

Journal of Indian School of Political Economy

**Vol. III, No. 2
April-June 1991**

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devoted to
the Study of
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OF INDIAN SCHOOL
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GOVERNMENT INTERVENTION IN AGRICULTURAL MARKETS: NATURE, IMPACT, AND IMPLICATIONS

Ashok Gulati and Pradeep K. Sharma

This study attempts to measure the impact of government intervention in product and input markets on the 'effective incentives' of cultivators by estimating region- and crop-specific protection coefficients - nominal, effective and effective subsidy. These coefficients are also indicators of international competitiveness having obvious implications for resource allocation from efficiency perspective. If one were to pick 'winner crops', cotton comes at the top followed by rice and wheat. These are the crops which have experienced technological breakthroughs and in which India possesses comparative advantage. Pulses come next while a go-slow policy is suggested for oilseeds. More cautious approach is required in case of sugarcane in view of the highly volatile international market for sugar.

Governments in most countries, whether developed or developing, intervene in agricultural sector in various forms and degrees. Huge farm subsidies are provided by European countries and they are unwilling to bring them down. In developing countries, governments follow interventionist policies to achieve varied objectives such as stimulating agricultural growth, reducing dependence on imports, stabilising farm prices, ensuring minimum nutritional standards, and transferring resources to non-agricultural sector.

In India, government intervention in agricultural product and input markets is pervasive. In product markets, it takes the form of fixation of support prices, procurement of marketed surplus, maintenance of buffer stocks, managing a public distribution system for consumers, imposition of restrictions on movement of products and control on external trade in varying degrees. Input markets are similarly subject to widespread government intervention including distribution of inputs at subsidised prices, protecting domestic input industry in several ways, regulating physical movements and stock holdings of inputs besides direct public investment to provide key agricultural inputs at low prices. For instance, government controls stocks of fertilisers through Essential Commodities Act, prepares a distribution plan to ensure their equitable regional availability, and controls their retail prices. Imports of fertilisers are canalised and domestic industry is supplied feedstock at concessional rates besides protecting it through the retention

price scheme. Degree and nature of intervention in product markets, domestic and external, varies across commodities. In the following, we present an overview of commodity wise intervention.

NATURE OF INTERVENTION

Foodgrains

Foodgrains are subject to significant intervention owing to their sensitive nature in an economy still vulnerable to droughts and shortages. Wheat and rice, the two principal food crops, are purchased by the Food Corporation of India (FCI) at a pre-announced official support/procurement price. In 1989-90, FCI and other state agencies purchased about 20 million tonnes of wheat and rice. In Tables 1 and 2 are shown quantities of wheat and rice so purchased during the period from 1965-66 to 1988-89 broken into triennia. It will be noticed that a large part of the purchases comes from only a few states. For instance, in the triennium 1986-89, Punjab, Haryana, and Uttar Pradesh accounted for over 99 per cent of total wheat purchases and these three states together with Andhra Pradesh accounted for 82 per cent of total rice purchases.

Government also maintains a foodgrains stock, through FCI and other agencies, which amounted to 20.3 million tonnes in June 1990. These stocks provide a cushion against droughts, supply the public distribution system (PDS) at concessional 'issue prices', and are also sometimes sold in the

Ashok Gulati is Consultant, The World Bank, and Pradeep K. Sharma is a member of Indian Economic Service. Views expressed in this study are personal views of authors and do not necessarily reflect those of the organisations to which they belong.

We express our sincere thanks to Prof. V.M.Dandekar for his very constructive comments on an earlier version of this study. We alone are responsible for any errors that may remain.

TABLE 1. GOVERNMENT INTERVENTION IN WHEAT MARKET (SPATIAL AND TEMPORAL DIMENSIONS OF PROCUREMENT)
(Thousand tonnes)

States	Average Of							
	1965-66 to 1967-68	1968-69 to 1970-71	1971-72 to 1973-74	1974-75 to 1976-77	1977-78 to 1979-80	1980-81 to 1982-83	1983-84 to 1985-86	1986-87 to 1988-89
Punjab	366 70.66 (11.16)	1,867 71.34 (44.20)	2,941 60.28 (54.20)	2,129 50.67 (39.26)	3,547 57.08 (52.32)	4,290 63.82 (53.30)	5,447 58.48 (53.43)	5,217 62.73 (48.76)
Uttar Pradesh	62 11.97 (1.54)	346 13.22 (5.69)	935 19.16 (12.33)	940 22.37 (13.05)	1,300 20.92 (12.88)	1,132 16.84 (9.50)	1,924 20.66 (11.94)	1,090 13.11 (6.24)
Haryana	-	322 12.30 (18.91)	704 14.43 (30.28)	530 12.61 (25.67)	1,077 17.33 (35.99)	1,128 16.78 (32.04)	1,711 18.37 (36.31)	1,949 23.43 (36.28)
Madhya Pradesh	82 15.83 (5.66)	43 1.64 (2.11)	102 2.09 (3.79)	179 4.26 (7.03)	43 0.69 (1.44)	77 1.15 (2.72)	52 0.56 (1.25)	Neg.
Rajasthan	8 1.54 (0.86)	25 0.96 (1.99)	115 2.36 (6.17)	262 6.24 (13.32)	167 2.69 (6.44)	54 0.80 (2.01)	144 1.55 (4.34)	55 0.66 (1.61)
Bihar	-	3 0.11	22 0.45	51 1.21	43 0.69	12 0.18	23 0.25	-
Others	-	11 0.42	60 1.23	111 2.64	37 0.60	29 0.43	13 0.14	6 0.07
ALL-INDIA	518 100 (4.56)	2,617 100 (14.20)	4,879 100 (19.52)	4,202 100 (16.87)	6,214 100 (19.36)	6,722 100 (19.07)	9,314 100 (20.45)	8,317 100 (17.33)
Punjab, Uttar Pradesh and Haryana	428 82.63	2,535 96.87	4,580 93.87	3,599 85.65	5,924 95.33	6,551 97.42	9,081 97.51	8,256 99.27

Notes: (1) Figures in second row reflect the relative share of that state in all-India procurement. (2) Figures within brackets indicate wheat procurement as a ratio of wheat production in the respective states.
Source: Gulati and Sharma (1990 b).

open market to check undue price rise. Losses made in the operation are referred to as the food subsidy. It increased from Rs 661.48 crore in 1980-81 to Rs 1941.42 crore in 1989-90. The increase in total subsidy is not only because the quantities handled have increased but also due to increase in per quintal subsidy from Rs 40.19 in 1980-81 to Rs 106.90 in 1989-90 for wheat and from Rs 34.02 in 1980-81 to Rs 124.23 in 1989-90 for rice. Further, the subsidy per quintal seems to have increased even when expressed as a percentage of the purchase price: from 34.35 per cent in 1980-81 to 58.42 per cent in 1989-90 for wheat and from 21.60 per cent in 1980-81 to 44.77 per cent in 1989-90 for rice. Bulk of the subsidy represents consumer subsidy, the rest being the cost of carrying stocks (Table 3). For the period from 1980-81 to 1988-89, consumer subsidy averaged to 81.08 per cent of total subsidy¹.

Though FCI has to carry large quantities of grains as buffer stocks over long periods and

transport grains over long distances, one would expect that, with increase in the scale of operations, the real unit cost of operations should decline indicating economies of scale. But this has not happened. FCI's unit cost of operations (procurement incidentals, distribution incidentals, and carrying costs) have all been increasing at a rate higher than that of the Wholesale Price Index (WPI) for all commodities, WPI for food-grains, and procurement price index (Table 4)². Purchase costs of FCI work out to over 6 per cent of the purchase price for rice and over 21 per cent for wheat³. Distribution costs of FCI are much higher at about 29 per cent for rice and 39 per cent for wheat (in triennium ending 1988-89).

Government purchases wheat through open market with simultaneous purchases by private traders. However, government retains the right of pre-emption in surplus states like Punjab and Haryana i.e. if the market price equals the procurement price, then the government can exercise

TABLE 2. GOVERNMENT INTERVENTION IN RICE MARKET (SPATIAL AND TEMPORAL DIMENSIONS OF PROCUREMENT)
(Thousand tonnes)

States	Average Of							
	1965-66 to 1967-68	1968-69 to 1970-71	1971-72 to 1973-74	1974-75 to 1976-77	1977-78 to 1979-80	1980-81 to 1982-83	1983-84 to 1985-86	1986-87 to 1988-89
NORTH								
Punjab	201.66 6.82 (57.67)	390.33 12.11 (68.04)	822.66 25.42 (80.54)	1,235.00 25.47 (84.84)	2,405.00 47.98 (83.64)	2,954.00 44.45 (79.67)	3,927.00 42.89 (78.36)	3,517.00 44.34 (64.35)
Haryana	85.66 2.90 (36.00)	217.66 6.75 (59.58)	336.66 10.40 (65.64)	468.33 9.66 (85.51)	726.66 14.50 (69.53)	755.33 11.37 (60.37)	881.60 9.63 (61.14)	558.00 7.04 (41.30)
Uttar Pradesh	95.33 3.23 (3.75)	224.00 6.95 (6.61)	317.33 9.81 (8.72)	578.66 11.93 (14.31)	492.00 9.82 (10.75)	624.33 9.40 (11.10)	999.00 10.91 (13.47)	946.00 11.93 (12.15)
Jammu & Kashmir	22.00 0.74 (9.47)	34.00 1.06 (7.46)	35.00 1.08 (8.95)	33.00 0.68 (8.05)	52.33 1.04 (10.12)	50.00 0.75 (8.97)	45.67 0.50 (7.83)	12.00 0.15 (2.26)
WEST								
Maharashtra	151.33 5.12 (11.10)	206.00 6.39 (13.84)	136.33 4.21 (11.01)	58.66 1.21 (2.71)	11.33 0.23 (0.53)	30.33 0.46 (0.81)	Neg. 0.00	Neg. 0.00
CENTRAL								
Madhya Pradesh	125.66 4.25 (6.67)	412.00 12.79 (12.48)	293.00 9.05 (8.42)	206.00 4.25 (7.47)	192.00 3.83 (5.86)	297.00 4.47 (13.21)	414.00 4.52 (8.89)	341.00 4.30 (7.77)
SOUTH								
Andhra Pradesh	640.66 21.68 (14.25)	337.33 10.47 (7.02)	430.66 13.31 (8.86)	917.00 18.91 (16.00)	707.66 14.12 (10.97)	1,140.00 17.16 (15.14)	1,615.00 17.64 (20.79)	1,489.00 18.77 (18.44)
Karnataka	69.66 2.36 (4.55)	51.33 1.59 (2.46)	63.66 1.97 (3.19)	151.00 3.11 (8.25)	75.66 1.51 (3.32)	117.33 1.77 (8.93)	109.30 1.19 (4.96)	103.00 1.30 (4.66)
Kerala	56.33 1.91 (5.27)	82.66 2.57 (6.33)	54.00 1.67 (4.06)	31.33 0.65 (2.25)	4.66 0.09 (0.36)	- 0.00	- 0.00	- 0.00
Tamil Nadu	832.00 28.16 (20.97)	420.00 13.03 (9.14)	188.00 5.81 (3.42)	500.00 10.31 (10.73)	99.33 1.98 (1.74)	392.33 5.90 (9.13)	829.30 9.06 (16.37)	735.00 9.27 (13.34)
EAST								
Assam	67.00 2.27 (3.60)	122.00 3.79 (5.81)	96.00 2.97 (4.68)	180.33 3.72 (8.44)	21.00 0.42 (0.99)	34.66 0.52 (1.41)	19.67 0.21 (0.76)	8.00 0.10 (0.32)
Bihar	38.00 1.29 (1.44)	43.33 1.34 (0.97)	47.33 1.46 (1.02)	54.33 1.12 (1.15)	6.33 0.13 (0.11)	39.33 0.59 (0.92)	30.00 0.33 (0.55)	5.00 0.06 (0.09)
Orissa	191.33 6.47 (5.34)	281.33 8.73 (6.31)	197.33 6.10 (4.93)	135.66 2.80 (3.72)	55.66 1.11 (1.43)	104.66 1.58 (2.83)	122.67 1.34 (2.53)	108.00 1.36 (2.40)
West Bengal	324.33 10.98 (6.51)	370.33 11.49 (5.92)	196.33 6.07 (3.26)	232.33 4.79 (3.43)	153.00 3.05 (2.28)	67.33 1.01 (2.10)	81.67 0.89 (1.02)	70.00 0.88 (0.74)
Others	54.05 1.83	30.03 0.93	22.04 0.68	68.03 1.40	9.38 0.19	38.37 0.58	82.12 0.90	39.00 0.49
ALL-INDIA	2,955.00 100.00 (8.98)	3,222.33 100.00 (8.00)	3,236.33 100.00 (7.68)	4,849.66 100.00 (11.09)	5,012.00 100.00 (10.10)	6,645.00 100.00 (13.03)	9,157.00 100.00 (15.07)	7,931.00 100.00 (12.68)

Notes: (1) Figures in second row reflect the relative share of that state in All-India procurement. (2) Figures within brackets indicate rice procurement as a ratio of rice production in respective states. (3) Production figures for 1988-89 are provisional. Source: Gulati and Sharma (1990 b).

TABLE 3. SUBSIDY RATE: WHEAT AND RICE

Years	Total Consumer Subsidy (Rs crore)	Total Carrying Cost (Rs crore)	Total subsidy on wheat and rice (Rs crore) (2)+(3) (4)	Per unit subsidy (Rs/quintal)		Per unit subsidy as per cent to procurement price	
				Wheat	Rice	Wheat	Rice
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1980-81	485.40	176.08	661.48	40.19	34.02	34.35	21.60
1981-82	622.41	154.81	777.22	53.73	42.94	41.33	24.89
1982-83	759.62	184.47	944.09	55.40	53.35	39.01	29.15
1983-84	822.24	268.99	1,091.23	49.07	66.70	32.50	33.69
1984-85	854.74	497.94	1,352.68	63.46	74.87	41.75	36.43
1985-86	1,373.39	517.57	1,890.96	69.57	77.34	44.31	36.31
1986-87	1,622.59	510.05	2,132.64	84.93	80.47	52.43	36.74
1987-88	1,924.33	203.82	2,128.15	82.79	80.94	49.87	35.97
1988-89	1,745.10	114.09	1,859.19	78.21	81.73	45.21	34.05
1989-90	1,774.20	167.22	1,941.42	106.90	124.23	58.42	44.77

Source: Food Corporation of India.

TABLE 4. PROCUREMENT AND DISTRIBUTION COSTS OF FCI

(Rs per Quintal)

Year	Procurement Incidentals (Wheat)	Distribution Incidentals (Wheat)	Total Cost (2)+(3)	Total Cost Index (1981-82 =100)	Procurement Price (Wheat)	Total Cost as Per cent to procurement Price (7)	Total Cost Index Deflated by		
							WPI (All comm.)	WPI (Food-grains)	Procurement Price Index
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1980-81	21.31	29.05	50.36	83.67	117.00	43.04	91.84	90.94	92.96
1981-82	22.32	37.87	60.19	100.00	130.00	46.30	100.00	100.00	100.00
1982-83	24.28	43.91	68.19	113.29	142.00	48.02	108.00	103.94	103.72
1983-84	24.17	46.87	71.04	118.03	151.00	47.05	104.63	99.18	101.61
1984-85	26.31	51.89	78.20	129.92	152.00	51.45	108.18	111.04	111.12
1985-86	31.61	53.19	84.80	140.89	157.00	54.01	112.35	112.71	116.66
1986-87	34.81	61.23	96.04	159.56	162.00	59.28	120.24	123.69	128.04
1987-88	34.13	62.05	96.18	159.79	166.00	57.94	111.28	113.33	125.14
1988-89	36.36	72.38	108.74	180.66	173.00	62.86	117.08	111.52	135.76
1989-90	40.31	76.33	116.64	193.79	183.00	63.74	116.95	117.45	137.66

Note: Indices in columns (8), (9) and (10) used to deflate total cost index are with 1981-82=100. These have not been reported here.

its right of pre-emption and bar private traders from buying. Zonal restrictions, tried in several forms during sixties and seventies, were finally withdrawn in 1977. Since then there has been no formal restriction on movement of wheat between states. But sometimes, particularly during drought years, informal controls are imposed on movement of grain out of the states of Punjab and Haryana.

Procurement of rice is done through levy on traders and millers at a price fixed by the government. The extent of levy defined as per cent of rice milled/traded and levy price differ across states. Basmati rice which was not subject to levy was brought under it in 1988-89 to check evasion

of levy by rice millers and traders. However, basmati meant for exports was exempt from levy to avoid any hardships to exporters. Levy on basmati was withdrawn in 1989-90. While there are no restrictions on the movement of non-levy rice, some states impose informal restrictions on inter-state movement of paddy/rice to facilitate procurement within the state. Thanjavur district in Tamil Nadu presents a special case where government has monopoly over procurement and paddy is not allowed to move out of the district⁴.

External trade in wheat and rice is also subject to government regulation. Import of wheat and rice is canalised through FCI. Export of wheat is subject to ceiling fixed by Government and

administered through Agricultural and Processed Food Products Export Development Authority (APEDA). Export of basmati rice is under Open General Licence (OGL) but subject to a minimum export price (MEP). Non-basmati rice can be exported subject to an export ceiling fixed by

Government and also MEP. The ceiling is fixed depending upon supply situation in the country. Degree of government intervention in wheat and rice is summarised in Table 5. Exports on Government account are negligible and hence are not shown in the Table.

TABLE 5. DEGREE OF GOVERNMENT INTERVENTION IN FOODGRAINS MARKET

Ratio to output of	Triennium Ending					
	1967-68	1973-74	1976-77	1982-83	1985-86	1988-89
WHEAT						
Procurement	4.04	20.10	15.42	17.13	20.45	16.46
Stocks	7.98	19.30	22.45	21.65	37.26	27.04
PDS Offtake	55.93	26.07	22.25	19.21	16.92	17.90
Imports	54.00	6.39	20.80	3.48	3.24	1.47
RICE						
Procurement	8.99	7.69	11.17	13.14	15.07	13.27
Stocks	1.62	5.62	6.33	13.27	10.06	13.42
PDS Offtake	10.87	8.02	8.14	12.99	11.97	14.79
Imports	2.05	0.27	0.19	0.00	0.41	0.36

Notes: Stocks for wheat are for the month ending July and in case of rice for month ending April, except for 1967-68 (TE) where stocks are the closing stocks. Procurement represents marketing years while public distribution and imports are on calendar year basis. Since exports of wheat and rice on Government account are negligible, these have been excluded.

Source: *Bulletin on Food Statistics*, Ministry of Agriculture, Government of India (various issues).

For coarse cereals, in principle, market intervention takes the form of a support price and government's commitment to buy all quantities offered at that price. But, on several occasions market prices were allowed to fall below the support prices without government buying. FCI had been purchasing coarse cereals till 1980-81. However, due to uncertain nature of surplus in a few pockets, fear of price rise in the event of larger purchases, and problems of storage on account of short shelf life, the level of purchases of coarse cereals has been low [Tyagi, 1990]. Purchases have also been low as coarse cereals are not included in the PDS. In 1983-84, when the market prices fell below support prices, National Agricultural Cooperative Marketing Federation (NAFED) was called upon to make purchases in Rajasthan, Haryana, and Gujarat. Since 1985-86, NAFED is the purchase agency for coarse cereals. It purchased 0.35 lakh tonnes of coarse grains during 1988-89 till January 31, 1989 as against 0.77 lakh tonnes in the corresponding period of 1987-88. Most of the purchases were from Rajasthan, Haryana, Gujarat, and Uttar Pradesh. Despite an announcement by the government in

November 1985 that it would bear the entire burden of subsidy on distribution of coarse cereals, the procurement remains low and even in 1988-89 market prices of bajra (pearl millet) and jowar (sorghum) ruled below minimum support levels. Exports are subject to a minimum export price and an export ceiling fixed by Government though in practice there are no exports of coarse cereals.

Support prices are also announced for pulses. However they are not of much consequence as the market prices have always ruled higher. NAFED is the nodal agency designated to make the purchases. Exports are banned except that imported pulses after processing are allowed to be re-exported under specific conditions. Imports are permitted freely under OGL, since 1978-79, subject to registration with NAFED which monitors imports of pulses. There have been no import duties for 4-5 years after 1980-81. However, a duty of 10 per cent was imposed in 1985 which was raised to 35 per cent in March 1989, but lowered to 10 per cent in November 1989, and has remained unchanged since then. Import of pulses which was only 1.73 lakh tonnes (Rs 29.8

crore) in 1980-81 reached a peak of 8.27 lakh tonnes (Rs 383.5 crore) in 1988-89. During 1990-91, import of pulses up to December was already 5.92 lakh tonnes (Rs 358.60 crore). Since market prices rule much above support prices there are no obligatory domestic purchases by government or NAFED. However, NAFED makes commercial purchases of various pulses from major producing states and also directly imports some. These are sold to various civil supplies corporations and state marketing federations.

Oilseeds

In 1985-86, NAFED was designated to undertake price support operations of various oilseeds such as soyabean, mustard, sunflower, safflower and groundnut pods. However, since market prices have been higher, the support prices have been inoperative. In 1989, National Dairy Development Board (NDDB) was called upon to execute buffer stock/price support operations for edible oils. The objective was to provide remunerative prices to oilseeds growers and to keep consumer prices of edible oils within reasonable 'price bands'. NDDB also launched cooperative societies of oilseed growers in seven states to stimulate production of oilseeds by providing them a share in the gains from processing of oilseeds. Export of edible oilseeds is banned except for hand picked select (HPS) groundnut which is placed under Open General Licence. Oilseeds are not generally imported. Only edible oils (mainly palmolein) are imported through State Trading Corporation (STC) and distributed through PDS by the Hindustan Vegetable Oils Corporation (HVOC) at a price higher than the import price but lower than the market price: As against c.i.f. price of palmolein of Rs 8/per kg (\$ 400/mt), the sale price at public distribution system (PDS), for bulk supply, was Rs 19.15/per kg and Rs 21.60/per kg for a 15 kg tin. The handling expenses for bulk supply are between Rs 1 and Rs 2 per kg. The balance may be deemed as savings to the Government which are largely in the form of import duties. At present, import duty is 105 per cent of c.i.f. price if imports are for PDS.

Cotton

Government intervention in cotton markets in Maharashtra is through monopoly procurement scheme. The scheme has been in operation since 1972 and is being implemented by the Maharashtra State Cotton Growers Cooperative Marketing Federation (Federation, for short). In other states, Cotton Corporation of India (CCI) operates to purchase, process, and distribute cotton. The Federation in Maharashtra was set up in 1972 to protect the producers, who contribute nearly 20 percent to the country's production of *kapas* (seed cotton), against fluctuating prices and exploitation by private traders. The monopoly scheme has been subject of controversy and debate. The scheme operates subject to extension granted by the central government. Its term was to expire in June 1990 but has been extended. The working of the scheme involves the government of Maharashtra declaring a minimum guaranteed price which is generally higher than the support price and the CCI price in other states. However, in some years final price has been less than the guaranteed price and the Federation has incurred losses⁵. If, when final price exceeds the guaranteed price, the Federation earns a profit it has to be shared with growers but losses are to be borne by Federation alone. In most years, guaranteed price in Maharashtra has been higher than that paid by CCI in other states. This is done to avoid outflow of *kapas* to other states. As a matter of fact, in some years, growers from neighbouring states have brought their produce into Maharashtra and sold it at higher price. Maharashtra's Monopoly Procurement Scheme is a 'distortion' in the normal functioning of the market. This is further exacerbated by the fact that the price offered by Maharashtra Federation is different from either the support price announced by the Government of India or the market price paid by the Cotton Corporation of India for its commercial purchases. Evidently, Maharashtra's Monopoly Procurement Scheme needs another look particularly in view of the changing production/export situation during 1980s.

Imports of cotton are canalised through CCI. Exports are under OGL subject to a system of quota allocated by the Government to various

agencies such as CCI, the Federation in Maharashtra, state level marketing federations and private traders. The quota is released in instalments over the cotton year. Exports are also subject to a minimum export price fixed by the Textile Commissioner. The share of state agencies in domestic market is about 30 per cent and in external market above 80 per cent (Table 6). The share of private trade in export quota of cotton which was 16.87 per cent in 1984-87 and declined

to 7.66 per cent in 1987-90 has dramatically increased to 42.91 per cent in 1990-91. Compared to a quota of 1 lakh bales in 1989-90, private trade has been allotted a quota of 4 lakh bales in 1990-91 (upto April 18, 1991) which marks a significant shift in their favour. High profitability of cotton exports seems to have attracted many private exporters. Actual exports have gone up from 3.65 lakh bales in 1981-82 to 13.5 lakh bales in 1989-90.

TABLE 6. STATE INTERVENTION IN DOMESTIC AND EXTERNAL MARKET OF COTTON

Agency	Shares in Actual Exports			Shares in Export Quota			Purchases as per cent of all India Production *		
	1981-84	1984-87	1987-90	1984-87	1987-90	1990-91	1981-84	1984-87	1987-90
CCI	30.29	39.49	48.50	40.01	49.55	27.90	10.39	10.10	7.50
Mah Fed	52.71	34.63	25.43	34.82	31.49	22.75	16.55	19.40	13.72
Guj Fed	6.02	6.58	8.41	6.88	8.43	4.83	-	-	-
AP Fed	0.00	0.21	2.89	1.35	2.87	1.61	-	-	-
Pvt Trd	7.66	17.83	11.07	16.87	7.66	42.91	-	-	-
Others	3.32	1.26	3.70	0.07	0.00	0.00	-	-	-
Total	100.00	100.00	100.00	100.00	100.00	100.00	26.94	29.50	21.22
	(4.77)	(6.65)	(4.33)	(7.37)	(5.21)	(12.55)	(80.73)	(101.17)	(106.00)

(*) Purchases are taken for only two major agencies namely CCI and Federation. Most of remaining production may be deemed to have been purchased by private trade.

Notes: Figures within parentheses are in lakh bales. Production estimates are trade estimates.

Sugar and Sugarcane

Sugar economy in India presents a classic example of dualistic agricultural market with pervasive government intervention at various levels. Sugarcane is subject to a statutory minimum price (SMP) linked to sugar recovery and is fixed by the Government of India. Most state governments, however, offer a price which is higher than the SMP and is called the State Advised Price. In Maharashtra, which follows cooperative pattern, sugarcane growers are also members of sugar factories and receive a final price which is higher than even the minimum price announced by the State Government.

