilizers and high-yielding variety seeds laid the foundation; a process, which was further strengthened by agricultural credit societies, rural link roads, village electrification, and a variety of extension services. Punjab today contributes nearly 40 per cent of wheat and 60 per cent of rice procured for distribution through the public distribution system. The state also promoted the white revolution, resulting in the highest per capita availability of milk to the people. An agro-based and agro-oriented industrialization is another prominent feature of the state economy. No less commendable are the efforts to strengthen the infrastructure, particularly irrigation and power. The cumulative effect of all this is manifest in the highest per capita income of the state, a position of pride which Punjab has been holding for most of the years since its formation in 1966. A paradox may be stated here and explained: Despite its relatively high income level, the state is noted for considerable outmigration to other parts of India as also emigration to several countries, particularly the United Kingdom, Canada, United States, and Australia. This is attributed not to any distressful situation at home but to the attraction of greater prosperity outside.

Development in a state is the outcome of the interplay of a variety of factors, such as political, economic, demographic and geographic. Being a border state, both external and internal changes have influenced the path of development. In 1947, the state was partitioned. In 1966, it was trifurcated into Punjab, Haryana and Himachal Pradesh. The period of militancy, in the recent past, due to an internal crisis, had its own influence on shaping the development pattern of the state. Despite all this, it was able to achieve remarkable success in accomplishing reasonable conditions for a better standard of life. The present chapter is a profile of development and change in Punjab taking into account, the evolution of the state, its physical setting, infrastructure base, economic development, poverty, agricultural development, industrial development, and human development.

Punjab with an area of 50,362 square kilometres is one of the smaller states of India (Table 1). It accounts for 1.5 per cent of the total area of the country and 2.4 per cent of the total population (2001). It ranks 19th among all the states and union territories in terms of area, which is one-seventh of the largest state -- Rajasthan. With 2.4 per cent of the country's total population (2.43 crore) it ranks 15th in the country. Smallness of the state is reflected in the fact that its share in the total population of India is one-seventh of the most populous state - Uttar Pradesh. Punjab, with a density of 482 persons per square kilometres is the tenth most densely populated state in the country. (See district level details in Appendix 1).

Table 1
Status of Punjab on Selected Parameters in India, 1999-2001

States/Union Territories	Area* (in sq. kms.)	Population#	Density# (persons per sq. kms.)	Urban Population# (in per cent)	Literate# (in per cent)	Per capita income** (Rupees)
India	**32,87,263**	**102,70,15,247**	**324**	**27.78**	**65.38**	**10,067**
States						
Andhra Pradesh	2,75,045	7,57,27,541	275	28.08	61.11	9,318
Arunachal Pradesh	83,743	10,91,117	13	20.41	54.74	9,170
Assam	78,438	2,66,38,407	340	12.72	64.28	5,978
Bihar	94,163	8,28,78,798	880	10.47	47.53	3,768
Chattisgarh	1,35,191	2,07,95,956	154	20.08	65.18	*
Goa	3,702	13,43,998	363	47.77	82.32	*
Gujarat	1,96,024	5,05,96,992	258	37.35	69.97	13,434
Haryana	44,212	2,1,082,989	477	29	68.59	13,709
Himachal Pradesh	55,673	60,77,248	109	9.79	77.13	9,177
Jammu and Kashmir	2,22,236	1,00,69,917	99	24.88	54.46	7,435
Jharkhand	79,714	2,69,09,428	338	22.25	54.13	*
Karnataka	1,91,791	5,27,33,958	275	33.98	67.04	10,928
Kerala	38,863	3,18,38,619	819	25.97	90.92	9,678
Madhya Pradesh	3,08,000	6,03,85,118	196	26.67	64.11	*
Maharashtra	3,07,713	9,67,52,247	314	42.4	77.27	15,410
Manipur	22,327	23,88,634	107	23.88	68.87	7,213
Meghalaya	22,429	23,06,069	103	19.63	63.31	7,826
Mizoram	20,987	8,91,058	42	49.5	88.49	*
Nagaland	16,579	19,88,636	120	17.74	67.11	*
Orissa	1,55,707	3,67,06,920	236	14.97	63.61	5,411
Punjab	**50,362**	**2,42,89,296**	**482**	**33.95**	**69.95**	**14,678**
Rajasthan	3,42,239	5,64,73,122	165	23.38	61.03	8,272
Sikkim	7,096	5,40,493	76	11.1	69.98	9,816
Tamil Nadu	1,30,058	6,21,10,839	478	43.86	73.47	12,504
Tripura	10,491	31,91,168	304	17.02	73.66	6,604
Uttar Pradesh	53,483	16,60,52,859	689	20.78	57.36	6,373
Uttaranchal	2,38,566	84,79,562	159	25.59	72.28	*
West Bengal	88,752	8,02,21,171	904	28.03	69.22	9,425
Union Territories						
Andaman and Nicobar Islands	8,249	3,56,265	43	32.67	81.18	*
Chandigarh	114	9,00,914	7903	89.78	81.76	*
Dadra and Nagar Haveli	491	2,20,451	449	22.89	60.03	*
Daman and Diu	112	1,58,059	1411	36.26	81.09	*
Delhi	1,483	1,37,82,976	9294	93.01	81.82	*
Lakshadweep	32	60,595	1894	44.47	87.52	*
Pondicherry	480	9,73,829	2029	66.57	81.49	*

Source: # - *Census of India, 2001, Provisional Population Totals, Paper-1 of 2001*, DCO, Punjab
- Department of Planning, Economic and Statistical Organization, *Statistical Abstract of Haryana, 2002*, Government of Haryana
* - Ministry of Information and Broadcasting (2002): *India 2002, A Reference Annual*, Publication Division, , Government of India, New Delhi

The share of urban population to total population in the state is 34 per cent, the 12th highest in India. Seven out of every ten persons in the state are literate, and in terms of literacy it ranks 16th in the country.

EVOLUTION OF THE STATE

Historically, Punjab has experienced many upheavals and turmoils, which, in turn, have influenced its path of development. The administrative map of Punjab has undergone extraordinary changes in the past. The nomenclature `Punjab' was widely used during the reign of Akbar (A.D. 1556-1605). It was known as the Kingdom of Lahore during the reign of Ranjit Singh (1799-1839). The British occupied it in 1849 and merged Delhi and the Hisar division of the former Northwest Province (now Uttar Pradesh) with Punjab in 1858. In 1901, Punjab's border districts situated across the Indus were taken away to form the Northwest Frontier Province. In 1912, Delhi territory was separated from Punjab.

At the time of the partition of the Indian sub-continent in 1947, Punjab was bifurcated into two parts: West Punjab (Pakistan) and East Punjab (India). Of its 3,59,179 square kilometres and 29 districts, only 1,52,649 square kilometres and 13 districts were left with Indian Punjab. The two Punjab's were partitioned on religious grounds. The most prosperous and developed western part went to Pakistan and the relatively backward eastern part remained in India.

In 1956, at the time of the reorganization of states on a linguistic basis, the former PEPSU territory was merged with Punjab. In 1966, the state was further reorganized under the Reorganization Act 1966. There was a strong demand for the reorganization of the state on a linguistic basis so that satisfaction of regional sentiments could be harmonized with the process of development. The Punjabi speaking areas were carved out of the erstwhile Punjab on 1 November 1966. The Hindi speaking areas in the north were merged with Himachal Pradesh. The southern Hindi speaking areas were constituted into a new state of Haryana. After the reorganization, Punjab became linguistically homogeneous and structurally compact. The Punjabi speaking state was created in 1966, with 11 districts, including Rupnagar. The reorganization reduced Punjab to about two-fifths the size attained after the merger of PEPSU in 1956. This was one-seventh the area of Punjab before Independence (Kant, S., 1988).

The state now is a linguistic unit inhabited by Punjabi speaking people. It had a population of 2.43 crore in 2001 distributed among 12,729 villages and 157 towns. Administratively, it is divided into 17 districts, 72 tahsils and 138 blocks. The city of Chandigarh (within the Chandigarh Union Territory) is the joint capital of Punjab and Haryana.

PHYSICAL SETTING

The word `Punjab' consists of two Persian words: *Panj* (five) and *ab* (waters or rivers) which means the land of five rivers. Before partition, the state had five rivers, namely, the Sutlej, the Beas, the Ravi, the Chenab and the Jhelum. However, as a consequence of partition in 1947, Punjab lost the Chenab and the Jhelum. Although it no longer constituted the five rivers, the name of the state was not changed in the hope that the spirit, culture and language of the area would continue and flourish. The three rivers -- Ravi, Beas and Sutlej -- have proved to be useful for generating electricity and irrigation.

Location: Before Independence, Punjab was spread between $27^0 39^l$ and $34^0 02^l$ N latitude and $69^0 23^l$ and $79^0 52^l$ E longitude. The present Punjab, triangular in shape, extends from $29^0 30^l$ to $32^0 32^l$ N latitude and $73^0 55^l$ to $67^0 50^l$ E longitude. It covers an area of 19,445 square miles (50,362 square kilometres).

Punjab is located in the northwestern part of the subcontinent. Bordering Pakistan on its west, Punjab occupies a position of great strategic importance. It is bounded on the north by Jammu and Kashmir, Himachal Pradesh on the northeast and east, and Haryana on the southeast and south, and Rajasthan on the southwest.

Physiography: Punjab does not have any large-scale diversity in its physiography. The state has a more or less physical homogeneity with the exception of scattered and low ranges of the Sivaliks in the north and northeast. Physiographically, the state may be divided into three regions:

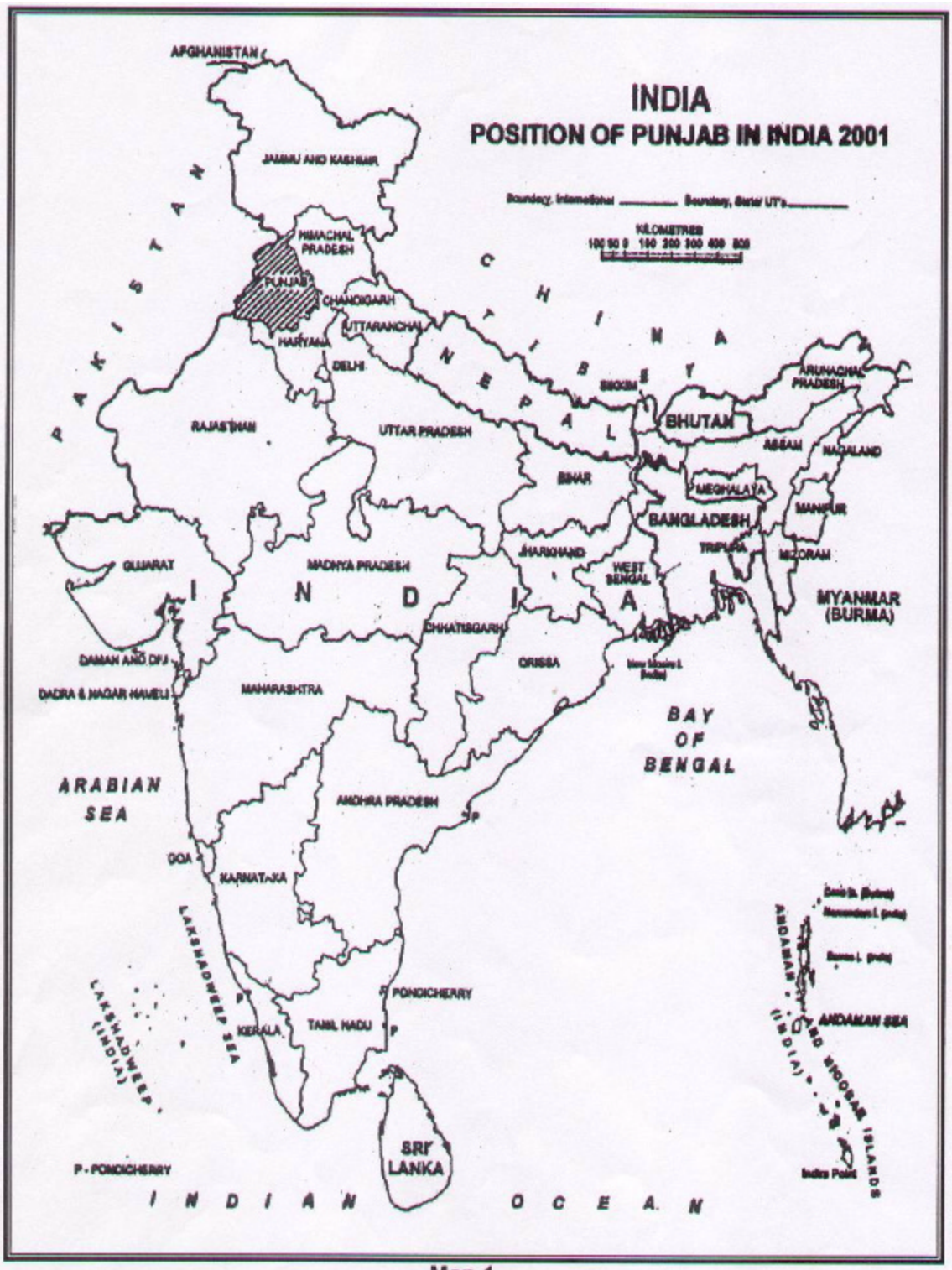
i) Hilly tract
ii) Foothills, and
iii) Flat plains.

The hilly tract, forming part of the Siwalik hills, extends along the north and northeastern border of the state. The foothill plains are located between the hilly tract and the flat plains in the north and northeastern parts of the state. The major part of the state's physiography is dominated by flat plains. These plains are the result of the alluvium deposits of rivers, and are very fertile. A significant portion of Punjab is the flat plain gently sloping from about 275 metres in the northeast to about 170 metres in the southwest. Punjab surpasses all other states of India in possessing a large level topography. The flat physiography of the state has proved beneficial for laying roads and creating infrastructure at a low cost, which is very difficult in hilly tracts. Higher accessibility to services and the strong linkage between rural and urban areas are partly due to the flat physiography.

Forest: The area under forests is quite insignificant in the state. Accordingly to the National Forest Policy 1982, a minimum 33 per cent of the total geographical area should be under forest. The forest cover in the state is 6.05 per cent of its total area, as against the national average of 19.4 per cent.

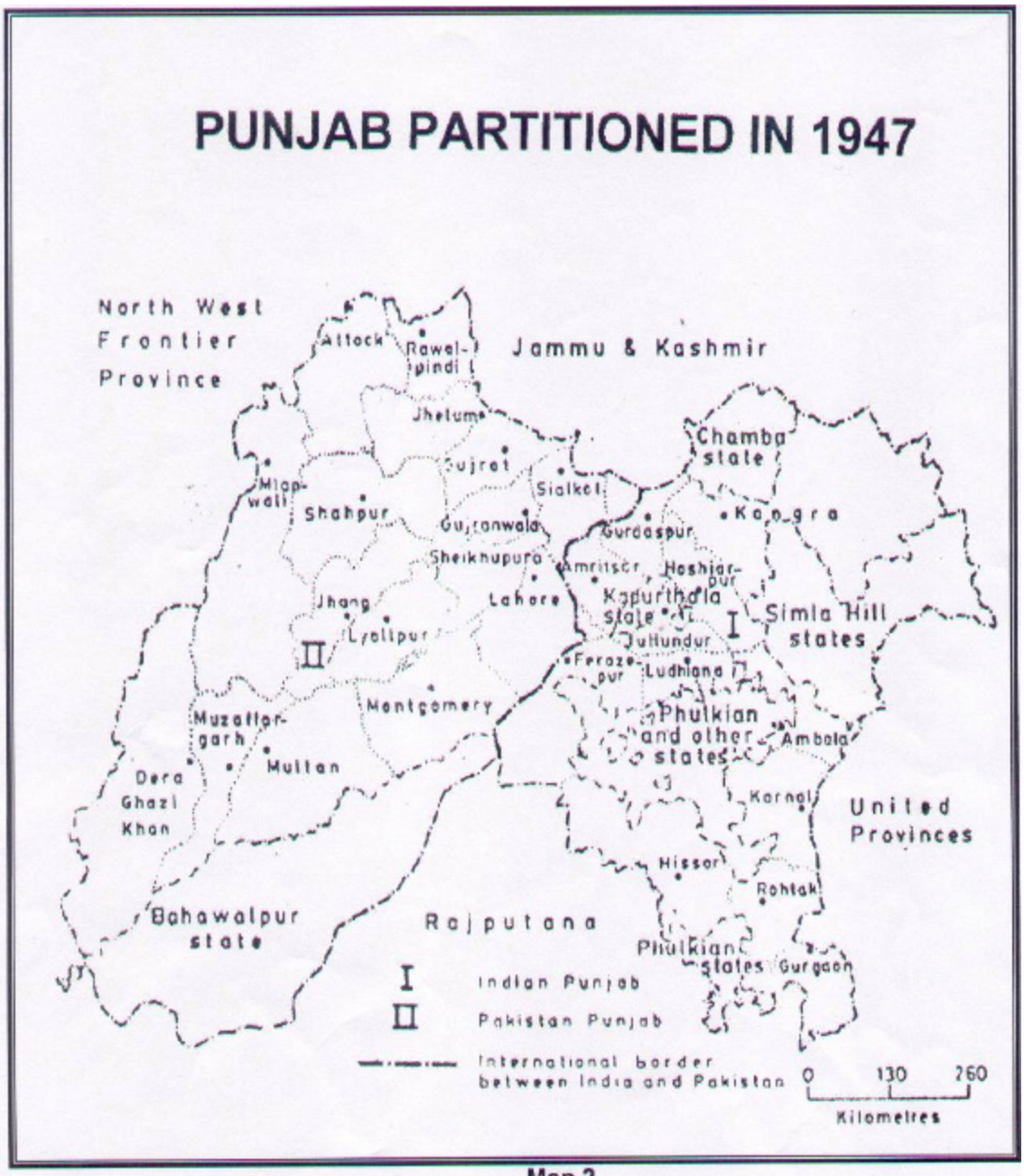
Climate: Punjab has an inland subtropical location. Its climate is continental, semi-arid to sub-humid. More than 70 per cent of the annual rainfall is concentrated in the monsoon months of July to September. Winter rains occur in the December and January. The southwestern part of Punjab receives low annual rainfall. January and June have the lowest and highest temperatures respectively.

Soil: Soils in the state are generally sandy loam to loam in texture, which are deficient in nitrogen and organic matter and, therefore, need heavy manuring for good yields.



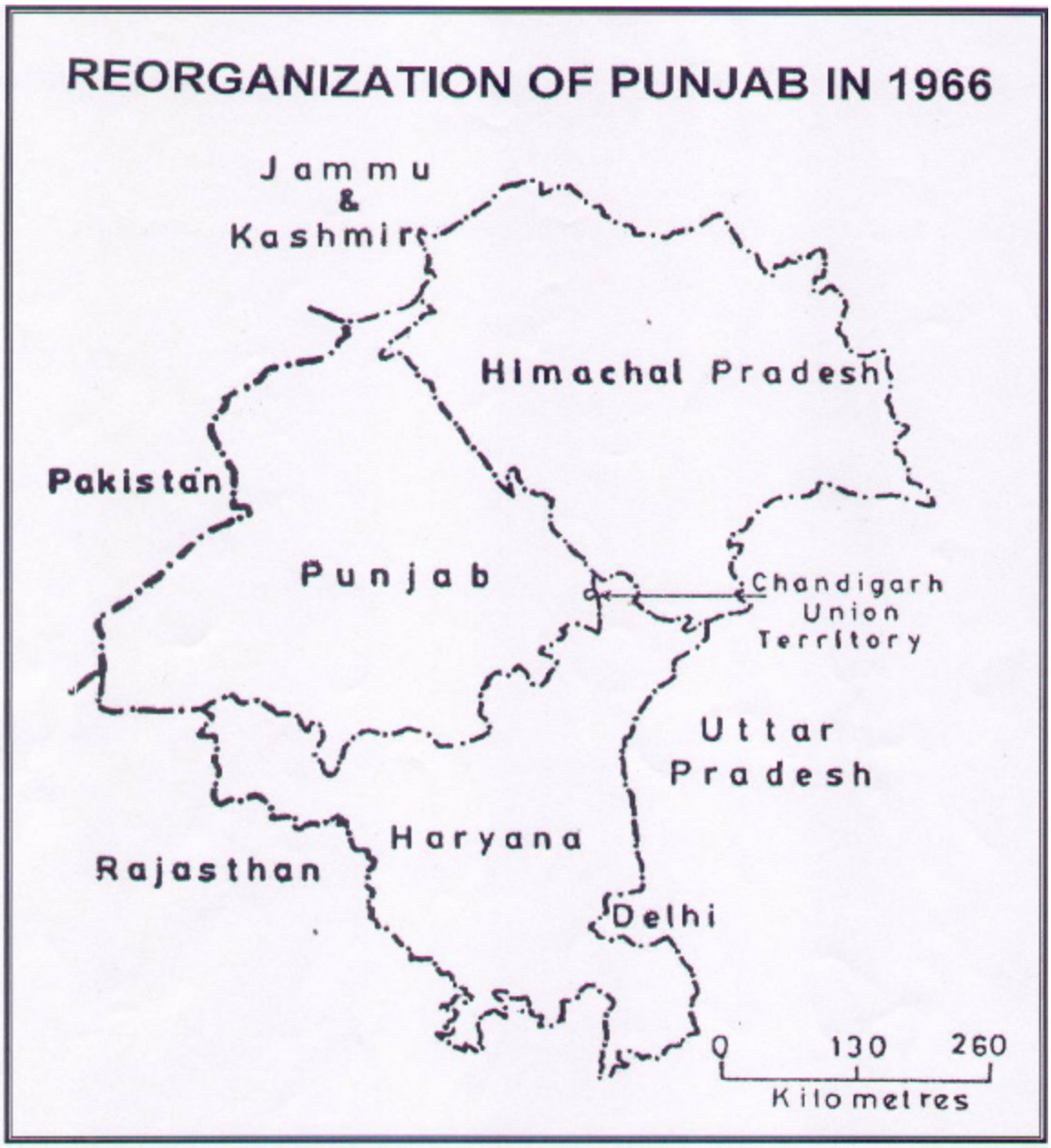
Map 1

Source: *Census of India (2001), Provisional Population Totals, Paper –2 of 2001*, DCO, Punjab



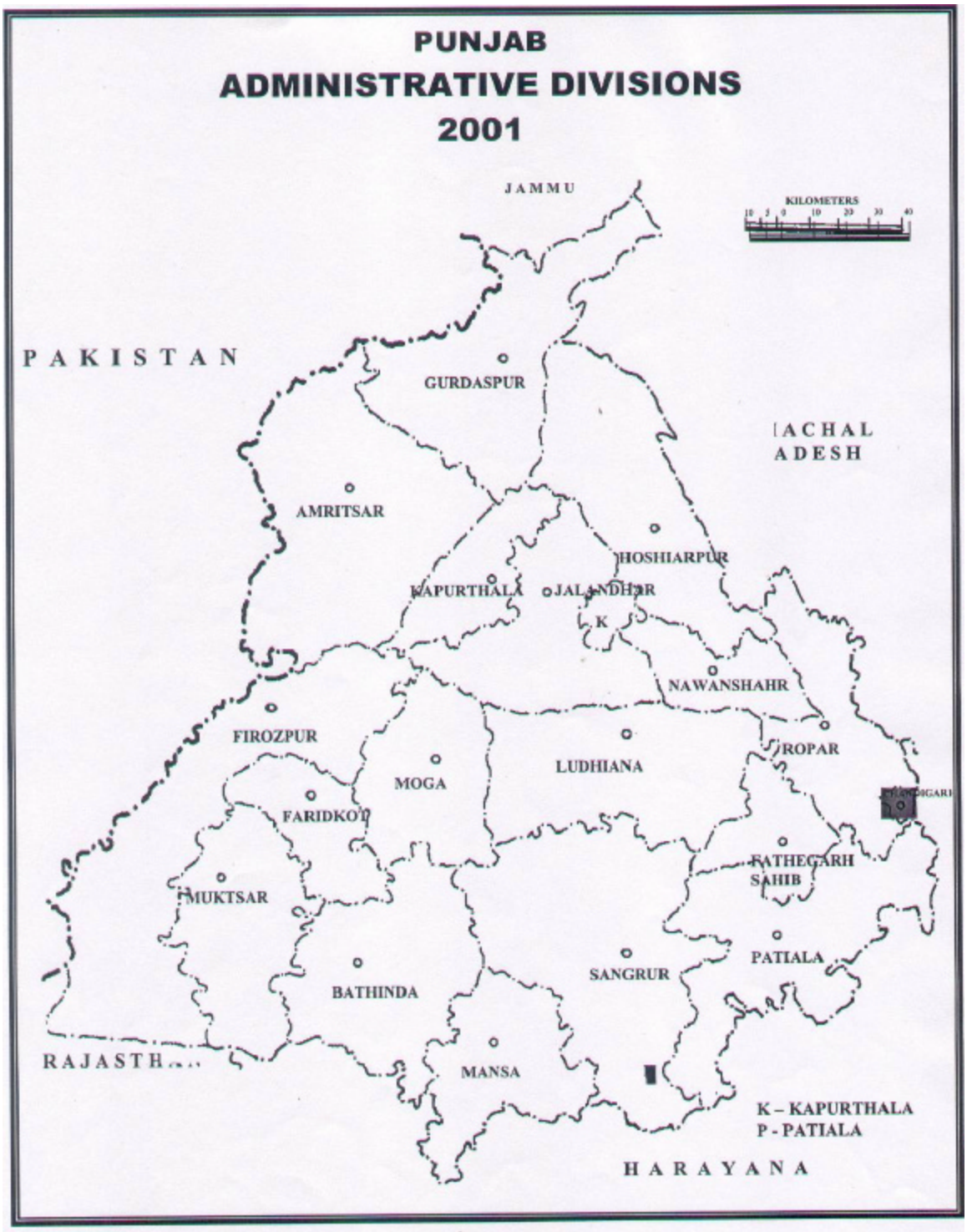
Map 2

Source : Surya Kant (1988), *Administrative Geography of India*, Rawat Publishers, Jaipur



Map 3

Source : Same as in Figure 2



Map 4

Source: *Census of India (2001), Provisional Population Totals, Paper-2 of 2001*, DCO, Punjab

However, the weak point of Punjab's physiography is the deteriorating soil health, change in the water table, and lack of availability of minerals and fossil-fuel resources. Due to the practice of rice-wheat rotation and excessive use of fertilizers over a long period, the soil has lost its character. It requires heavy doses of fertilizers, which

amounts to an additional financial burden on the farming community in terms of the inputs in the agricultural sector in the state.

Water bodies: The rivers -- the Ravi, the Beas and the Sutlej -- are perennial streams. All-time availability of water is the major requirement of the state. To cope with the shortage of water, which fluctuates from one season to another, dams and barrages were constructed for regulating the water supply needed to feed irrigation and powerhouses throughout the year. The state has developed a good network of canals.

Overall, the physical setting of the state makes it conducive for agricultural development. Punjab has a physiography, which has provided an opportunity for the mechanization of agriculture. This has further helped in achieving rapid strides in agricultural production. Its location on a generally hostile international border since partition, has had its own impact on the development process in the state.

INFRASTRUCTURAL BASE

The task, after partition and the reorganization, was to give a direction to the development process of the state, to respond positively to the aspirations and development needs of the people. The vision of the state government, after partition, centred on the initiation of the right kind of priorities. This was in accord with the specific economic infrastructural strength of the state as well as the needs of the overall national economy. The objective was to boost economic development through the rural development. It was to be achieved through agricultural development, rural electrification, and road connectivity. The success in creating this particular infrastructure in the state can be judged from the fact that its rating by the Centre for Monitoring Indian Economy is 191.4 as against the national average of 100.

Rehabilitation: Post-partition Punjab was faced with the lack of the infrastructure necessary to accommodate 40 lakh displaced persons. They were put in refugee camps, institutions and other available structures in insanitary conditions. The immediate task was to create the infrastructure to accommodate the refugee population. New towns were constructed and economic projects initiated for the resettlement of refugees from rural areas. The developmental pattern, established during the period, has continued to guide the path of development in the state till today.

Another major problem after independence was the need for a suitable site for a new capital, since Lahore had been lost to Pakistan. Shimla, the summer capital of British India, was adopted as an interim arrangement. Because of the peripheral location of Shimla, it was decided to build a new capital, to be called Chandigarh, which was centrally located in relation to the territory of Punjab after independence. The capital was shifted from Shimla to Chandigarh in 1953. However, after the reorganization of the state, the capital has again moved towards the periphery. Punjab and Haryana have conflicting claims on Chandigarh. Unable to secure exclusive right to Chandigarh, the two states have established new towns, namely Mohali in Punjab and Panchkula in Haryana, on the periphery of Chandigarh. This has influenced the developmental pattern of the state. Most of the developmental activities are around these towns.

Partition changed not only the overall demography of the area but also the religious composition of the population. Prior to partition, the Hindus, the Muslims and the Sikhs had first, second and third rank in most parts of the state. With the mass exodus of

Muslims to Pakistan on the eve of partition, Punjab became a Hindu majority area, and after reorganization, as constituted now, a Sikh majority area. The three major religious communities possess different skills, which in turn have influenced the subsequent development of the state. The farming community in western Punjab was more skilled than in eastern Punjab. In-migration of these communities to eastern Punjab gave a boost to the agricultural sector.

Before reorganization, the major part of infrastructural development had been allocated to the relatively more populous and developed areas of Punjab (Table 2).

Table 2
Comparative Picture of Social Infrastructure and Demographic Attributes in Punjab and Haryana at the Time of Reorganization and in 2000-01

Facility/attribute	1961-1975		2000-2001	
	Punjab	Haryana	Punjab	Haryana
High/Higher secondary schools per 1,000 sq. kms.	19.56 (1965-66)	11.22 (1965-66)	67.3 (2000-2001)	88.6 (1999-2000)
Road length (mettalled) per 100 sq. kms.	12.65 (1965)	11.95 (1965)	91.2 (2000-2001)	54.8 (1999-2000)
Per cent of electrified villages	29.41 (1966)	18.59 (1966)	100.0 (2000-2001)	100.0 (1999-2000)
Birth rate	34 (1971-73*)	41 (1971-73*)	22.4 (1997-99**)	27.6 (1997-99**)
Death rate	11.7 (1971-73*)	11.3 (1971-73*)	7.5 (1997-99**)	8.0 (1997-99**)
Infant mortality rate	112 (1971-73*)	90 (1971-73*)	52.7 (1997-99**)	68.7 (1997-99**)
Life expectancy	57.9 (1970-75*)	57.5 (1970-75*)	67.4 (1992-96**)	63.8 (1992-96**)
Sex ratio#	865 (1971)	867 (1971)	882 (2001)	865 (2001)
Per cent literates#	26.74 (1961)	19.90 (1961)	69.9 (2001)	68.6 (2001)
Per cent urban population#	23.06 (1961)	17.20 (1961)	33.9 (2001)	29.0 (2001)

Source: I) Various issues of *Statistical Abstracts of Haryana and Punjab*
ii) * Registrar General (1999): *Compendium of India's Fertility and Mortality Indicators, 1971-97*, Sample Registration System, India, New Delhi
iii) ** Registrar General (2001): *Sample Registration System Bulletin*, Volume 35, No. 2, October 2001, New Delhi.
iv) # *Census of India*, Volumes 1981 and 2001

Irrigation: Efforts were made to bring more area under cultivation. Initially, the completion of the Bhakhra-Nangal project and subsequently sinking of tube wells met the major requirements of water in the state. In 1970-71, it had 71 per cent of the net irrigated area to net area sown, which increased to 94 per cent in 2000-01.

Transport and communication: The state has developed a good network of roads. The economy took a new turn with the construction of rural roads in the state. During 1970-71 to 2000-01, road network increased 3.3 times. Almost all (99.24%) villages are connected by roads. In Kapurthala, Jalandhar, Nawanshaher, Faridkot, Mukatsar, Moga, Mansa and Fatehgarh Sahib districts all villages are connected by roads.

Power: Since its formation, the state has been making every effort to augment its energy resources. By 1975-76, it achieved 100 per cent electrification of all its villages. All the villages are connected to a grid. In 1980-81, 56.33 per cent of the total households were using electricity, which increased to 86.70 per cent in 2000-01. The per capita generation of power (733 kwh) is 2.5 times the national average. Per capita consumption of electricity in the state in 1998-99 was 351.39 khw as against the national average of 90.98 khw, and 232.80 khw in the neighbouring state of Haryana. Approximately two-fifths (39.3%) of the electricity produced in the state in 1999-00 went to the agricultural sector. This share is one of the largest in any state in the country.

Institutional credit: The state has a strong infrastructure for providing credit through a multi-tier and multi-functional system. It has the highest number of banks per capita -- 15 banks for every 10,000 population. Institutions providing ready credits in the state increased initially at a faster pace but slowed down gradually. The increase was relatively sharper during 1966 to 1970, when the number of banks per 10,000 rural population increased sharply from 97 to 326. The increasing income of the farmers and the consequent increase in the saving capacity has promoted an improved credit system in rural areas (Singh, H., 2001). In 1990, 55.1 per cent of the banks were located in the smaller areas as against 51.5 per cent in 1980. However, in the post-liberalization period, the situation has changed. Banking facilities are moving towards urban areas. Banks in urban areas increased from 22.6 per cent in 1990 to 30.5 per cent in 2000. On the other hand, banks in smaller areas decreased from 55.5 per cent to 43.2 per cent during the same period.

Besides this, the co-operative societies have made a significant contribution to stimulating the rural economy of the state. Their membership has almost doubled during the 1970-71 to 2000-2001, i.e., from 22 lakh to 44 lakh.

Urban base: One-third of the total population in the state is urban, living in 157 towns. One out of every seven persons in urban areas reside in slums. The existence of urban slums indicates pressure on the urban infrastructure. Urbanization in the state is expected to increase at a rapid pace due to economic reforms and industrial growth. This would put great stress on the urban infrastructure. Despite efforts of the government in containing the number of slum dwellers, the slums are expanding and the situation is worsening with the passage of time.

Education: Infrastructure for social upliftment in the state has increased significantly. The teacher-pupil ratio was 1:42 at the primary level, 1:26 at the middle level and 1:24 at the high/senior stage in 2000 in the state as against 1:42, 1:37 and 1:35 respectively at the national level. However, despite improvements in infrastructural facilities, there has been no change in the teacher-pupil ratio in primary schools during the period 1971 to 2000. The teacher-pupil ratio in primary schools in Mukatsar and Mansa districts was 1:55 and 1:60 respectively, indicating a disparity in availability of teachers.

In 1971, only two engineering, technology and architecture colleges were in operation as against 16 in 2000. During the same period, polytechnic institutes have increased from eight to 20 and technical, industrial and craft schools from 27 to 119. This kind of infrastructure has led to a change in the employment scenario of the state. Of the total 5.49 lakh unemployed (September 2001), three-fourths are educated unemployed. Out of them, unemployed, 77.63 per cent belong to the non-technical category and the

remaining 22.37 per cent have professional qualifications. This is an indication to policy makers to plan the requisite type of educational infrastructure.

Health: The health infrastructure in the state has expanded sharply in rural areas. In 2000-2001, four-fifths of the health institutions were in rural areas as against 57.9 per cent in 1970-71. During 1970-71 to 2000-01, health institutions in rural areas increased 5.7 times as against two times in urban areas. However, the quality of the health infrastructure available in urban areas is better than in rural areas. During this period, of the total health institutions in rural areas, 4.1 per cent were functioning as hospitals as against 29.6 per cent in urban areas. The majority of the health institutions (68.5%) in the state catered to the primary health care needs of the rural community.

ECONOMIC DEVELOPMENT

The resource base determines the direction and pace of economic development. Predominance of the agricultural sector characterized the economy of Punjab. Its base was already there when the state was first formed and further developed in a planned manner. Agriculture has been the backbone of the state economy. Even though the share of the agricultural sector has declined, two-fifths of the state domestic product still comes from this sector alone. It had boosted economic growth initially, but seems to have slowed down over the years. The state's economy, after years of prosperity has been experiencing a declining trend in recent times.