Government of India procures sugar through levy on mills as a percentage of total production. Sugar thus procured is distributed by monthly releases through PDS at concessional price which is lower than the open market price. The rest of sugar is allowed to be sold in 'free sale market'. Ratio of levy and free sale sugar has ranged

between total control (100 per cent levy) to total decontrol (no levy at all) in different years reflecting volatile nature of sugar policy. At present, 45 per cent of sugar is procured through levy and the rest is sold in free market. Even in the so-called free sale segment, government regulates monthly releases of sugar. Levy sugar is acquired at a price fixed by Government of India based on recommendation of Bureau of Industrial Costs and Prices (BICP) which takes into account *inter alia* cost of production though the detailed criteria are not made public. The levy price is lower than the open market price and varies across states. We should note that a large segment of sugar economy, especially in Uttar Pradesh, consists of gur and khandsari which are free from levy system.

Government also regulates licencing of new mills taking care of effective catchment area to prevent competition among mills and underutilisation of capacity. Licencing provisions also stipulate minimum capacity norms⁶. Sugar, along

with khandsari and gur, are subject to stock holding restrictions under the Essential Commodities Act which is the main legislative instrument through which government attempts to control prices. Molasses, a by-product of sugar processing, is also subject to government restrictions. Mills are prohibited from selling molasses in the market. It is purchased by the government at a price fixed and controlled by it. However, mills can utilise it in their own distilleries and more and more mills, especially the larger ones, are now setting up distilleries. Surprisingly, khandsari and gur units are free from control on molasses which they sell in the open market at significantly higher price, almost 10 times the control price⁷.

In 1982-83, Government created a buffer stock of about 5 lakh tonnes of sugar which was financed out of the Sugar Development Fund which in turn got financed by a cess imposed on sugar mills. The stocks which reached a level of about 10 lakh tonnes were liquidated in the following year. At present, the Government does not have any policy of bufferstocking in sugar. Sugar is also subject to quality control by inspecting officers of the Directorate of Sugar. External trade in sugar is canalised. Only State Trading Corporation (STC) can import or export sugar. Imported sugar is handled by FCI on behalf of government and is normally distributed through PDS although sometimes it is also released in the open market as free sale sugar.

Natural Rubber

Intervention in market of natural rubber dates back to 1942 when the Indian Rubber Production Board was set up and government fixed statutory minimum and maximum prices. In 1969, statutory maximum prices were removed though minimum statutory prices remained. These prices were fixed by the Tariff Commission in 1970. In 1969, imports were allowed and placed under OGL briefly. Liberal imports led to excess supplies and exerted downward pressure on prices so much so that government had to resort to even exports. Minimum prices fixed by the Tariff Commission were replaced by the new ones in

1977 based on a study by Cost Accounts Branch of Ministry of Finance. Imports of natural rubber at this time were canalised through STC. The period of eighties is characterised by formulation of subsidy schemes by the Rubber Board, especially for the small holders. In February 1986, a buffer stock of 2,500 tonnes was created. It was operated by STC with a view to stabilise prices and keep them within a price range [Mani, 1990].

Notwithstanding differences in form and magnitude, government intervention in agricultural markets, domestic and external, is pervasive. On the external front, the composition of trade has changed over the years. Foodgrain imports have been almost completely eliminated but those of sugar, pulses, and edible oils have increased. Exports of many commodities have declined due to uptrend in domestic prices in relation to international prices. The matrix of domestic and external controls in agricultural product markets has been presented in Table 7.

IMPACT OF GOVERNMENT INTERVENTION: SUMMARY INDICATORS

One of the prime manifestations of the interventionist policies in agricultural sector in developing economies has been more or less complete insulation of farm sector from international economies. In an autarky, producers respond to domestic price signals as the international prices become irrelevant. While a country may achieve, in the short run, certain objectives by insulating domestic prices from international ones, the cost at which such goals can, if at all, be achieved is a matter seldom given thought to in any serious manner. A consequence of autarkic policies in which domestic prices are allowed to diverge from international prices is that the country forgoes the opportunity which trade can provide of enhancing not just efficiency but welfare gains as well. Controls required to supervise autarkic policies turn out to be self-perpetuating and agricultural sector is then governed by a highly complex structure of interventionist policies which tries to combine several goals, often mutually conflicting.

TABLE 7. GOVERNMENT INTERVENTION IN AGRICULTURAL MARKETS

Commodity	Domestic Intervention				External Intervention						Remarks
	Procurement/ Price Support	Levy	PDS	Buffer Stock	Imports		Exports				
					Canalising	OGL	Canalising	OGL	MEP	Quota	
Wheat	Yes (FCI)	No	Yes	Yes (FCI)	Yes (FCI)	Yes	No	Yes	No (APEDA)	Yes	Informal movement restrictions in some years in surplus states. Monopoly procurement in Thanjavur (TN), informal movement restrictions elsewhere. Procurement through levy in some years, finally withdrawn. NAFED makes commercial purchases. Exports not allowed. Small quantities distributed through PDS in some years. Export banned except HPS g'nut which is under OGL. Monopoly procurement in Maharashtra. Present levy: freesale ratio is 45:55. Monthly releases of freesale sugar also controlled. Export is banned.
Rice (Non-Basmati)	Yes (FCI)	Yes	Yes	Yes (FCI)	Yes (FCI)	Yes	No	Yes	Yes (APEDA)	Yes	
Rice (Basmati)	No	No	No	No	Yes	Yes	No	Yes	Yes (APEDA)	Yes	
Pulses	Yes (NAFED)	No	No	No	No	Yes	No	No	No	No	
Coarse Cereals	Yes (NAFED)	No	No	No	Yes (FCI)	Yes	No	Yes	Yes (APEDA)	Yes	
Oilseeds	Yes (NAFED)	No	No	No	Yes (NAFED)	Yes	No	No	No	No	
Raw Cotton	Yes (CCI)	No	No	No	Yes (CCI)	Yes	No	Yes	Yes (Textile Comm)	Yes	
Sugar	Yes	Yes	Yes	No	Yes (STC)	Yes	Yes (STC)	No	No	No	
Natural Rubber	Yes (STC)	No	No	Yes (STC)	Yes (STC)	Yes	No	No	No	No	

Note: Agencies involved in intervention are given in parentheses. The Table presents the current status of intervention policy (on domestic and external front) in agricultural markets although actual procurement/imports/exports would depend on prevailing market situation.

Effective Incentives

Government intervention affects the actual prices received by the cultivators; in the absence of such intervention, the cultivators would presumably get international prices ruling under a free-trade scenario. Hence, the divergence between domestic prices (with government intervention) and international prices (no government intervention) offers a measure of 'effective incentives' that the intervention gives to the cultivators. But such divergence is also often referred to as 'distortions', and is measured by what are called 'protection coefficients'. Thus, 'protection coefficients' also become a measure of 'effective incentives' that intervention gives to the cultivators. We shall use them as such. If domestic price of a crop is higher than its international price, the crop is protected, and thus enjoys higher level of 'effective incentives',

compared to another crop for which domestic price is lower than international price. We shall also compare such free-trade 'effective' incentives with the domestic profitabilities as they obtain in trade autarky in India to bring out divergences between the two.

The level and spread of crop-specific effective incentives can be estimated by three standard ratios, each ratio referring to a higher level of complexity, namely, nominal protection coefficient (NPC), effective protection coefficient (EPC) and effective subsidy coefficient (ESC). NPC is the ratio of domestic price of the commodity in question at farm gate and the price a farmer would have received under free-trade (briefly, reference price). Domestic price used in this study is the procurement/support price or wholesale price while the reference price is derived from world prices adjusted for transport costs (domestic and foreign), marketing costs,

and processing costs necessary to make the commodity tradeable. EPC is defined as the ratio of value added at domestic prices to value added at international prices. It requires a detailed knowledge of input structure of the relevant commodity and NPC not only of output but of traded (tradeable) inputs as well. EPC is a better measure of effective incentive since it incorporates protection on inputs as well. ESC is essentially EPC adjusted for subsidies and taxes on non-traded inputs in the numerator of EPC. While subsidies (net of taxes) on traded inputs are already taken care of in EPC calculation, the ESC includes subsidies (net of taxes) on non-traded inputs as well [Gulati with Hanson and Pursell, 1990].

The protection coefficients can be estimated under two hypotheses: (a) Importable hypothesis under which the crop in question is imported and competes at the domestic port with imports inclusive of their international transport costs. Thus, if the price of a commodity in international market is, say, \$ 100 and transport cost between the importing and exporting countries is \$ 10, then the reference price under importable hypothesis is \$ 110. Long distances involving high transport costs thus provide natural protection to domestic production. (b) Exportable hypothesis in which the commodity in question is exported and competes at a foreign port. In this case, international transport costs are excluded from the world price. In the above example, domestic producers must produce at a price of \$ 90 to be able to compete at the foreign port. Thus, the competitive export price (under exportable hypothesis) is 22 per cent lower than the competitive import parity price (under importable hypothesis). This is what causes divergence in protection coefficients estimated under importable and exportable hypotheses.

Statewise estimates of NPC, EPC, and ESC are available for wheat, rice, groundnut, and cotton [Gulati with Hanson and Pursell, 1990], for mustard, soyabean, and sunflower [Gulati, 1990a], for sugarcane [Goldar and Gulati 1990], for gram [Chadha, 1990] and for natural rubber [Mani, 1990]. These crops account for about 60

per cent of total cropped area and above two-thirds of value of crop output. Protection coefficients for most of these crops for the whole country for the years 1980-81 to 1986-87, and for some up to 1988-89, are given in Table 8. In Table 9, the same coefficients are given separately for principal states in which the crops are grown but now averaged over the relevant period.

Effective Incentives: Statewise Trends

Crop-specific NPCs under importable hypothesis indicate that domestic prices of wheat, rice, and cotton have remained below the international prices implying lower effective incentives or a case of 'taxation' while NPCs of groundnut, mustard, soyabean, sunflower, natural rubber, and sugarcane indicate that domestic prices have been higher than international prices implying higher effective incentives. For gram NPC is close to unity implying neither higher effective incentives nor taxation. EPCs for wheat, rice, cotton, and natural rubber are less than their corresponding NPCs implying that the nominal protection on traded inputs used in the production of these crops is higher than on outputs. On the other hand, for groundnut, mustard, soyabean, and sugarcane EPCs are greater than their NPCs implying that nominal protection on traded inputs is lower than on outputs. However, EPCs of sunflower and gram are not different from their NPCs which suggests either that the use of traded inputs in their production is small or that nominal protection on their inputs is more or less equal to that on outputs. ESCs are substantially higher than EPCs on account of adjustment for large subsidies on non-traded inputs such as irrigation, electricity, and credit. In sum, it appears that groundnut, soyabean, mustard, sunflower, natural rubber, and sugarcane are enjoying much higher level of effective incentives compared to wheat, rice, and cotton. As a consequence, it seems that these crops are attracting more resources in their production than what would happen under free trade. It also suggests that the country would be better off, from foreign exchange point of view, if resources were shifted from high-incentive (protected) crops to low-incentive (not-protected) crops.

TABLE 8. TEMPORAL BEHAVIOUR OF CROP-SPECIFIC EFFECTIVE INCENTIVE IN INDIAN AGRICULTURE

Hypothesis/Crop/Protection Coefficient	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	Average
<i>Importable Hypothesis</i>								
WHEAT								
NPCs	0.72	0.73	0.84	0.84	0.76	0.76	0.91	0.80
EPCs	0.67	0.68	0.80	0.80	0.72	0.72	0.89	0.75
ESCs	0.76	0.85	0.99	0.99	0.90	0.90	1.12	0.93
RICE								
NPCs	0.45	0.51	0.75	0.70	0.72	0.78	0.80	0.67
EPCs	0.43	0.48	0.73	0.68	0.70	0.78	0.78	0.65
ESCs	0.58	0.65	0.99	0.90	0.96	1.01	1.06	0.88
GRAM								
NPCs	1.48	1.25	0.81	0.62	0.89	1.01	0.79	0.99
EPCs	1.50	1.25	0.80	0.60	0.89	1.01	0.78	0.99
ESCs	1.54	1.29	0.82	0.63	0.91	1.04	0.81	1.02
GROUNDNUT								
NPCs	1.06	1.37	1.66	1.41	1.40	1.53	2.05	1.50
EPCs	1.09	1.44	1.74	1.47	1.47	1.58	2.13	1.56
ESCs	1.20	1.55	1.93	1.58	1.60	1.76	2.32	1.71
MUSTARDSEED								
NPCs	1.73	1.72	1.42	1.61	1.22	1.04	1.51	1.47
EPCs	1.84	1.81	1.46	1.68	1.25	1.05	1.56	1.52
ESCs	1.93	1.91	1.55	1.78	1.31	1.13	1.66	1.61
SOYABEAN								
NPCs	1.00	1.07	1.25	1.09	0.90	1.05	1.62	1.14
EPCs	1.01	1.08	1.27	1.10	0.90	1.07	1.69	1.16
ESCs	1.03	1.12	1.32	1.13	0.95	1.13	1.76	1.21
SUNFLOWER								
NPCs	1.24	1.28	1.56	1.09	1.13	1.77	2.45	1.50
EPCs	1.23	1.27	1.56	1.08	1.12	1.78	2.48	1.50
ESCs	1.26	1.30	1.58	1.11	1.14	1.81	2.54	1.53
COTTON								
NPCs	0.77	0.94	0.82	0.68	0.73	0.86	0.83	0.80
EPCs	0.66	0.82	0.71	0.58	0.62	0.74	0.69	0.69
ESCs	0.71	0.90	0.79	0.64	0.67	0.82	0.75	0.75
SUGARCANE								
NPCs	0.62	1.09	1.15	1.46	3.12	2.26	1.98	1.55
EPCs	0.61	1.10	1.16	1.51	3.49	2.47	2.08	1.63
ESCs	0.67	1.25	1.33	1.76	4.09	2.87	2.43	1.89
RUBBER								
NPCs	1980	1981	1982	1983	1984	1985	1986	
EPCs	1.06	1.64	-	-	-	1.87	1.69	1.47
ESCs	0.94	-	-	-	-	1.89	1.67	1.37
	-	-	-	-	-	-	-	1.21
<i>Exportable Hypothesis</i>								
WHEAT								
NPCs	1.15	1.09	1.24	1.29	1.27	1.33	1.99	1.34
EPCs	1.29	1.16	1.35	1.47	1.55	1.71	3.44	1.71
ESCs	1.57	1.35	1.57	1.73	1.81	2.00	4.07	2.01
RICE								
NPCs	0.50	0.60	0.94	0.89	0.94	1.09	1.16	0.87
EPCs	0.47	0.57	0.93	0.88	0.95	1.13	1.19	0.87
ESCs	0.65	0.77	1.26	1.21	1.30	1.60	1.68	1.21
GROUNDNUT								
NPCs	1.25	1.72	2.03	1.69	1.76	2.03	2.87	1.91
EPCs	1.44	2.09	2.44	1.90	2.07	2.36	3.45	2.26
ESCs	1.57	2.24	2.69	2.04	2.31	2.63	3.76	2.47
COTTON								
NPCs	0.89	1.13	0.92	0.74	0.83	1.01	0.93	0.92
EPCs	0.78	1.04	0.80	0.62	0.71	0.89	0.79	0.80
ESCs	0.84	1.13	0.88	0.69	0.78	0.99	0.86	0.88
SUGARCANE								
NPCs	0.66	1.23	1.32	1.79	5.53	3.16	2.61	2.10
EPCs	0.65	1.25	1.35	1.88	6.46	3.53	2.81	2.29
ESCs	0.72	1.42	1.55	2.18	7.57	4.10	3.29	2.66

Notes: For gram the average is from 1980-81 to 1987-88; for sugarcane from 1980-81 to 1988-89 and for natural rubber from 1980-1988. For uncovered years the figures are as follows:

Crop	Year(s)	NPC	EPC	ESC
Gram	1987-88	0.99	0.99	1.02
Sugarcane	1987-88	1.30	1.33	1.54
	1988-89	0.94	0.95	1.08
N. Rubber	1987	1.44	-	-
	1988	1.13	0.98	1.21

For other explanations see notes to Table (9).

Crop-wise temporal and regional analysis of effective incentives (under importable hypothesis) would indicate that wheat producers received lower incentives throughout eighties as the domestic prices remained below international prices. Temporally, the incentive levels improved over the eighties on account of falling world prices (even after considering depreciation of rupee vis-a-vis dollar and rise in domestic prices). For the triennium ending 1982-83, ESC for wheat was 0.87 which rose to 0.97 in TE 1986-87.

The behaviour of effective incentives for *wheat* over the years may be seen in Graph 1. Fluctuations from year to year indicate variations in world prices. Evidently, EPCs are less than their corresponding NPCs indicating that nominal protection on traded inputs of wheat is greater than that on output of wheat. However, when we adjust subsidies on non-traded inputs like irrigation, electricity, and credit and compute ESCs we find that ESCs turn out to be significantly higher than either NPCs or EPCs reflecting large subsidies enjoyed by farmers on non-traded inputs.

Statewise effective incentives were calculated for surplus states (Punjab and Haryana) and deficit states (Uttar Pradesh and Madhya Pradesh). Results suggest higher level of effective incentives for surplus states than for deficit states. The index of ESC presented in the last column of Table 9 brings out regional differences in effective incentives. By and large surplus states have ESC index equal to or greater than the weighted average of ESCs (=100)¹⁰. Under exportable hypothesis, however, Punjab appears to enjoy a much higher level of incentives with an average ESC of 2.01. Overall results of the effective incentives for wheat suggest that it has been an efficient import substitute but to become an efficient exportable it may require subsidy. However, wheat became efficient exportable in 1989 following reversal in the declining trend of international wheat prices since 1987-88 and sharp depreciation of rupee vis-a-vis dollar. Since India remained a net importer of wheat during the eighties, it is the importable hypothesis which is more relevant. For the 1990s, medium to long term projections of world wheat prices suggest that wheat may remain an efficient exportable.

Estimates of effective incentives for *rice* also suggest that rice cultivators received much lower

levels of incentives than what would have been available to them under free trade. As in wheat, level of incentives for rice improved over eighties following sharp decrease in world prices (Graph 2). NPCs of rice are lower than unity and also lower compared to those of wheat implying greater 'taxation' through regulatory policies that do not allow rice cultivators to receive otherwise free-trade prices. Mitra also came to a somewhat similar conclusion though through a different methodology [Mitra, 1977]. Regionally, surplus states like Punjab and Andhra Pradesh have higher level of incentives than deficit states. Unlike wheat, rice appears to be an efficient exportable. As in wheat, ESCs are higher than NPCs and EPCs indicating high subsidies on non-traded inputs. The difference between ESC and EPC is greater in rice than in wheat implying higher unit subsidy going into rice cultivation than in wheat cultivation. In brief, results suggest that rice is an efficient import substitute as well as an efficient exportable and recommend allocating more resources to rice cultivation on efficiency grounds¹¹. However, a few caveats may be noted.

First, rice in Punjab is not an environmentally sound proposition and hence needs a critical look. Second, common rice has limited export market. Asia is the largest consumer and producer of rice. It has both surplus as well as deficit regions. If weather is good, deficit regions do not need to import. If weather is bad even exporters do not have much surplus to export. This makes the total trade in rice very small. However, basmati rice has high export potential. It has high demand especially in the gulf countries and can fetch a good price. To boost basmati exports, farmers need to be given more incentives, besides upgrading technology for milling and polishing.

For *gram*, domestic prices have been close to international prices yielding a weighted average NPC (1980-81 to 1987-88) of 0.99. Over the years, it has ranged between 0.62 in 1983-84 and 1.48 in 1980-81 (Graph 3). Overall picture that emerges from the gram study is one of neither very high nor very low level of effective incentives. Between states, Madhya Pradesh and Rajasthan show lower level of incentives while Haryana and Uttar Pradesh have higher level,

TABLE 9. CROP - AND REGION-SPECIFIC EFFECTIVE INCENTIVES IN INDIAN AGRICULTURE (AVERAGE 1980-81 TO 1986-87)

Hypothesis/Crop/States	NPCs	EPCs	ESCs	Index of ESC (Wtd. Avg=100)
<i>Importable Hypothesis</i>				
WHEAT				
Haryana	0.84	0.79	1.03	110.75
Madhya Pradesh	0.75	0.73	0.96	103.22
Punjab	0.85	0.80	0.93	100.00
Uttar Pradesh	0.77	0.73	0.91	97.85
Weighted Average	0.80	0.75	0.93	100.00
RICE				
Andhra Pradesh	0.69	0.66	0.88	100.00
Bihar	0.65	0.64	0.86	97.72
Madhya Pradesh	0.67	0.65	0.85	96.59
Orissa	0.65	0.63	0.84	95.45
Punjab	0.74	0.72	1.01	114.77
Uttar Pradesh	0.66	0.64	0.85	96.59
Weighted Average	0.67	0.65	0.88	100.00
GRAM				
Haryana	1.03	1.02	1.05	102.94
Madhya Pradesh	0.97	0.98	1.03	100.98
Rajasthan	0.98	0.98	1.01	99.02
Uttar Pradesh	1.01	1.01	1.02	100.00
Weighted Average	0.99	0.99	1.02	100.00
GROUNDNUT				
Gujarat	1.47	1.59	1.70	99.41
Andhra Pradesh	1.50	1.54	1.72	100.58
Tamil Nadu	1.53	1.55	1.73	101.17
Weighted Average	1.50	1.56	1.71	100.00
MUSTARDSEED				
Uttar Pradesh	1.47	1.52	1.61	100.00
SOYABEAN				
Madhya Pradesh	1.14	1.16	1.21	100.00
SUNFLOWER SEED				
Maharashtra	1.50	1.50	1.53	100.00
COTTON				
Maharashtra	0.96	0.93	0.98	130.67
Gujarat	0.89	0.61	0.67	89.33
Punjab	0.83	0.74	0.86	114.67
Andhra Pradesh	0.63	0.54	0.55	73.33
Weighted Average	0.80	0.69	0.75	100.00
SUGARCANE				
Maharashtra	1.32	1.44	1.70	89.95
Tamil Nadu	1.44	1.53	1.68	88.89
Uttar Pradesh	1.72	1.79	2.08	110.05
Weighted Average	1.55	1.63	1.89	100.00
NATURAL RUBBER				
Tamil Nadu	1.48	1.35	1.19 (0.97)	98.35
Kerala	1.48	1.36	1.20 (0.96)	99.17
Karnataka	1.47	1.41	1.23 (0.99)	101.65
Weighted Average	1.47	1.37	1.21 (0.98)	100.0

(Contd.)

TABLE 9. (Concl'd.)

Hypothesis/Crop/States	NPCs	EPCs	ESCs	Index of ESC (Wtd. Avg=100)
<i>Exportable Hypothesis</i>				
WHEAT				
Punjab	1.34	1.71	2.01	100.00
RICE				
Punjab	0.87	0.87	1.21	100.00
GROUNDNUT				
Gujarat	1.87	2.48	2.60	105.26
Andhra Pradesh	1.91	2.15	2.42	97.98
Tamil Nadu	1.95	2.13	2.38	96.36
Weighted Average	1.91	2.26	2.47	100.00
COTTON				
Maharashtra	1.13	1.12	1.17	132.95
Punjab	0.98	0.89	1.04	118.18
Gujarat	1.03	0.74	0.81	92.04
Andhra Pradesh	0.67	0.56	0.58	65.91
Weighted Average	0.92	0.80	0.88	100.00
SUGARCANE				
Maharashtra	1.64	1.88	2.22	83.46
Tamil Nadu	1.92	2.11	2.33	87.59
Uttar Pradesh	2.56	2.71	3.17	119.17
Weighted Average	2.10	2.29	2.66	100.00

Notes:

(1) For wheat, the international price used is that of Hard Red Winter No 2, ordinary protein, USA which has been compared with procurement price of FAQ (fair average quality) variety.

(2) International price of rice has been approximated by fob price of Thai White (Milled) 5 per cent broken variety which has been compared with domestic common variety of rice.

(3) For gram, international price represents actual import price of gram from different countries as no international price quotation of gram is available. This has been compared with domestic FAQ variety (desi) of gram.

(4) In case of groundnut, international price used is that of kernels of any origin cif Europe, Rotterdam and domestic price represents FAQ variety in terms of kernels.

(5) International price of rapeseed/mustardseed is the cif price at Rotterdam of Canadian variety with 40 per cent oil content. This is taken as comparable with average of domestic FAQ variety (farm harvest price) and Lahi variety in Hapur market (wholesale price).

(6) International variety of soyabean is US No. 2 Yellow and the comparable Indian variety has been taken as soyabean white superior.

(7) For sunflower seed, the cif price represents USA/Canadian variety. Comparable Indian variety is FAQ.

(8) In case of cotton, international Mexican variety has been compared with H-4 (grown in Maharashtra); Californian SM 1 1/8" variety of cotton is comparable with S-4 and S-6 (Gujarat); Orleans/ Texas (1") is like J-34/320-F of Punjab; and Giza-67/69/81 is comparable with MCU-5 of Andhra Pradesh.

(9) Protection coefficients for sugarcane have been worked out on the basis of sugar prices and processing costs, since there is no international trade in sugarcane. International prices are available for raw Caribbean sugar. This, however, is not comparable with the Indian plantation white sugar which is superior. A quality premium has been allowed to make the two varieties comparable.

(10) The international price of natural rubber is for RSS 3 variety at Kuala Lumpur market which has been compared with Indian price of RMA 4 at Kottayam market.

(11) Coefficients of wheat, rice, cotton, groundnut, rapeseed/mustard, soyabean and sunflowerseed are averages from 1980-81 to 1986-87; for gram these are averages of 1980-81 to 1987-88; and for sugarcane from 1980-81 to 1988-89. In case of natural rubber, NPCs are average of 1980, 1981, 1985 to 1988 of small-holders and estates; EPCs are average of 1980, 1985, 1986 and 1988 and ESCs relate only to 1988. Figures within brackets represent NPCs for 1988.

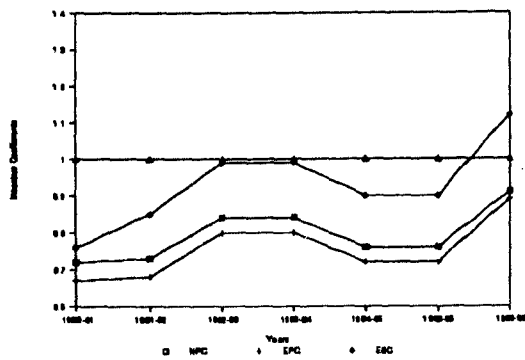
though only marginally so. EPCs of gram are no different from their NPCs suggesting low use of traded inputs. Even ESCs are only marginally higher than NPCs indicating little use of even non-traded inputs (irrigation) in production of gram. Both wholesale prices and farm harvest prices have been used in the gram study but farm harvest prices have not been reported in this study as they have varietal problems.

Because of high domestic prices of *oilseeds* in relation to international prices the average (1980-87) NPCs of oilseeds range from 1.14 for soyabean to 1.50 for sunflower (Table 9). Over the years, there is no evidence of the incentives declining except in case of mustard where they did decline up to 1985-86 (Graphs 4 to 7). In 1986-87, the level of effective incentives under importable hypothesis was very high for groundnut (NPC=2.05). For sunflower also it was very high in 1986-87 (NPC=2.45) but was very moderate in 1983-84 (NPC=1.09). For soyabean, NPC ranged from 0.90 (1984-85) to 1.62 (1986-87). For rapeseed/mustard, it was high in 1980-81 (NPC=1.73) but it declined to only 1.04 by 1985-86. Overall picture is one of high level of effective incentives. Of the four oilseeds studied, soyabean has the lowest level of effective incentives and groundnut the highest. Statewise, effective incentives for groundnut were highest in Tamil Nadu followed by Andhra Pradesh and Gujarat. EPCs of oilseeds are not significantly different from their corresponding NPCs due to smaller use of traded inputs. ESCs are, however, higher than NPCs or EPCs suggesting some use of subsidised non-traded input like irrigation. In recent years, area under irrigated oilseeds has recorded significant increase, which may further increase the difference between ESC and EPC.

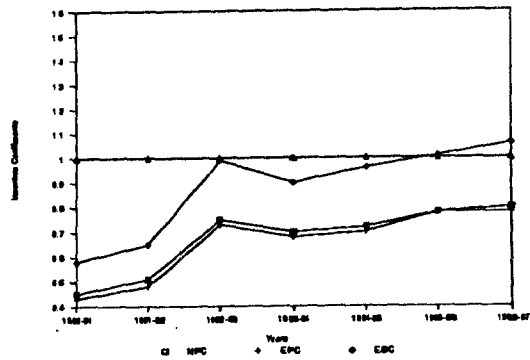
Effective incentives for *cotton* cultivators were low during 1980s both under importable as well as exportable hypotheses. Over the years, all the three measures of effective incentives have fluctuated reflecting variations in international prices (Graph 8). The average (1980-87) NPC was 0.80 under importable hypothesis and 0.92 under exportable hypothesis for all the four major growing states taken together (Table 9). In all the four states the NPC was below unity under importable hypothesis indicating that the price in

each state was lower than what would be under free trade. However, under exportable hypothesis, interstate differences in levels of effective incentives present a different picture. For instance, it was higher in Maharashtra and Gujarat (average NPCs being 1.13 and 1.03 respectively) than in Punjab (NPC=0.98) or Andhra Pradesh (NPC=0.67) where protection was least. Adjustment of protection on traded inputs further reduces the level of incentive as reflected in average EPCs of 0.69 and 0.80 under importable and exportable hypothesis respectively compared with corresponding NPCs of 0.80 and 0.92. This is because of higher protection on traded inputs than on seed-cotton. Under importable hypothesis, all states received lower incentives but under exportable hypothesis Maharashtra (for H-4 variety) enjoyed higher incentives in terms of EPC. Estimates of effective incentives can be further improved by adjusting EPCs for subsidy on non-traded inputs such as irrigation, electricity, and credit and computing ESCs. The weighted average of ESCs works out to be below unity and also below NPCs. However, under exportable hypothesis for Maharashtra and Punjab level of effective incentives has been higher (on an average) in relation to Gujarat and Andhra Pradesh. On the whole, the cultivators of cotton in all the states have received very low level of incentives or have been 'taxed' in relation to international prices. Regional spread of EPCs suggests that cultivators of MCU-5 variety in Andhra Pradesh are the most taxed. In terms of ESCs they received about 27 per cent lower incentive than the weighted average of all the four states and about 44 per cent lower than cultivators of Maharashtra. The difference is much wider under exportable hypothesis with MCU-5 long staple cotton receiving incentives which were only half of incentives going to H-4 of Maharashtra. Relatively higher level of incentives to cultivators in Maharashtra is on account of the unique scheme of monopoly procurement in the state which provided guaranteed price to cultivators for which the state government had to incur huge losses in some years.

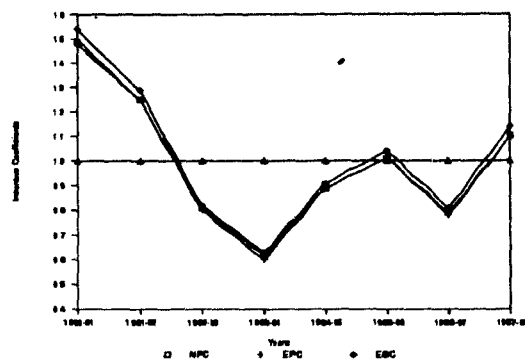
Graph (1): Effective Incentives: Wheat



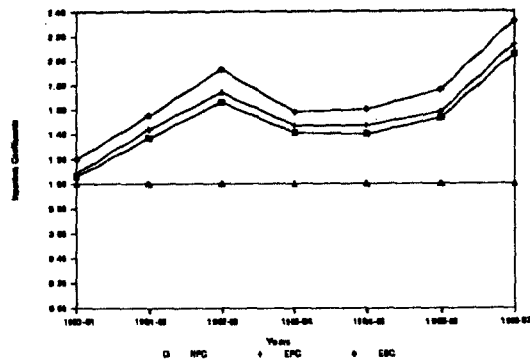
Graph (2): Effective Incentives: Rice



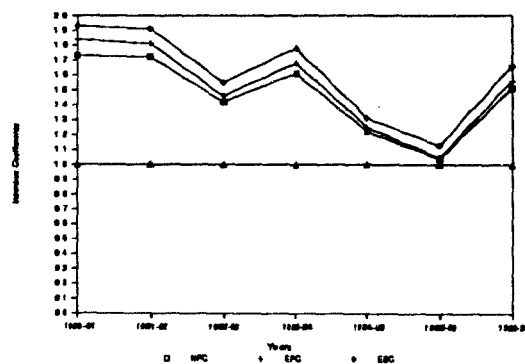
Graph (3): Effective Incentives: Gram



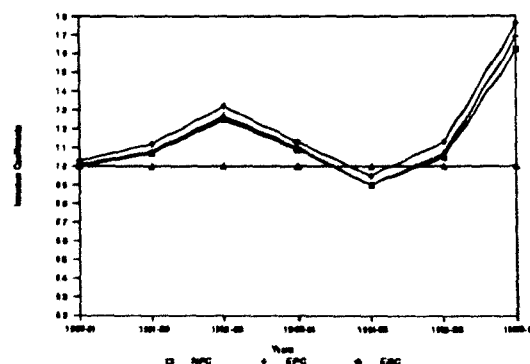
Graph (4): Effective Incentives: Gr'nut



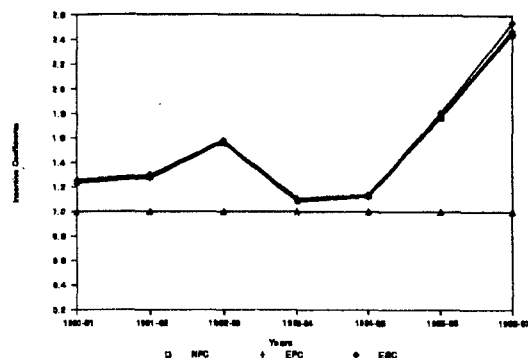
Graph (5): Effective Incentives: Mustard



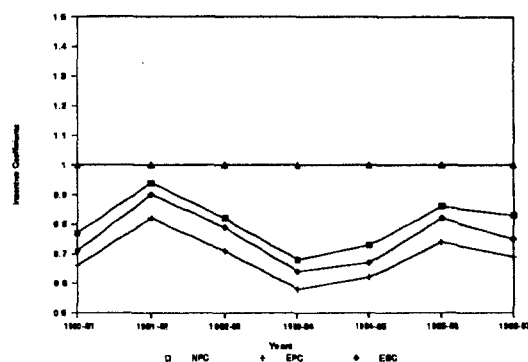
Graph (6): Effective Incentives: Soyabean



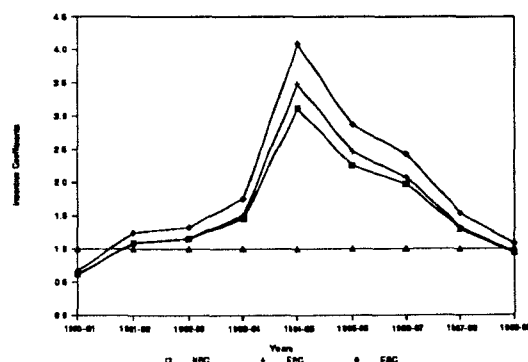
Graph(7):Effective Incentives:Sunflower



Graph(8): Effective Incentives: Cotton



Graph(9):Effective Incentives:Sugarcane



Clearly, if resource allocation had followed international prices, more resources would have gone to cotton than at present. This would have been more efficient in terms of earning/saving of foreign exchange. While reorienting incentive policy towards cotton it may be advisable to take into consideration likely future international prices. The World Bank forecasts of cotton prices suggest that Indian cotton is likely to remain an efficient exportable and should be made more

profitable domestically. However, a caveat needs to be added. Cotton is a highly pesticide-intensive crop which poses an environmental hazard which must be checked by integrated pest management and better education of farmers if full potential of this crop is to be realised without adverse consequences.

Sugarcane received high level of incentives during the eighties. NPCs have been computed for Maharashtra, Tamil Nadu, and Uttar Pradesh under both exportable and importable hypotheses. Weighted average of the three states for 1980-81 to 1988-89 under importable hypothesis yields an NPC of 1.55 and under exportable hypothesis 2.10. EPCs are higher than NPCs as shown in Tables 8 and 9. ESCs are significantly higher than either NPCs or EPCs because of heavy use of irrigation, which is a highly subsidised input, in cultivation of sugarcane. Results show marked fluctuations over the years with NPCs ranging from 0.62 (1980-81) to 3.12 (1984-85). Inter-state differences, which were moderate in years like 1980-81 to 1982-83 and 1987-88, were quite wide in 1984-85 to 1986-87. Only in two years, namely, 1980-81 and 1988-89, sugarcane cultivators had low effective incentives (disprotected) under importable hypothesis and only in 1980-81 under exportable hypothesis. Overall picture is one of high level of effective incentives. Similar results are obtained for EPCs. In terms of ESCs, sugarcane suffered disincentives in 1980-81 and, only in Tamil Nadu, in 1988-89. In Uttar Pradesh, it received highest level of effective incentives compared to other states. Behaviour of NPC, EPC, and ESC over the years is shown in Graph 9. The gap between EPC and ESC is an indicator of subsidy on non-traded inputs received by a given crop as a ratio to value added of that crop at domestic prices. In sugarcane, weighted average ESC was higher than corresponding EPC by about 16 per cent; the range of inter-state difference was about 10 per cent for Tamil Nadu to about 18 per cent for Maharashtra. In Uttar Pradesh, ESC was higher than EPC by 16 per cent. High levels of effective incentives received by sugarcane, particularly high subsidy on irrigation (sugarcane is 100 per cent irrigated in Uttar Pradesh and Maharashtra), suggest that overall efficiency in resource use can be improved by allocating fewer resources to this crop than at present. But one should note that

international market of sugar is highly distorted and its price is lower than what it really costs to produce. Hence, before making any changes in policy, one should be sure how far such 'dumping' is likely to continue in future.

Protection coefficients for *natural rubber* indicate high level of effective incentives. Inter-state differences are small. For instance, NPC varies between 1.47 and 1.48; EPC between 1.35 (Tamil Nadu) and 1.41 (Karnataka); and ESC between 1.19 (Tamil Nadu) and 1.23 (Karnataka). However, all the three coefficients are not available for all the years in the eighties. NPCs are greater than unity in all the years (i.e. 1980, 1981, 1985 to 1988). Inter-state and inter-sectoral (i.e. between small-holders and estates) differences have been minimal. EPCs (available for 1980, 1985, 1986 and 1988) are also greater than unity except in 1980. ESC is available for only one year (1988) and is higher than corresponding EPC. On the basis of NPCs, it seems that natural rubber cultivators received higher level of effective incentives (weighted NPC=1.47) during the years for which NPC is available. The same may be said on the basis of EPCs (weighted EPC=1.37) which are lower than NPCs indicating higher protection to traded inputs than to natural rubber. ESC (=1.21), available only for 1988, is higher than its corresponding EPC (=0.98) reflecting subsidies on non-traded inputs. The broad implication for resource allocation is that it will be more efficient to shift resources out of natural rubber and put them into other crops which at present receive low effective incentives.

After 1986-87, effective protection for wheat and rice has declined steeply because of sharp rise in international prices and equally sharp deterioration in the value of Indian rupee vis-a-vis dollar. Average f.o.b. price of wheat (April-June) increased from \$ 136.33 per tonne in 1988-89 to \$ 173.67 in 1989-90 or by 27.4 per cent. Procurement price during this period was raised by less than 6 per cent. Coupled with over 19 per cent depreciation of rupee vis-a-vis dollar, effective incentives for wheat show a large decline both under importable and exportable hypotheses so much so that, in 1989, wheat became an efficient exportable. In 1990, situation changed somewhat due to a decline in world prices but, because of

continuing depreciation of rupee, wheat remains exportable. Similarly, international price of rice increased by 20 per cent while domestic price by only 14 per cent so that rice, which in any case has been an efficient exportable, became more so in 1988-89. Medium to long term projections of world prices of wheat and rice indicate higher levels than what prevailed in 1986-87. The balance of payment (BOP) situation of India also indicates that the rupee may continue to depreciate further. These projections imply that effective incentives for wheat and rice, under importable hypothesis are likely to remain low in the years to come. Under exportable hypothesis, the situation is likely to be a little better but nowhere near what it was in 1985-86 or 1986-87. Overall implications are that India can have high economic rate of return by allocating more resources for wheat and rice. They would, in all probability, be efficient import substitutes and also likely to be efficient exportables in the coming years. The same is even more likely to be true of cotton. By implication India would be a net earner (saver) of foreign exchange, if it allocates more resources in favour of cotton, wheat, and rice. Of course, due care will need to be taken of environmental implications of such allocations and necessary corrective measures undertaken.

Domestic Profitability and Cropping Pattern

In an autarkic framework, price policies (of outputs and inputs) along with technological factors influence crop-specific profitability. The price policies, dictated by considerations of self-sufficiency among others, are not always most efficient in terms of allocation of resources across crops. As such the crop-mix that obtains in an autarky may be different from what an open economy scenario would suggest. This section presents crop-specific domestic profitabilities in different states and, in the next section, compares them with effective incentives (protection) to bring out divergences between the two and delineate the crop-mix which would achieve greater allocative efficiency in an open economy framework.

TABLE 10. DOMESTIC INCENTIVES AND CHANGES IN CROPPING PATTERN, 1980-81 TO 1986-87 (AT 1988-89 PRICES)

States Crops	Andhra Pradesh	Assam	Bihar	Gujarat	Haryana	Himachal Pradesh	Karnataka	Madhya Pradesh	Maharashtra	Orissa	Punjab	Rajasthan	Tamil Nadu	Uttar Pradesh	West Bengal	Total Weight	Weighted Average
Paddy	3,666.05	2,338.48	2,583.91	-	3,389.99	-	5,181.27	1,858.10	-	2,389.90	4,438.99	-	4,827.23	2,139.00	3,281.09	89.57	2,905.94
	72.10	199.96	170.86	-	85.14	-	196.96	151.12	-	117.47	86.23	-	73.22	101.49	112.26	22.96	125.24
	0.03	-1.16	0.63	-	4.28	-	-0.73	0.04	-	-0.08	6.31	-	-1.96	0.41	-0.55	-	-
Wheat	-	-	3,767.19	-	3,164.59	1,908.66	-	2,247.16	-	-	3,454.30	4,046.47	-	2,803.75	-	88.47	3,012.69
	-	-	240.12	-	96.93	116.52	-	148.37	-	-	91.65	160.37	-	92.33	-	13.13	121.74
	-	-	2.13	-	2.85	0.43	-	0.11	-	-	1.03	2.30	-	0.25	-	-	-
Maize	-	-	3,306.44	-	-	2,648.33	-	1,362.21	-	-	-	1,898.63	-	-	-	47.69	2,202.42
	-	-	288.52	-	-	160.38	-	148.82	-	-	-	189.71	-	-	-	3.32	201.42
	-	-	-3.83	-	-	1.47	-	0.88	-	-	-	1.16	-	-	-	-	-
Jowar	487.23	-	-	1,373.71	-	-	1,283.64	1,072.59	1,114.50	-	-	-	-	-	-	84.74	1,063.69
	44.74	-	-	119.14	-	-	156.91	127.22	98.26	-	-	-	-	-	-	9.16	105.95
	-2.87	-	-	-0.66	-	-	6.58	-3.47	0.02	-	-	-	-	-	-	-	-
Bajra	-	-	-	1,804.87	1,191.46	-	-	-	-	-	-	737.16	-	1,641.43	-	71.08	1,072.49
	-	-	-	105.47	166.05	-	-	-	-	-	-	260.76	-	141.55	-	6.37	210.62
	-	-	-	-1.61	-2.14	-	-	-	-	-	-	0.77	-	-2.73	-	-	-
Barley	-	-	-	-	-	-	-	-	-	-	-	2,320.01	-	-	-	22.97	2,320.01
	-	-	-	-	-	-	-	-	-	-	-	139.15	-	-	-	0.83	139.15
	-	-	-	-	-	-	-	-	-	-	-	-5.25	-	-	-	-	-
Ragi	-	-	-	-	-	-	1,966.41	-	-	-	-	-	1,847.15	-	-	53.11	1,749.90
	-	-	-	-	-	-	135.94	-	-	-	-	-	103.74	-	-	1.40	118.43
	-	-	-	-	-	-	0.13	-	-	-	-	-	-1.12	-	-	-	-
Gram	-	-	-	-	1,884.32	-	-	2,306.65	-	-	-	2,138.92	-	2,821.30	-	82.30	2,338.18
	-	-	-	-	189.60	-	-	199.34	-	-	-	211.88	-	171.56	-	4.10	194.77
	-	-	-	-	0.52	-	-	3.25	-	-	-	4.56	-	-0.20	-	-	-
Urud	1,625.10	-	-	-	-	-	-	1,131.88	-	1,790.44	-	-	1,215.29	1,274.12	-	68.17	1,511.31
	126.76	-	-	-	-	-	-	163.06	-	257.81	-	-	131.91	180.21	-	1.67	199.59
	9.60	-	-	-	-	-	-	-0.45	-	3.68	-	-	8.32	0.23	-	-	-
Tur	-	-	-	-	-	-	1,633.79	2,651.08	-	-	-	-	-	6,050.23	-	45.71	3,614.10
	-	-	-	-	-	-	180.12	217.48	-	-	-	-	-	425.77	-	1.74	283.45
	-	-	-	-	-	-	3.05	-3.49	-	-	-	-	-	-1.15	-	-	-
Moong	860.68	-	-	-	-	-	-	1,169.12	-	1,656.18	-	858.55	-	-	-	55.71	1,203.62
	75.62	-	-	-	-	-	-	183.56	-	172.14	-	182.18	-	-	-	1.65	142.53
	-1.65	-	-	-	-	-	-	-4.27	-	-0.09	-	3.87	-	-	-	-	-
Mustard	-	1,932.33	-	-	3,383.42	-	-	-	-	-	-	3,491.09	-	3,514.41	-	71.52	3,343.64
	-	217.74	-	-	257.57	-	-	-	-	-	-	332.84	-	286.59	-	2.26	289.91
	-	5.46	-	-	2.60	-	-	-	-	-	-	18.85	-	-12.69	-	-	-
Groundnut	1,604.15	-	-	2,000.87	-	-	2,637.44	2,664.34	-	4,181.54	-	-	2,697.09	-	-	82.53	2,230.66
	59.67	-	-	70.03	-	-	118.78	187.03	-	181.78	-	-	82.84	-	-	4.07	87.32
	3.84	-	-	-2.61	-	-	7.98	-3.27	-	12.63	-	-	2.24	-	-	-	-

(Contd.)

TABLE 10. (Concl'd.)

States Crops	Andhra Pradesh	Assam	Bihar	Gujarat	Haryana	Himachal Pradesh	Karna- taka	Madhya Pradesh	Mahara- shtra	Orissa	Punjab	Rajas- than	Tamil Nadu	Uttar Pradesh	West Bengal	Total Weight	Weighted Average
Soyabean	-	-	-	-	-	-	-	2,198.02	-	-	-	-	-	2,242.15	-	95.40	2,207.01
	-	-	-	-	-	-	-	187.27	-	-	-	-	-	162.11	-	0.55	182.15
	-	-	-	-	-	-	-	23.48	-	-	-	-	-	3.66	-	-	-
Sunflower	-	-	-	-	-	-	1,810.55	-	1,641.60	-	-	-	-	-	-	88.56	1,728.35
	-	-	-	-	-	-	168.32	-	186.32	-	-	-	-	-	-	0.34	177.08
	-	-	-	-	-	-	63.55	-	36.80	-	-	-	-	-	-	-	-
Cotton	-	-	-	1,988.16	-	-	3,659.35	2,005.49	804.32	-	3,628.94	-	-	-	-	80.90	1,864.87
	-	-	-	66.71	-	-	166.06	229.13	65.88	-	139.91	-	-	-	-	4.31	102.04
	-	-	-	-2.61	-	-	-11.11	-2.63	0.42	-	-1.99	-	-	-	-	-	-
Jute	-	2,073.85	3,235.25	-	-	-	-	-	-	5,087.31	-	-	-	-	-4,327.71	97.84	3,881.53
	-	117.92	202.77	-	-	-	-	-	-	210.09	-	-	-	-	160.12	0.49	164.68
	-	2.80	2.89	-	-	-	-	-	-	-2.64	-	-	-	-	-0.90	-	-
Sugarcane	14,264.55	-	9,620.98	-	8,818.55	-	20,164.40	-	11,094.22	-	-	-	1,6876.60	9,920.00	-	86.94	1,1374.07
	154.55	-	285.47	-	273.99	-	342.90	-	81.55	-	-	-	141.33	321.48	-	1.72	270.99
	2.27	-	1.65	-	1.67	-	0.90	-	2.34	-	-	-	2.24	3.61	-	-	-
Total Wt	64.78	75.47	76.66	54.33	73.34	70.34	62.23	70.98	47.90	63.29	73.55	59.04	56.27	80.60	76.27	80.46	-
Wt in	7.09	2.03	5.90	6.02	3.16	0.55	6.40	11.49	12.60	5.07	3.96	10.21	3.78	14.13	4.34	96.72	-
AIGCA																	
W.A.v (p)	2,446.44	2,286.34	3,534.63	1,851.33	2,847.66	2,250.21	2,999.52	1,989.44	1,337.36	2,368.49	3,759.43	1,878.22	4,525.28	3,273.45	3,351.21		2,282.04
W.A.v (R)	66.63	198.25	199.92	85.43	140.21	136.77	162.92	169.84	90.95	138.75	95.90	229.28	87.17	146.26	118.12		141.46
Change in	-0.44	1.33	-0.97	0.50	0.75	0.65	1.80	0.64	-0.21	1.24	1.09	0.41	0.49	0.42	1.43		-
GCA																	

Note: First row against each crop indicates average profit per hectare at 1986-87 prices, second row stands for average rate of profit (per cent), third row indicates average annual change in area (per cent). All figures are averages for 1980-81 to 1986-87.

First figure under column 'total weight' indicates the total area covered by the states mentioned under a given crop. The second figure represents share of the crop in all-India gross cropped area. All weights are average of 1980-81 to 1986-87.

Figures against row 'total weight' are total of area under different crops in that state. Weight in AIGCA is the share of relevant state in the all-India GCA. Third and fourth rows are weighted averages of profit and rate of profit respectively. Fifth row represents annual average change in GCA (per cent) in relevant state.

Source: Gulati and Sharma, 1990 c

Cropping pattern is determined by a number of factors such as physical conditions (soil, water), infrastructural and technological factors and prices of inputs and outputs. A change in cropping pattern may reflect change in one or more of these factors which may alter the crop economics. Cropping pattern changes can be better appreciated in the light of 'competing crops' framework¹². It may be emphasised that crop substitution takes place at the margin only, one of the reasons for which is differential crop economics not only across states and districts but across farmers. This, along with factors like doubts about stability of returns or non-availability of inputs, may prevent farmers from switching wholesale to more profitable crops. Statewise analysis of the structure of domestic profitability of different crops and changes in cropping pattern within the competing crops framework is presented in Table 10. It gives, for 15 states, average profit (rupees per hectare), rate of profit (per cent) over paid out cost of cultivation (A2), and average annual changes in area (per cent) from 1980-81 to 1986-87. However, since cost data are not available continuously for these years, the gaps had to be filled up suitably [Gulati and Sharma, 1990c]. Profit per hectare is simply the value of main product and by-product minus paid-out costs (A2). Profit figures are converted to 1988-89 prices to make them comparable. To judge area changes in individual crops, they must be compared with changes in gross cropped area (GCA) shown in the last row.

While area changes broadly seem to follow profitability signals one would need more information about crop economics at disaggregated, say, district level to be able to establish closer linkage between profitability and area changes. Averaging at state level suppresses vital information and does not permit any confident generalisation. Further, cost of cultivation data is not available for all the crops grown in a state hence a fuller analysis of competing crops is not possible. However, one of the most noticeable features of the crop-mix changes brought out in this table is relatively higher area changes in crops which were not very prominent in some states. Paddy in Punjab and Haryana, rapeseed/mustard in Assam and Rajasthan, groundnut in Orissa,

soyabean in Madhya Pradesh and sunflower in Karnataka and Maharashtra are the examples. Conversely, traditional paddy growing states show either negligible increase or decline in area under paddy in favour of other crops. Yet, some of the results do not conform to our expectations. Paddy in Karnataka appears to be highly profitable yet the state has registered a decline in area but jowar showed a rise in area despite low profitability. In some other cases (such as urad in Andhra Pradesh and Tamil Nadu), similar perverse relationship is discernible. As stated earlier, full explanation for these facts requires disaggregated information about all the crops which is not available.

Is Profitability in Line with Effective Incentives?