State domestic product: The state's economic performance has varied over different time periods. During 1965-66 to 1975-76, the economy grew at the rate of 4.8 per cent as against 3.5 per cent in the national economy (Department of Planning, 1978). Thereafter, the state economy grew at a pace slower than the other states as well as the Indian economy. In the 1980s, Punjab economy grew at the rate of 5.3 per cent per annum as against 5.5 per cent in the case of the national economy (Table 3). Such States Rajasthan (6.6%), Haryana (6.4%), Maharashtra (6.0%) and Andhra Pradesh (5.6%) experienced higher rates of growth than Punjab. States, such as Tamil Nadu (5.4%), Karnataka (5.3%) and Gujarat (5.1%) experienced a more or less similar rise in their respective economies. The state economy has grown at a relatively slower rate in the post-liberalization decade of the 1990s. During 1991-92 to 1997-98, the national economy grew at the rate of 6.9 per cent per annum as against 4.71 per cent in the case of the state economy. This was the time when the economy of other states grew at an even faster rate than in the 1980s. The economy of Gujarat, Maharashtra, West Bengal, Tamil Nadu, Madhya Pradesh and Kerala grew at the rate of 9.6, 8.0, 6.9, 6.2, 6.2, 5.8 per cent per annum respectively. The neighbouring state of Haryana grew at the rate of 5.0 per cent per annum.

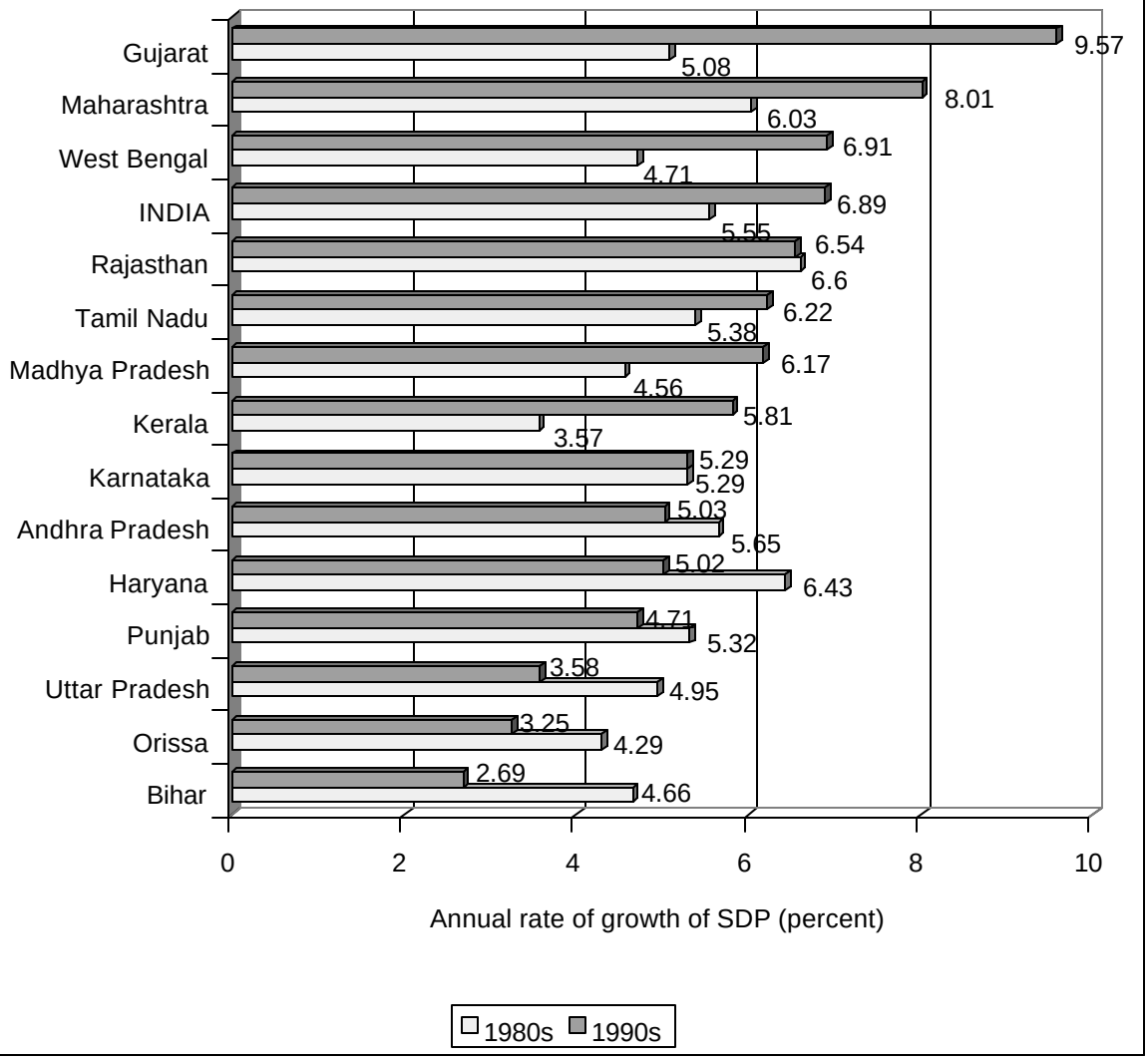
Table 3
Economic Performance of States during the 1980s and 1990s

State	Annual rate of growth of SDP (per cent)		Annual rate of growth of per capita SDP (per cent)	
	1980-81 to 1990-91	1991-92 to 1997-98	1980-81 to 1990-91	1991-92 to 1997-98
Bihar	4.66	2.69	2.45	1.12
Rajasthan	6.60	6.54	3.96	3.96
Uttar Pradesh	4.95	3.58	2.6	1.24
Orissa	4.29	3.25	2.38	1.64
Madhya Pradesh	4.56	6.17	2.08	3.87
Andhra Pradesh	5.65	5.03	3.34	3.45
Tamil Nadu	5.38	6.22	3.87	4.95
Kerala	3.57	5.81	2.19	4.52
Karnataka	5.29	5.29	3.28	3.45
West Bengal	4.71	6.91	2.39	5.04
Gujarat	5.08	9.57	3.08	7.57
Haryana	6.43	5.02	3.86	2.66
Maharashtra	6.03	8.01	3.58	6.13
Punjab	**5.32**	**4.71**	**3.33**	**2.8**
SDP of 14 states	5.24	5.94	3.03	4.02
GDP (National accounts)	5.55	6.89	-	-

Source: Ahluwalia, M.S. (2000) `Economic Performance of States in Post-Reform Period' , *Economic and Political Weekly*, 35(19), 6 May.

Figure 1

Economic Performance of States during the 1980s and 1990s



Source: Same as in Table 3

Per capita income: Since its formation in 1966, the state has been ranked first in terms of per capita income. However, after the introduction of economic reforms in the 1990s, it lost that place. The growth of per capita income in other states was steadier than in Punjab. During the 1980s, the difference in the rate of growth of per capita income between Punjab, Maharashtra and Gujarat was not so wide (3.3, 3.6 and 3.1 % respectively per annum) as compared to the 1990s. During the 1990s, the rate of growth of the per capita income in Gujarat and Maharashtra was 7.6 and 6.1 per cent per annum respectively as against 2.8 per cent in Punjab. This calls for an in-depth analysis.

Per capita income in the state rose continuously during 1966-67 to 2000-01 at current prices. This reflects the rising level of prosperity in the state. Even at constant prices, with the base year 1980-81, the trend reveals that it was only thrice, in the last 32 years, that the per capita income decreased as compared to the preceding year (Table 4). As compared to the per capita income of Rs. 2,094 in 1969-70, in 1970-71 it came down marginally to 2,092, a fall of Rs. 2; from Rs. 2,646 in 1978-79 to Rs. 2,612 in 1979-80 and from Rs. 2,906 in 1982-83 to Rs. 2,904 in 1983-84. However, the per capita income in some years rose at a faster pace than in the preceding year. In 1981-82, 1989-90 and 1996-97 the per capita income increased by Rs. 201, 224 and 258 respectively as compared to the preceding year.

Table 4
Per Capita Income in Punjab during 1966-67 to 2000-01 at 1980-81 Constant Prices

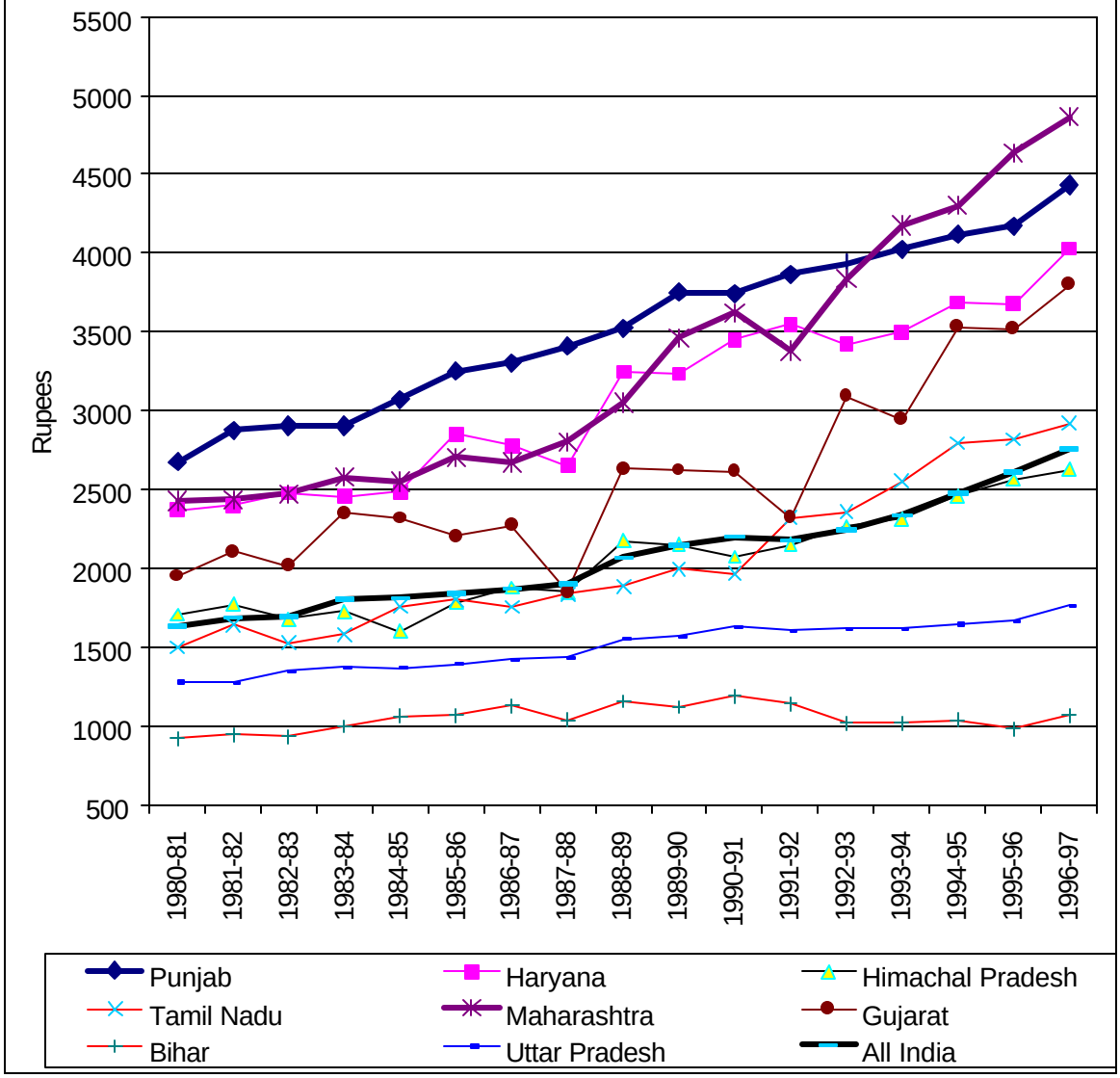
Year	Per capita income (Rupees)		Year	Per capita income (Rupees)
1966-67	1,791		1984-85	3,073
1967-68	1,957		1985-86	3,249
1968-69	2,024		1986-87	3,302
1969-70	2,094		1987-88	3,410
1970-71	2,092		1988-89	3,526
1971-72	2,109		1989-90	3,750
1972-73	2,133		1990-91	3,751
1973-74	2,142		1991-92	3,865
1974-75	2,157		1992-93	3,931
1975-76	2,295		1993-94	4,025
1976-77	2,388		1994-95	4,120
1977-78	2,527		1995-96	4,172
1978-79	2,646		1996-97	4,430
1979-80	2,612		1997-98	4,452
1980-81	2,674		1998-99	4,627
1981-82	2,875		1999-00	4,794
1982-83	2,906		2000-01	4,925
1983-84	2,904			

Source: Various issues of *Statistical Abstracts*, Punjab

Even though Punjab's rank in per capita income has gone down in comparison with other states, it remains one of the highest. Per capita income in the state in 1997-98 was 4.1 times higher than in Bihar, which was 2.9 times higher in 1980-81. In fact, the per capita income of the state was the highest among the major states up to 1993-94, when Maharashtra surpassed Punjab. During this period, the per capita income the state was Rs 4,025 in comparison with Rs. 4,177 in Maharashtra. The gap in the per capita income between these two states has widened ever since. The per capita income of Punjab in 1997-98 was Rs. 4,452 as compared to Rs. 4,791 in Maharashtra.

Figure 2

Per Capita Income in Selected States 1980-81 to 1996-97
(at 1980-81 Constant Prices)



Source: Various issues of *Statistical Abstracts*, Punjab

Structural transformation of the economy: Despite deceleration of the overall state economy, it has undergone a structural transformation during the last three decades, 1970-71 to 1998-99. The primary sector grew at the rate of 3.9 per cent per annum as against the secondary sector at 6.5 per cent and the tertiary sector at 5.4 per cent (Table 5).

The sectors which have grown at a rate less than the state average are trade, hotel and restaurants (4.9%), agriculture and livestock (3.9%), other services (3.3%), agriculture (3.2%), forestry and logging (2.8%), real estate ownership of dwellings and business

services (2.3%), construction (1.6%), and mining and quarrying (-4.9%). The sectors experiencing a rate of growth higher than the state average were fishing (12.5%), banking and commerce (9.7%), electricity, gas and water supply (9.4%), manufacturing (8.6%), public administration (8.0%), transportation storage and communication (7.6%) and livestock (5.3%).

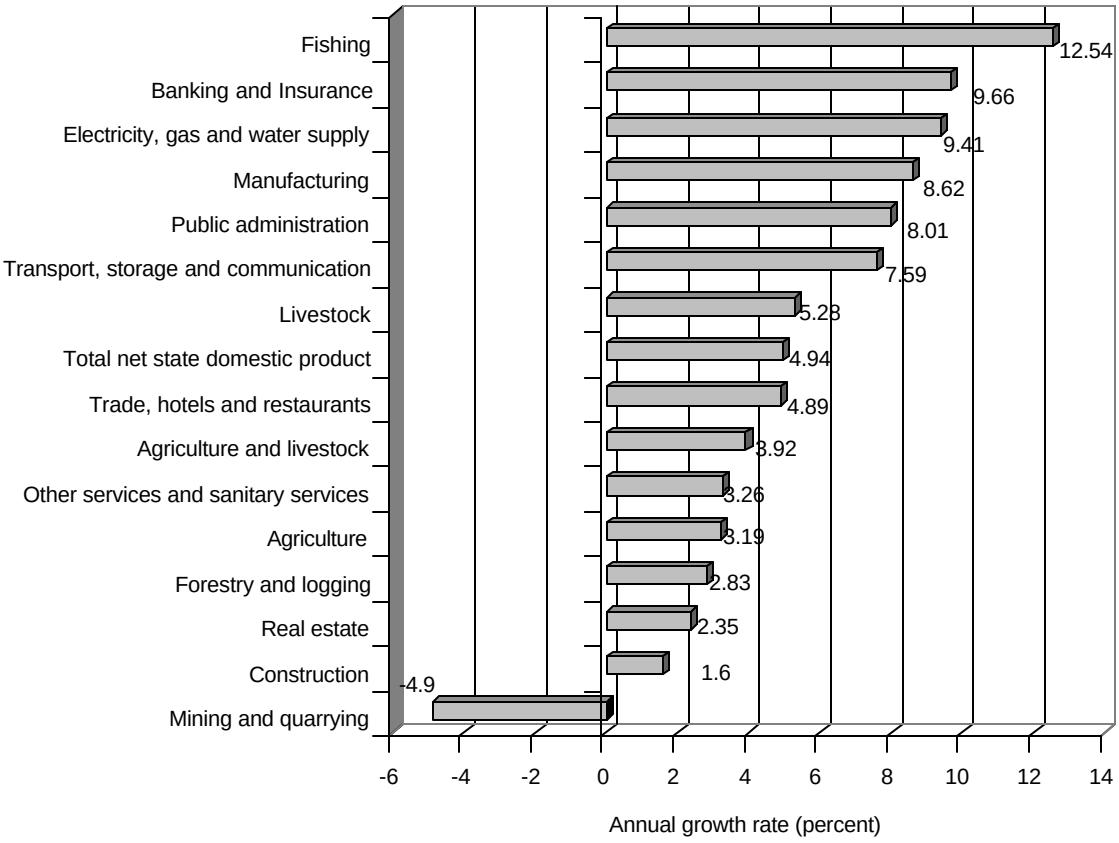
Table 5
Sectoral Rates of Growth in Punjab, 1970-71 to 1998-99 at 1980-81 Constant Prices

Sector	1970-74	1974-78	1980-85	1985-90	1992-97	1997-99	1970-71 to 1998-1999
(A) Primary							
Agriculture and livestock	1.42	3.93	4.96	3.96	2.66	1.76	3.92
Agriculture	0.56	2.20	5.65	3.58	1.73	2.53	3.19
Livestock	1.40	2.30	3.53	4.76	4.27	0.72	5.28
Forestry and logging	2.05	8.21	-16.43	-1.09	0.24	0.30	2.83
Fishing	0.29	2.57	2.28	16.88	15.15	11.17	12.54
Mining and quarrying	-19.18	4.20	-3.04	35.79	-36.63	-3.82	-4.90
Total (A)	**0.81**	**2.30**	**4.66**	**3.91**	**2.66**	**1.80**	**3.93**
(B) Secondary							
Manufacturing	3.48	5.40	8.36	6.66	7.16	3.53	8.62
Electricity, gas and water supply	3.88	6.30	5.36	9.99	4.96	3.36	9.41
Construction	-0.85	5.01	-2.75	0.88	2.29	3.55	1.60
Total (B)	**1.44**	**5.28**	**4.93**	**5.75**	**6.25**	**3.52**	**6.52**
(C) Tertiary							
Trade, hotels and restaurants	2.77	5.20	2.38	2.75	2.96	2.37	4.89
Transport, storage and communication	2.56	2.71	5.28	5.67	9.92	7.92	7.59
Banking and Insurance	1.60	5.92	9.12	11.76	8.90	6.94	9.66
Real estate, ownership of dwellings and business services	0.47	0.49	1.46	2.65	-0.40	1.11	2.35
Public administration	1.34	2.35	2.14	9.14	4.53	5.09	8.01
Other services and sanitary services	2.13	2.47	2.00	1.72	1.80	1.40	3.26
Total (C)	**2.06**	**3.64**	**2.97**	**4.46**	**4.24**	**3.97**	**5.42**
Total net state domestic product	1.27	3.23	4.18	4.45	3.98	2.92	4.94
Per capita Net State product (Per Capita Net Income) Rs.	0.34	2.29	2.40	2.93	2.42	1.95	2.88

Source: Various issues of *Statistical Abstracts*, Punjab
Note: The data presented in the table marks the seventies and latest year, and the last year of the respective plan periods beginning from Fourth Plan

Figure 3

Sectoral Rates of Growth in Punjab 1970-71 to 1998-99
(at 1980-81 constant prices)



Source: Various issues of *Statistical Abstracts*, Punjab

Agriculture is still a major contributor to the state economy, despite its continuously declining share. Its share in SDP declined from 52.85 per cent in 1966-67 to 41.33 per cent (Table 6) in 1998-99 (at 1980-81 base year). The share of the agricultural sector in SDP up to the end of the Seventh Plan (1989-90) decreased by 3.7 per cent points as compared to its contribution up to the end of Fourth Plan period. It decreased at a faster rate during the Eighth Plan than during Seventh Plan. During this period, its share decreased by 4.2 points. The share of agriculture in SDP per se drastically declined from 40.91 per cent to 24.08 per cent during 1966-67 to 1998-99, a fall of 16.83 per cent points. The share of the livestock sector increased by 6.54 per cent points during the same period. Forestry and logging, fishing, and mining and quarrying sectors continue to contribute a negligible share to the state economy. This structural shift in the agricultural sector is a sign of the state's healthy economy.