It will be useful to ask whether crops with high effective incentives (protection) also enjoy high profitability. To test this hypothesis simple correlation between profitability (Rs/ha) ratios and ESC ratios (both relative to wheat) was estimated across states for 26 observations (Table 11) and it turns out to be 0.51. Similar correlation estimated at all-India level for 9 observations (Table 12) comes to 0.54. But a little reflection will show that correlation is not the appropriate technique to find out association between two variables in the type of data that is being analysed here. The nature of information is of an incomplete panel data. We have information for some crops in different states and some states for different crops. In such a situation more appropriate method for finding out relation between the two relevant variables would be to apply the 'fixed' component model (or analysis of covariance). This method would take care of the crop-specific and state-specific characteristics of the data. Validity of this technique in dealing with incomplete panel data has been demonstrated in Biorn (1981), Mehta (1983) and Wansbeek and Kaptyn (1989). This model in brief would first adjust the two variables in such a way that crop- and state-specific characteristics are automatically ironed out. Since our prime interest is to find out an overall relation between the two variables, and not particularly within the same state for different crops or between states for the same crop, this

TABLE 11. DIVERGENCE BETWEEN DOMESTIC AND EFFECTIVE INCENTIVES (STATE-LEVEL)

Commodity/ State	Domestic Profit (Rs/ha)	Rate of Profit on Paid out cost	Ratio to wheat of		ESC	Ratio of ESC to AI ESC of wheat
			Profit	Rate of Profit		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
WHEAT						
Haryana	3,164.59	96.93	1.05	0.80	1.03	1.11
Madhya Pradesh	2,247.16	148.37	0.75	1.22	0.96	1.03
Punjab	3,454.30	91.65	1.15	0.75	0.93	1.00
Uttar Pradesh	2,803.75	92.33	0.93	0.76	0.91	0.98
RICE						
Andhra Pradesh	3,666.05	72.10	1.22	0.59	0.88	0.95
Bihar	2,583.91	170.86	0.86	1.40	0.86	0.92
Madhya Pradesh	1,858.10	151.12	0.62	1.24	0.85	0.91
Orissa	2,389.90	117.47	0.79	0.96	0.84	0.90
Punjab	4,438.99	86.23	1.47	0.71	1.01	1.09
Uttar Pradesh	2,139.00	101.49	0.71	0.83	0.85	0.91
GRAM						
Haryana	1,884.32	189.60	0.63	1.56	1.05	1.13
Madhya Pradesh	2,306.65	199.34	0.77	1.64	1.03	1.11
Rajasthan	2,138.92	211.88	0.71	1.74	1.01	1.09
Uttar Pradesh	2,821.30	171.56	0.94	1.41	1.02	1.10
GROUNDNUT						
Gujarat	2,000.87	70.03	0.66	0.58	1.70	1.83
Andhra Pradesh	1,604.15	59.67	0.53	0.49	1.72	1.85
Tamil Nadu	2,697.09	82.84	0.90	0.68	1.73	1.86
MUSTARDSEED						
Uttar Pradesh	3,514.41	286.59	1.17	2.35	1.61	1.73
SOYABEAN						
Madhya Pradesh	2,198.02	187.27	0.73	1.54	1.21	1.30
SUNFLOWER SD						
Maharashtra	1,641.60	186.32	0.54	1.53	1.53	1.65
COTTON						
Maharashtra	804.32	65.88	0.27	0.54	0.98	1.05
Gujarat	1,988.16	66.71	0.66	0.55	0.67	0.72
Punjab	3,628.94	139.91	1.20	1.15	0.86	0.92
SUGARCANE						
Maharashtra	11,094.22	81.55	3.68	0.67	1.70	1.83
Tamil Nadu	16,876.60	141.33	5.60	1.16	1.68	1.81
Uttar Pradesh	9,920.00	321.48	3.29	2.64	2.08	2.24

Notes: (1) All ratios have been worked out with wheat as the numeraire which is all India weighted average profit (Rs/ha) for col. 4, all India rate of profit (per cent) for col. 5, and all-India ESC for wheat for col. 7. (2) In case of rice, while profit figures are for paddy, ESC is based on rice. Cotton ratios are for seed-cotton (kapas) and groundnut for pods. (3) Domestic profit is estimated at 1988-89 prices in this table. (4) All figures are based on averages of 1980-81 to 1986-87. (5) Rate of profit and profit per hectare are different concepts and may give different results. For details see Gulati and Sharma (1990c).

TABLE 12. DIVERGENCE BETWEEN DOMESTIC AND EFFECTIVE INCENTIVES (ALL INDIA)

Commodity	Domestic Profit (Rs/ha)	Rate of profit on Paid out Cost	Ratio to wheat of		ESC	Ratio of ESC to AI ESC of wheat
			Profit	Rate of Profit		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Wheat	3,012.00	121.74	1.00	1.00	0.93	1.00
Rice	2,905.94	125.24	0.96	1.03	0.88	0.95
Cotton	1,864.87	102.04	0.62	0.84	0.75	0.81
Mustard	3,343.64	289.91	1.11	2.38	1.61	1.73
Soyabean	2,207.01	182.15	0.73	1.50	1.21	1.30
Sunflower	1,728.35	177.08	0.57	1.45	1.53	1.65
Gram	2,338.18	194.77	0.78	1.60	1.02	1.10
Sugarcane	11,374.07	270.99	3.78	2.23	1.89	2.03
Groundnut	2,230.66	87.32	0.74	0.72	1.71	1.84

Note: All India profit figures represent weighted average of major states using area weights. For details see Gulati and Sharma (1990c).

methodology seems to be an appropriate one. Accordingly, the adjusted variables have been generated as follows:

$$\text{Adj. PROFIT} = P_{ij} - P^*_i - P^*_j + P^{**}$$

Where P_{ij} is the ratio of profit of 'i'th crop in 'j'th state, P^*_i is the average profit ratio of 'i'th crop across relevant states, P^*_j is the average profit ratio of 'j'th state across different crops covered in 'j'th state and P^{**} is the average of all the 'i' crops and 'j' states. Similar adjustment was made for ESC ratio through: $\text{Adj ESC} = E_{ij} - E^*_i - E^*_j + E^{**}$ where E is the ESC ratio. Correlation between adjusted PROFIT and adjusted ESC as generated above works out to be 0.63 which shows positive association between the two and is statistically significant.

These results indicate some sort of perversity, though not very strong, in the profitability of crops *vis-a-vis* their degree of international competitiveness (efficiency). The crops that are internationally more competitive and are less protected are also the crops with low profitability. The crops that need to be discouraged on efficiency grounds, that is, the crops that are protected receive high profits. Examples are not hard to come by. Oilseeds are more protected and more profitable. Cotton is disprotected and less profitable. Efficiency considerations would suggest that profitability should be so attuned that it favours disprotected crops and vice versa. At present domestic incentive policies provide somewhat perverse signals to farmers. It encourages inefficient crops and penalises efficient ones. The divergent picture that obtains in Indian agriculture highlights the need for reorienting policy towards more efficient crops.

GOVERNMENT INTERVENTION THROUGH INPUT SUBSIDIES

Like most developing countries, India subsidises key agricultural inputs such as irrigation, fertiliser, credit, electricity, etc. Several arguments are given in support of subsidising inputs. One is that subsidies encourage use of modern inputs which the farmers may otherwise find too expensive. Subsidising inputs is also considered better than raising procurement prices

which encourages use of all inputs and raises output prices. Further, it is considered administratively more convenient.

Implications of Input Subsidies

However, implications of large scale input subsidies may be far more serious than the presumed benefits often manifesting in the following forms:

- (1) Direct Fiscal Implications: Exchequer bears enormous fiscal burden. Fertiliser subsidy alone amounted to over Rs 4,601 crore in 1989-90 (RE). Losses of state electricity boards in supplying cheap electricity to agriculture have crossed Rs 3,000 crore in 1989-90. Total investment in irrigation projects (major and medium only) works out to Rs 61,513 crore at 1988-89 prices [Gulati, 1990b]. The revenue earned from these projects does not even cover the recurring expenses, let alone capital costs, affecting their very viability.
- (2) Cropping Pattern Implications: Subsidy on irrigation through electricity and canal water causes distortion in cropping pattern in favour of water-intensive crops like paddy in Punjab and sugarcane in Maharashtra. An ex-post survey of ten major projects in the country showed that the cropping patterns that finally emerged in the command areas of these projects were significantly different from the ex-ante expectations of the project authorities, and that they were tilted heavily in favour of water-intensive crops like paddy and sugarcane [India, 1987]. Since water charges are not volumetric, it implies that water-intensive crops are more subsidised than other crops¹³.
- (3) Environmental Implications: One of the more serious effects of input subsidy is on resource use. Subsidy on canal water and subsidy on electricity has led to excessive irrigation causing salinity and water logging in some areas and overdraft and depletion of groundwater in others. Subsidy on fertiliser has similarly led to excessive application with adverse environmental effects. In areas where productivity is sagging farmers often tend to compensate it by applying higher doses of fertiliser rather than managing fertiliser and other inputs more efficiently. This substitution of 'management' by higher and higher doses of

cheap fertiliser can only be stopped through widespread extension and more judicious pricing. (4) *Equity Implications*: In case of fertiliser, for instance, it is estimated that not more than 50 per cent of budget subsidy goes to farmers. The rest may be deemed to be going to either fertiliser industry or the industry that supplies feedstocks to fertiliser industry (e.g. ONGC, IOC, etc.). In the final analysis, perhaps the entire subsidy goes to the consumer. The ultimate incidence of these subsidies on the rest of the economy is a matter to be examined in detail. Irrigation-based agricultural growth has diverted bulk of input subsidy to irrigated areas with serious implications not only for inter-crop parity but also inter-class and inter-region equity.

In the following, we shall bring out more fully these implications of each input subsidy.

Fertiliser Subsidy

Fertiliser subsidy, supplemented by a wide network of distribution outlets, has led to a rapid increase in fertiliser consumption. From a little over 2 million tonnes in 1970-71 it rose to over 11 million tonnes in 1988-89. However, there is a high regional concentration with one district each of Punjab (Faridkot) and Andhra Pradesh (West Godavari) consuming as much fertiliser as Assam and Orissa put together. Total burden of subsidy has been mounting over the years, particularly in the eighties. In the triennium ending 1980-81, it amounted to Rs 483 crore of which nearly 54 per cent was on account of imported fertiliser. In the triennium ending 1989-90, it amounted to Rs 3,354 crore of which the share of domestic fertiliser was 81 per cent. A great part of this goes to fertiliser industry or suppliers of feedstocks. The fertiliser industry further enjoys indirect subsidy in the form of lower feedstock prices as compared to non-fertiliser units. The prices of both fertilisers as well as feedstocks are administered by the government. Since that part of subsidy which does not go to farmers does not induce farmers to produce more, it is desirable that we should make an estimate of 'economic' subsidy that actually goes to farmers defined either as (a) difference between economic resource cost of producing fertilisers at home

(within autarkic framework) and price actually paid by farmers; or (b) difference between delivered cost of imported fertiliser at farm gate and actual prices paid by farmer. Though the first definition has certain merits, lack of information on actual resource cost makes it difficult to apply. We shall therefore adopt the second definition. Delivered cost of imported fertiliser is computed as c.i.f. price of fertiliser plus charges paid to pool handling agencies for transferring fertiliser from the port to block headquarters, and dealer's margin. Thus computed, fertiliser subsidy to farmer does not constitute more than 50 per cent of the budget subsidy [Gulati and Sharma, 1990a]. The rest may be deemed to be going either to fertiliser industry or suppliers of feedstocks. It may be mentioned that, since world prices of fertilisers are volatile, subsidy should be estimated on the basis of average world prices for a few years, say, three to five yearly moving average.

Irrigation Subsidy

Expansion of irrigation has been the main strategy for agricultural growth. As a result, substantial capital investment was made in irrigation sector. The ultimate potential has been estimated to be 113.5 million hectares from all sources (major, medium, and minor)¹⁴; in 1984-85, potential created was 67.53 million hectares and utilised 60.58 million hectares. While wheat and sugarcane receive heavy irrigation in most areas and paddy in some areas, crops like coarse cereals, pulses, and oilseeds receive little irrigation.

Several methods could be used to compute irrigation subsidy. One could be to define it as the difference between the shadow price of water minus actual water rates being charged to farmer. This requires estimation of shadow price of water. Second method is to take the difference between water rates charged by private suppliers and that of public irrigation assuming that private water rates are approximately closer to opportunity cost of water. Third method defines irrigation subsidy as the cost of water to irrigation authorities (including capital cost and operational cost) minus water charges. Irrigation subsidy estimates

using this method are presented in Gulati, [1990b].

In an earlier work Gulati estimated that irrigation subsidy through major and medium schemes ranged from Rs 4,954 crore in 1980-81 to Rs 8,439 crore in 1986-87, with an average of Rs 6,504 crore per annum [Gulati, 1989]. In a later work, which is more exhaustive, Gulati provides three alternative estimates of irrigation subsidy [Gulati, 1990b]. Estimate (I) works out irrigation subsidy as the difference between working expenses and gross receipts of government, which comes to an average of Rs 223 crore per annum for 1974-75 to 1989-90 at 1988-89 prices; it has increased from Rs 124 crore in 1974-75 to Rs 304 crore in 1989-90. Estimate (II) includes, besides working expenses, annualised (amortized) capital cost of irrigation development and deducts gross receipts from that. Capital is accounted at historical prices (book value). Irrigation subsidy then works out to be an average of Rs 2,304 crore for 1974-75 to 1989-90 at 1988-89 prices. Estimate (III) takes capital cost at replacement value, thus taking into account both inflation and gestation lag between investment and creation of potential. Irrigation subsidy then works out to be an average of more than Rs 10,000 crore for 1974-75 to 1989-90 at 1988-89 prices. It is even higher during late 1980s [Gulati 1990b].

Besides being underpriced, water charges are generally not volumetric and, therefore, do not discourage strongly water-intensive crops. Most major irrigation projects show wide deviation between potential area anticipated to be brought under irrigation and what actually is brought. Cropping pattern also turns out to be much different from what the authorities anticipate at the time of formulation of project. This not only leads to higher cost of irrigation per hectare but also distorts inter-crop parity. Upstream cultivators take to water-intensive crops leaving less water for the tail-enders. This calls for redesigning the distribution of irrigation so that it leads to greater equity among crops and farmers.

Electricity Subsidy

Energy-intensity of Indian agriculture has increased since sixties. Share of agricultural

sector in total consumption of electricity, which was a little over 6 per cent in 1960-61 went up to 10.2 per cent in 1970-71, 17.6 per cent in 1980-81, and 25.9 per cent in 1989-90. This has come about at heavy subsidy on electricity in the form of losses incurred by State Electricity Boards (SEBs) as a result of supplying electricity to agricultural sector at a price much below the cost of its generation and distribution. Of course, this is not strictly 'economic' subsidy as it does not compute opportunity cost of generation and supply of electricity. Moreover, because of absence of necessary data, it is not based on separate costs of generation and distribution of electricity for agricultural and non-agricultural sectors. Apparently, the costs of generation as also that of distribution would be much higher for agricultural sector than for non-agricultural sector¹⁵. To that extent, it underestimates electricity subsidy. The losses incurred by SEBs are financial losses which subsume other losses like the loss on account of transmission, power thefts, and defaults in payment of electricity bills. Subsidy is thus defined as the difference between average cost of electricity generation and distribution per unit minus average revenue per unit sold to agriculture. To get an estimate of total subsidy, the per unit subsidy is multiplied by quantity of electricity sold to agriculture. It works out to be Rs 3,475 crore in 1989-90 [Gulati, 1990b]. Uttar Pradesh, Maharashtra, Punjab, Andhra Pradesh, Gujarat, and Tamil Nadu account for bulk of the subsidy. In Andhra Pradesh, in 1989-90, while the cost was about 70 paise/kwh, average revenue tariff came to only 4.5 paise/kwh. In Maharashtra, average cost is 99 paise but tariff is only 9 paise/kwh 1989-90. Similarly in Punjab, in 1989-90, the cost was 103 paise/kwh, but revenue tariff was only 8 paise/kwh. The subsidy has increased from Rs 364 crore in 1980-81 to Rs 3,475 crore in 1989-90, that is, by almost ten times within a decade. However, expressed as percentage of total cost of electricity supplied to agriculture (worked out by multiplying sale of electricity to agriculture by average per unit cost), subsidy to agriculture has

gone up from 60.14 per cent in 1980-81 to 74.19 per cent in 1984-85 and then to 81.70 per cent in 1989-90.

Credit Subsidy

Institutional credit to rural sector made rapid strides during 1951-81. The proportion of credit supplied by the institutions (cooperatives, banks and government) to total rural debt increased from a meagre 7 per cent in 1951 to 61 per cent in 1981. On the other hand, this proportion of credit by money lenders declined from 80 per cent to only 24 per cent over the same period, the residual coming from friends and relatives. The fact that institutional credit to rural sector has increased phenomenally is almost undisputed but that the share of money lenders has come down so dramatically is debatable.¹⁶ During the ten year period, 1979-80 to 1988-89 total outstanding direct advances to agriculture by institutions (PACS, RRBs, Commercial Banks, LDBs) showed a four-fold increase from Rs 6,036 crore in 1979-80 to Rs 25,416 crore in 1988-89.

Credit subsidy from the lender's point of view can be estimated under alternative hypotheses. One way to perceive it would be to work out the difference between cost of credit (including defaults) of lending institutions and the rate of interest received from rural borrowers. In other words, estimating 'net margins' of the lending institutions. Although one would prefer this 'cost approach' as it is akin to the one adopted in estimating irrigation (canal and electricity) subsidy, but the absence of any reliable estimates of cost of credit to rural sector prevented us from following this approach¹⁷.

The other way of looking at credit subsidy is to perceive it as consisting of two components: (a) interest subsidy that accrues to agriculture due to concessional rate of interest that is charged from this sector *vis-a-vis* other sectors of the economy and (b) default subsidy that accrues to agriculture in the form of bad debts, which will never be paid back to the lending institutions. We have adopted this alternative approach in calculating credit

subsidy. Lack of precise information on the quantum of loan disbursed by different credit agencies at different interest rates does not allow us to work out the weighted average rate of interest charged from the agricultural sector. Morris, however, estimated the weighted interest rate charged by commercial banks alone from agricultural sector to be 12.7 per cent in 1981 [Morris, 1985]. Adjusting it for long term loans by LDBs where interest rate is 10 per cent and small loans extended by PACS and RRBs where again the interest charged is lower than that estimated by Morris, the weighted average rate of interest for agriculture turns out to be in the proximity of 11.7 per cent. If this is accepted, one can work out the differential interest rate between agriculture and the sector paying highest rate of interest (retail trade) to which the institutions could have lent. The interest rate charged from retail trade was 16.2 per cent in 1981 [Morris, 1985]. Thus the opportunity cost in terms of interest lost by lending institutions (within administered interest rate regime) for giving advances to agriculture comes to 4.5 per cent. Multiplying this rate by loans outstanding to agriculture by all credit institutions, one obtains the quantum of interest subsidy. To calculate default subsidy we have worked out for PACS the ratio of overdues with more than 3 years' default history to loans outstanding for the years 1980-81 to 1983-84. Applying this ratio to the loans outstanding by other credit agencies and assuming that 40 per cent of these defaults (which have defaulted for more than 3 years) will never come back one obtains default subsidy¹⁸. The interest and default subsidy so estimated together make credit subsidy to Indian agriculture. It increased from Rs 516 crore in 1979-80 to Rs 1,031 crore in 1983-84 and further to Rs 2,172 crore in 1988-89. The average results for the period 1979-80 to 1988-89 indicate that credit subsidy at all-India level was of the order of Rs 1,210.22 crore per annum. Maharashtra topped the list with Rs 170.86 crore followed by Uttar Pradesh with Rs 129.12 crore and Andhra Pradesh with Rs 112.40 crore.

TABLE 13. CONTRIBUTION OF INPUT SUBSIDIES IN CULTIVATORS' INCENTIVES

State/Crop (1)	Subsidy (Rs/ha) (Average 1980-81 to 1986-87)				Profit- ability (Rs/ha) (6)	Share of subsidy in profits (7)	Share of subsidy in effective incentives (8)
	Fert. (2)	Irrgn. (3)	Credit (4)	Total (5)			
WHEAT							
Haryana	76.70	743.83	68.62	889.15	2,313.09	38.44	30.38
Punjab	110.72	443.49	81.58	635.79	2,533.72	25.09	31.51
Madhya Pradesh	18.55	349.91	36.78	405.25	1,617.50	25.05	16.25
Uttar Pradesh	43.03	476.79	38.08	557.91	2,055.31	27.14	24.66
Weighted Average	53.65	470.47	48.91	573.03	2,075.52	27.61	26.39
RICE							
Andhra Pradesh	34.13	1,097.83	97.29	1,229.26	2,731.28	45.01	33.33
Bihar	5.53	585.88	21.53	612.94	1,881.30	32.58	34.38
Madhya Pradesh	11.17	436.82	41.97	489.96	1,359.56	36.04	30.77
Orissa	7.53	591.79	24.71	624.03	1,750.73	35.64	33.33
Punjab	70.28	2,115.77	121.84	2,307.89	3,257.17	70.86	40.28
Uttar Pradesh	8.80	637.84	36.30	682.94	1,555.14	43.91	32.81
Weighted Average	15.77	735.11	46.46	797.34	1,892.05	42.14	34.04
GRAM							
Rajasthan	2.51	78.42	NA	80.94	1,555.89	5.20	3.06
Haryana	0.74	48.79	NA	49.53	1,389.77	3.56	2.94
Uttar Pradesh	NA	28.82	NA	28.82	2,054.79	1.40	0.99
Madhya Pradesh	5.32	92.64	NA	97.96	1,658.34	5.91	5.10
Weighted Average	3.57	67.70	NA	71.27	1,696.72	4.20	4.02
GROUNDNUT							
Gujarat	9.30	67.80	69.58	146.69	1,446.76	10.14	6.92
Andhra Pradesh	8.72	243.69	83.50	335.90	1,179.80	28.47	11.69
Tamil Nadu	4.42	269.75	199.08	473.25	1,996.42	23.70	11.61
Weighted Average	8.10	169.64	100.88	278.62	1,467.53	18.99	9.80
RAPESEED/MUSTARD							
Uttar Pradesh	9.95	136.59	NA	146.55	2,612.89	5.61	5.92
SOYABEAN							
Madhya Pradesh	13.64	68.83	NA	82.47	1,580.59	5.22	4.31
SUNFLOWER							
Maharashtra	NA	42.57	NA	42.57	1,177.97	3.61	2.00
COTTON							
Maharashtra	6.93	15.65	45.13	67.71	568.46	11.91	5.38
Gujarat	14.94	85.20	70.74	170.87	1,397.56	12.23	9.84
Punjab	42.02	554.84	89.13	685.98	2,703.85	25.37	16.22
Weighted Average	13.89	106.36	58.61	178.86	1,096.45	16.31	10.28
SUGARCANE							
Maharashtra	219.87	2,665.97	824.53	3,710.37	8,064.01	46.01	18.06
Uttar Pradesh	80.35	1,313.91	151.24	1,545.50	7,133.73	21.66	16.20
Tamil Nadu	NA	903.38	784.26	1,687.64	12,300.69	13.72	9.80
Weighted Average	101.60	1,465.59	300.53	1,867.71	7,718.03	24.20	16.70

Notes: (1) Weighted averages have been computed by using area weights, i.e., area in a given state under a crop as per cent to total area under that crop. (2) Fertiliser subsidy has been computed in the following manner: cost of fertiliser per hectare for a given crop in a state is divided by the NPC of fertiliser (NPK) to get corresponding fertiliser cost farmers would have paid under free trade conditions. This is deducted from what they actually pay to get subsidy per hectare. In this exercise, done for all states and crops, NPC estimates from 1980-81 to 1986-87 are assumed to be same for different states. (3) Irrigation subsidy consists of both subsidy on canal irrigation and subsidy on electricity for tapping groundwater through pumpsets and tubewells. It considers not only recurring costs but annualised capital costs as well. Credit subsidy comprises interest subsidy and default subsidy. For details see Gulati (1989). (4) Profitability is profit per hectare at current prices (average for 1980-81 to 1986-87) and reflects the difference between gross value of output minus paid out costs. For details see Gulati and Sharma (1990c). (5) Share of subsidy in profits is equal to total subsidy (col.5) divided by profits (col.6) expressed as percentage. Share of subsidy in effective incentives is given by (ESC-EPC)/EPC * 100.

Input Subsidies, Profitability, and Effective Incentives

Information on per hectare subsidy on fertiliser, irrigation (both canal and electricity) and credit for different crops and states, as well as all-India weighted averages, is presented in Table 13. Considering first the all-India weighted average of different crops, it will be seen that per hectare total input subsidy is highest for sugarcane (Rs 1867) followed by rice (Rs 797.34) and wheat (Rs 573.03)¹⁹. The three crops account for bulk of input subsidy. High per hectare subsidy on these crops is largely on account of irrigation subsidy. These crops are either more water-intensive or have more area under irrigation as a proportion of gross cropped area. At all India level, sugarcane is 82.1 per cent irrigated, wheat 77.3 per cent and rice 43.4 per cent. Subsidy on irrigation accounts for a major share of total input subsidy for these crops; about 92 per cent for rice, about 82 for wheat, and 78 per cent for sugarcane. Even fertiliser subsidy, which constitutes a heavy burden on the exchequer, is not relatively significant.

Inter-state differences in input subsidy are quite large. Notably for rice, as against total subsidy of Rs 490/ha in Madhya Pradesh, it is Rs 2,308/ha (average of 1980-81 to 1986-87) in Punjab. In between, we have Andhra Pradesh (Rs 1229/ha) and Uttar Pradesh (Rs 683/ha). Inter-state differences in input subsidy for wheat, though not quite as large, are still considerable. Haryana with Rs 889/ha receives more than twice as much subsidy as Madhya Pradesh (Rs 405/ha). Punjab cultivators also enjoy large subsidy for cotton than their counterparts in other states; Rs 686/ha compared to Rs 68/ha in Maharashtra. Differential subsidy levels across states reflect differences in access to various inputs especially irrigation.

The Table also gives profits per hectare (col. 6) and share of total input subsidy in the profits (col. 7). The latter works out to 42.14 per cent for rice, 27.61 per cent for wheat, 24.20 per cent for sugarcane, and 18.99 per cent for groundnut. There are large inter-state differences. In Haryana, input subsidies constitute 38.44 per cent of profits whereas in other states this is 25-27 per cent. In Punjab, input subsidies constitute 71 per cent of profits in rice. In other states, this is smaller

though still considerable; over 40 per cent in Andhra Pradesh and Uttar Pradesh and over 30 per cent in Bihar, Madhya Pradesh, and Orissa. In Maharashtra, input subsidies constitute 46.01 per cent of profits in sugarcane compared to 21.66 per cent in Uttar Pradesh and 13.72 per cent in Tamil Nadu.

Shares of input subsidies in profits may be compared with similar shares worked out on the basis of ESC and EPC; namely, difference between ESC and EPC expressed as per cent of EPC (col. 8). These are 34.04 per cent for rice, 26.39 per cent for wheat, 16.70 per cent for sugarcane, and 9.80 for groundnut. In all cases, these shares are smaller than the shares of total input subsidies in profits, though in the case of wheat, the difference is small²⁰. But the broad purpose of Table 13 was to highlight the fact that subsidy accounts for a substantial share in profits as well as in EPC; and further that irrigation subsidy predominates and leads to highly concentrated regional pattern as well as convergence towards a few crops like rice, wheat and sugarcane which enjoy larger subsidy compared to other crops.

CONCLUSIONS

Like in most developing countries, Government in India intervenes in the agricultural markets to achieve multiple objectives like self-sufficiency, price stabilisation, and provision of foodgrains at low consumer prices. This has resulted in restrictions on movement of commodities, segmented domestic markets, and more or less complete control over foreign trade. To perform these functions, large state agencies are created whose size of operations has been increasing over time. The intervention in product markets is supplemented by intervention in input markets, either in the form of subsidy or outright investment as in irrigation projects. The impact of the various interventionist policies on cultivators' domestic profitability and effective incentives are analysed for selected crops. Domestic profitability is defined as profit per hectare as well as rate of profit over paid out costs. Effective incentives are measured in terms of cultivators' prices actually received by them *vis-a-vis* those in a counter-factual free-trade scenario. The divergence between profitability and effective

incentives, which indicates the degree of government intervention in agricultural markets is examined to see if there is any systematic relationship between them. The study also provides estimates of input subsidies (on fertiliser, irrigation including electricity, and credit) for major crops and states, and discusses their role in profitability and effective incentives.

An examination of cropwise intervention indicates that, though it varies in degree and form, the control exercised by government in various agricultural markets is quite significant. The government intervenes in domestic markets through instruments like minimum support prices, procurement, buffer stocking, restrictions on movement, levy and so on. The external sector is controlled by employing instruments such as export quota, canalisation through state agencies, minimum export prices, and restrictions on exports/imports.

As a result, it seems that, while high effective incentives (protection) are accorded to oilseeds, sugarcane, and natural rubber, domestic prices of wheat, rice, and cotton have remained below the international prices indicating lower effective incentives (disprotection). Wheat received lower effective incentives throughout eighties. However, over the years, incentive levels have improved on account of falling world prices (even after adjusting for depreciation of external value of Indian rupee).

Rice received even lower incentives than wheat though, like wheat, it showed improvement over eighties. In relation to wheat, effective incentives for rice were below unity for all states except Punjab (Table 11). Even other effective incentive indicators suggest relatively more underpricing of rice than wheat. But, rice receives significantly large subsidy on non-traded inputs (especially irrigation) than wheat.

Since 1987-88, level of effective incentives received by wheat and rice seems to have lowered further due to large increase in international prices and depreciation of Indian rupee *vis-a-vis* dollar. As a result, wheat has become an efficient exportable and is likely to remain so particularly in view of continuing depreciation of rupee *vis-a-vis* dollar.

All oilseeds receive very high level of effective incentives, though crop-wise differences are

there. Groundnut has highest level of incentives followed by rapeseed/mustard, sunflower and soyabean. However, input subsidies for all oilseeds are much lower compared to wheat.

Cotton received lowest level of effective incentives during eighties both under exportable and importable hypotheses. State level variations are quite marked on account of varietal differences. Cotton cultivators in Andhra Pradesh received lowest level of effective incentives. In comparison, Maharashtra cultivators received higher level of incentives. This appears to be because of monopoly procurement scheme which helped cultivators realise high domestic prices.

Of all the crops considered, sugarcane receives highest level of effective incentives though there are regional variations. Uttar Pradesh receives highest level of incentives followed by Maharashtra and Tamil Nadu. There are sharp variations over time. Sugarcane cultivators were in fact disprotected in 1980-81 but received higher effective incentives (protected) in subsequent years. On an average, it remains a protected crop.

Natural rubber cultivators were also protected during eighties with little regional variations in level of effective incentives.

The cropping pattern that would emerge as a result of farmers' response to effective incentives (free-trade scenario) would be different from the one that would obtain under autarky following domestic profitability signals. For instance, effective incentives suggest that cotton should receive more resources and oilseeds less. But profitability is higher in oilseeds than in cotton. Profitability in wheat and rice appears to be in line with effective incentives while in sugarcane and natural rubber, it is higher than the effective incentives. There appears to be some relationship, though not very strong, between profitability and effective incentives which suggests that crops which are more protected (oilseeds, sugarcane) and receive higher effective incentives are also the crops which are more profitable. On the other hand, disprotected crops (cotton and to some extent rice) have lower profits.

An important element in profitability and effective incentives both is input subsidies. Distribution of these subsidies across states and

crops is very uneven. Three crops, namely, wheat, rice and sugarcane account for a large part of input subsidies, though there are state-wise variations.

Inter-sectoral Resource Allocations

While some of the crops studied receive high levels of effective incentives, all crops taken together appear disprotected. This may be seen from the weighted NPC (value of output as weights) for the crops studied; it turns out to be 0.87 compared to 1.4 for the manufacturing sector [World Bank, 1989]. This indicates that manufacturing sector has been receiving more resources than would have been possible under free-trade scenario. Efficiency considerations would suggest that India can save/earn more of foreign exchange by allocating resources in favour of agricultural sector in which it has greater comparative advantage.

Efficiency Implications within Agriculture

Within agriculture, wheat, rice, and cotton are internationally competitive not only as efficient importables but as efficient exportables as well. Even wheat and rice, whose exportability was not very clear until recently (and would have required substantial export subsidy to become competitive) have now emerged as efficient exportables due to rising international prices and sharp depreciation in the external value of rupee. For similar reasons, cotton has become even more exportable. Since this situation is likely to continue for some time, as per the World Bank projections, it makes sense to shift more resources to these crops particularly cotton which has large export market. However, except for basmati rice, the exportability of rice may remain somewhat limited as, at present, common rice does not have a large enough international market.

Implications for Input Subsidies

Irrigation component in the total subsidy is quite large. In comparison, subsidy on fertiliser and credit appears small. There are three points worth noting in this regard. First, how long can the projects (especially irrigation and electricity related) be sustained if their revenues do not cover

even their working expenses. If an earlier investment does not recover its costs, the future investment plans get thwarted. This is evident from recent decline in public investment in agricultural sector. Second, provision of inputs at prices which do not sufficiently reflect social cost of providing them leads to inefficient use of inputs. Pricing, among other factors, is also responsible for the wasteful manner in which fertiliser is used in some pockets. Irrigation water is similarly wasted through over irrigation. Availability of cheap electricity has led many farmers to overdraw groundwater. It is only desirable that in order to ensure better utilisation of inputs their pricing should be restructured so that it reflects the social cost of providing the inputs.

Regional Implications of Effective Incentives

Level of incentives differs not only across crops but also across regions for the same crop. Given vast divergences in resource endowments of different states, impact on environment of a given crop also needs to be viewed differently. Cultivation of a water-intensive crop like rice in Punjab or sugarcane in Maharashtra (both low rainfall areas) is one thing and growing these crops (especially rice) in high rainfall region (like Orissa and Godavari belt in Andhra Pradesh) is quite another. It becomes necessary, therefore, that regional implications of various incentive policies are worked out.

Taxation of Export-oriented Commodities

Indian exports of agricultural commodities used to enjoy a significant status in India's total exports as also India's share in world trade of these commodities. However, pressure from domestic demand has led the policies to favour domestic consumption rather than exports. Cotton is a case in point. Policies have been shaped to ensure supply of cheap cotton to domestic textile industry in preference to exports. This is done through export quota released haltingly so as not to affect the domestic interests of the cotton textile sector. Thus, political economy works in such a way that effectively taxes this exportable commodity and does not let the benefits of trade

percolate down to cultivator. Unless India emerges as a regular exporter of cotton, its sporadic appearances in the world market may not help domestic cotton growers. On the contrary, imports of sugar, pulses, and edible oils have been on rise in recent years under pressure from domestic demand and consequent rise in domestic prices.

The overall results of the study indicate that government intervention in agricultural markets has suppressed the effective incentives for cultivators, despite large input subsidies. This signalled a diversion of resources away from this sector which is contrary to what the efficiency norms under free-trade scenario would have suggested. Gradual reduction of intervention, especially on external front, in agricultural sector would bring in more allocative efficiency by attracting more resources in crops in which India has a comparative advantage. This would make India a net earner/saver of foreign exchange at the margin.

NOTES

1. Consumer subsidy is defined by FCI as the difference between economic cost and the issue price. Economic cost in turn comprises procurement price, procurement incidentals and distribution incidentals. In addition, the FCI carries undistributed stocks (including buffer stocks) on behalf of the Government. The cost of carrying these stocks is shown separately from consumer subsidy. Together these two (i.e. consumer subsidy and carrying costs) constitute total food subsidy (Table 3).

2. Although there can be difference of opinion as to what should be the appropriate deflator for such an exercise, we have tried Wholesale Price Index (WPI) for All Commodities, WPI for foodgrains and index of procurement price of wheat as deflators. All these reveal that the deflated unit cost of FCI's operations has increased despite increasing scale of its operation.

3. In case of rice, procurement cost of FCI is low because large share of its procurement comes through levy on rice mills. In that case, purchases of paddy from cultivators are handled by rice mills. These expenses are included in the conversion costs (of paddy into rice) of rice mills, which are taken care of while fixing levy price. Thus the procurement cost of rice as revealed by FCI estimates in fact understates the actual cost of procurement.

4. In principle, levy is a method of compulsory procurement by the government from farmers, traders or processors (millers in case of rice) at a price fixed by the government. Levy is expressed as a proportion of quantity produced by the farmer or purchased by trader or processed by processor. Levy on producers (farmers) is resisted by farmers and is also administratively difficult to implement. Therefore, it has not been a popular mode of procurement. Levy on traders has been

tried for wheat in 1974-75 following disastrous experience of wheat wholesale trade takeover in the previous year. The experiment failed as the method of procurement was found to be too harsh and traders successfully managed to evade levy. Bulk of rice procurement comes from levy on millers as a mill is a convenient collection point. Paddy is procured under normal price support operations. Share of levy is fixed by the government depending on production in the state and local consumption habits. Millers are free to sell the non-levy portion of rice in the open market at whatever price they can get.

5. In 1985-86, for instance, the Maharashtra State Cooperative Marketing Federation (MSCMF) incurred a loss of over Rs 300 crore and Government of Maharashtra had to set up a committee of enquiry. Even in the previous year 1984-85, the Federation had incurred a loss of about Rs 77 crore. The Federation, which is the key instrument in the functioning of the monopoly procurement scheme since 1972-73, gets raw cotton from farmers at a fixed price called guaranteed price. The Federation pays 80 per cent of this price to farmers at the time of rendering of seed-cotton to Federation and the rest at the end of the season based on the actual price (of raw cotton, cotton seed and cotton waste) realised by the Federation. If this price (final price) is greater than the guaranteed price, the difference is paid to farmers as bonus after deducting 25 per cent to finance the Price Fluctuation Fund. If, however, the final price is less than the guaranteed price, the loss is made good either out of the Price Fluctuation Fund or from government exchequer, if the Fund is not adequate.

6. Locational limits (catchment area) of sugar mills which ranged from 25 to 40 kms (depending upon the size of existing plants and the potential of sugarcane production in the area) were waived in early 1990. But there was a strong opposition from the existing mills which forced the government to reintroduce these limits, though reduced to 15 kms. The minimum capacity norm for a mill is 2,500 TCD (tonnes of cane crushed per day) while maximum limit, which was earlier 5,000 TCD, has since been waived (see Economic Times, July 25, 1990).

7. There are two reasons for this large difference. Firstly, the quality of molasses from khandasari units is considered to be superior due to higher sucrose content. Secondly, as we gathered during our visit to khandasari units in western Uttar Pradesh, quite a sizeable portion of molasses goes to illicit liquor making involving an element of higher risk.

8. The term 'distortion' here is used in a specific context to connote divergence in prices from what would otherwise prevail in the absence of government intervention.

9. The word 'taxation' (as normally used in the literature on protection theory) implies that farmers' domestic prices are suppressed through regulatory mechanism vis-a-vis what they would have received without such regulations. This tantamounts to hidden taxation of farmers.

10. In case of wheat and rice, effective incentives were estimated by using three alternative sets of domestic prices: procurement prices, farm harvest prices and wholesale prices. It was discovered that in surplus states the three prices tend to be close to each other especially during first quarter of the marketing year. In deficit states, however, wholesale prices and farm harvest prices remain somewhat above procurement prices. Use of farm harvest prices in the present analysis is not satisfactory as it is an amalgam of different varieties whose

prices differ widely. Wholesale prices at state level for comparable varieties are also not available for some years. Procurement prices seem to be the most relevant as these take care of varieties, for instance, 'fair average quality' (FAQ) in case of wheat and 'common' in case of rice (besides 'fine' and 'superfine' varieties which are not used in the present study). These varieties have been compared with international varieties such as US Hard Red Winter No 2 (ordinary protein) for wheat and Thai (milled) White 5% Broken for rice. The statement in the text (that large surplus states have ESC index equal to or greater than 100) is more true when (i) procurement prices are used than either farm harvest prices or wholesale prices and (ii) when we compare NPCs or EPCs than ESCs.

11. Estimates of protection coefficients for rice, as given in Tables 8 and 9 are based on procurement prices for reasons explained in footnote [10]. The need to avoid farm harvest prices is much more in case of rice due to large number of varieties. Further, world price of rice used is of Thai 5 per cent broken which is compared with domestic price of common rice. However, enquiries showed that the two types of rice are not strictly comparable. Indian common rice is generally 15-20 per cent broken. There are no international published quotations for 15-20 per cent broken rice. Attempts are being made to recalculate effective incentives based on actual import prices or by suitably adjusting available world price to make it comparable to common rice. A further point may be noted. Effective incentives for rice basically reflect incentives to rice millers since international trade is in rice. However, in order to work out incentives for producers of paddy it may be necessary to get an idea of millers' cost of processing. This improvement is already under way.

12. One may think of competitiveness purely from technical viewpoint such as season, water, soil requirements. Another perspective of competing crops is the one that looks at it from economic angle. Given limited land and other resources at the farmer's disposal, he would adjust cropping pattern along changes in technology and prices. An examination of last few years' changes in crop-mix can give an idea of the truly competing crops. If area under one crop in the same season is rising and area under another crop in the same season is declining then the two crops may be said to be competing. However, it is possible that area under two crops is rising (declining) yet the two may compete if gross cropped area is rising (declining) as well. In such a situation, rate of gain (loss) of area of two crops will determine whether these crops are competing for area. However, the concept of 'competing crops' is complex. Though the competition for land takes place within the same season, Narain (1965) shows how crops of two different seasons can also compete with each other.

13. This is true despite the fact that water-intensive crops have to pay higher charges than less water-intensive crops.

14. The ultimate irrigation potential has been revised upward from 55 million hectares to 97 million hectares in case of minor irrigation. Ultimate potential of major and medium schemes is also expected to undergo change. Pending that, ultimate irrigation potential from all sources now turns out to be 155 million hectares [India, 1989a; 1989b].

15. Cost of generation for agriculture would be higher because it would require huge capital investment due to seasonal nature of its demand that peaks only during specific months. Similarly, cost of distribution will be higher in agriculture due to investment in transmission lines over long

distances and sparsely distributed areas which also increase the transmission losses.

16. These are official figures culled out from various RBI reports [Bell 1990:299]. Bell, however, questions the reliability of these estimates through a critical scrutiny of official evidence by juxtaposing it against related variables as well as evidence collected from other independent surveys conducted under the auspices of the World Bank research project "Impact of Agricultural Development on Employment and Poverty" [RPO 671-89] and the village studies programme of the International Crops Research Institute for the Semi-arid Tropics (ICRISAT). Dandekar and Wadia [1989:199] also point out that the Committee to Review the Administrative Arrangements for Rural Development (CAARD) set up by the Ministry of Agriculture, in its Report submitted in 1985, estimated that only 40 per cent of rural credit was provided by these institutions; the moneylenders still supplied the balance of 60 per cent of rural credit.

17. We are making an attempt to work out credit subsidy through this 'cost approach' on the basis of some estimates of gross and net margins as worked out by a background study of the Khusro Committee Report (A Review of the Agricultural Credit System in India, RBI, 1989). But a closer scrutiny of data collected by this background study reveals some contradictions with the published estimates which makes our progress in this direction rather slow and cautious.

18. This figure of 40 per cent of defaults with more than three years' history taken as bad debt is based on informed judgement of several NABARD officials and those in the banking sector with whom we personally talked. This was applied in the estimation as there was no other reliable information with NABARD at that time.

19. Detailed methodology of allocating input subsidies across crops is given in Gulati [1990c]. It may be stated here very briefly that fertiliser subsidy is allocated across crops on the basis of their consumption of fertilisers; irrigation subsidy on canal water and electricity on the basis of their relative irrigation water requirements adjusted for the ratio of area under canal or groundwater irrigation. Credit subsidy is allocated across crops on the basis of their relative value per hectare/quintal.

20. The difference is due to the fact that while all paid out costs are deducted from gross value of output to arrive at profit, EPC basically measures value added adjusted only for traded inputs. The difference between the two should reflect non-tradeable purchased inputs (mainly hired labour and irrigation charges actually paid) not taken into account in the latter ratio. The states with high paid out costs (not necessarily high labour use in mandays) and irrigation charges, such as in rice in Punjab, show much higher ratio of input subsidies to profits than the other ratio. In some cases, however, the reverse can happen especially when the actual price received is significantly higher (due to superior variety) than the price taken in estimating ESC, and the non-tradeable inputs are self-owned.

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INTERNAL MIGRATION IN INDIA

Pravin Visaria and Anil Gumber

The paper reviews the National Sample Survey data on internal migration in India during 1955-83. Despite changes in and differences between NSS rounds and the decennial censuses in the criteria used to identify migrants, there is evidence that the proportions of lifetime and annual migrants in both rural and urban areas have declined. Besides persistent selectivity of migration by sex, age, education, caste, household type, and place of origin, the data suggest a rise over time in the share of male migrants moving for employment. In both rural and urban areas, rates of participation in economic activity have been higher and those of unemployment lower among migrants than among non-migrants.

INTRODUCTION

Economic development of almost all countries of the world has been accompanied by marked changes in the distribution of population between rural and urban areas. The resulting concentration of people and economic activities in areas with a high density of population has been accompanied by a sizeable rural-urban migration. Because urban-rural migration partly offsets rural-urban migration, the quantum of total migration significantly exceeds the net redistribution of population. These processes, their correlates, and the costs and benefits merit a careful study. Such studies might also help the planning authorities concerned with social and economic development to assess and evaluate the need and scope for influencing or guiding the volume and direction of migration. This perspective has influenced a large number of studies and data collection efforts in India since Independence. This paper reviews the data on migration gathered in the various "Rounds" of the National Sample Survey (NSS). Some comparisons are attempted with the data from the decennial censuses.

The macro sources considered here have some advantages as well as disadvantages relative to the small-scale localized studies. The main advantage lies in their coverage of a wide spectrum of population, which helps to build up a representative picture. The field work by trained investigators also helps to get better quality data. The limitations arise because of the need to restrict the number of questions to a minimum. The tabulations also tend to be relatively limited. Small scale special surveys can have greater

specificity and flexibility with a sharper focus on the processes at work and are usually subjected to more elaborate analysis.

National Sample Survey

The National Sample Survey (NSS) was set up by the Government of India in 1950 to fill up gaps in the data required for planning for economic and social development. Unlike a census, the NSS survey is conducted every year, usually constituting what is called a 'round', with different coverage and themes of data collection so that some experimentation is feasible. Since 1971-72, a certain stability has been introduced through a pre-planned sequence of subject coverage. During the 40 years that have elapsed since the establishment of the NSS, migration has received some attention in 14 rounds.

Although conceptual changes between rounds introduce some non-comparability in the NSS data on migration, they have enriched our knowledge of the subject. Because of the constraints of sample size, most of the data on the nature and characteristics of migration are usually tabulated and presented separately for rural and urban areas rather than for different states of the country. Data on the incidence of migration, and on the sex and age composition, educational attainment, reasons for migration, work participation rates, and incidence of unemployment among migrants, by rural-urban residence, are available almost annually for the period 1955-1968, and for 1973-74. Beginning with 1983, some questions on migration have been introduced in the quinquennial surveys of

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Thanks are due to Dr. A.S. Oberai of the International Labour Office, Geneva and Dr. Vimal P. Shah of Gujarat University, for their detailed comments on an earlier draft of the paper. The responsibility for all errors of fact or interpretation rests exclusively with the authors.

employment/unemployment and consumption expenditure; they substantially enrich the available data base.

CRITERIA AND COVERAGE OF MIGRATION DATA IN NSS ROUNDS AND CENSUSES

NSS Data

Internal migration involves a change in the usual place of an individual's residence from one community, or from a clearly defined geographical unit, to another within the national boundaries. Obviously, the volume of internal migration depends on the area and population of the geographical unit in relation to which the term is defined. The NSS has attempted to identify migrants by defining the previous place of residence as 'birth place' (BP), 'native place' (NP), 'usual (normal) place of residence' (UPR), etc. in different rounds. The NP was defined as generally the place where the parents or forefathers of a person reside or resided more or less permanently and with which the person has or had at least some occasional connection. The UPR is the place where a person had been residing more or less permanently (i.e. continuously) prior to coming to the place of enumeration. When the informant was enumerated at a place other than NP or UPR, he/she was considered a migrant. Sometimes the reference point of the UPR was made more specific (and easier to recall or report) by asking about the UPR a year earlier or 365 days ago. Migration identified through this UPR(1) criterion enabled estimation of an annual migration rate during the year preceding the survey.

Like the censuses, the NSS identifies only in-migrants at their destinations. It does not attempt to identify out-migrants at their places of origin because such a survey runs the risk of missing the migration of households which have wholly moved out of an area and no one is left behind to report their move. Often an unoccupied house helps to identify such households but usually the neighbours are unwilling to report about them. Their migration would be captured only at their destinations. Therefore, in the 38th and 43rd rounds of the NSS, an attempt was made to identify the migration status of entire households that have in-migrated into the sample villages and towns. It can be argued, however, that the information collected about them is not adequate to understand the characteristics and

circumstances of such migration.

Table A. 1 in the Annex shows the criteria for identifying migrants used in various NSS rounds and the population covered by the migration data. The NP criterion was used in the 9th, 13th, 14th and 15th rounds. The UPR criterion was used in 11th, 12th and 38th rounds; and the UPR(1) criterion in the 14th and later in the 18th to 28th rounds. (Of course, the UPR data permit application of the UPR(1) criterion as well). The population covered by the migration data was limited to the labour force in the 9th, 11th and 12th rounds. In the 13th, 15th, and 19th to 22nd rounds, only the urban population was covered; in the 14th, 18th, 28th and 38th rounds, the entire population was covered.

The scale of the NSS surveys that have gathered data on migration is shown in Annex Table A. 2. The number of households surveyed in a year has ranged between 8,000 to 180,000 for rural India and between 7,600 to 88,000 in urban India. Even the large surveys have covered less than 0.3 per cent of the total population of the country; yet virtually all the districts are represented in the sample. The scale of the recent surveys conducted during 1983 and 1987-88 was much larger than that of most special migration studies.

As shown in Annex Table A. 3, different characteristics of migration have been recorded in different NSS rounds. A few characteristics such as previous place of residence, reasons for migration, usual activity status before and after migration are common in most of the rounds. Yet, the scope for a comparative analysis of trends in migration on the basis of the NSS data is somewhat limited.

Census Data

Since 1872, the Indian censuses have included a question on 'birth place' of each individual. The responses to this question help to identify persons enumerated at a place different from their birth place (BP), who could, therefore, be considered migrants. Such migrants are called lifetime migrants, who had moved from their birth place some time during their lifetime. Until 1921 Census, the main unit of analysis for migration was the district within a Province or a Presidency. Thereafter, until 1951, it was only a province or a native state. Since 1961, the censuses record whether BP was rural or urban at the time of

enumeration and also duration of residence at the place of enumeration (DRPE). The tabulations distinguish whether the BP of migrants was in the district of residence, in another district within the state, outside the state, or outside the country. Since the 1971 Census, a question on the 'place of last (normal) residence' (PLR) had been included; it helps to identify persons who had last lived at a place other than the place of enumeration (PE) as migrants (and who might be return migrants). The 1981 Census has added a question on the reason for migration from the last place of residence.

The number of migrants, identified as such by virtue of their having been born at places other than PE, is often considered an over-estimate because of the custom or practice of would-be mothers being sent to their parents' homes for delivery, and the fact that many of the parents live in other villages because of village-specific exogamy. (This problem explains the use of native place as the criterion in the NSS). Moreover, the return migration would be missed if the migrants were identified on the basis of BP data. The question on the PLR has overcome the problems of identifying return migrants (for whom PE is the BP but reported PLR is different from PE). But these criteria do not enable us to identify persons who have moved more than once (due to transfer or job mobility) during the interval between censuses. Of course, only detailed migration histories, such as permanent population registers kept in Japan, Korea, Israel, or several countries of North-Western Europe, can help to gauge this phenomenon. It indicates the efficacy of migration or movement for population redistribution.

INCIDENCE OF MIGRATION

During 1955-58, the NSS (9th, 11th, 12th and 13th rounds) gathered detailed information on internal migration, more detailed than was available from the 1951 Census². The focus was on the extent of mobility of the labour force and the principal causes underlying the migration of persons of working ages.

Based on the native place criterion, the estimated proportions of migrants in rural and urban area during the late 1950s were 30 and 37-42 per cent, respectively (Table 1). The NSS estimates

(1958-59) based on NP for rural India were surprisingly close to the 1961 census estimates based on the BP while those for urban India (42 per cent) were not much lower than the 1961 census estimate (45 per cent), despite the difference in the conceptual bases of the two. But, the NSS estimates of migrants among males were all lower while those for females were close to or a little higher than those provided by the 1961 Census³. Quite likely, for females among whom migration follows marriage, the native place tends to coincide with the reported birth place.

The NSS estimates of the proportions of migrants for the 1960s and 1973-74 cannot be compared with those based on the 1961, 1971, or the 1981 censuses because the former are based on a question on the usual place of residence a year earlier. However, the 38th round (1983) estimates based on the usual place of residence appear markedly, but unexpectedly, lower than the 1981 census estimates based on the place of last residence or the birth place criteria (Table 1). Similar differences are evident for both sexes and for both rural and urban area. The same pattern is evident in all states. The actual proportions of migrants are unlikely to have changed so sharply between 1981 and 1983. Also, in the past, the NSS surveys that were conducted before or after the 1961 census had provided similar and comparable estimates. It seems, possible, therefore, that in the 1983 NSS survey, the collection of data on migration was somehow not complete⁴.