Table 6
Sectoral Distribution of SDP of Punjab during 1966-67 t0 1998-99 at 1980-81 Prices (in per cent)

Sector	1966-67	1973-74	1977-78	1984-85	1989-90	1996-97	1998-99
Agriculture and livestock	52.85	52.57	50.30	50.28	49.15	44.95	41.33
Agriculture	40.91	36.66	34.85	34.54	32.96	27.68	24.08
Livestock	10.71	15.90	15.45	15.74	16.19	17.27	17.25
Forestry and logging	0.38	0.81	0.80	0.33	0.6	0.46	0.44
Fishing	0.04	0.03	0.03	0.03	0.06	0.19	0.24
Mining and quarrying	0.01	0.01	0.01	0.01	0.04	0	0
Manufacturing	7.86	9.36	10.67	13.4	15.55	20.07	21.1
Electricity, gas and water supply	0.71	1.00	0.96	1.39	1.96	2.61	2.69
Construction	3.5	7.94	8.38	4.36	3.77	3.21	3.73
Trade, hotels and restaurants	10.96	12.15	13.75	13.36	11.49	10.7	10.82
Transport, storage and communication	1.45	1.89	1.88	2.16	2.3	2.89	3.47
Banking and Insurance	1.43	1.84	1.98	3.21	4.28	5.38	6.17
Real estate, ownership of dwellings and business services	5.78	4.53	3.69	3.73	3.43	2.47	2.38
Public administration	1.52	1.79	1.63	2.55	3.09	3.38	3.99
Other services and sanitary services	6.13	6.07	5.92	5.19	4.28	3.69	3.64

Source: Various issues of *Statistical Abstracts*, Punjab

Note : The data presented in the table marks the beginning year of the state and latest year, and the last years of the respective plan periods beginning from Fourth Plan

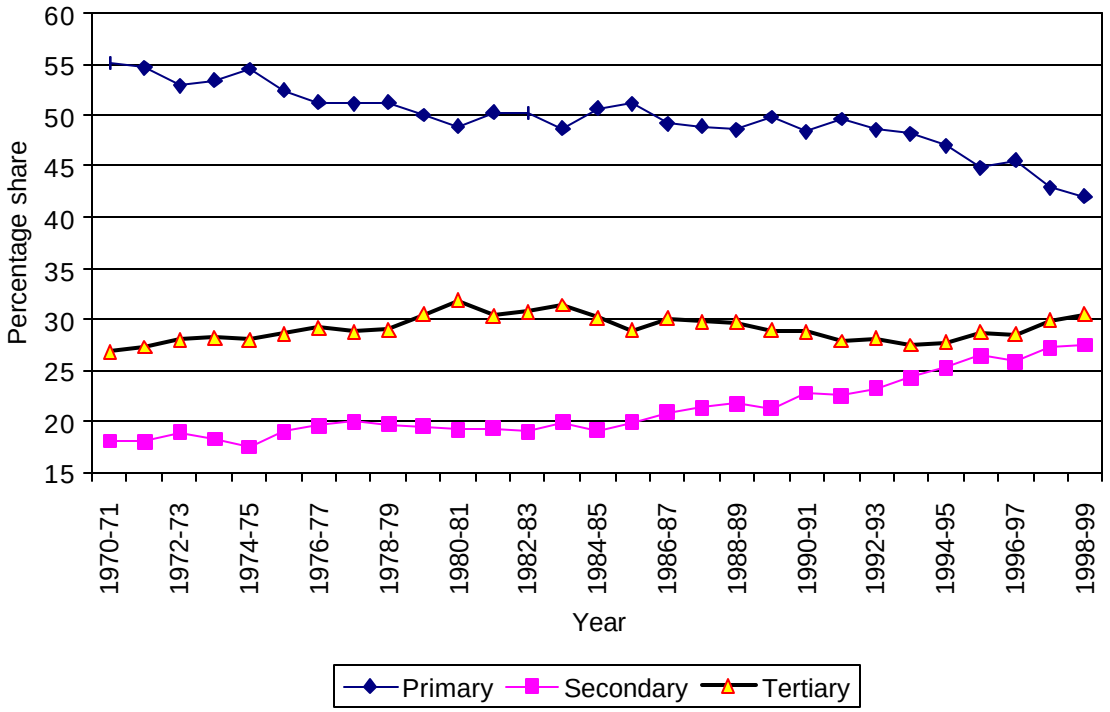
During 1966-67 to 1998-99, the share of the manufacturing sector in SDP increased by 13.2 per cent points. During the 1990s, its rise was higher than during the 1970s and 1980s. This increase has continued consistently in all the plan periods. It increased by 2.1 per cent points between the Sixth and the Seventh Plans and by 4.5 per cent points during the Seventh and Eighth Plans. There has been hardly any increase in the first two years of the Ninth Plan.

The share of the construction sector in SDP has remained more or less the same during 1966-67 to 1998-99. On the other hand, the share of electricity, gas and water supply sectors have increased by 1.98 per cent points during the same period. However, as compared to the end of the Fourth Plan their share rose by 1.6 per cent points by the end of the Eighth Plan. The first two years of the Ninth Plan indicate a continuation of this trend.

The share of trade, hotel and restaurants sectors has marginally decreased during 1966-67 to 1998-99. Their performance, however, has varied during different plan periods. At the end of the Fourth Plan it was 12.1 per cent, increased to 13.7 per cent at the end of the Fifth Plan, and thereafter, it started declining, reaching 10.7 per cent by the end of the Eighth Plan.

Figure 4

Net State Domestic Product at Factor Cost by Sectors in Punjab 1970-71 to 1998-99 (Constant Prices 1980-81)



Source: Various issues of *Statistical Abstracts*, Punjab

The transport, storage and communication sectors consistently increased during every plan period. During 1966-67 to 1998-99, their share increased by 2.0 per cent points, banking and insurance by 4.7 per cent points and public administration by 2.5 per cent points. The sectors experiencing a decline in their share in SDP during the same period were real estate ownership of dwellings and business services (3.4% points) and other services (2.5% points).

Expenditure pattern: Spending on different sectors has had a direct bearing on the growth of the state economy. Budgetary expenditure by the government, during 1967-68 to 2000-01, increased 134 times from Rs. 95.74 crore to Rs. 12,861.74 crore. At the time of the formation of the state, in 1966, the development expenditure was two-thirds of the total budgetary expenditure, which was 5.2 per cent of the NSDP (L. Singh and S. Singh, 2002). It peaked to 72.1 per cent of the total budgetary expenditure in 1975-76, which was 7.7 per cent of the NSDP (Table 7). Thereafter, it started declining. During 1980-81 to 1990-91, it declined by seven per cent points, whereas its share in the NSDP increased by almost one per cent point. The decline in development expenditure was sharper in the 1990s. During 1990-91 to 2000-01, it decreased by 18.1 per cent points.

Table 7
Different Types of Expenditure in Punjab (in Rs crore and per cent shares)

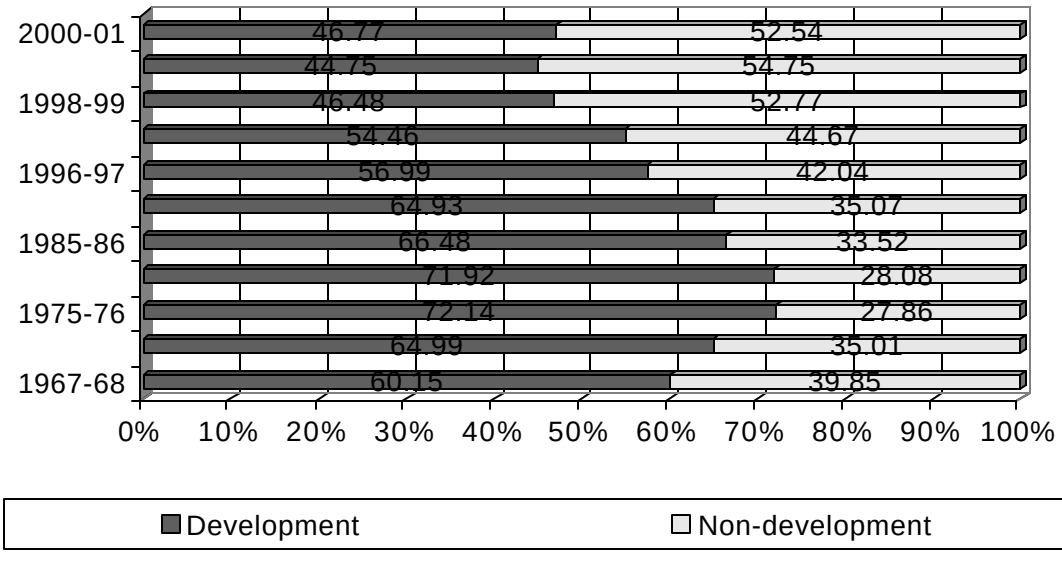
Years	Budgetary expendi-ture	Development expendi-ture	Non-develop-ment expendi-ture	Capital expendi-ture as per cent of NSDP	Budgetary expendi-ture as per cent of NSDP	Developm-ent expendi-ture as per cent of NSDP
1967-68	95.74	60.15	39.84	-	8.6	5.17
1970-71	136.02	64.99	35.00	4.93	9.47	6.15
1975-76	278.27	72.14	27.85	-	10.7	7.72
1980-81	549.53	71.92	28.07	6.01	12.34	8.88
1985-86	1,162.9	66.48	33.71	6.03	13.98	9.3
1990-91	2,519.91	64.92	35.07	3.7	15.03	9.76
1996-97	6,925.67	56.99	42.04	2.34	16.84	9.59
1997-98	8,195.65	54.46	44.67	1.53	18.05	9.83
1998-99*	8,384.31	46.74	52.38	5.2	16.91	7.90
1999-00*	10,195.27	44.75	54.75	3.21	18.38	8.22
2000-01*	12,861.74	46.77	52.54	4.70	21.12	9.88

Source: Singh, L. and S. Singh (2002): Deceleration of Economic Growth in Punjab, Evidence, Explanation and a Way Out, *Economic and Political Weekly*, 9 February, 2002

***-** Reserve Bank of India (various volumes): *State finances: A study of budgets*

Note: Figures in parenthesis are percent share.

Figures 5
Type of expenditure in Punjab: 1967-68 to 2000-01



Source: Same as in Table 7

During 1967-68 to 2000-01, the share of budgetary expenditure to NSDP increased from 8.6 per cent to 21.12 per cent points, an increase of 12.52 per cent points. In comparison, development expenditure increased from 5.2 per cent of NSDP to 9.9 per cent during the same period, an increase of only 4.7 per cent points.

Capital expenditure, which is considered to be the central force for creating capacity in social and economic infrastructural facilities for the use of the productive sectors of the economy, has declined sharply from a high of six per cent in 1985-86 to 4.7 per cent of NSDP in 2000-01. The declining capital expenditure is likely to put a constraint on the expansion of the future rate of economic growth. Decline in investment in both public and private sectors has affected the rate of economic growth of the state in the 1990s (L. Singh and S. Singh, 2002).

Plans-wise expenditure: Plan-wise expenditure on various sectors during the Fourth and the Ninth Plan reveals the predominance of the irrigation and power sectors. In the Fourth Plan, 59.4 per cent of the total expenditure was on these sectors. It rose to 66.1 per cent during the Seventh Plan (Table 8). By the Ninth Plan it came down to 51.1 per cent, but remains the major chunk of the total expenditure. In the social sector, the expenditure on social and community services was 12.2 per cent, which has risen to 28.4 per cent during the Ninth Plan period. At the time of the formation of the state, much emphasis was laid on the development of rural infrastructure through better transport and communication facilities. To reach the desired goals, the expenditure initially was 13.84 per cent of the total. The state attained one of the highest road densities and a well-developed infrastructure. Thereafter, it started declining in each successive plan period. By the Eighth Plan the expenditure on this sector came down to 3.68 per cent. It has slightly increased in the Ninth Plan.

Table 8
Sectoral Expenditure during Plan Periods, Punjab (per cent)

Major sectors of development	Fourth Plan	Fifth Plan	Sixth Plan	Seventh Plan	Eighth Plan	Ninth Plan*
Agricultural and allied sectors	10.29	11.73	10.69	7.91	5.4	4.9
Co-operation	1.47	1.22	2.09			
Irrigation and power	59.44	51.73	60.25	66.06	58.81	51.09
Industry and mineral	2.64	5.22	3.93	4.2	2.71	1.12
Transport and communication	13.84	8.8	6.03	3.98	3.68	4.84
Social and community services	12.23	20.38	16.24	13.44	22.83	28.42
Economic services	0.09	0.05	0.03	0.71	1.15	1.75
General services		0.87	0.74	0.87	1.95	4.00
Rural development				2.12	2.66	3.37
Special area programme				0.64	0.78	0.89
Science, technology and environment				0.07	0.03	0.03

Source: Various issues of *Statistical Abstracts*, Punjab

Note : * - Includes actual expenditure during 1997-01 and anticipated expenditure during 2001-02

The expenditure on agriculture and allied sectors has come down from 10.3 per cent in the Fourth plan to 4.9 per cent during the Ninth Plan. The reduction was more during the Sixth and Seventh Plan during which period it declined by 2.8 per cent points. The expenditure on industry and minerals was more or less the same in the Fourth and Eighth Plan periods. However, its share to total expenditure during the Fifth, Sixth and Seventh Plans rose to 5.2, 3.9 and 4.2 per cent respectively. Expenditure during the successive plan periods reveals an emphasis on irrigation and power, the two factors of development of agriculture and industry, respectively.

POVERTY

Estimates of poverty indicate a declining trend in the country as a whole and in Punjab as well. Comparable estimates based on somewhat consistent methodology and data are available until 1993-94. In the 55th Round Survey by NSSO, certain modifications have made the data incomparable with the earlier estimates of poverty. The overall poverty in the country declined from 54.88 per cent to 35.97 per cent during 1973-74 to 1993-94 as against a decline from 28.15 per cent to 11.77 per cent in the state (Table 9). At the national level, the decline in the population below the poverty line was steeper in rural areas than in urban areas during the same period. In Punjab, the trend was different. Here, the decline was more or less similar in both rural and urban areas. It was higher during 1973-74 to 1977-78, when it decreased from 28.15 per cent to 19.27 per cent, a fall of nine per cent. During this period, urban poverty was stagnant, whereas rural poverty declined by 12 per cent. This could have been due to the impact of the green revolution. At present only two states, Goa and Jammu and Kashmir, have a poverty level lower than Punjab. Poverty in Kerala was almost double (12.72%) that in Punjab (5.34%) in 1999-2000.