The annual rates of migration estimated by the NSS for the 1963-64 to 1973-74 period for urban area range between 1.8 to 2.9 per cent for females and somewhat higher for males. Comparing the NSS estimates with corresponding Census estimates of migrants of less than one year duration (Table 2), the NSS estimates for 1967-68 appear very close to those based on the 1971 Census, and the 1973-74 estimates close to those based on the 1981 Census (Table 2). The 1961 census estimates for urban area based on the BP criterion were all much higher than provided by the NSS; but the differences could be attributed to the difference in the underlying criteria.

However, the 1983 NSS estimates of migration during the previous year shown in Table 2, turn

TABLE 1. NUMBER OF IN-MIGRANTS PER 1000 POPULATION ACCORDING TO DIFFERENT CRITERIA OF CLASSIFYING MIGRANTS IN VARIOUS NSS ROUNDS, 1955 TO 1983 AND THE CENSUSES OF 1961, 1971 AND 1981

Census Year/ NSS Rounds	Criterion	Rural India			Urban India		
		Persons	Males	Females	Persons	Males	Females
I. Census							
1961	BP	304	154	460	448	437	461
1971	BP	282	141	431	393	375	413
1971	PLR	283	140	434	400	381	421
1981	BP	282	123	449	384	349	423
1981	PLR	289	126	459	388	353	428

II. NSS Data**(i) Estimates for General Population**

1957-58	(13th)	NP	-	-	-	369	349	392
1958-59	(14th)	NP	301	123	483	417	372	468
1958-59	(14th)	UPR1	26	23	29	36	39	32
1959-60	(15th)	NP	-	-	-	409	355	469
1963-64	(18th)	UPR1	9	9	10	24	27	21
1964-65	(19th)	UPR1	-	-	-	26	-	-
1965-66	(20th)	UPR1	-	-	-	18	20	15
1966-67	(21st)	UPR1	-	-	-	16	18	13
1967-68	(22nd)	UPR1	-	-	-	27	29	24
1973-74	(28th)	UPR1	9	8	10	19	21	18
1983	(38th)	UPR	209	72	351	316	270	366

(ii) Estimates for Labour Force

1955	(9th)	NP	106	113	93	381	413	220
1956-57	(11 & 12th)	UPR	108	-	-	375	409	221
1957-58	(13th)	NP	-	-	-	469	469	472

Note: BP - Birth Place, PLR - Place of Last Residence, NP - Native Place, UPR - Usual Place of Residence, UPR1 - Usual Place of Residence one year earlier.

Source: 1. Census of India 1961, Vol. 1, India, Part II-C, (ii) *Migration Tables*. 2. Census of India 1971, Series 1, India, Part II-D, (i) *Migration Tables*. 3. Census of India 1981, Series 1, India, Part V-A & B, (i) *Migration Tables (Table D-1 & D-2)*. 4. National Sample Survey Report Nos. 53, 126, 128, 181, 182, 163, 166, 214, 223, and 347. 5. Sarvekshana, July 1977 and January-March 1990.

TABLE 2. ANNUAL MIGRATION RATE* ACCORDING TO DIFFERENT CRITERIA OF CLASSIFYING MIGRANTS IN VARIOUS NSS ROUNDS, 1957 TO 1983 AND THE CENSUSES 1961, 1971 AND 1981

Census Year/ NSS Rounds	Criterion	Rural India			Urban India		
		Persons	Males	Females	Persons	Males	Females
I. Census							
1961	BP	27 (8.9)	24 (15.5)	31 (6.7)	53 (11.8)	58 (13.2)	47 (10.3)
1971	PLR	21 (7.3)	17 (12.3)	24 (5.6)	28 (7.0)	30 (8.0)	25 (6.0)
1981	PLR	14 (4.9)	13 (10.3)	16 (3.4)	21 (5.3)	21 (6.0)	20 (4.7)
II. NSS Data							
1957-58	(13th)	NP	-	-	33 (8.7)	40 (10.5)	26 (6.9)
1958-59	(14th)	NP	17 (6.2)	-	32 (8.0)	-	-
1958-59	(14th)	UPR1	26	23	34	37	30
1959-60	(15th)	NP	-	-	32 (8.3)	31 (8.9)	33 (7.9)
1963-64	(18th)	UPR1	10	9	24	27	21
1964-65	(19th)	UPR1	-	-	26	-	-
1965-66	(20th)	UPR1	-	-	18	20	15
1966-67	(21st)	UPR1	-	-	16	18	13
1967-68	(22nd)	UPR1	-	-	27	29	24
1973-74	(28th)	UPR1	9	8	19	21	18
1983	(38th)	UPR	19 (9.2)	14 (18.7)	25 (7.2)	42 (13.2)	42 (15.4)

Note: *Annual migration rate is defined as number of in-migrants who had moved one year prior to the date of survey per 1000 population. Figures in parentheses denote percentages of all migrants who had moved up to one year earlier.

out to be much higher than those derived from the 1981 Census. This seems rather odd because the overall estimates of migrants of all durations together based on the 1983 NSS are lower than those based on the 1981 Census for both rural and urban areas (Table 1). One wonders whether it may partly be due to the effects of drought during the first half of 1983⁵.

For rural area, estimates of migration based on the NSS for 1957-58 for both males and females were remarkably close to those provided by the 1961 Census. The NSS estimates based on the 1963-64 and 1973-74 surveys were much lower than those of the 1961 and the 1971 Censuses. However, while the estimates for rural males based on the 1983 NSS were almost identical with those based on the 1981 Census, the NSS estimates for females were much higher than those of the Census. These differences are difficult to explain.

Admittedly, there is no *a priori* reason to expect stability of annual migration rates. In fact, they could well respond to fluctuations in weather and state of agriculture. Yet, the similarities and differences between NSS and Census seen in Tables 1 and 2 do not seem to be accidental. Quite likely, they demonstrate the feasibility of obtaining reasonably valid estimates of migration through carefully conducted sample surveys. In fact, some of the differences could well arise from digit preference (such as prevails for reporting ages or years in multiples of five) and much might depend on how persons reporting having moved one year ago are classified; some of them might have moved less than one year ago and others more than one year ago. The proportion of those moving exactly one year ago must be very small indeed. Presumably, however, the same problem must affect both the NSS and the census data on the years lapsed since the change in PLR or UPR.

The overall trend in the proportion of migrants in both rural and urban areas seems to be downward. The decennial census data as well as the NSS based estimates for both males and females point to a similar situation⁶. The underlying reasons are likely to be the growing importance of commuting, the difficulties of housing, preference being given (or proposed to be given) to the "sons of the soil" in employment in the

government and public sector, the tough competition faced by children to get admitted to good educational institutions, etc. These factors are particularly relevant to the sharper decline in the proportions of migrants in the urban areas than in the rural areas. We shall revert to this point later. The formation of linguistic states has also contributed to the situation. Overall, an increasing proportion of Indians usually prefer to stay in their "state of origin" or in the national capital (Delhi), where they are unlikely to encounter overt or covert hostility. The census data do indeed show a decline in the percentage of inter-state migrants in the total population. However, we should note that the increase in the urban centres and their more even spread has also mitigated the pressures for inter-state migration.

In both rural and urban areas, the incidence of migration is higher among females than among males. A majority of Indian women marry outside their villages of origin and change their usual place of residence after marriage. Many others move with or after the spouse finds work/job at his destination. The sex ratios (number of males per 1000 females) of migrants and general population according to both the NSS and the censuses presented in Table 3, generally show a marked excess of females among migrants in rural areas and an excess of males among migrants in urban areas. The pattern is similar irrespective of the criterion used to define a migrant. However, the UPR(1) criterion, which identifies migrants of the last one year, gives a higher sex ratio of migrants than of the urban population, probably because males initially migrate alone to urban areas and the family members join them later⁷.

In the earlier NSS rounds (up to 1959-60), the proportions of migrants in population were estimated by size classes of towns and showed a direct positive relationship (Table 4). According to the NP criterion, the proportion of migrants was highest in the four big cities of Bombay, Calcutta, Delhi and Madras, and it remained almost constant during the late 1950s. Other towns with a population of 300,000 and above showed a decline in the proportion of migrants (from 47 in 1957-58 to 42 per cent in 1959-60) and towns with a population below 300,000 showed an increase

TABLE 3. SEX RATIO (NUMBER OF MALES PER 1000 FEMALES) OF MIGRANTS AND TOTAL POPULATION
ACCORDING TO DIFFERENT CRITERIA FOR CLASSIFYING MIGRANTS IN VARIOUS
NSS ROUNDS, 1955 TO 1983 AND THE CENSUSES OF 1961, 1971 AND 1981

Census Year/ NSS Rounds	Criterion	Rural India		Urban India	
		Migrants	Total Popula- tion	Migrants	Total Popula- tion
I. Census					
1961	BP	348	1,038	1,124	1,184
1971	BP	344	1,054	1,060	1,166
1971	PLR	340	1,054	1,055	1,166
1981	BP	288	1,050	939	1,136
1981	PLR	289	1,050	937	1,136
II. NSS Data					
(i) Estimates for General Population					
1957-58	(13th) NP	-	-	1,023	1,129
1958-59	(14th) NP	266	-	890	1,121
1958-59	(14th) UPR1	883	-	1,400	1,121
1959-60	(15th) NP	-	-	867	1,114
1963-64	(18th) UPR1	896	1,047	1,445	1,156
1964-65	(19th) UPR1	-	-	-	1,159
1965-66	(20th) UPR1	-	-	1,525	1,161
1966-67	(21st) UPR1	-	-	1,576	1,139
1967-68	(22nd) UPR1	-	-	1,327	1,130
1983	(38th) UPR	214	1,039	816	1,105
(ii) Estimates for Labour Force					
1955	(9th) NP	2,824	2,310	9,105	6,130
1956-57	(11 & 12th) UPR	-	-	9,202	5,274
1957-58	(13th) NP	-	-	5,040	4,989

TABLE 4. NUMBER OF IN-MIGRANTS PER 1000 POPULATION BY SIZE CLASSES OF TOWNS
AND CRITERIA FOR CLASSIFYING MIGRANTS IN SPECIFIED NSS ROUNDS,
1955-60 AND CENSUSES OF 1961, 1971 AND 1981

Year	Criterion	Size Classes of Towns											
		Big Cities			Towns with population 3 lakhs & above (excl- uding big cities)			Town with population below 3 lakhs			All		
		P	M	F	P	M	F	P	M	F	P	M	F
I. Census													
1961	BP	647	690	584	393	401	384	425	399	455	448	437	461
1971	PLR	408	436	372	340	341	339	407	370	448	400	381	421
1981	PLR	432	447	413	-	-	-	-	-	-	388	353	428
II. NSS Data													
(i) Estimates for General Population													
1957-58	(13th) NP	536	579	481	471	469	474	330	294	368	369	341	392
1958-59	(14th) NP	565	592	530	462	448	478	388	322	458	417	372	468
1958-59	(14th) UPR1	21	-	-	39	-	-	37	-	-	34	37	30
1959-60	(15th) NP	538	566	502	423	409	439	387	310	471	409	355	469
(ii) Estimates for Labour Force													
1955	(9th) NP	657	675	454	535	556	382	316	345	190	381	413	220
1956-57	(11 & 12th) UPR	744	752	637	481	499	346	293	322	183	375	409	221
1957-58	(13th) NP	767	-	-	631	-	-	398	-	-	469	-	-

P - Persons, M - Males, F - Females

Note: Big cities includes Bombay, Calcutta, Delhi and Madras.

in the proportion from 33 to 39 per cent during the same period. These latter changes seem rather implausible. The annual migration rate according to the 14th round (1958-59) was lower (21 per 1000) for big cities and higher for smaller towns (37-39 per 1000). The sex composition of migrants by size classes of towns suggested selective migration of males to big cities; the opposite was true for the other towns.

DIFFERENTIALS IN MIGRATION

The NSS has collected information not only on the previous place of residence but also on the age and educational standard of migrants at the time of survey. In the 38th round, information was also collected on age, marital status, and educational level of migrants at the time of migration as well as about their caste and household type at the time of survey. Of course, the 38th Round also provides this information for the entire population. It is therefore possible to derive proportions of migrants in populations with different characteristics.

Proportions of migrants in different age groups:

The 1958-59 rates shown in Table 5 are based on UPR(1) criterion and give the migration rates by age during one previous year. They confirm the expected higher proportions of migrants among ages 12-26 in urban than in rural areas.

The 1959-60 rates (Table 5) are based on the native place criterion and relate to urban India. They give the proportions of persons of different sex-age groups in urban area whose native place was outside the place of enumeration. These proportions rise rapidly from rather low 11 per cent for the age group below 12 to about 54 per cent for males aged 36-61 and over 72 per cent for women aged 27-61. Among females, the proportion of in-migrants rises more sharply than among males. In the age group 62 and over, the level of in-migration shows a decline, presumably because of some return migration.

TABLE 5. AGE-SPECIFIC MIGRATION RATES/RATIOS PER 1,000 POPULATION ACCORDING TO CRITERIA OF CLASSIFYING MIGRANTS IN NSS ROUNDS - 1958-1960

Age Group	1958-59 (14th) UPR1 (rates)		1959-60 (15th) Urban India NP (ratios)		
	Rural India	Urban India	Persons	Males	Females
00-11	23	25	104	108	107
12-21	34	55	339	296	398
22-26	51	56	596	477	720
27-36	42	35	628	518	762
37-46	35	33	634	541	745
47-61	31	23	634	544	739
62 & above	25	18	409	529	690
All	33	36	409	355	469

NP: Native place criterion

UPR1: Criterion of usual place of residence one year ago.

Age selectivity of migration has been confirmed by a large number of studies based on censuses as well as special local surveys. Evidently, the decision to migrate is often taken when individuals enter the work force and retain certain flexibility and adaptability to different environments. For many others, it is a correlate of the decision to pursue education beyond the level feasible in the place of residence. The rapid expansion in the number of educational institutions throughout the country has weakened the pressure to move to

distant cities/metropolitan centres in search of educational facilities. Yet, the process has not altogether disappeared.

Educational Attainment of Migrants

Table 6 shows the percentages distribution of migrants and non-migrants by educational attainment, sex and rural-urban residence. The data relate to 1956-57, 1959-60 and 1963-64. Given the low literacy rate of Indian population,

a large number of migrants are also illiterate. However, the percentages of illiterates are higher among both male and female non-migrants than among migrants, with offsetting differences in the proportions reporting different levels of educational attainment. To some extent, these differences are a result of differences in the age composition of migrants and non-migrants. The non-migrants include a much higher proportion of children in the age group 0-6 than migrants⁸. Besides, the migrants in rural India include some urban-rural migrants moving to take up specific service occupations. When the data were limited to only the persons in the labour force in urban areas, the educational differentials by migration status were evident among males only with respect to education above the primary level.

In the 18th round (1963-64), educational attainment of migrants was cross-classified by their places of origin [NSS 1972, Pp. 26-34; 158-166]. It was seen that among the migrants in rural India, nearly two-thirds of illiterate males and three-fourths of illiterate females had come from the rural areas of the same district, whereas in urban areas, 37 and 43 per cent of the illiterate male and female migrants respectively were intra-district rural-urban migrants. Inter-district intra-state migrants and inter-state migrants had lower levels of illiteracy than intra-district migrants. If intra-district, inter-district and inter-state migration is presumed to correspond to progressively longer average distance, it would follow that illiteracy tends to retard long distance mobility.

Age, Education and Marital Status of Migrants at the Time of Migration

The 38th round (1983) had collected information about age, education and marital status of migrants at the time of migration. In Table 7, we have summarized this information for migrants of one year duration. These data (in the aggregate) can be compared with the 18th round data in Table 6. Between 1963-64 and 1983, there has been a clear improvement in the educational level of migrants of one year duration; yet the illiterates still dominate in the migrant flows in both rural and urban India. At the other end, in 1983, nearly

15 per cent of the male migrants in rural areas and 34 per cent of those in urban areas were educated up to matriculation and beyond at the time of migration. About 58-60 per cent of the male migrants in rural and urban areas were unmarried at the time of migration; on the other hand, only about 31 and 42 per cent of female migrants in rural and urban areas, respectively, were married; as earlier noted, much of the female migration is a consequence of marriage. These differences between male and female migrants are reflected also in the data on their age composition at the time of migration.

Table 7 also presents migration rates of the year preceding the survey per 1000 population by broad age groups, marital status and educational attainment. The higher incidence of migration in ages 15-24, (particularly among females), and to a smaller extent in the next age group 25-44 is noteworthy. With regard to marital status, the migration rate among rural males was lower among the never-married than among the currently-married or the widowed and divorced. Among urban males, the never-married reported a little higher incidence of migration than the currently-married and both the rates were higher than for the widowed, divorced or separated. The education-related differences in migration in both rural and urban areas are even larger; the high school and college graduates tend to move more often than the illiterates or the less educated both in rural and urban areas. This is true of females as well.

Place of Origin/Type of Movement of Migrants

Table 8 summarizes, for rural and urban India, the available data on the rural-urban character of the place of origin and on whether the movement was within or between districts within the state, between states, or from abroad. According to both the census and the NSS data, about 90 per cent of the migrants in rural area and about 57 per cent of those in urban area had come from the rural areas. These percentages have evidently remained stable during 1961-1983. Also, there has been no significant change in the proportions of male and female migrants of rural origin.

TABLE 6. PERCENTAGE DISTRIBUTION OF MIGRANTS AND NON-MIGRANTS BY EDUCATIONAL ATTAINMENT AND CRITERIA FOR CLASSIFYING MIGRANTS IN NSS ROUNDS, 1956-57, 1959-60 AND 1963-64

Year/NSS Round	Criterion/ Migration Status	Educational Attainment							All	
		Illiterate	Below Primary	Primary	Middle	Matriculation	Intermediate	Graduate & above		
I. Estimates for General Population										
Rural India										
1963-64 (18th) Persons										
	UPR1	M	68.4	12.2	7.8	5.9			0.8	100.0
		NM	79.7	11.4	5.4	2.5			0.2	100.0
Males										
	UPR1	M	56.1	15.3	9.4	9.0			1.5	100.0
		NM	70.3	16.2	8.1	3.9			0.2	100.0
Females										
	UPR1	M	79.2	9.5	6.3	3.3			0.1	100.0
		NM	89.6	6.4	2.5	1.0			0.2	100.0
Urban India										
1959-60 (15th) Persons										
	NP	M	44.2	18.1	16.2	11.4	6.1	1.8	2.2	100.0
		NM	54.8	21.2	12.6	7.5	2.7	0.7	0.8	100.0
1963-64 (18th)										
	UPR1	M	44.1	14.5	13.8	11.6			3.1	100.0
		NM	52.3	18.6	13.1	8.7			1.5	100.0
Males										
	UPR1	M	35.1	14.3	14.6	13.8			4.5	100.0
		NM	42.0	20.4	15.6	11.3			2.3	100.0
Females										
	UPR1	M	57.0	14.8	12.6	8.5			1.1	100.0
		NM	64.0	16.6	10.4	5.8			0.5	100.0
(II) Estimates for Labour Force										
Urban India										
1956-57 (11 & 12th) Persons										
	UPR	M	32.1	23.4	15.9	13.0	9.8	2.2	3.6	100.0
		NM	49.4	21.6	13.9	8.2	4.4	1.0	1.5	100.0
Males										
	UPR	M	27.0	25.1	17.5	14.0	10.4	2.3	3.7	100.0
		NM	29.3	25.8	16.9	9.8	5.2	1.3	1.7	100.0
Females										
	UPR	M	74.4	8.9	3.2	5.0	5.2	1.1	2.2	100.0
		NM	84.6	6.9	3.8	2.5	1.4	-	0.8	100.0

Note: M - Migrants, NM - Non-Migrants

TABLE 7. (A) AGE, MARITAL STATUS AND EDUCATIONAL DISTRIBUTION OF MIGRANTS (AT THE TIME OF MIGRATION), WHO HAVE MOVED DURING THE PREVIOUS YEAR AND (B) MIGRATION RATES DURING THE YEAR PRECEDING THE SURVEY, ACCORDING TO THE NSS 38TH ROUND, 1983

Characteristics at the Time of Migration	Rural India			Urban India		
	Persons	Males	Females	Persons	Males	Females
(A) Percentage Distribution of Migrants						
1. Age						
00-14	29.3	39.5	23.6	29.7	30.0	29.4
15-24	47.1	22.2	60.9	38.8	34.8	43.1
25-44	18.1	29.8	11.6	24.3	28.0	20.3
45-59	3.8	6.6	2.3	5.1	5.4	4.7
60 & above	1.7	1.9	1.6	2.1	1.8	2.5
All ages	100.0	100.0	100.0	100.0	100.0	100.0
2. Marital Status						
Never Married	40.6	57.6	31.3	51.4	60.1	41.8
Currently Married	56.3	40.6	65.0	45.8	38.7	53.6
Widow, Divorced & Separated	3.1	1.8	3.7	2.8	1.2	4.6
All	100.0	100.0	100.0	100.0	100.0	100.0
3. Educational Level						
Illiterate	62.0	46.9	70.4	32.9	24.5	42.3
Up to Primary	21.3	26.7	18.2	26.6	26.0	27.2
Middle	8.4	11.1	7.0	14.4	16.0	12.5
Secondary	6.4	11.3	3.7	18.0	23.0	12.6
Graduate & above	1.9	4.0	0.7	8.1	10.5	5.4
All	100.0	100.0	100.0	100.0	100.0	100.0
(B) Migration Rates per 1000 Population						
1. Age						
00-14	13.9	12.7	15.0	33.5	34.0	33.2
15-24	51.9	17.4	87.0	78.5	69.3	88.9
25-44	14.5	17.2	11.9	41.5	43.3	32.7
45-59	6.7	8.3	5.2	20.4	21.4	19.1
60 & above	4.9	3.8	5.9	15.5	14.4	16.6
2. Marital Status						
Never Married	15.6	5.5	17.7	40.3	43.3	36.3
Currently Married	25.1	14.0	35.8	46.1	40.0	52.6
Widow, Divorced & Separated	9.6	13.3	9.9	21.6	23.8	21.4
3. Educational Level						
Illiterate	18.0	7.3	22.8	35.2	33.4	36.6
Up to Primary	16.8	11.5	26.6	34.1	31.3	37.6
Middle	27.5	17.6	55.3	48.0	45.9	51.3
Secondary	44.1	34.7	78.0	65.3	65.9	63.6
Graduate & above	73.3	67.5	88.5	75.1	72.8	80.8
All	19.3	13.5	25.3	41.7	41.6	41.9

TABLE 8. PERCENTAGE DISTRIBUTION OF MIGRANTS BY PLACE OF ORIGIN AND TYPE OF MOVEMENT ACCORDING TO DIFFERENT CRITERIA OF CLASSIFYING MIGRANTS IN NSS ROUNDS, 1957 TO 1983 AND THE CENSUSES 1961, 1971 AND 1981

Census/ NSS Rounds	Crite- rion	Place of Origin/Type of Movement								Inter- nati- onal	All
		Rural				Urban					
		Intra- Dist- rict*	Inter- Dist- rict*	Inter- State	Intra- Rural	Intra- Dist- rict*	Inter- Dist- rict*	Inter- State	Urban- Rural		
Rural India											
Persons											
1961	BP	71.5	15.0	4.9	91.4	2.5	1.4	0.6	4.5	4.1	100.0
1971	BP	69.4	14.7	5.0	89.1	3.9	2.1	1.0	7.0	3.9	100.0
1981	BP	66.8	17.4	5.0	89.2	4.2	2.8	1.2	8.2	2.6	100.0
1958-59											
(14th)	NP	74.0	14.8	4.6	93.4	1.3	1.2	0.5	3.0	3.6	100.0
1963-64											
(18th)	UPR1	67.1	12.8	5.0	84.9	8.1	3.4	2.5	14.0	1.1	100.0
1983											
(38th)	UPR	72.2	14.1	4.2	90.5	4.1	2.4	1.6	8.1	1.4	100.0
Males											
1961	BP	59.9	16.8	7.9	84.6	3.4	2.2	1.2	6.8	8.6	100.0
1971	BP	58.8	15.5	7.6	81.9	5.0	3.2	1.8	10.0	8.1	100.0
1981	BP	55.9	18.0	7.5	81.4	6.0	4.3	2.2	12.5	6.1	100.0
1958-59											
(14th)	NP	62.6	15.1	8.1	85.8	1.9	2.0	1.2	5.1	9.1	100.0
1963-64											
(18th)	UPR1	61.9	14.1	6.3	82.3	9.4	3.8	3.4	16.6	1.1	100.0
1983											
(38th)	UPR	57.0	14.8	6.3	78.1	7.1	5.6	4.7	17.4	4.5	100.0
Females											
1961	BP	75.5	14.4	3.9	93.8	2.1	1.1	0.4	3.6	2.6	100.0
1971	BP	73.0	14.4	4.1	91.5	3.4	1.8	0.8	6.0	2.5	100.0
1981	BP	70.0	17.2	4.3	91.5	3.7	2.3	0.9	6.9	1.6	100.0
1958-59											
(14th)	NP	77.0	14.7	3.7	95.4	1.2	0.9	0.4	2.5	2.1	100.0
1963-64											
(18th)	UPR1	71.7	11.6	3.8	87.1	6.9	3.1	2.3	12.3	0.6	100.0
1983											
(38th)	UPR	75.5	14.0	3.7	93.2	3.4	1.8	0.9	6.1	0.7	100.0

(Contd.)

TABLE 8. (Concl'd.)