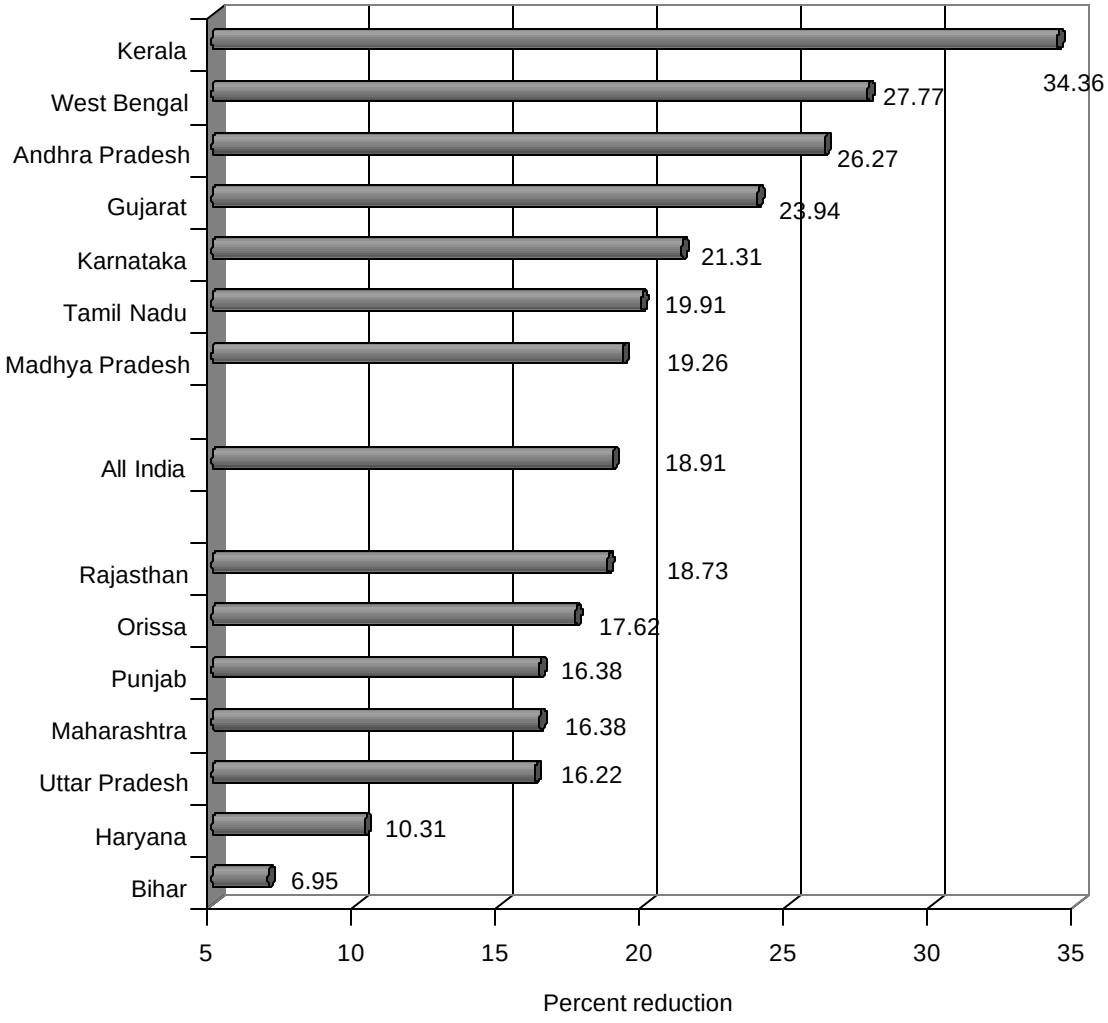
Table 9
Population Below Poverty Line in Punjab 1973-74 to 1999-2000

Year	Punjab			All India		
	Total	Rural	Urban	Total	Rural	Urban
1973-74	28.15	28.21	27.96	54.88	56.44	49.01
1977-78	19.27	16.37	27.32	51.32	53.07	45.24
1983	16.18	13.2	23.79	44.48	45.65	40.79
1987-88	13.2	12.6	14.67	38.86	39.09	38.2
1993-94	11.77	11.95	11.35	35.97	37.27	32.36
1999-00 (7 days recall period)	5.34	5.31	5.4	23.33	24.02	21.59
(30 day recall period)	6.16	6.35	5.75	26.10	27.09	23.62

Source : Various volumes of NSSO

Figure 6

Decline in Percentage of Persons Below Poverty Line (1993-94 over 1973-74)



Source : Various volumes of NSSO

Poverty eradication schemes: A number of schemes for eradicating poverty in rural as well as urban areas have been operative in the state. In rural areas, Swaran Jayanti Gram Swan Rozgar Yojna and in urban areas, Swaran Jayanti Shahri Rozgar Yojna, besides other poverty alleviation schemes, are being implemented to provide sustainable income to the targeted groups in the respective areas.

AGRICULTURAL DEVELOPMENT

The state was a deficit area in food production at the time of partition, in 1947. At that time it lost 70 per cent of the income and the same percentage of canal irrigated area in the western part of undivided Punjab. Indian Punjab was left with meagre resources. In the present Punjab area, irrigational facilities were inadequate as per the requirements, livestock were of poor quality, literacy was low and the population lived mostly in rural areas. Not only was there a division of physical resources, but even technical skills were partitioned. Peasants in Indian Punjab had not acquired the same progressive skills in farming as their counterparts in West Pakistan. Soon after Independence, the Government of Punjab passed legislations and formulated schemes aiming at agricultural development.

Deficit to surplus: Over time, the situation has changed. From a food deficit area, the state has become a surplus producer not only in foodgrains like wheat and rice but also in cotton and sugarcane. This remarkable transformation was achieved due to the hard work of the farming community, determined efforts of successive governments, and adequate physical infrastructure in the form of terrain, fertile soils and a well-developed irrigation network.

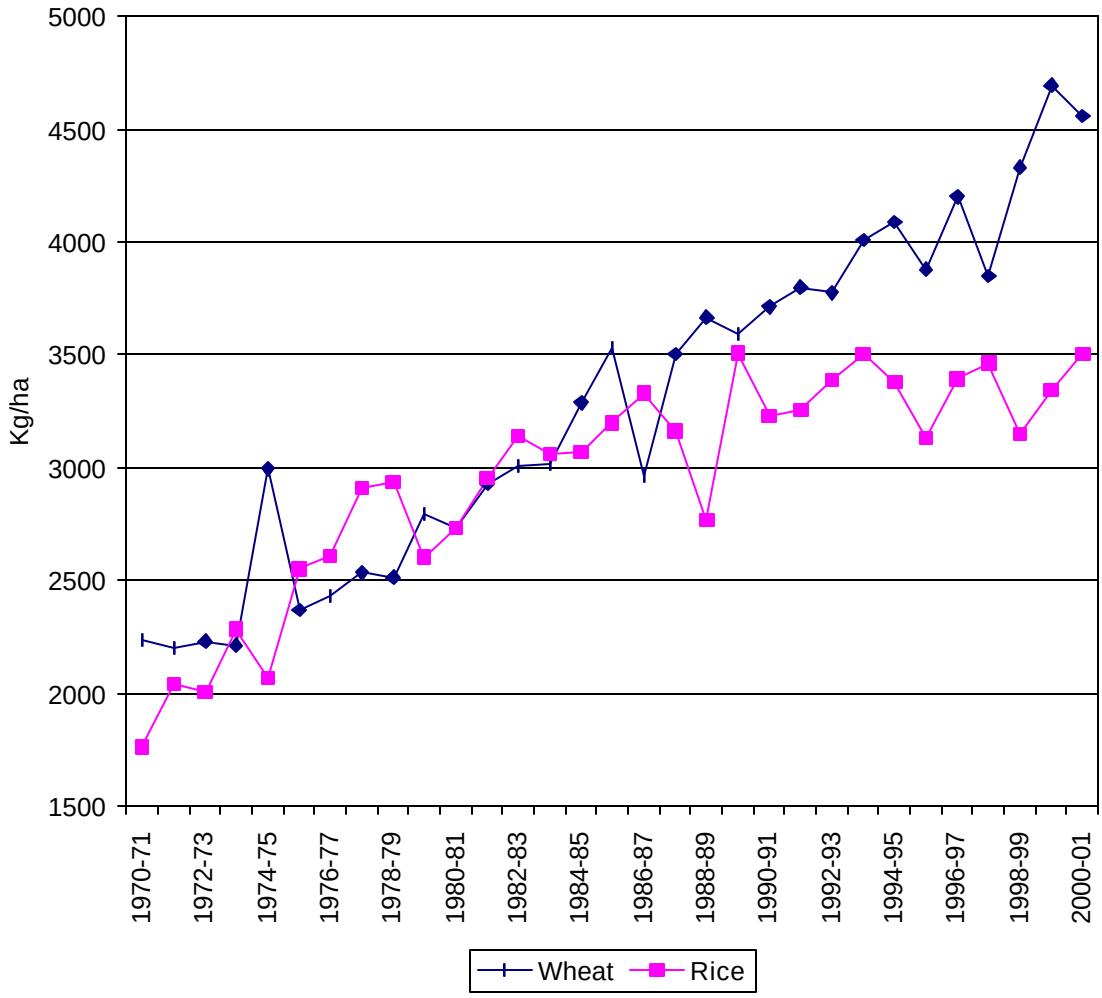
Agriculture as the lead sector: The programmes and policies initiated for agricultural development in the state were effectively implemented compared to policies in other sectors of development. Respective state governments adopted and followed correct sequencing to achieve the desired goal in the field of agriculture. Policies put into operation began with consolidation of landholdings, followed by extension of cultivated and irrigated lands and still further strengthened by the use of fertilizers and high yielding variety seeds. In addition, problem areas such as the foothill (*kandi*) zone and the floodplain (*bets*) zone were identified and given special attention for the development of agriculture. The electrification of villages and their linkage with roads further enhanced and consolidated the gains of agricultural development.

Wheat-rice rotation: Gains of agricultural development, due to the green revolution, were shared mainly by two principal crops - wheat and rice. During 1966-67 to 2000-01, the area under wheat has increased 2.1 times and production 6.3 times (Table 10). The area under rice has increased seven times and yields two times during 1970-71 to 2000-01. The increasing productivity of these two crops during the last three decades or so has made it profitable to produce these. The steady growth in both the cultivated area and the resultant output was backed by refined agronomic practices, and fairly reasonable support prices.

The increasing profitability of these two crops over time has proved to be a hindrance to the diversification of agricultural production in the state. It has become the usual practice of the farming community to follow the paddy-wheat-paddy cycle. This is leading to serious ecological problems.

Figure 7

Variations in Yield per Hectare of Wheat and Rice
19701-71 to 2000-01



Source: Various issues of *Statistical Abstracts*, Punjab

Green revolution: The cumulative effect of the green revolution, became manifest by the beginning of 1990s. The net sown area of the state increased from 40,53,000 hectares in 1970-71 to 42,18,000 hectares in 1990-91 and 42,64,000 hectares in 2000-2001.The cropping intensity, which was 133 in 1967, increased to 187 in 1999. This is the highest in the country. In 1970-71, 73 and 36 per cent of the total area were under high yielding varieties (HYVs) of wheat and rice respectively. By 1990-91, these rose to 99.7 per cent and 97.5 per cent respectively. On 30 June 1999, 100 per cent of the area under wheat and 97.6 per cent under rice were covered by HYVs.

Table 10
Area, Production, and Yield of Wheat and Rice Crops, Punjab, 1966-67 to 2000-01

Year	Wheat			Rice		
	Area (000 ha)	Production (000 mt)	Yield (kg/ha)	Area (000 ha)	Production (000 mt)	Yield (kg/ha)
1966-67*	1,608	2,449	1,520			
1967-68*	1,709	3,335	1,863			
1968-69*	2,063	4,491	2,177			
1969-70*	2,191	4,918	2,245			
1970-71	2,299	5,145	2,238	390	688	1,764
1971-72	2,336	5,618	2,204	450	920	2,045
1972-73	2,404	5,368	2,233	476	955	2,007
1973-74	2,338	5,181	2,216	499	1,140	2,287
1974-75	2,206	5,284	2,995	569	1,179	2,071
1975-76	2,449	5,809	2,372	567	1,447	2,553
1976-77	2,630	6,292	2,432	680	1,776	2,611
1977-78	2,620	6,648	2,537	858	2,497	2,910
1978-79	2,734	7,423	2,517	1,052	3,090	2,937
1979-80	2,823	7,996	2,797	1,172	3,052	2,604
1980-81	2,808	7,669	2,731	1,183	3,233	2,733
1981-82	2,917	8,553	2,932	1,269	3,750	2,955
1982-83	3,054	9,183	3,007	1,322	4,156	3,144
1983-84	3,124	9,419	3,015	1,481	4,536	3,063
1984-85	3,096	10,183	3,289	1,644	5,052	3,073
1985-86	3,113	10,992	3,531	1,714	5,485	3,200
1986-87	3,189	9,458	2,966	1,786	5,949	3,331
1987-88	3,139	11,005	3,506	1,720	5,442	3,164
1988-89	3,156	11,576	3,668	1,778	4,925	2,770
1989-90	3,251	11,681	3,593	1,905	6,680	3,510
1990-91	3,273	12,159	3,714	2,016	6,511	3,229
1991-92	3,237	12,309	3,802	2,069	6,739	3,257
1992-93	3,283	12,399	3,776	2,072	7,026	3,391
1993-94	3,335	13,378	4,011	2,179	7,645	3,507
1994-95	3,311	13,542	4,090	2,265	7,703	3,382
1995-96	3,221	12,510	3,883	2,185	6,843	3,131
1996-97	3,232	13,687	4,203	2,159	7,334	3,396
1997-98	3,301	12,751	3,853	2,278	7,890	3,465
1998-99	3,278	14,192	4,332	2,518	7,993	3,152
1999-00	3,388	15,910	4,696	2,604	8,716	3,347
2000-01	3,408	15,551	4,563	2,612	9,157	3,506

Source: Various issues of *Statistical Abstracts*, Punjab

Singh, H. (2001): *Green Revolution Reconsidered: The Rural World of Contemporary Punjab*, Oxford, New Delhi

Mechanization: The green revolution in the late sixties greatly benefited agricultural development in the state in terms of its mechanization as well. There was a change in the technology of farming, with heavy investment in irrigation, fertilizers, and chemicals

to control pests and weeds. Besides the introduction of high yielding varieties, tractorization greatly boosted agricultural development in the state. The popularity of tractorization can be judged from the fact that, with less than three per cent of the country's cultivated land, Punjab accounted for about 30 per cent of the total tractors in India in 1972 (Gosal, G.S. and G. Krishan, 1984). Tractors, threshers and crushers hold the most prominent position in the mechanization of agriculture in the state.

Fertilizer use: The consumption of fertilizers in the state has multiplied manifold. It was consuming 51 thousand nutrients tonnes in 1966-67, which increased to 290 thousand in 1970-71, 1,098 thousand in 1985-86 and to 1,314 thousand nutrient tonnes in 2000-2001. In comparison with the national average of 8.74 kilogram per hectare of gross cropped area in 1971-72, the state was consuming 50.7 kilogram. The difference widened over time. In 1979-80, the state was consuming 104.96 kilogram per hectare of gross cropped area as against 30.4 kilogram at the national level.

Energy input: High consumption of electricity by the farmer is another distinguishing factor responsible for the state's agricultural development. Consumption of electricity increased from 46.3 crore kwh in 1970-71 to 823.3 crore kwh in 1999-2000, an eighteen-times increase. The number of consumers increased from 91,410 to 794,475, an increase of 8.7 times. Consumption of electricity in 1999-00 was at its peak. During this year, it rose to 823.3 crore kwh, which was 130.2 crore kwh more than in the previous year.

Small size of landholdings: Another typical feature of Punjab's agriculture is the predominance of small size of landholdings and their further fragmentation. During 1980-81 to 1990-91, the number of operational landholdings increased from 10,27,000 to 11,11,951. The average size of the landholdings decreased from 3.81 hectares in 1980-81 to 3.77 hectares in 1985-86 and 3.61 hectares in 1990-91. Seventy per cent of the landholdings are less than four hectares. Landholdings with a size of 10 hectares and above declined from 7.2 per cent to six per cent during 1980-81 to 1990-91. In contrast, landholdings with less than one hectare have increased from 19.2 to 26.5 per cent during the same duration. Fragmentation of landholdings and the resultant reduction in size have posed a serious threat to the farming community who are more or less dependent on agricultural produce. The size of landholdings is one factor hampering the diversification of agricultural production in the state.

Agricultural marketing: The State Agricultural Marketing Board, established in the early sixties, provided space to market arrivals in the state. This has expanded. The number of regulated markets, the average number of villages served per regulated market and the average area served per regulated market have been upgraded. The number of regulated markets increased from 88 in 1966-67 to 144 in 2000-01. The number of markets increased from 109 to 123 during 1979-80 to 1981-82. Consequently, the average number of villages served per regulated market declined from 112 to 99 and the average area served per regulated market from 462 sq. kms. to 409 sq. kms. Since 1992-93, the number of markets has not changed. Besides the State Agricultural Marketing Board other agencies, viz., the Food Corporation of India, Punjab Agro Industries Corporation, PUNSUP, are also involved in marketing agricultural produce in the state.

Marketing yards have increased in number over time but qualitatively are still not up to the mark. Most of the marketing yards do not have a concrete surface to keep the

arrivals in good condition. The surface is dusty, as wheat and rice are kept in the open and not well protected during the rainy season. Consequently, the quality of stored stocks deteriorates. There are instances in different parts of the state when the stock had to be destroyed.

Declining share of contribution to central pool: Since other states are gradually coming under the green revolution, the share of Punjab's contribution of wheat and rice to the central pool has declined over time. The decline in the share of wheat is much sharper than of rice. The state was contributing 73 per cent share to the central pool in 1980-81, which has declined to 57.6 per cent in 2000-01, a fall of 15.4 per cent points (Table 11). The share of rice has declined by nine per cent points during the same period.

Table 11
Contribution of Wheat and Rice of Punjab in Central Pool 1980-81 to 2000-01

Year	Rice		Wheat	
	Contribution to the central pool (lakh tonnes)	Percentage share to contribution	Contribution to the central pool (lakh tonnes)	Percentage share to contribution
1980-81	25.2	45.3	42.8	73.0
1981-82	30.9	42.5	37.6	57.1
1982-83	32.3	46.0	48.3	62.5
1983-84	32.8	41.9	51.7	62.3
1984-85	42.7	43.6	50.1	53.9
1985-86	41.8	42.8	61.5	59.4
1986-87	43.3	47.1	64.8	61.5
1987-88	33.6	48.8	44.2	56.1
1988-89	29.6	38.9	47.5	72.7
1989-90	50.0	46.0	56.0	62.2
1990-91	48.2	41.0	67.5	61.0
1991-92	42.5	46.7	55.4	71.5
1992-93	49.0	42.3	44.9	70.3
1993-94	54.9	40.2	64.9	50.6
1994-95	58.3	43.5	72.9	61.4
1995-96	34.6	34.8	73.0	59.2
1996-97	42.2	38.4	56.3	68.8
1997-98	60.4	42.2	59.6	64.3
1998-99	43.8	37.2	61.5	48.6
1999-00	67.9	42.1	78.3	55.4
2000-01	69.4	36.3	94.2	57.6

Source: Various issues of *Statistical Abstract*, Punjab

Distressful loan recovery: The gap in capital inputs and the resultant output has widened over time in the state. The institutional credit system has not been able to effectively involve small farmers. They are borrowing money from local moneylenders (*aartias*). This has created a peculiar situation in the state. Due to non-payment of credit, farmers are under great stress. The reported suicides by farmers in certain pockets of

the state are an indicator of the stressful agricultural system. In the recent past, farmers have resorted to selling their tractors for clearing their debts to local moneylenders.

Milk production: The emphasis on foodgrains initially was accompanied by diversification in livestock farming. The green revolution in the state was followed by a white revolution. Production of milk multiplied manifold under the well-conceived policy of the state government. It increased from 1,920 thousand tonnes in 1968-69 to 7,774 thousand tonnes in 2000-2001, a four-fold increase (Table 12). In the early 70s, increase in milk production was sharper. In 1971-72, milk production increased by 385 thousand tonnes as compared to the preceding year. The per capita availability of milk per day in the state increased from 375 grams in 1968-69 to 870 grams in 2000-2001.

Dairying in Punjab is not without some problems. The quality of cows and buffaloes is not up to the mark. Per capita production of cows and buffaloes in the state is much lower than in other parts of the world. This sub-sector of agriculture needs serious attention and investment from the policy makers to exploit its potential in improving the rural economy, and the nutrition level of the people.

Table 12
Production and Per Capita Availability of Milk in Punjab 1968-69 to 2000-01

Year	Milk production (000 tonnes) per annum	Estimated population (`000)	Per capita availability of milk (kg.) per annum	Per capita availability of milk (grams) per day
1968-69*	1,920	14,035	137	375
1970-71	1,823	13,441	159	437
1975-76	2,400	14,792	162	444
1980-81	3,221	16,304	197	541
1985-86	4,035	18,521	218	597
1990-91	5,142	20,615	249	682
1991-92	5,382	21,102	255	698
1992-93	5,583	20,789	260	735
1993-94	5,970	21,176	292	770
1994-95	6,215	21,910	287	788
1995-96	6,424	22,328	291	798
1996-97	6,755	22,504	301	825
1997-98	7,165	23,189	309	845
1998-99	7,394	23,700	312	855
1999-00	7,706	24,100	320	875
2000-01	7,774	24,400	317	870

Source: Same as in Table 10

Constraints: On the whole, agriculture in Punjab is in a crisis, which in turn, has influenced the overall economy of the state. The share of agriculture to the state income, which was one-third in 1993-94, has come down to one-fourth in 2000-2001 (at 1993-94 constant prices). Inability to diversify agriculture, market the agricultural produce and static productivity levels in the state are symptoms of a crisis in this sector. The maximum productivity achieved a few years ago has remained more or less the same. Chances of rapid increase in productivity in the near future in the state are also remote.

INDUSTRIAL DEVELOPMENT

The state cannot take equal pride in industrial development as in agriculture. It inherited a weak industrial base at the time of partition in 1947, as the majority of the industrial establishments and the areas supplying raw materials remained in West Punjab (Pakistan). Fear and panic prevented entrepreneurs from investing in industries in a state with a long sensitive international border with a hostile neighbour. The state had to pay for the wars of 1962, 1965 and 1971. These resulted in further flight of capital from Punjab. Moreover, in 1966, with the reorganization of the state, whatever mineral and forest resources it had went to Himachal Pradesh. Industrial complexes, which were around Delhi, went to Haryana.

Predominance of small-scale industries: Small-scale industries dominate the industrial structure in the state. The localization of development in the small-scale sector and its supremacy over the large-scale industries is the outcome of many factors. The state did not have many rich capitalists to invest in large-scale industry and investment by the central government was meagre. Because of the closeness of sensitive international border with Pakistan, capitalists from other parts of India and government agencies were reluctant to invest in big industries. In addition, lack of metallic minerals and fossil fuels required for the establishment of large-scale industries forced industrialists to undertake small-scale industries.

The predominance of small-scale industries in the state can be judged from the fact that during 1973-74 small-scale industries accounted for more than three-fifths of the total industrial production as against two-fifths at the national level. Small-scale industries have grown substantially since 1966. The total number of small-scale industrial units increased from 8,023 in 1966 to 2,00,603 in 2000-01 (Table 13). During the same period, the workforce employed in this sector increased from 56,000 to 8,97,417. Fixed investment increased from Rs. 60 crore to Rs. 4,250 crore and production from Rs. 200 crore to Rs. 19,525 crore during 1966-67 - 2000-01 (P). During the same period, the number of units in the small sector grew at the rate of 9.6 per cent per annum while employment provided by them increased at an annual rate of 8.2 per cent, with the result that the average per unit persons employed declined from seven in 1966-67 to four in 2000-01 (P). Per unit average fixed investment increased from Rs. 0.74 lakh in 1966-67 to Rs. 1.89 lakh in 2000-01 (at current prices). Employment generated per crore rupees invested has dropped from 933 in 1966-67 to 211 in 2000-01 (at current prices). In the eighties, employment generated per crore rupees invested was 614 persons as against 342 in nineties.

Table 13
Status of Small-scale Industries in Punjab 1966-67 to 2000-01

Year	Number of units	Employment (no.)	Fixed investment (Rs. crore)	Production (Rs. crore)
1966-67*	8,023	56,000	60.0	200.0
1974-75	18,114	1,22,162	134.0	484.0
1975-76	20,271	1,36,334	153.0	568.3
1976-77	22,298	1,52,638	169.0	633.0
1977-78	24,231	1,63,134	195.0	702.0
1978-79	27,509	1,86,197	225.0	779.0
1979-80	33,716	2,23,979	273.0	924.0
1980-81	43,338	2,64,869	332.0	1,118.0
1981-82	54,021	3,04,155	402.0	1,343.0
1982-83	64,901	3,39,972	492.0	1,586.0
1983-84	76,588	3,78,846	572.0	1,786.0
1984-85	88,271	4,24,478	656.0	1,958.0
1985-86	97,517	4,64,809	739.0	2,151.0
1986-87	1,08,913	5,03,397	830.0	2,359.0
1987-88	1,19,888	5,45,560	943.0	2,682.0
1988-89	1,32,962	5,94,354	1,064.0	3,109.0
1989-90	1,46,443	6,33,964	1,218.0	3,504.0
1990-91	1,60,388	6,68,845	1,349.0	4,050.0
1991-92	1,76,378	7,11,417	1,499.0	4,437.0
1992-93	1,81,563	7,32,580	1,621.0	5,345.0
1993-94	1,84,875	7,55,883	1,764.0	7,075.0
1994-95	1,88,241	7,76,763	1,973.0	8,737.8
1995-96	1,91,025	8,02,329	2,216.1	9,713.9
1996-97	1,93,332	8,21,170	2,491.3	11,106.2
1997-98	1,95,383	8,40,568	2,859.9	13,057.7
1998-99	1,97,344	8,64,592	3,360.7	14,444.5
1999-00	1,99,071	8,83,005	3,793.7	16,610.8
2000-01 (P)	2,00,603	8,97,417	4,250.0	19,525.0

Source: Same as in Table 10

Increasing large/medium units: Large-scale industrial units increased from 122 in 1966 to 132 in 1974-75, and from 355 in 1989-90 to 638 in 2000-01 (Table 14). During the same period, the workforce employed in this sector increased from 42,735 to 57,891 to 1,69,801 and 2,51,890 respectively. The fixed investment increased from Rs. 104.0 crore in 1966-67 to Rs. 17,000.0 crore (P) in 2000-01. Production increased from Rs. 93.0 crore in 1966-67 to Rs. 35,600.0 crore (P) in 2000-01 (at current prices). Per unit average fixed investment increased from Rs. 85.2 lakh in 1966-67 to Rs. 2,416.7 lakh in 2000-01 (P). Per unit average fixed investment has started increasing sharply since the early nineties. Per unit average fixed investment in 1989-90 was Rs. 868.4 lakh, which increased to Rs. 1,254.6 lakh by 1992-93. Unlike small-scale industries, large/medium industries have become relatively more capital intensive. Employment generated per crore rupees invested has dropped from 411 in 1966-67 to less than 15 in 2000-01 (at

current prices). In the eighties, the employment generated per crore rupees invested in the large/medium industry was 88 persons as against 24 in the nineties.

Table 14
Status of Large/Medium Industries in Punjab 1966-67 to 2000-01

Year	Number of Units	Employment (No.)	Fixed investment (Rs. crore)	Production Rs. (crore)
1966-67*	122	42,735	104.0	93.0
1974-75	132	57,891	109.0	308.0
1975-76	144	63,291	196.0	385.0
1976-77	160	69,942	257.0	471.0
1977-78	175	77,971	310.0	607.0
1978-79	188	91,551	379.0	711.0
1979-80	203	97,533	629.0	869.0
1980-81	228	1,07,767	727.0	1,141.0
1981-82	237	1,09,081	835.0	1,529.0
1982-83	243	1,20,925	962.0	1,826.0
1983-84	254	1,24,819	1,099.0	1,993.0
1984-85	273	1,31,381	1,252.0	2,071.0
1985-86	292	1,32,174	1,490.0	2,535.0
1986-87	306	1,42,381	1,401.0	3,185.0
1987-88	322	1,51,990	2,067.0	3,778.0
1988-89	335	1,60,609	2,452.0	4,379.0
1989-90	355	1,69,801	3,083.0	5,458.0
1990-91	373	1,87,311	4,003.0	7,164.0
1991-92	395	1,93,789	4,552.0	7,709.0
1992-93	414	1,88,034	5,194.0	9,335.0
1993-94	440	2,00,000	5,800.0	11,000.0
1994-95	475	2,06,722	6,420.0	13,500.0
1995-96	526	2,10,448	8,744.1	16,656.1
1996-97	586	2,19,383	9,744.6	21,387.1
1997-98	620	2,21,154	11,720.1	25,406.0
1998-99	602	2,27,929	14,038.1	25,376.0
1999-00	611	2,35,993	14,765.8	23,720.1
2000-01 (P)	638	2,51,890	17,000.0	35,600.0

Source: Same as in Table 10

Small-scale industries in the state are getting linked over time to large-scale industries as ancillaries. Consequently, their production process is getting more modernized. However, small-scale units are still backward and usually depend on relatively less skilled labour, willing to accept jobs with poor working conditions and low wages. This makes job opportunities unattractive for the educated youth, as a result of which educated unemployment continues to grow at an alarming rate despite an impressive growth rate of industrial production (Abbi, B. L. and Singh, Kesar, 1997).

Industrial dispersal: Another typical feature of the industrial structure in the state is drifting of industries towards rural locations. Both small and large/medium industries have evidently moved towards rural areas. In 1979-80, of the total small-scale industries, 27,428 were in urban areas and 6,288 in rural areas. The situation has changed since. Industries in rural locations have increased at a higher pace than in urban areas. During 1989-90 - 1993-94, industries in rural areas increased 28.5 per cent as against 24.6 per cent in urban areas. There was a similar shift there in large/medium industries. In 1966, of 65 industries classified as large/medium, only 10 were located in rural areas, whereas 55 of them were in urban areas. By 1998 as many as 330 units were in rural areas against 227 in urban areas. Prior to 1966, even though dependent on the rural economy for their raw materials, industrial units could not depend upon the rural environment for the supply of basic infrastructure and skilled personnel and, therefore, were established in urban areas. The situation has changed over time. Proximity to raw materials supported by improved infrastructure, communications, roads and availability of skilled manpower has attracted industries to rural areas. The state government has taken the initiative to move industries towards rural areas by setting up focal points there, but this policy seems to have had little impact on the distributional pattern of industries. The number of these focal points remained static (362) during 1984 to 1997. Apart from this, support in the form of capital subsidies, availability of electric connection and tax incentives have encouraged setting up of industries in rural areas. As a result, they have attracted industrial entrepreneurs from adjacent urban locations. (Singh, H. 2001).

Industry-agriculture linkage: The green revolution in the state gave a big boost to the industrial economy through both forward and backward linkages and continuous transfer of resources from agriculture to industry (Gill, 1994, pp. 46-57). This is reflected in the relatively higher growth rate of the manufacturing sector than the agricultural sector. The post-liberalization situation has made the state government focus on the development of agro-based industries, to capitalize on Punjab's competitive advantage in food production.

Constraints: Industries in the state are making headway, despite such constraints as location on a hostile border and near absence of mineral resources. The employment absorption capacity of industries, especially of local labour, has declined.

HUMAN DEVELOPMENT

With a population of 2.43 crore, according to the 2001 Census, Punjab is one of the less populous states in India. As a comparison, Uttar Pradesh recorded a population of no less than 16.61 crore in 2001. This population of Punjab is, however, more than that of Australia at 1.94 crore. The state has experienced an almost two-fold increase in its demographic size since its formation in 1966. The urban population constitutes 34 per cent of the total population with three-fifths concentrated in 14 cities, each with a population of at least one lakh. The average population size of a village, which typically is an agglomerated settlement, is about 1,908 persons.

Man-land ratio: Punjab, with 482 persons per square kilometre is more densely populated than India as a whole, with 324 persons per square kilometre. There are striking variations; Ludhiana (824) is the most crowded while Muktsar (297) is the most thinly populated.

Growth of population: The state recorded an average annual population growth rate of 1.96 per cent during 1971-2001. A slow but steady decline in the population growth rate has been observed: 2.2 per cent during 1971-81, 1.9 per cent during 1981-91 and 1.8 per cent during 1991-2001. By comparison, India's population has grown at an average annual rate of 2.1 per cent during 1971-2001.

Birth rate: Realizing that rapid population increase would negate the benefits of development, the state government has been trying to control the growth rate of population through its family planning programmes. Achievements in slowing down the growth rate are not that disappointing: the birth rate was 34.1 during 1971-73 and 22.4 during 1997-99. The comparable fall in India's birth rate was from 36.2 to 26.6 during the same period. Punjab's performance in fertility decline was superior to the national average, but was found wanting when compared to that of Kerala, where the birth rate came down from 30.5 to 18.

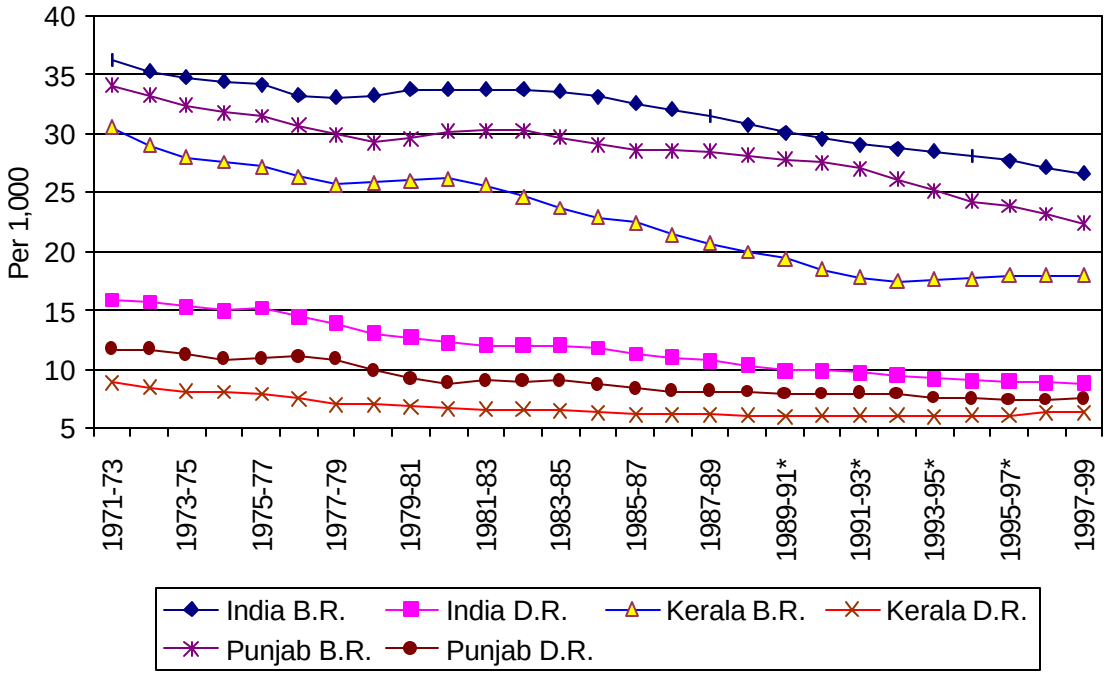
Death rate: Equally noticeable is the decline in Punjab's death rate from 11.7 in 1971-73 to 7.5 in 1997-99. Comparable figures for India are 15.9 and 8.8 respectively. This signifies that not only the birth rate but the death rate too declined faster in Punjab than in the country as a whole.

Concern for human development: However, the overwhelming attention paid to economic upliftment was not matched by adequate care for some of the critical parameters of human capital, including infant mortality, literacy, sex composition, and reproductive health. Plan documents did voice a concern for human wealth: The primary objective of the First Plan (1951-56) was to raise the standard of living and to expand opportunities for a richer and more varied life and the Ninth Plan (1997-2002) reiterated the importance of focusing on human development. Despite such a strong concern for the development of human capital and a perspective for eliminating the worst forms of human deprivation, the state's achievements have been mixed.

Indicators of human development: There are various indicators of human development. However, the general consensus is on those in which children survive after birth and live a long and healthy life, people are literate and economically productive and acquire a decent standard of living. Such indicators as infant mortality rate, life expectancy, literacy, gender sensitization (sex ratio), and economic well-being have been used to find out the status of human development in the state. These indicators in Punjab *vis-a-vis* other states are discussed in detail in the following sections.