Census/ NSS Rounds	Crite- rion	Place of Origin/Type of Movement								Inter- nati- onal	All
		Rural				Urban					
		Intra- Dist- rict*	Inter- Dist- rict*	Inter- State	Intra- Rural	Intra- Dist- rict*	Inter- Dist- rict*	Inter- State	Urban- Rural		
(b) Urban India											
Persons											
1961	BP	23.4	18.8	13.9	56.1	7.9	12.7	10.3	30.9	13.0	100.0
1971	BP	24.1	19.1	13.5	56.7	6.6	14.7	11.9	33.2	10.1	100.0
1981	BP	23.5	20.1	13.5	57.1	8.3	16.4	11.5	36.2	6.7	100.0
1957-58 (13th)	NP	27.0	24.9	13.3	65.2	5.2	7.8	5.4	18.4	16.4	100.0
1958-59 (14th)	NP	25.1	22.3	12.3	59.7	8.7	13.4	7.1	29.2	11.1	100.0
	UPR1	22.0	16.7	8.4	47.1	20.8	24.2	7.5	52.5	0.4	100.0
1959-60 (15th)	NP	24.9	21.6	12.7	59.2	9.0	14.7	7.4	31.1	9.7	100.0
1963-64 (18th)	UPR1	33.7	16.4	7.9	58.0	15.5	17.5	8.3	41.3	0.7	100.0
1964-65 (19th)	UPR1	25.4	22.2	10.6	58.2	16.7	15.1	7.7	39.5	2.3	100.0
1983 (38th)	UPR	28.2	17.2	11.7	57.1	13.7	16.2	10.2	40.1	2.8	100.0
Males											
1961	BP	20.2	19.6	17.5	57.3	6.6	11.6	10.9	29.1	13.6	100.0
1971	BP	21.0	20.1	16.9	58.0	5.5	13.4	12.3	31.2	10.8	100.0
1981	BP	20.9	21.1	16.7	58.7	7.1	15.0	11.8	33.9	7.4	100.0
1957-58 (13th)	NP	21.6	26.7	16.8	65.1	3.9	7.3	5.7	16.9	18.0	100.0
1958-59 (14th)	NP	20.2	23.7	15.9	59.8	6.8	13.2	7.6	27.6	12.6	100.0
	UPR1	21.4	18.1	9.8	49.3	19.0	22.6	8.6	50.2	0.5	100.0
1963-64 (18th)	UPR1	32.6	17.8	9.5	59.9	14.6	16.6	8.2	39.4	0.7	100.0
1964-65 (19th)	UPR1	25.9	20.5	12.5	58.9	15.0	15.6	8.4	39.0	2.1	100.0
1983 (38th)	UPR	23.2	17.7	15.4	56.3	12.8	16.4	11.1	40.3	3.4	100.0
Females											
1961	BP	27.1	17.8	9.9	54.8	9.3	13.8	9.7	32.8	12.4	100.0
1971	BP	27.3	18.0	10.1	55.4	7.8	16.0	11.4	35.2	9.4	100.0
1981	BP	25.9	19.1	10.5	55.5	9.5	17.8	11.2	38.5	6.0	100.0
1957-58 (13th)	NP	32.3	23.2	9.8	65.3	6.4	8.4	5.1	19.9	14.8	100.0
1958-59 (14th)	NP	29.4	21.1	9.1	59.6	10.4	13.7	6.6	30.7	9.7	100.0
	UPR1	22.8	14.8	6.4	44.0	23.3	26.4	6.0	55.7	0.3	100.0
1963-64 (18th)	UPR1	35.2	14.5	5.6	55.3	16.8	18.7	8.5	44.0	0.7	100.0
1964-65 (19th)	UPR1	24.6	24.7	7.8	57.1	19.2	14.4	6.6	40.2	2.7	100.0
1983 (38th)	UPR	32.2	16.8	8.8	57.8	14.5	16.0	9.4	39.9	2.3	100.0

* Intra-state

The distinctions between intra-district, inter-district and inter-state migrants are affected by the number of districts and states in the country. The number of districts has steadily increased. On the other hand, the number of States has not really increased; the change in classification from a Union Territory to a State does not affect the data.

The noteworthy differences between male and female migrants in rural area are: (a) a higher proportion of intra-state intra-district rural-rural migrants and a lower proportion of inter-state

rural-rural migrants among females than among males; (b) a lower proportion of urban-rural migrants and of international migrants among females than among male migrants. In urban area, the proportion of inter-state rural-urban migrants tends to be higher among males than among females. The proportion of intra-state intra-district and inter-district inter-urban migrants tends to be higher among females than among males.

TABLE 9. PERCENTAGE DISTRIBUTION OF MIGRANTS OF THE PREVIOUS ONE AND FIVE YEARS BY PLACE OF ORIGIN AND TYPE OF MOVEMENT ACCORDING TO 1981 CENSUS AND NSS 38TH ROUND (1983)

Census/ NSS Rounds	Crite- rion	Place of Origin/Type of Movement								Inter- nati- onal	All
		Rural				Urban					
		Intra- Dist- rict	Inter- Dist- rict	Inter- State	Total	Intra- Dist- rict	Inter- Dist- rict	Inter- State	Total		
(a) Rural India											
Persons											
1981 Census	PLR1	52.4	21.1	9.3	82.8	7.1	5.7	3.5	16.3	0.9	100.0
	PLR5	61.5	17.8	6.2	85.5	6.5	4.7	2.3	13.5	1.0	100.0
	PLR	68.2	16.8	4.7	89.7	4.3	2.8	1.2	8.3	2.0	100.0
1983 (38th)	UPR1	62.1	14.6	5.7	82.4	8.3	4.8	4.0	17.1	0.5	100.0
	UPR5	67.0	14.1	4.6	85.7	6.5	4.5	2.6	13.6	0.7	100.0
	UPR	72.2	14.1	4.2	90.5	4.1	2.4	1.6	8.1	1.4	100.0
Males											
1981 Census	PLR1	46.4	21.7	11.1	79.2	7.9	6.8	4.7	19.4	1.4	100.0
	PLR5	53.8	18.5	8.1	80.4	8.2	6.4	3.5	18.1	1.5	100.0
	PLR	58.1	16.7	6.8	81.6	6.6	4.7	2.5	13.8	4.6	100.0
1983 (38th)	UPR1	53.1	14.7	6.9	74.7	10.2	7.4	6.7	24.3	1.0	100.0
	UPR5	56.2	14.6	5.8	76.6	9.4	7.5	5.1	22.0	1.4	100.0
	UPR	57.0	14.8	6.3	78.1	7.1	5.6	4.7	17.4	4.5	100.0
Females											
1981 Census	PLR1	57.6	20.5	7.8	85.9	6.4	4.7	2.4	13.5	0.6	100.0
	PLR5	65.6	17.5	5.2	88.3	5.6	3.8	1.6	11.0	0.7	100.0
	PLR	71.1	16.8	4.1	92.0	3.7	2.3	0.8	6.8	1.2	100.0
1983 (38th)	UPR1	67.0	14.6	5.1	86.7	7.3	3.3	2.5	13.1	0.2	100.0
	UPR5	71.4	13.9	4.1	89.4	5.4	3.2	1.5	10.1	0.5	100.0
	UPR	75.5	14.0	3.7	93.2	3.4	1.8	0.9	6.1	0.7	100.0

(Contd.)

TABLE 9. (Concl.)

Census/ NSS Rounds	Crite- rion	Place of Origin/Type of Movement								Inter- nati- onal	All
		Rural				Urban					
		Intra- Dist- rict	Inter- Dist- rict	Inter- State	Total	Intra- Dist- rict	Inter- Dist- rict	Inter- State	Total		
Urban India											
Persons											
1981 Census	PLR1	24.5	17.7	12.1	54.3	12.1	20.2	11.8	44.1	1.6	100.0
	PLR5	24.8	18.4	11.5	54.7	11.7	20.3	11.7	43.7	1.6	100.0
	PLR	24.3	18.3	12.2	54.8	10.2	17.9	11.9	40.0	5.2	100.0
1983 (38th)	UPR1	27.5	15.0	9.1	51.6	16.3	19.3	11.8	47.4	1.0	100.0
	UPR5	28.1	16.8	9.6	54.5	15.6	18.9	10.3	44.8	0.7	100.0
	UPR	28.2	17.2	11.7	57.1	13.7	16.2	10.2	40.1	2.8	100.0
Males											
1981 Census	PLR1	24.5	18.0	13.2	55.7	11.5	19.4	11.6	42.5	1.8	100.0
	PLR5	24.3	17.9	13.2	55.4	10.9	19.3	11.6	41.8	1.8	100.0
	PLR	21.4	19.0	15.1	55.5	9.2	17.0	12.5	38.7	5.8	100.0
1983 (38th)	UPR1	25.4	15.5	10.8	51.7	16.3	18.7	12.3	47.3	1.0	100.0
	UPR5	26.0	16.4	11.9	54.3	15.6	18.7	10.5	44.8	0.9	100.0
	UPR	23.2	17.7	15.4	56.3	12.8	16.4	11.1	40.3	3.4	100.0
Females											
1981 Census	PLR1	24.4	17.4	10.6	52.4	12.9	21.3	12.1	46.3	1.3	100.0
	PLR5	25.3	17.9	9.5	52.7	12.6	21.4	11.8	45.8	1.5	100.0
	PLR	27.0	17.6	9.5	54.1	11.2	18.7	11.4	41.3	4.6	100.0
1983 (38th)	UPR1	29.8	14.6	7.1	51.5	16.3	20.0	11.2	47.5	1.0	100.0
	UPR5	30.2	17.1	7.4	54.7	15.6	19.0	10.1	44.7	0.6	100.0
	UPR	32.2	16.8	8.8	57.8	14.5	16.0	9.4	39.9	2.3	100.0

Note: PLR1 (or UPR1) and PLR5 (or UPR5) respectively identifies migrants who changed PLR (UPR) during the previous one and five years.

The relative importance of international migration, which has been predominantly across the boundaries with Pakistan or Bangladesh, shows a steady decline over the years. The phenomenon mainly reflects the net attrition of "refugees" through mortality and/or re-migration (abroad). International migration from Bangladesh has continued during the 1960s, the 1970s and the 1980s; but the politically sensitive atmosphere in the States, where they are located, has probably induced some misreporting of their

places of origin.

Overall, both in rural and urban areas, intra-district migration (which may be presumed to be short-distance though it is not necessarily so) is predominant. A little over 70 per cent of migrants in rural India and 30 per cent in urban India have moved within their districts. Another 22 per cent and 35 per cent of the migrants in rural and urban India, respectively have crossed the district boundaries. Much of the migration remains an intra-state phenomenon and the situation has not

changed substantially over the last 25 years. However, at least in urban area, males move over relatively longer distances (across districts and states) than females, and their share is increasing over time.

The 1981 Census has tabulated more data about the migrants identified according to their place of last residence (PLR). These data permit identification of the relative strength of different streams according to whether the migrants had changed their place of residence over varying periods of time. In Table 9 we have distinguished migrants who changed PLR during the previous one year (PLR1) and the previous five years (PLR5, including PLR1) and at any time in the past. Because the results are based on the census, the sampling errors are presumably negligible and even small differences probably indicate differences or patterns. The data show (a) a higher proportion of urban-rural migrants among recent migrants than among all migrants; (b) among both urban-rural and rural-rural migrants, the proportion of inter-district and inter-state migrants tends to be higher among migrants of the previous year or the previous five years than among all migrants looked as a single group; (c) even the share of intra-district urban-rural migrants tends to be higher among recent migrants; (d) a complementary fall is seen in the share of intra-district rural-rural migrants and to a much smaller extent in the percentage of international migrants many of whom came in the wake of the partition of India in 1947.

The 1981 census data on migrants in urban areas (by PLR criterion) show about 40 per cent to be inter-urban migrants. The percentage of inter-urban migrants is even higher, about 44 per cent, among recent migrants of the previous one/five years. Further, among inter-urban migrants, the share of the intra-district and the inter-district migrants shows a rise; the share of inter-state migrants shows a small decline among males but a small rise among females. Within the ranks of rural-urban migrants, the share of intra-district migrants shows a rise among recent male migrants (relative to all migrants) but a decline among female migrants. The male-female differential suggests that possibly the female

migrants follow the males after they have found a niche in the urban labour market. The incidence of inter-state migration has tended to decline.

Level and Pattern of Migration by Caste/Tribe Status

The 38th Round data permit some estimates of the proportions of migrants separately for scheduled castes (SC), scheduled tribes (ST) and for others (Table 10). These estimates do not suggest any noteworthy differences in the proportions of migrants by caste/tribe categories either in rural or in urban areas. In rural area, the percentages of migrants was 21.7 among the SCs, 19.1 among the STs, and 20.9 in the rest of the population. In urban area, the corresponding percentages were 31.1, 34.7, and 31.5.

However, among males in both rural and urban areas, and among females in urban area, the distribution of migrants by place of origin and type of movement (i.e. boundary crossed) shows noteworthy differences. Among the SC and the non-scheduled migrant males in both rural and urban areas, the proportions of urban-rural and urban-urban migrants are much higher than among the ST migrants. Further, the intra-district migrants form a higher proportion of the ST migrants, whose horizons are probably more limited than of other groups, including SCs. A similar differential is evident among female migrants in urban area and an even larger difference between the SCs and the non-scheduled migrants.

Table 10 shows a markedly higher percentage of international migrants among scheduled castes in rural area (both males and females) than among the STs and the non-scheduled. Evidently, the data reflect the influx of scheduled caste migrants from Bangladesh. "Political change/lack of security or social adjustment" was the reported reason for the migration of 51-53 per cent of the international migrants among the SCs.

Level of Migration by Household Type

The 38th Round data also permit estimates of the level of migration by household type, which

TABLE 10. PERCENTAGE DISTRIBUTION OF MIGRANTS BY PLACE OF ORIGIN, TYPE OF MOVEMENT AND CASTE/TRIBE: NSS 38TH ROUND (1983)

Census/ Tribe	No. of Migrants in Sample	Place of Origin/Type of Movement						Inter-national	All	Per cent of Migrants Among Population
		Rural			Urban					
		Intra-District	Inter-District	Inter-State	Intra-District	Inter-District	Inter-State			
Males										
Rural India										
Scheduled Tribe	1,524	70.5	14.2	8.4	2.2	2.0	1.8	0.9	100	6.7
Scheduled Caste	2,513	55.3	13.7	7.0	5.7	4.3	4.1	9.9	100	6.9
Others	10,928	55.7	15.1	5.9	8.0	6.4	5.2	3.7	100	7.4
All	14,965	57.0	14.8	6.3	7.1	5.6	4.7	4.5	100	7.2
Urban India										
Scheduled Tribe	784	43.3	20.4	12.7	8.9	8.3	5.3	1.1	100	30.8
Scheduled Caste	2,637	25.0	17.4	21.4	14.1	12.1	6.9	3.1	100	25.3
Others	22,416	22.2	17.7	14.6	12.8	17.1	12.0	3.6	100	27.1
All	25,837	23.2	17.7	15.4	12.8	16.4	11.1	3.4	100	27.0
Females										
Rural India										
Scheduled Tribe	6,342	83.7	9.7	4.2	1.5	0.5	0.3	0.1	100	32.1
Scheduled Caste	12,474	77.2	12.4	3.6	3.1	1.2	1.0	1.5	100	37.2
Others	47,854	74.0	15.0	3.7	3.8	2.0	0.9	0.6	100	34.9
All	66,670	75.5	14.0	3.7	3.4	1.8	0.9	0.7	100	35.1
Urban India										
Scheduled Tribe	1,006	48.4	18.2	10.0	8.3	10.8	3.7	0.6	100	39.4
Scheduled Caste	3,803	38.4	18.1	11.6	12.9	11.4	6.0	1.8	100	37.6
Others	28,269	30.7	16.6	8.4	14.9	16.9	10.1	2.4	100	36.3
All	33,078	32.2	16.8	8.8	14.5	16.0	9.4	2.3	100	36.6

TABLE 11. LEVEL OF MIGRATION AND THE SEX RATIOS (NUMBER OF MALES PER 1000 FEMALES) OF MIGRANTS BY HOUSEHOLD TYPE OR MAJOR SOURCE OF INCOME OF THE HOUSEHOLD, DURING THE YEAR PRECEDING THE SURVEY FOR RURAL AND URBAN INDIA, 38TH ROUND, 1983

Household Type		Distribution of households	Percent Migrants	Sex Ratio of Migrants
A. Rural India				
1.	Self Employed	57.9	19.9	161
	(a) In agriculture	46.1	19.3	130
	(b) In non-agriculture	11.8	32.3	279
2.	Labour Households	33.8	20.8	221
	(a) In agriculture	27.7	19.8	184
	(b) In non-agriculture	6.1	25.5	384
3.	Other Households	8.3	28.0	473
4.	All	100.0	20.9	248
B. Urban India				
1.	Self Employed	38.5	25.0	607
2.	Other	61.5	35.7	926
3.	All	100.0	31.6	816

broadly identifies the major source of income or the means of livelihood of the household. Five broad types of households were distinguished in rural areas and two in urban areas. The percentages and sex ratios (males per 1000 females) of migrants by household type are summarised in Table 11.

In rural India, households deriving a major share of their income from non-agricultural and 'other' activities reported a higher level of migration than the agricultural households irrespective of whether they were mainly self-employed or wage and salary earners. In urban area, the self-employed households had a lower proportion of

migrants than the others, that is, the wage or salary earning households. A higher proportion of migrants was also associated with a higher sex ratio or a smaller excess of females among the migrants. Probably, the households in categories with a high proportion of migrants tend to move as entire units (rather than as individuals). The available data do not provide details of other characteristics of migrants in different categories of households.

Perceived Permanence of Migration

Some data on perceived permanence of migration were collected in the 13th round (1957-58), when the migrants to urban area were cross-classified according to their current age, period elapsed since migration, and the nature of movement (temporary or permanent). The data showed a steady fall in the proportion of temporary migrants and a rise in the proportion of permanent migrants with age [NSS 1962, p. 15].

TABLE 12. PERCENTAGE DISTRIBUTION OF MIGRANTS BY BROAD CATEGORIES OF REASONS FOR MIGRATION AND CRITERIA OF CLASSIFYING MIGRANTS IN NSS ROUNDS, 1958 TO 1983 AND 1981 CENSUS

Census Year/NSS	Criterion	Broad Reasons for Migration					All
Rounds		Employment	Studies	Family Moved	Marriage	Others	
(a) Rural India							
Persons							
1981 Census 1958-59 (14th)	PLR	5.5 (17.5)	1.3 (2.8)	14.9 (28.2)	62.7 (12.5)	15.6 (39.5)	100.0 (100.0)
1963-64 (18th)	NP	7.8	0.5	10.4	70.0	11.3	100.0
1983 (38th)	UPR1	25.1	3.4	30.2	5.2	36.1	100.0
	UPR	7.3 (15.7)	0.9 (3.8)	11.9 (25.0)	70.5 (38.4)	9.4 (17.1)	100.0 (100.0)
Males							
1981 Census 1958-59 (14th)	PLR	20.1 (28.7)	4.0 (4.3)	33.2 (27.0)	4.9 (0.9)	37.8 (39.1)	100.0 (100.0)
1963-64 (18th)	NP	33.1	1.8	25.5	5.4	34.2	100.0
1983 (38th)	UPR1	38.1	4.6	20.0	0.7	36.0	100.0
	UPR	32.2 (35.6)	3.7 (8.5)	27.8 (27.2)	7.4 (2.5)	28.9 (26.2)	100.0 (100.0)
Females							
1981 Census 1958-59 (14th)	PLR	1.3 (6.7)	0.4 (1.3)	9.6 (29.2)	79.5 (22.8)	9.2 (40.0)	100.0 (100.0)
1963-64 (18th)	NP	1.3	0.1	6.6	86.4	5.6	100.0
1983 (38th)	UPR1	8.7	2.0	42.7	10.5	36.1	100.0
	UPR	2.0 (4.8)	0.3 (1.2)	8.5 (23.8)	84.0 (58.2)	5.2 (12.0)	100.0 (100.0)

(Contd.)

TABLE 12. (Concd.)

Census Year/NSS	Ceiterion	Broad Reasons for Migration					All
Rounds		Employment	Studies	Family moved	Marriage	Others	
(b) Urban India							
Persons							
1981 Census 1957-58 (13th)	PLR	23.0 (24.1)	4.5 (6.8)	29.6 (35.2)	24.7 (8.7)	18.2 (25.2)	100.0 (100.0)
1958-59 (14th)	NP	25.5	3.8	24.5	24.5	21.8	100.0
	NP	23.5	3.2	26.4	31.5	15.4	100.0
	UPR1	30.6	8.7	42.7	5.0	13.0	100.0
1959-60 (15th)	NP	22.9	2.9	31.7	29.2	13.3	100.0
1963-64 (18th)	UPR1	39.3	12.1	33.4	5.5	9.7	100.0
1966-67 (21st)	UPR1	41.2	12.3	32.4	6.4	7.7	100.0
1983 (38th)	UPR	26.0 (28.1)	3.9 (9.9)	32.5 (38.4)	28.2 (12.9)	9.4 (10.7)	100.0 (100.0)
Males							
1981 Census 1957-58 (13th)	PLR	43.1 (38.1)	6.8 (9.1)	26.9 (26.7)	1.1 (0.5)	22.1 (25.6)	100.0 (100.0)
1958-59 (14th)	NP	48.0	6.4	19.4	0.6	25.6	100.0
	NP	48.3	5.9	24.9	0.8	20.1	100.0
	UPR1	49.7	12.0	24.8	-	13.5	100.0
1959-60 (15th)	NP	48.3	5.2	27.5	0.8	18.2	100.0
1963-64 (18th)	UPR1	56.2	16.1	19.1	0.3	8.3	100.0
1983 (38th)	UPR	52.0 (46.3)	7.1 (15.0)	27.3 (26.2)	1.2 (0.7)	12.4 (11.8)	100.0 (100.0)
Females							
1981 Census 1957-58 (13th)	PLR	4.2 (7.2)	2.4 (3.9)	32.1 (45.5)	46.8 (18.6)	14.5 (24.8)	100.0 (100.0)
1958-59 (14th)	NP	3.2	1.2	29.5	48.1	18.0	100.0
	NP	2.0	1.0	27.6	58.1	11.3	100.0
	UPR1	4.0	4.2	67.5	11.9	12.4	100.0
1959-60 (15th)	NP	2.0	1.0	35.2	52.5	9.3	100.0
1963-64 (18th)	UPR1	11.9	5.6	56.6	14.1	11.8	100.0
1983 (38th)	UPR	4.8 (8.2)	1.3 (4.3)	36.7 (51.9)	50.3 (26.1)	6.9 (9.5)	100.0 (100.0)

Notes: 1. 'Not Recorded' cases have been distributed on pro-rata

2. The 14th Round data are adjusted by excluding those persons who were classified as migrants even though they were born after the migration of their parents.

3. Figures in parentheses refer to the distribution of migrants of the previous year by reasons.

REASONS FOR MIGRATION

Until the 1981 Census, the NSS was the only source of data on reasons for migration. The 1981 Census also collected information on five broad reasons for migration: employment, education, family moved, marriage, and others. The 'employment' category includes search for employment, or better employment, and transfer in service or for business contracts. However, according to the Census, migrants who had moved to set up their own shop or start a business were excluded from those moving for 'employment' and included among 'other'; as a result, the share of movement for employment might be a little lower in the 1981 Census than in the NSS. Migration because the "family moved" covers dependents moving with other earning members of the household. "Other" reasons include movement for health reasons, religious grounds, better security and social amenities, retirement or discharge, splitting of families, political change, etc. Table 12 presents data from the NSS and the 1981 Census by these five broad reasons, separately for rural and urban areas.

A majority of the male migrants in rural area, both lifetime and of the previous year, had moved for employment and "other" reasons. Of the female lifetime migrants, about four-fifths had reportedly moved because of (or after) marriage. Migration because the family had moved and for "other" reasons was dominant in the case of female migrants during the previous year, so identified according to the place of last residence criterion used by the 1981 Census. For nearly 60 per cent of the female migrants identified by the NSS according to the usual place of residence criterion, marriage was the reason to move. These differences reflect the fact that in any one year, the marriage rate determines the maximum number of migrations linked to marriage. On the other hand, a relatively higher proportion of married women are likely to be joining their migrant husbands at their destination⁹.

In urban area, about half of the male lifetime migrants reported employment and another quarter reported the movement of the family as the main reasons for their migration. Evidently, a fairly large number of workers move with their dependents or the latter join them when the principal earners of their families find work and

settle down at their destination. Among migrants of the previous year, in the share of migration due to marriage shows a decline while that due to education shows an increase. The latter usually belong to a specific age group and might at least initially move for short durations.

To explore the possible differences in the reasons for migration among migration streams, Table 13 shows the percentage distribution of lifetime migrants (PLR criterion) of the 1981 Census by type of boundary crossed and migration stream. Among both male and female migrants, the share of employment related reasons rises and that of marriage declines as we shift from intra-district to inter-district and then to inter-state streams. These changes in the reasons for migration are linked to a fall in the share of migration due to movement of family among males but the opposite is the case among female migrants; however, it remains the second most important reason for migration both among males and females.

Table 14 presents some detailed distributions of migrants who reported "employment" as the reason for their movement. Of the total of 22 million migrants moving for employment, almost 25 per cent were inter-urban migrants; and another 8 per cent were rural-urban migrants. Surprisingly, almost 39 per cent were urban-rural migrants. Rural-rural stream was relatively the most important among females who had moved for employment. The corresponding proportion among male migrants was lower; but the absolute number of male migrants for employment exceed the number of female migrants in all the four streams. Also, migrants moving for employment formed a numerically more important segment of the urban work force than of the rural work force. Over the years, however, the share of migrants in the urban work force is probably on the decline.

Although the rural-rural migration stream accounts for nearly two-thirds of all migrants, a majority of them move for non-economic reasons. Females form about 80 per cent of the rural-rural stream and move mainly due to marriage. Other migration streams which explain not only the growth of urban areas (only rural-urban stream explains urban growth) but also population redistribution among urban centres merit more attention.