Figure 8

Demographic Transition in Punjab, India and Kerala (1971-73 to 1999-00)



Source: Registrar General India (1999), *Compendium of India's Fertility and Mortality Indicators 1971-1997* based on Sample Registration System, New Delhi, 1999 and various other volumes

Infant mortality rate: The number of children dying, before celebrating their first birthday, per thousand live births, is called the infant mortality rate (IMR). It reflects the state of social development and the physical quality of life in an area. Within it are capsuled the nutrition level of the mother and child before and after birth, health-care facilities available, and the status of the girl child, in particular. Infant mortality has a strong association with poverty. Ultimately, it is the income level, which is going to determine the quality of nutrition and reproductive health care. Of course, in societies suffering from gender prejudice against females, the newly born girl child becomes more vulnerable to mortality. Punjab's infant mortality rate at 52 in 2000 (Table 15) was little less than the world average of 56; it is significantly lower than 68 at the national level. On the other hand, Punjab's IMR is almost four times higher than that of Kerala which is noted for its higher status of women, better health-care system, and superior literacy rates. In fact, most of the northern Indian states, such as Rajasthan (79), Uttar Pradesh (83), and Madhya Pradesh (88) are noted for higher infant mortality rates than the southern and western Indian states, such as Kerala (14), Tamil Nadu (51) and Maharashtra (48).

It is ironical that the drop in the IMR of Punjab from 102 in 1971 to 52 in 2000, that is, by 50 points, was of a lower order than that in India, from 129 to 68, that is by 61 points, notwithstanding the commendable progress made by the state in economic terms.

Kerala's IMR dropped from 58 to 14 during the same period. This signifies that social development is no less critical than economic development in containing IMR.

Table 15
Infant Mortality Rates in Selected States in India 1971 to 2000

Year	Pun.	Har.	Ker.	Kar.	T.N.	India	Mah.	Bihar	Raj.	U.P.	Ori.	M.P.	A.P.	W.B.	Guj.
1971	102	72	58	95	113	129	105			167	127	135	106		144
1972	119	94	63	95	121	139	101		123	202	131	156	116		128
1973	115	104	54	90	108	134	116		137	176	145	145	105		161
1974	97	102	54	86	106	126	89		133	172	150	137	111		109
1975	98	114	54	80	112	140	92		155	198	149	151	123		154
1976	108	112	56	89	110	129	83		142	178	127	138	122		146
1977	105	113	47	83	103	130	108		142	168	147	148	125		138
1978	117	109	42	82	105	127	81		140	177	133	143	117		122
1979	92	100	43	83	100	120	86		109	162	149	143	106		123
1980	89	103	40	71	93	114	75		105	159	143	142	92		113
1981	81	101	37	69	91	110	79	118	108	150	135	142	86	91	116
1982	75	93	30	65	83	105	70	112	97	147	132	134	79	86	111
1983	80	91	33	71	87	105	79	99	109	155	126	125	77	84	106
1984	66	101	29	74	78	104	76	95	122	155	131	121	78	82	106
1985	71	85	31	69	81	97	68	106	108	142	132	122	83	74	98
1986	68	85	27	73	80	96	63	101	107	132	123	118	82	71	107
1987	62	87	28	75	76	95	66	101	102	127	126	120	79	71	97
1988	62	90	28	74	74	94	68	97	103	124	122	121	83	69	90
1989	64	82	21	80	68	91	59	91	96	118	121	117	81	77	86
1990	61	69	17	70	59	80	58	75	84	99	122	111	70	63	72
1991	53	68	16	77	57	80	60	69	79	97	124	117	73	71	68
1992	56	75	17	73	58	79	59	73	90	98	115	104	71	65	67
1993	55	66	13	67	56	74	50	70	82	94	110	106	64	58	58
1994	53	70	16	67	59	74	55	67	84	88	103	98	65	62	64
1995	54	69	15	62	54	74	55	73	86	86	103	99	67	58	62
1996	51	68	14	53	53	72	48	71	85	85	96	97	65	55	61
1997	51	68	12	53	53	71	47	71	85	85	96	94	63	55	62
1998	54	69	16	58	53	72	49	67	83	85	98	97	66	53	64
1999	53	68	14	58	52	70	48	63	81	84	97	90	66	52	63
2000	52	67	14	57	51	68	48	62	79	83	96	88	74	51	62

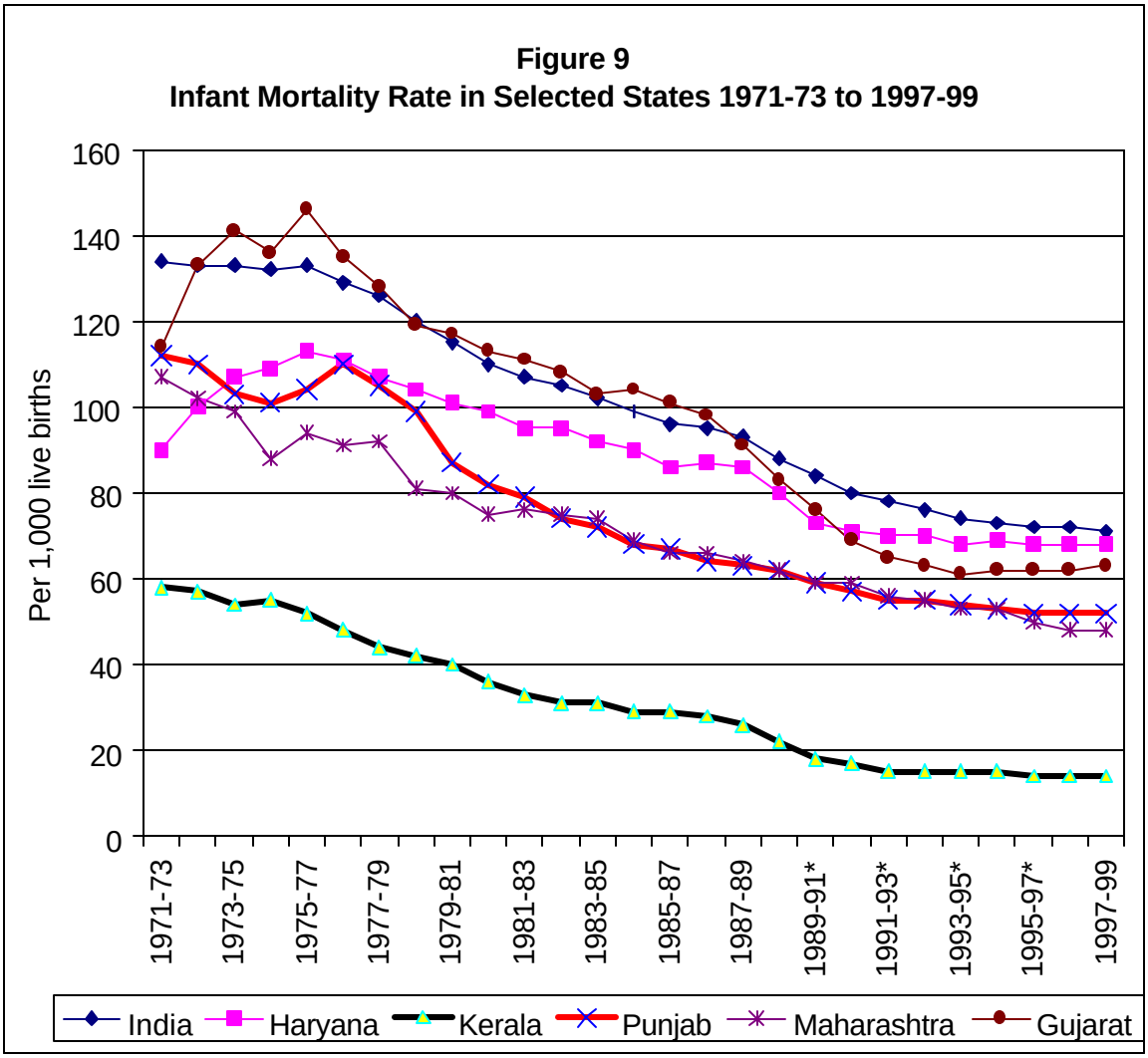
Source: Registrar General India (1999), *Compendium of India's Fertility and Mortality Indicators 1971-1997,* based on Sample Registration System, New Delhi, 1999 and various other volumes

Note: Pun.- Punjab, Har. - Haryana, Ker. - Kerala, T.N.- Tamil Nadu, Mah.- Maharashtra, Raj. - Rajasthan, U.P - Uttar Pradesh, Ori. - Orissa, M.P. - Madhya Pradesh, A.P.- Andhra Pradesh, W.B.- West Bengal, Guj. - Gujarat

The state did succeed in narrowing down the rural-urban gap in IMR during 1971-2000 from 109 to 56 in rural areas and from 76 to 38 in urban areas. But its performance was lower than at the national level. The rural-urban gap narrowed down by 31 points in India

as against 18 in Punjab. Among the different states of India, Kerala is to be commended not only for one of the lowest IMRs but also for achieving rural-urban parity on this count.

Figure 9
Infant Mortality Rate in Selected States 1971-73 to 1997-99



Source: Registrar General India (1999), *Compendium of India's Fertility and Mortality Indicators 1971-1997,* based on Sample Registration System, New Delhi, 1999 and various other volumes

Life expectancy: For the period 1992-96, Punjab was noted for a life expectancy of 67 years at birth, a figure, which was comparable to that of Brazil, Indonesia and Russia. By that count, a child born in Punjab could hope to live six years longer than its counterpart in India as a whole, where the life expectancy was 61 (Table 16). However, Punjab was considerably behind Kerala, with a life expectancy of 73 years. Likewise, the prolongation of life expectancy in Punjab by nine years during 1970-75 to 1992-96 was less than in Tamil Nadu (14 years), Gujarat (13 years) and Kerala (11 years). The international conference on Population Development had set a target of achieving a life expectancy of 70 by 2005 and 75 by 2015. Punjab, at its present pace of rise in life expectancy by one year every two years, might just be in a position to reach these target figures.

Table 16
Life Expectancy in Selected States during 1970-75 to 1992-96 (years)

States	1970-75	1976-80	1986-90	1991-95	1992-96	Increase in life expectancy in 1992-96 over 1970-75 period
Madhya Pradesh	47.2	49	53	54.7	55.2	8.0
Orissa	45.7	49.4	54.4	56.5	56.9	11.2
Uttar Pradesh	43	46.2	53.4	56.8	57.2	14.2
Bihar			54.9	59.3	59.4	-
Rajasthan	48.4	51.9	55.2	59.1	59.5	11.1
Andhra Pradesh	49.7	52.3	57.7	60.3	60.7	11.0
Gujarat	48.8	52.4	57.7	61	61.4	12.6
West Bengal			60.8	62.1	62.4	-
Karnataka	55.2	56.3	61.1	62.5	62.9	7.7
Tamil Nadu	49.6	53.4	60.5	63.3	63.7	14.1
Haryana	57.5	54.8	62.2	63.4	63.8	6.3
Maharashtra	53.8	56.3	62.6	64.8	65.2	11.4
Punjab	**57.9**	**60.5**	**65.2**	**67.2**	**67.4**	**9.5**
Kerala	62	65.5	69.5	72.9	73.1	11.1
INDIA	49.7	52.3	57.7	60.3	60.7	11

Source: Registrar General India (1999), *Compendium of India's Fertility and Mortality Indicators 1971-1997,* based on Sample Registration System, New Delhi, 1999

The current rise in life expectancy is attributed partly to the rise in the nutritional level and partly to the improvement in the health infrastructure in the state. As against four health centres per lakh population in 1966, there were 11 in 2000; as against three doctors per 10,000 population in 1966, there were 10 in 2000; and as against one midwife for 10,000 population in 1966; there were 10 in 2000. The average distance to a health centre was reduced to one-half, from six to three kilometres, during 1966-2000. As such, both availability and access to health services has significantly improved during the period under reference.

Figure 10
Average Radius Served per Health Institution (kms.)

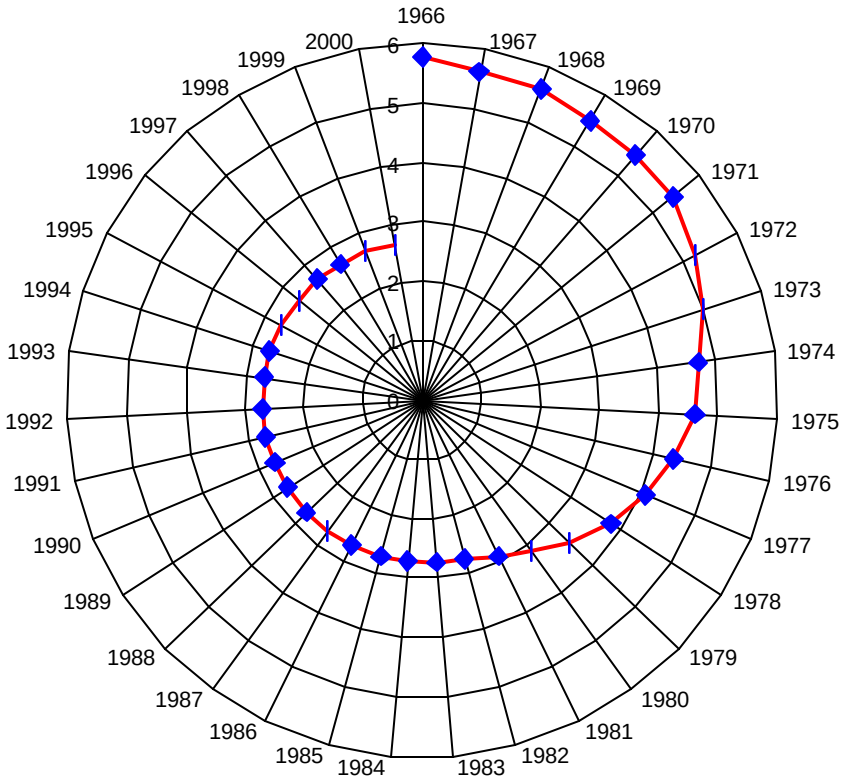
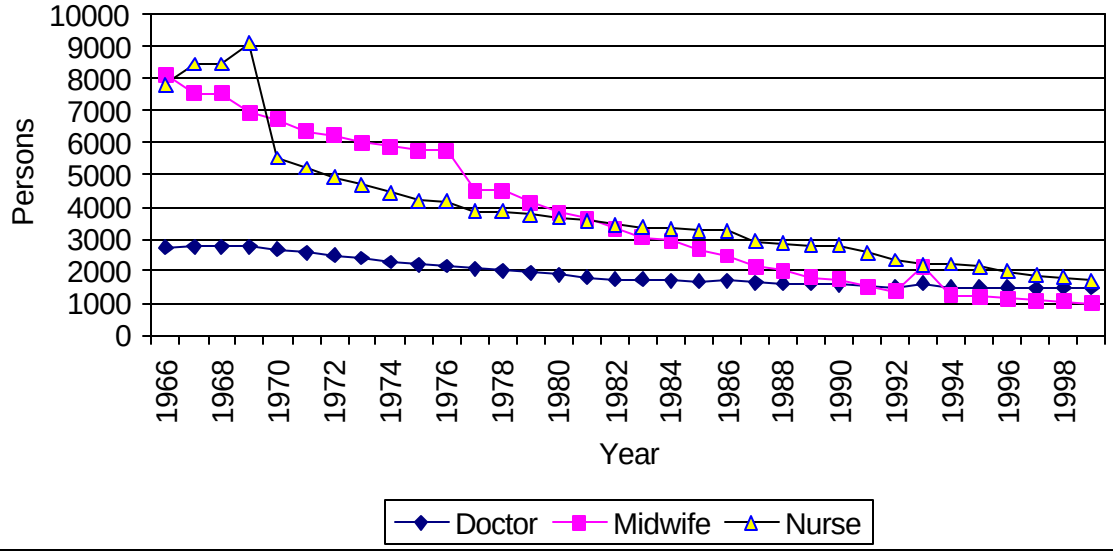


Figure 11
Population Served per Medical Personnel, Punjab
1966 to 1999



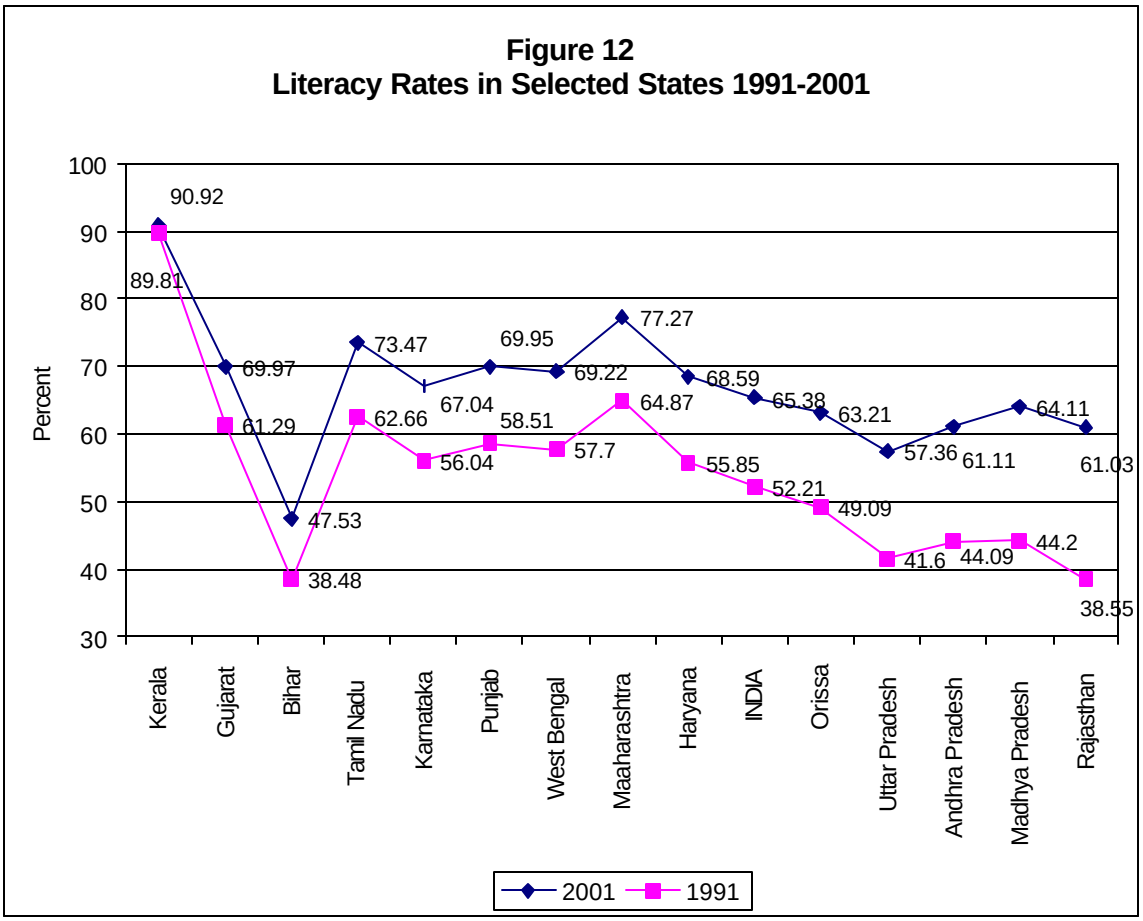
Source: Various issues of *Statistical Abstracts*, Punjab

Literacy: Educational attainments are not commensurate for a state enjoying one of the highest per capita incomes in the country,. Kerala has nine out of every ten persons as literate as compared to seven in Punjab in 2001. Among all the states and Union Territories, Punjab ranks 16th in literacy rate. Even though the literacy rate of the state improved by 11 per cent points from 59 per cent in 1991 to 70 per cent in 2001, it was of lower than the improvement at the national level from 52 to 65 per cent during 1991-2001.

Four out of every five persons in the urban areas of Punjab are literate and two out of every three in rural areas. Among urban areas, SAS Nagar, (Mohali, Rupnagar district) has the highest literacy rate of 92.5 per cent and Phillaur town (Jalandhar district) the lowest of 31.9 per cent. Hoshiarpur district (81.4%) is at the top in literacy, whereas Mansa district (52.5%) is at the bottom.

One redeeming feature of Punjab, however, is the relatively narrow gap in the literacy rates of males (75.6%) and females (63.5%), and urban (79.1%) and rural areas (65.2%), when compared with the all India picture. This is attributed primarily to a strong urban-rural interaction in the state, which has been promotive of literacy among females, and villages in a more effective manner.

Figure 12
Literacy Rates in Selected States 1991-2001



Source: Census of India (2001): *Provisional Population Totals, Paper 1*, Directorate of Census Operations, Punjab

Sex ratio: Sex ratio in the Indian context is defined as the number of females per 1,000 males. It is one of the reliable indicators of the status of women in a society. Any prejudice against females may get manifest in their higher mortality rate through neglect, infanticide and even foeticide. The Punjab scene is not glorious in this context. With a sex ratio of only 874 in 2001 (Table 17), the state ranked 27th among the 28 states of India. This deficit of 126 females per 1,000 males is far in excess of the national average of 65, India's sex ratio being 933. In consonance with the relative status of females, the southern Indian states (Kerala 1058, Tamil Nadu 986 and Andhra Pradesh 977) are noted for a higher sex ratio than the northern Indian states (Haryana 861, Uttar Pradesh 898 and Bihar 921).

It is equally notable that while the sex ratio at the national level improved from 927 in 1991 to 933 in 2001, in Punjab it decreased from 882 to 874. More worrisome is the steep fall in the sex ratio in the 0-6 age group, from 873 in 1991 to 793 in 2001. The rising incidence of female foeticide explains this. This tendency is likely to continue and has serious long-term consequences.

Table 17
Variation in the Sex Ratio in Selected States during 1971-2001
(Females per 1,000 males)

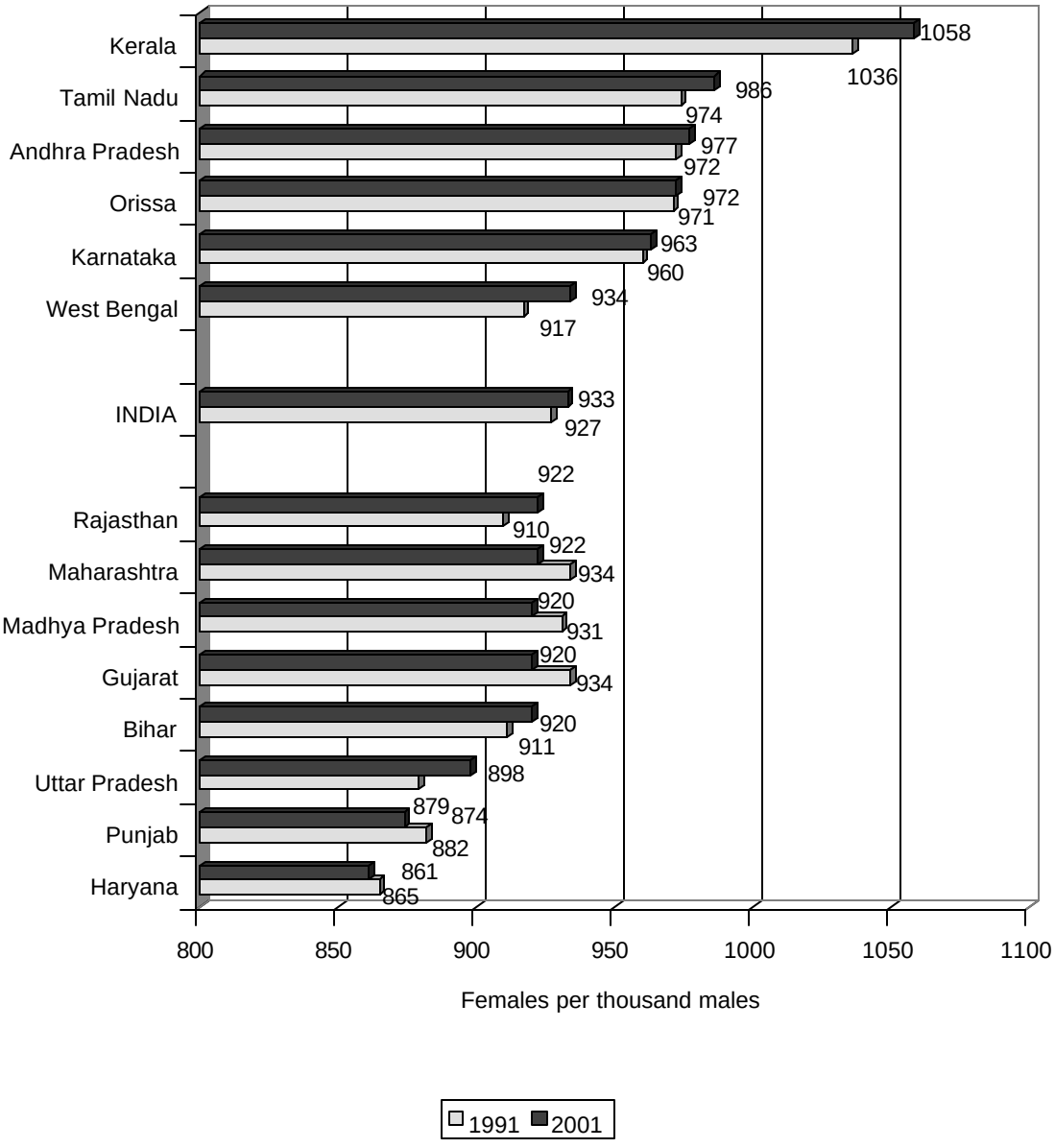
	1971	1981	1991	2001	Change in sex ratio during 1971 to 2001
Andhra Pradesh	977	975	972	977	0
Bihar	954	946	911	920	-34
Gujarat	934	942	934	920	-14
Haryana	867	870	865	861	-6
Karnataka	957	963	960	963	6
Kerala	1016	1032	1036	1058	42
Madhya Pradesh	941	941	931	920	-21
Maharashtra	930	937	934	922	-8
Orissa	988	981	971	972	-16
Punjab	865	879	882	874	9
Rajasthan	911	919	910	922	11
Tamil Nadu	978	977	974	986	8
Uttar Pradesh	879	885	879	898	19
West Bengal	891	911	917	934	43
INDIA	930	934	927	933	3

Source: Various volumes of Census of India

If the sex ratio in the 0-6 age group of all the 593 districts is taken into account, Fatehgarh Sahib district of Punjab has the distinction of having the lowest figure (754). The situation in Patiala (770), Gurdaspur (775), Kapurthala (775), Bathinda and Mansa (779 each) and Amritsar districts (783) is no better. The most telling commentary is that of then ten districts in India, noted for the lowest sex ratio in 0-6 age group, seven are in Punjab. There is something seriously wrong in the social sphere of this economically progressive state.

Figure 13

Sex Ratio in Selected States 1991-2001



Source: Census of India (2001): *Provisional Population Totals, Paper 1*, Directorate of Census Operations, Punjab

Economic well-being: In consonance with its higher per capita income of Rs. 14,676 than the national average Rs. 10,067 in 1999-00, Punjab is noted for a significantly higher per capita expenditure too. This is an expression of the higher level of economic well-being. The total consumption expenditure of a resident in Punjab is 1.4 times that of an average Indian, living in a village or town (Table 18). Within the state, the per capita expenditure in urban areas is 1.6 times of that in rural areas.

The consumption basket of an average villager and that of a town dweller displays some notable differences. While food accounts for 64 per cent of the expenditure for a villager, the comparative figure for an urban dweller is 45 per cent. The two are almost at par in terms of the percentage expenditure on fuel/light, and intoxicants. On the other hand, while the per capita expenditure on durable goods, rent and education is higher in urban areas, it tends to be higher in the case of health in rural areas. In addition, the people of Punjab spend significantly more on food, fuel/light, education and intoxicants than an average Indian.

Table 18
Average Monthly Expenditure (Rupees) per Person on Selected Group of Items of Consumption, 1999

Items	Punjab	Kerala	India
Rural			
Food	270.67	266.63	188.89
Non-food			
Fuel and light	36.64	24.70	21.67
Health	24.26	19.54	15.43
Clothing	14.03	29.83	21.78
Education	12.52	9.73	5
Intoxicants	6.18	3.82	2.32
Footwear	6.09	2.47	3
Rent	0.60	0.61	0.74
Durable goods	11.58	41.61	16.12
Miscellaneous	52.53	56.88	34.48
Non-food total	152.85	189.19	120.54
Total consumption expenditure	**423.52**	**455.82**	**309.43**
Urban			
Food	309.95	273.64	271.49
Non-food			
Fuel and Light	56.54	27.60	33.95
Health	19.49	20.98	17.56
Clothing	51.45	23.17	28.11
Education	32.32	12.45	20.54
Intoxicants	7.80	3.16	2.89
Footwear	14.52	3.55	4.91
Rent	33.25	3.48	21.76
Durable goods	37.82	9.59	22.89
Miscellaneous	117.41	59.3	83.97
Non-food total	370.60	163.28	236.58
Total consumption expenditure	**680.55**	**436.92**	**508.07**

Source: *Sarvekshna*, Vol. XXIII, No. 2, 81st Issue October-December, 1999

Despite the high level of economic well – being of the people, lack of adequate attention to parameters of human capital remain a matter of concern for future policy makers.

TASKS AHEAD

The state economy, which was growing at a faster pace than the national economy until the late seventies and was moving ahead almost at the same pace during the eighties, received a setback in the nineties. During the last decade, the annual growth rate of the state economy has been slower (4.7%) than that of the national economy (6.9%). In per capita income, Punjab held the top position at the beginning of the nineties among the major states, but came down to the fourth place by the end of the decade.

Taking a longer-term view, the share of the primary sector has decreased considerably, from 55.1 per cent in 1970-71 to 42 per cent during 1998-99; the share of the secondary sector on the other hand has increased from 18.1 per cent to 27.5 per cent, and the tertiary sector has recorded a marginal rise from 27 per cent to 30.5 per cent. As desired, the major share of expenditure during all the plan periods was reserved for irrigation and power, the critical factors for the development of agriculture and industry, respectively. The sad part is that the investment on these two has not given matching returns. There is an unbearable amount of subsidy involved in both. Among other factors, such a situation has led to a considerable decline in the share of development expenditure, from 72 per cent in 1980-81 to 46 per cent in 1998-1999. More in-depth analysis of the reasons for the slow growth of the state economy is necessary.

Agriculture in the state found a favourable environment in the extensive level-topography, sub-tropical continental climate, fertile soils, and favorable conditions of water supply through water bodies and irrigation. All this provided a favorable foundation for the green revolution. The state's remarkable success in agriculture created the base for rapid strides in other sectors of the economy. Today, however, the agricultural sector is passing through a crisis. Constraints in respect of a shift from the wheat-rice rotation to other crops and difficulties involved in the virtually static level of per hectare yield of rice and wheat are expressions of the crisis in this sector.

In this context, it is necessary to accelerate the pace of industrialization. Fortunately for the state, large/medium industries are picking up as also small-scale industry. This is not to say that industry is free from any problem. These are several, especially those relating to technology upgradation, marketing and foreign investment. These call for speedy resolution if particularly the challenge of rising unemployment among educated youth is to be met.

Punjab now needs to prioritize its requirements for making rapid strides. The foremost task ahead is to halt the decelerating rate of its economy. Its acceleration has to be achieved by the end of 10^{th} plan. Agriculture, which is the base of Punjab's economy, is in a state of crisis. What is required is diversification not only of the cropping pattern but also of the agricultural economy towards non-farm activities. A stronger link between the agricultural and industrial sectors is imperative. This will also help in absorbing the growing size of labour and the unrelenting increase in the number of unemployed.

The new directions of economic development have to be accompanied by adequate attention to hither to neglected areas of some of the critical parameters of human capital, including infant mortality, imbalanced sex ratio and not so standard reproductive health. There seems to be something seriously wrong in the otherwise economically progressive state. An upgradation of human capital is basic for ensuring sustained economic development of the state. Improvement in the quality of infrastructure, transport,

telecommunication, information technology and irrigation is a pre-requisite for achieving sustainable development. It follows that the twin challenge before Punjab by 2020 is higher economic growth and upgradation of human capital to ensure sustainable development.

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Appendix 1

Table A
District-wise Area and Demographic Attributes, Punjab, 2001

District	Area* (square kms.)	Total population	Sex ratio (females per thousand males)	Density (persons per square kms.)	Literacy (per cent)	Urban population (per cent)
Gurdaspur	3564	2096889	888	588	74.19	25.46
Amritsar	5096	3074207	874	603	67.85	40.00
Kapurthala	1632	752287	886	461	73.56	32.59
Jalandhar	2632	1953508	882	742	77.91	47.45
Hoshiarpur	3365	1478045	935	439	81.40	19.66
Nawanshahar	1267	586637	913	463	76.86	13.80
Rupnagar	2055	1110000	870	540	78.49	32.46
Fatehgarh Sahib	1180	539751	851	457	74.10	28.08
Ludhiana	3767	3030352	824	804	76.54	55.80
Moga	2216	886313	883	400	63.94	20.04
Firozpur	5303	1744753	883	329	61.42	25.81
Muktsar	2615	776702	886	297	58.67	25.52
Faridkot	1469	552466	881	376	63.34	33.89
Bathinda	3385	1181236	865	349	61.51	29.78
Mansa	2171	688630	875	317	52.50	20.68
Sangrur	5020	1998464	868	398	60.04	29.26
Patiala	3625	1839056	864	507	69.96	34.98
PUNJAB	50,362	24289296	874	482	69.95	33.95

Source : Census of India, *Provisional Population Totals, Paper-1and 2 of 2001*, DCO, Punjab
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Table B
District-wise Decadal Variation of Population, Punjab, 1981-2001

District	Per cent Variation		Change in per cent points
	1981-91	1991-2001	
Gurdaspur	16.07	19.33	+3.26
Amritsar	14.46	22.72	+8.26
Kapurthala	18.60	16.34	-2.26
Jalandhar	17.30	18.40	+1.10
Hoshiarpur	16.39	13.81	-2.58
Nawanshahar	16.39	10.43	-5.96
Rupnagar	28.29	23.39	-4.90
Fatehgarh Sahib	17.01	18.65	+1.64
Ludhiana	36.53	24.79	-11.74
Moga	18.61	13.93	-4.68
Firozpur	24.00	20.42	-3.58
Muktsar	19.55	18.68	-0.87
Faridkot	22.79	21.42	-1.37
Bathinda	20.49	19.89	-0.60
Mansa	18.04	19.83	+1.79
Sangrur	21.36	18.57	-2.79
Patiala	21.53	20.31	-1.22
PUNJAB	20.81	19.76	-1.05

Source: Census of India, *Provisional Population Totals, Paper-1 of 2001*, DCO, Punjab

Table C
District-wise Share of Population to Total Population of the State, 1991 and 2001

District	Per cent to total population of the state	
	2001	1991
Amritsar	12.66	12.35
Ludhiana	12.48	11.97
Gurdaspur	8.63	8.66
Sangrur	8.23	8.31
Jalandhar	8.04	8.14
Patiala	7.57	7.54
Firozpur	7.18	7.14
Hoshiarpur	6.09	6.40
Bathinda	4.86	4.86
Rupnagar	4.57	4.44
Moga	3.65	3.84
Muktsar	3.20	3.23
Kapurthala	3.10	3.19
Mansa	2.83	2.83
Nawanshahr	2.42	2.62
Faridkot	2.27	2.24
Fatehgarh Sahib	2.22	2.24

Source: Census of India, *Provisional Population Totals, Paper-1of 2001*, DCO, Punjab

Table D
District-wise Sex Ratio in 0-6 Age-group, Punjab, 1991 and 2001

District	Females per thousand males		Change in sex ratio during 1991 to 2001
	1991	2001	
Gurdaspur	878	775	-103
Amritsar	861	783	-78
Kapurthala	879	775	-104
Jalandhar	886	797	-89
Hoshiarpur	884	810	-74
Nawanshahar	900	810	-90
Rupnagar	884	791	-93
Fatehgarh Sahib	874	754	-120
Ludhiana	877	814	-63
Moga	867	819	-48
Firozpur	887	819	-68
Muktsar	858	807	-51
Faridkot	865	805	-60
Bathinda	860	779	-81
Mansa	873	779	-94
Sangrur	873	784	-89
Patiala	871	770	-101
PUNJAB	875	793	-82

Source: Census of India (2001): *Provisional Population Totals, Paper 1*, Directorate of Census Operations, Punjab