TABLE 13. PERCENTAGE DISTRIBUTION OF MIGRANTS BY REASON FOR MIGRATION AND MIGRATION STREAM (ON THE BASIS OF PLR CRITERION), 1981 CENSUS

Type of Movement/Reason	Migration Stream				All
	Rural- Rural	Urban- Rural	Rural- Urban	Urban- Urban	
Males					
Intra-district					
Employment	15.9	21.8	35.4	31.1	21.8
Education	4.7	3.3	11.5	4.7	6.0
Family moved	33.5	32.1	27.6	35.8	32.4
Marriage	6.3	2.7	1.8	1.4	4.6
Others	39.6	40.1	23.7	27.0	35.2
All	100.0	100.0	100.0	100.0	100.0
Absolute Number (Million)	19.1	2.2	6.3	2.7	30.3
Inter-district					
Employment	25.7	28.9	50.4	40.2	37.9
Education	4.0	4.2	8.2	6.0	5.9
Family moved	35.1	31.6	22.5	31.9	29.9
Marriage	4.2	2.1	1.0	0.9	2.1
Others	31.0	33.2	17.9	21.0	24.2
All	100.0	100.0	100.0	100.0	100.0
Absolute Number (Million)	5.5	1.5	5.6	5.0	17.7
Inter-state					
Employment	37.8	33.2	61.4	48.9	50.5
Education	2.1	2.9	4.0	4.8	3.8
Family moved	31.3	28.7	18.0	26.8	24.3
Marriage	2.8	1.4	0.6	0.8	1.1
Others	26.0	33.8	16.0	18.7	20.3
All	100.0	100.0	100.0	100.0	100.0
Absolute Number (Million)	2.2	0.8	4.4	3.7	11.3
Females					
Intra-district					
Employment	0.9	2.6	3.5	3.8	1.3
Education	0.4	0.9	2.8	2.0	0.7
Family moved	7.6	18.2	24.6	32.7	10.5
Marriage	82.8	61.8	57.1	45.5	78.2
Others	8.3	16.5	12.0	16.0	9.3
All	100.0	100.0	100.0	100.0	100.0
Absolute Number (Million)	80.6	4.2	8.5	3.5	96.9
Inter-district					
Employment	1.7	3.6	4.6	4.5	2.9
Education	0.5	1.3	2.6	2.4	1.2
Family moved	10.5	22.6	31.3	35.2	19.4
Marriage	79.6	58.2	49.3	44.1	66.4
Others	7.7	14.3	12.2	13.8	10.1
All	100.0	100.0	100.0	100.0	100.0
Absolute Number (Million)	19.0	2.6	5.6	5.9	33.1
Inter-state					
Employment	3.7	4.8	5.6	5.0	4.7
Education	0.5	1.6	2.0	2.4	1.5
Family moved	15.5	27.9	37.3	37.9	28.4
Marriage	71.5	50.4	42.0	41.2	53.6
Others	8.8	15.3	13.1	13.5	11.8
All	100.0	100.0	100.0	100.0	100.0
Absolute Number (Million)	4.7	1.0	3.0	3.6	12.3

TABLE 14. PERCENTAGE DISTRIBUTION OF MIGRANTS REPORTING EMPLOYMENT AS THE REASON FOR MIGRATION BY MIGRATION STREAM AND TYPE OF MOVEMENT, 1981 CENSUS

Type of Movement	Migration Stream				All
	Rural- Rural	Urban- Rural	Rural- Urban	Urban- Urban	
Males					
Intra-district	57.3 (46.0)	28.7 (34.0)	39.2 (7.1)	18.3 (12.9)	34.8 (100.0)
Inter-district	26.6 (21.1)	36.2 (42.2)	37.5 (6.7)	43.1 (30.0)	35.3 (100.0)
Inter-state	16.1 (15.0)	35.1 (48.3)	23.3 (4.9)	38.6 (31.8)	29.9 (100.0)
All	100.0 (27.9)	100.0 (41.2)	100.0 (6.3)	100.0 (24.6)	100.0 (100.0)
Absolute Number (million)	5.3	7.8	1.2	4.7	19.0
Females					
Intra-district	59.4 (57.5)	41.1 (23.6)	42.3 (8.7)	22.4 (10.2)	45.4 (100.0)
Inter-district	26.8 (34.4)	35.6 (27.1)	38.5 (10.4)	46.6 (28.1)	34.3 (100.0)
Inter-state	13.8 (29.8)	23.3 (29.8)	19.2 (8.8)	31.0 (31.6)	20.3 (100.0)
All	100.0 (43.9)	100.0 (26.1)	100.0 (9.3)	100.0 (20.7)	100.0 (100.0)
Absolute Number (million)	1.2	0.7	0.3	0.6	2.8

Note: Figures in parentheses show the percentage distribution by rows.

TABLE 15. SEX RATIOS (MALES PER 1000 FEMALES) OF LIFETIME MIGRANTS AND OF MIGRANTS OF THE YEAR PRECEDING THE CENSUS, BY REASON FOR MIGRATION AND MIGRATION STREAM, 1981 CENSUS

Type of Movement/ Reason	All Durations			One Year Before Census		
	Urban-Rural	Rural-Urban	Urban-Urban	Urban-Rural	Rural-Urban	Urban-Urban
Intra-district						
Employment	4,336	7,545	6,297	4,969	5,214	5,943
Education	1,886	3,092	1,846	2,476	3,402	1,963
Family moved	896	835	844	813	746	764
Marriage	22	23	24	47	36	35
Others	1,236	1,457	1,305	1,112	1,276	1,324
All	510	744	772	1,083	1,167	1,078
Inter-district						
Employment	4,833	10,882	7,588	5,414	5,878	6,643
Education	1,940	3,163	2,131	2,416	3,405	2,016
Family moved	834	725	769	770	692	704
Marriage	21	20	18	54	30	26
Others	1,376	1,483	1,282	1,388	1,196	1,132
All	595	1,010	848	1,252	1,255	1,101
Inter-state						
Employment	5,704	16,145	9,963	5,505	8,283	7,078
Education	1,488	2,931	2,028	2,076	2,655	1,806
Family moved	850	714	725	823	657	969
Marriage	23	19	18	70	26	26
Others	1,830	1,816	1,426	2,277	1,343	801
All	827	1,478	1,026	1,730	1,511	1,160

The sex ratio (number of males per 1000 females) of lifetime and annual migrants by stream, type of boundary crossed and reason can be a convenient summary indicator of the gender-related differences in reasons for movement. These data for three streams (other than the rural-rural), based on the 1981 Census are shown in Table 15. The predominance of males in migration for employment and education and that of females in marriage-related migration is clear among all the three streams of lifetime migrants. The excess of males is more pronounced in the inter-district and inter-state rural-urban streams and in the inter-state urban-urban stream. Also, the migrants of the last year show an excess of males in all the three streams and in all the three categories of boundary crossing.

In fact, the 1981 Census results were anticipated by the NSS data for urban area from the 13th and the 21st rounds conducted during 1957-58 and 1966-67, respectively. The 13th round data, tabulated for three size classes of towns, are summarized in Table 16. Employment as reason for migration appears more important movement to join family or for marriage less important as we move from small to large towns and cities. The same is true of political refugees. The data also show an increase in the sex ratio of migrants with increase in the size of towns and hence a lower average household size in larger towns and cities¹⁰.

ECONOMIC ACTIVITIES OF MIGRANTS

Given the importance of employment related factors for much of the male migration, the NSS Rounds have attempted to examine at some length the extent and characteristics of employment and unemployment among migrants. A similar analysis of the census data is also feasible although the non-comparability of the 1961, 1971 and 1981 census data relating to the economic activities of the population somewhat limits the interest in such a review¹¹. The NSS has also from time to time modified its concepts to assess the economic activities of the population; but it had a uniform reference period of one week between the 14th and the 22nd Rounds (1958-59 to 1967-68). The 13th Round had a dual reference period of one day as well as a week; and the 38th Round data for 1983 are based on the usual status concept¹². However, in the present context, we need to focus

more on the differentials by migration status than on the levels of participation in economic activity, unemployment, or the nature of economic activities.

Table 17 shows the available data on worker-population ratios, labour force participation rates, and the incidence of unemployment for migrants and the total population, for various years between 1957-58 and 1983. It is not possible to make separate estimates for non-migrants or to standardize the estimates for differences in the age composition of migrants and others or to test the statistical significance of the differences. However, the broad consistency of the differences over time will be of interest.

Activities of Migrants Before and After Migration

According to the 38th round (1983), the labour force participation rate on the basis of usual activity criterion was 45 per cent in rural area and 36 per cent in urban area (Table 17). In both rural and urban areas, it has remained almost stable over the last 25 years. Moreover, both in rural and urban areas, the participation rates of lifetime as well as annual migrants have been higher than those of the general population; the differences are sharper in urban than rural area. The labour force as well as work participation rates in rural area are higher than in urban area because of the higher participation of rural females in agricultural activities. In contrast to stable labour force participation rate, there is a continuous rise in the percentage share of students in population in urban area from 16 per cent in 18th (1963-64) round to 23 per cent in 22nd (1967-68) round (Table 18).

During 1963-68, the incidence of unemployment (unemployed as percentage of labour force) in terms of weekly status among migrants of the previous year was about twice that in the general population in urban area. Even larger differential was observed in the unemployment rates (based on usual status) in rural area; in urban area, the corresponding differential was smaller particularly among males. Naturally, with longer duration of stay of migrants, the differential between migrants and general population in the incidence of unemployment declined. Female migrants reported a higher incidence of unemployment and a lower work participation rate than male migrants.

TABLE 16. URBAN INDIA: PERCENTAGE DISTRIBUTION OF IN-MIGRANTS BY REASON FOR MIGRATION AND SIZE CLASSES OF TOWNS, (ON THE BASIS OF NP CRITERION) NSS 13TH ROUND, 1957-58

Reason for Migration	Size Classes of Towns			All
	Big Cities	Towns with Population 3 Lakhs and Above (Excluding Big Cities)	Towns with Population Below 3 Lakhs	
1. For Employment	36.2	26.8	16.6	21.4
2. Under transfer on service or business contract	0.7	1.8	3.9	3.1
3. For studies	2.1	4.7	3.7	3.6
4. Family moved	20.4	21.1	24.7	23.5
5. Marriage	10.9	19.5	27.4	23.5
6. Refugee due to political change	16.8	13.0	11.0	12.3
7. Others	7.7	8.1	9.1	8.6
Not recorded	5.2	5.0	3.6	4.0
All	100.0	100.0	100.0	100.0
Number of sample persons	4,765	3,037	12,494	20,296
Sex Ratio (No. of Males per 1000 females)	1,558	1,165	846	1,023

TABLE 17. WORK PARTICIPATION RATE, INCIDENCE OF UNEMPLOYMENT AND LABOUR FORCE PARTICIPATION RATE OF MIGRANTS ACCORDING TO DIFFERENT CRITERIA OF CLASSIFYING MIGRANTS IN NSS ROUNDS, 1957 TO 1983

Year/NSS Rounds	Criterion	Work Participation Rate			Incidence of Unemployment			Labour Force Participation Rate		
		Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
Rural India										
1958-59 (14th)	NP	45.9 (42.1)	-	-	5.1 (3.9)	-	-	48.4 (44.6)	-	-
1958-59 (14th)	UPR1	44.1	66.8	25.6	5.3	3.4	9.1	46.5	69.1	28.2
1963-64 (18th)	UPR1	41.2 (39.8)	56.5 (52.9)	27.7 (26.1)	2.6 (2.1)	1.4 (1.2)	4.6 (4.0)	42.3 (40.7)	57.3 (53.5)	29.1 (27.2)
1983 (38th)	UPR*	38.2	55.5	28.7	4.0	5.3	2.5	39.8	58.7	29.4
	UPR**	40.1	58.7	32.6	2.9	4.2	1.9	41.3	61.2	33.2
	UPR	43.9 (44.5)	70.8 (54.7)	38.1 (34.0)	1.3 (1.1)	2.5 (1.4)	0.8 (0.7)	44.5 (45.0)	72.7 (55.5)	38.4 (34.2)
Urban India										
1957-58 (13th)	NP	40.9 (31.4)	-	-	6.6 (7.4)	-	-	43.8 (33.9)	-	-
1958-59 (14th)	NP	39.3 (31.8)	66.9 (50.2)	14.6 (11.3)	3.3 (3.6)	3.1 (3.6)	3.9 (3.7)	40.6 (33.3)	69.0 (52.0)	15.2 (11.7)
1963-64 (18th)	UPR1	40.7 (31.6)	60.5 (49.1)	13.1 (10.6)	3.7 (2.0)	3.1 (1.7)	7.1 (7.5)	42.2 (32.3)	62.4 (50.0)	14.1 (11.4)
1964-65 (19th)	UPR1	41.1 (31.1)	-	-	3.6 (1.9)	-	-	42.6 (31.7)	-	-
1965-66 (20th)	UPR1	38.4 (30.5)	-	-	4.6 (2.0)	-	-	42.3 (31.1)	-	-
1966-67 (21st)	UPR1	41.0 (31.5)	-	-	3.2 (1.6)	-	-	42.3 (32.0)	-	-
1967-68 (22nd)	UPR1	33.6 (32.0)	-	-	4.5 (2.0)	-	-	35.2 (32.7)	-	-
1983 (38th)	UPR*	32.7	50.9	12.8	7.3	7.1	8.0	35.3	54.6	14.0
	UPR**	34.0	55.5	12.6	6.1	5.8	7.8	36.2	58.9	13.7
	UPR	40.1 (34.0)	69.0 (51.2)	16.6 (15.1)	4.2 (5.0)	4.1 (5.1)	4.6 (4.9)	41.9 (35.9)	72.0 (53.9)	17.4 (15.9)

Notes: Figures in parentheses show the relevant characteristics for the total population. * Migrants who moved to their places of enumeration during the previous one year. ** Migrants of the previous five years.

Table 18 shows, for six Rounds conducted between 1958-59 and 1967-68 in urban area, the worker-population ratios, the labour force participation rates, and the incidence of unemployment among migrants of the previous year. Estimates are available for both before and after the migration. Besides, the duration of residence at the place of enumeration is also a factor relevant to work participation by women. Unfortunately, the number of migrants in the sample is not large enough to cross-tabulate the characteristics of migrants with their duration of residence in the PE. Also, it is not possible to distinguish between male and female migrants (except for 1963-64) or to identify the precise factors as a result of which the labour force participation rates show a decline after migration; presumably, it is primarily among female migrants.

According to the (1964-65) round, about 51 per cent of migrants were in the labour force prior to migration; after migration only 43 per cent remained in the labour force. The corresponding figures for the 22nd Round (1967-68) were 39 and 35 per cent, respectively. Some cross-tabulations indicate that a much higher percentage of those in the labour force prior to migration took up studies or went outside the labour force after migration. Further, most of the migrants had come from rural areas where adult females combined household work with agricultural activities as unpaid helpers or as agricultural labourers. After migration to urban areas, their participation rate decline due to limited suitable employment opportunities.

A few striking features of the data are: (a) an unemployment rate of between 10 to 16 per cent prior to migration; and (b) its decline to between three to 4.5 per cent after migration. As a result, the worker-population ratio did not decline significantly even when, as noted above, the labour force participation rate declined. Equally important, the proportion of new entrants into the labour force (i.e. seeking work for the first time) among the unemployed was almost the same among the migrants as among the non-migrants. The decline in the incidence of unemployment after migration implied that the migrants managed to find some work or the other in urban areas;

but some of them also lost it. As a result, the percentage of unemployed with prior work experience was a little higher among migrants than among non-migrants. Of course, the overall differences in the incidence of unemployment between the migrants and non-migrants were small and are unlikely to be statistically significant.

Among the migrants who were working at their places prior to migration, manual paid employment accounted for between 40 to 53 per cent and self employment for about 30-34 per cent. The rest had non-manual work; many of them were probably inter-urban migrants. In terms of industrial classification, about a quarter (between 23 and 27) of the workers were engaged in agriculture, about 10-12 per cent in manufacturing and mining/quarrying and the remaining 60-67 per cent in other activities, presumably services.

In 19th to 22nd rounds (1964-65 to 1967-68), migrants' current activities in urban areas were cross classified by activity prior to migration. Most of the migrants engaged in manual and non-manual employment prior to migration were currently wage or salaried workers after migration. Further, nearly half of the migrants who were self employed in agriculture prior to migration were wage or salaried workers after migration. On the other hand, a majority of the migrants who were self employed in manufacturing and mining and in other sectors prior to migration, had remained self employed after migration.

According to the 22nd Round (1967-68), nearly half of the unemployed prior to migration had found employment after migration. Nearly one-tenth of them continued to remain unemployed; some of them had taken up studies and others had withdrawn from the labour force after migration. Finally, a majority of persons who were not available for work prior to migration had remained outside the labour force after migration; some of them had continued their studies.

Overall, migration to urban areas was associated with significant changes in the activity as well as employment status and in the nature and status of work of migrants.

TABLE 18. URBAN INDIA: ACTIVITY STATUS (A) AT DESTINATION AND (B) PRIOR TO MIGRATION OF IN-MIGRANTS IDENTIFIED AS HAVING A DIFFERENT USUAL PLACE OF RESIDENCE ONE YEAR EARLIER, NSS ROUNDS, 1958-68

Activity of Migrants	1958-1959	1963-1964	1964-1965	1965-1966	1966-1967	1967-1968
I. At the Destination						
1. WPR	40.7 (32.2)	37.3 (31.2)	41.1 (31.1)	38.4 (30.5)	41.0 (31.5)	33.6 (31.5)
2. Unemployed persons (%)	1.5 (1.2)	1.5 (0.9)	1.5 (0.6)	1.8 (0.6)	1.3 (0.5)	1.6 (0.6)
3. % of new entrants among unemployed	-	-	59.7 (55.8)	56.7 (52.4)	58.6 (58.8)	65.7 (66.1)
4. LFPR	42.2 (33.4)	38.8 (32.1)	42.6 (31.7)	40.3 (31.1)	42.3 (32.0)	35.2 (32.1)
a. % employed	96.4 (96.4)	95.9 (97.2)	96.4 (98.0)	95.5 (97.99)	96.8 (98.4)	95.5 (98.1)
b. % unemployed	3.7 (3.6)	4.1 (2.8)	3.6 (2.0)	4.6 (2.0)	3.2 (1.6)	4.5 (1.9)
5. Students (%)	-	(15.9)	(18.2)	(19.1)	(20.1)	(22.5)
II Prior to Migration						
1. LFPR	-	36.7	50.7	48.7	47.1	39.2
a. % employed	-	89.9	88.8	84.1	87.7	89.9
b. % unemployed	-	10.1	11.2	15.9	12.3	10.1
2. WPR	-	33.3	45.1	41.0	41.3	35.2
3. % of workers	-	-	-	-	-	-
a. Manual	-	-	39.6	43.4	53.1	45.8
b. Non-manual	-	-	26.9	25.3	17.5	22.8
c. Self employed	-	-	33.5	31.3	29.5	31.5
4. % of workers in	-	-	-	-	-	-
a. Agriculture	-	-	26.1	23.4	27.0	22.6
b. Manufacturing and mining	-	-	10.2	10.9	12.5	10.2
c. Others	-	-	63.7	65.7	60.5	67.2

Notes: 1. 'Not recorded' cases have been excluded.

2. Figures in parentheses show estimates for the total population.

TABLE 19. URBAN INDIA: PERCENTAGE DISTRIBUTION OF GAINFULLY EMPLOYED PERSONS BY MIGRATION STATUS, INDUSTRY GROUP AND PLACE OF ORIGIN; NSS 13TH ROUND, 1957-58.

Industry Group	Place of Origin of Migrants					Non-Migrants	All Persons	No. of Sample Persons
	Rural Areas	Urban Areas	Pakistan	Other Countries	All			
1. Agriculture, Hunting, Forestry, and Fishing	12.1	5.2	4.4	0.7	9.8	23.5	16.9	2,458
2. Mining and Quarrying	0.4	0.4	0.2	4.4	0.5	0.1	0.3	46
3. Manufacturing	31.6	29.7	26.1	14.5	30.3	31.0	30.7	5,136
4. Electricity, Gas, Water and Sanitary Services	1.1	1.1	0.4	1.4	1.0	0.6	0.8	139
5. Construction	2.8	2.1	1.5	1.5	2.5	3.6	3.1	504
6. Trade and Commerce	14.2	16.2	25.7	10.2	15.9	15.2	15.5	2,643
7. Transport, Storage and Communication	9.2	10.4	10.3	11.3	9.5	7.2	8.3	1,465
8. Services	27.1	33.2	29.1	53.8	28.8	17.0	22.7	3,825
9. Others	1.5	1.7	2.3	2.2	1.7	1.8	1.7	286
All	100.0	100.0	100.0	100.0	100.0	100.0	100.0	16,502
No. of Sample Persons	5,827	1,229	1,006	135	8,197	8,305	16,502	

Industrial/Occupational distribution of Migrants

Only the 13th round (1957-58) has provided the industrial distribution of gainfully employed persons in urban area by migration status as well as by place of origin of migrants (Table 19). Compared to non-migrants, the percentage of migrant workers was higher in mining and quarrying, public utilities, trade and commerce, transport and communications, and the services sectors. The percentages of workers engaged in the agricultural sector were 23 and 10 per cent for non-migrant and migrant workers coming mainly from rural areas. The corresponding percentages for the workers engaged in the services sector were 17 and 29. A majority of the inter-urban migrants and those from Pakistan and other countries were employed in only three sectors, viz. manufacturing, trade and commerce, and services.

The occupational distribution of migrant workers is available from three rounds: 13th (1957-58) and 14th (1958-59) for urban area and the 18th (1963-64) for both rural and urban areas. The data for urban area are shown in Table 20. Compared with non-migrant workers, a higher percentage of migrant workers were engaged in white-collar (professional, administrative, executive, etc.) and blue-collar (domestic and personal services and other unskilled work) occupations. A higher proportion of non-migrant workers were engaged in agricultural and allied services, crafts and production processes and sales occupations.

The 18th (1963-64) round provided occupational distributions by migration status and sex. In urban area, the percentages of female migrant workers engaged in professional work, agricultural and allied services, crafts and production processes, and domestic and personal service occupations were higher than for male migrant workers. In rural area, the migrant workers (of either sex) dominated in all occupations except the agricultural and allied services, which accounted for 84 per cent of the non-migrant workers. A much higher proportion of female workers than of male workers was engaged in

agriculture and allied services among both migrants and non-migrants. The results were similar to those of the 1961 Census¹³.

The 18th (1963-64) round had also classified the current occupations of migrants by their occupation prior to migration. In rural area, there was no change in the occupations of migrants before and after migration. In urban area, the occupations of migrant workers engaged in agriculture and allied service occupations prior to migration underwent changes. Nearly half of the male migrant workers continued working in agriculture and allied services even after migration; the rest shifted to crafts and production process work, transport and communications, and domestic and personal services. A similar shift was observed among female workers, some of whom also engaged in sales activities after migration [NSS, 1972, Pp. 119; 251-259].

MIGRATION OF HOUSEHOLDS

The 38th Round (1983) collected some information on the migration of entire households. If a household had moved to the PE during the last 365 days, it was classified as a migrant household. The estimates show the proportion of migrant households during 1983 to be 14 per 1000 in rural area and 42 per 1000 in urban area. Nearly 60 and 50 per cent of the migrant households in rural and urban area, respectively, reported having moved permanently. About 26 to 27 per cent of the migrant households had moved in search of work. Another 24 to 30 per cent had moved on transfer in service or as part of business contracts; about half of them had moved temporarily, for seasonal or non-seasonal work [Sarvekshana, 1990, p. 4].

A cross-tabulation of the proportion of migrant households by the monthly per capita expenditure (MPCE) of households (Table 21), shows that in both rural and urban areas, rate of migration of households was the highest in the bottom as well as in the top MPCE classes. The differences in the characteristics of migrant households in the low and the high MPCE classes need to be studied to assess and identify the factors underlying their migration.

TABLE 20. PERCENTAGE DISTRIBUTION OF GAINFULLY EMPLOYED IN-MIGRANTS BY OCCUPATION GROUP FOR NSS ROUNDS, 1957 TO 1964

Occupation Group	1957-58 (13th)(a)	1958-59 (14th)(a)	1963-64 (18th) (b)		
	Persons	Persons	Persons	Males	Females
1. Professional, technical and related workers	6.65 (4.20)	6.49 (4.72)	10.03 (5.10)	8.86 (4.99)	18.89 (5.68)
2. Administrative, executive, managerial, clerical & related workers	10.92 (5.54)	12.94 (7.72)	15.42 (11.54)	17.03 (13.34)	3.16 (2.15)
3. Sales and related workers	14.13 (14.50)	12.64 (15.52)	8.18 (15.05)	8.72 (16.64)	4.16 (6.76)
4. Workers engaged in agriculture, mining and quarry	10.11 (23.47)	9.58 (24.31)	5.96 (18.19)	4.54 (14.55)	16.73 (36.52)
5. Workers in transport & communication	6.49 (6.09)	6.29 (4.26)	5.93 (4.86)	6.48 (5.71)	1.73 (0.44)
6. Crafts & production process workers	28.33 (32.46)	28.01 (27.95)	28.81 (32.39)	28.13 (33.12)	33.97 (28.61)
7. Domestic and Personal services	13.74 (9.11)	11.13 (8.03)	7.99 (3.61)	7.19 (2.70)	14.07 (8.31)
8. Other service occupation including unskilled workers	4.11 (1.73)	7.17 (4.64)	17.65 (9.34)	19.01 (8.93)	7.29 (11.53)
9. Protective & defence services	3.78 (0.95)	-	0.03 (0.02)	0.04 (0.02)	-
10. Unidentified	1.74 (1.95)	5.75 (2.85)	-	-	-
All	100.0	100.0	100.0	100.0	100.0

Note: Figures in parentheses refer to non-migrants

a. Migrants according to the Native Place criterion.

b. Migrants according to the criterion of usual place of residence one year earlier.

TABLE 21. PERCENTAGE DISTRIBUTION OF MIGRANT HOUSEHOLDS BY NATURE OF MOVEMENT ACCORDING TO EACH HOUSEHOLD MONTHLY PER CAPITA EXPENDITURE (MPCE) CLASS, 1983 (38TH ROUND)

MPCE (Rs.)	No. of Migrant Household per 1000 Households	Percent of Migrant Households	Nature of Movement			Sample Migrant Household	
			Temporary		Permanent		All
			Seasonal	Non- seasonal			
Rural India							
00-30	47	5.4	23.3	16.6	60.1	100.0	48
30-40	9	1.4	21.8	18.6	59.6	100.0	13
40-50	9	2.9	16.6	18.1	65.3	100.0	26
50-60	5	2.8	24.6	11.5	63.9	100.0	30
60-70	8	5.3	24.2	12.3	63.5	100.0	56
70-85	8	8.3	15.9	39.0	45.1	100.0	70
85-100	10	9.9	22.0	25.1	52.9	100.0	95
100-125	12	14.2	21.2	17.5	61.3	100.0	142
125-150	10	7.5	12.9	16.5	70.6	100.0	82
150-200	18	13.5	22.3	13.5	64.2	100.0	141
200-250	26	8.5	26.0	13.0	61.0	100.0	87
250-300	40	6.7	16.1	29.5	54.4	100.0	74
300 & above	53	13.6	16.4	27.4	56.2	100.0	168
All	14	100.0	20.0	20.8	59.2	100.0	1,032
Urban India							
00-30	98	2.3	41.6	10.2	48.2	100.0	35
30-40	34	0.4	90.1	-	9.9	100.0	3
40-50	17	0.5	15.5	46.5	38.0	100.0	7
50-60	10	0.6	21.8	46.1	32.1	100.0	11
60-70	12	1.1	44.0	5.4	50.6	100.0	13
70-85	28	5.3	24.8	20.9	54.3	100.0	62
85-100	16	3.4	14.6	24.6	60.8	100.0	54
100-125	25	8.7	18.3	30.6	51.1	100.0	139
125-150	26	7.3	31.4	25.0	43.6	100.0	115
150-200	43	17.5	16.6	28.6	54.8	100.0	262
200-250	53	12.9	18.3	26.0	55.7	100.0	197
250-300	68	10.8	13.3	43.6	43.1	100.0	176
300 & above	86	29.2	21.9	33.5	44.6	100.0	455
All	42	100.0	20.8	30.1	49.1	100.0	1,529

POLICY IMPLICATIONS

Some of the above results have implications for policy relating to rural-urban migration. The discussion on the subject has for long been dominated by a concern to slow down the pace of rural-urban migration; particularly that to major metropolitan centres. This concern has been a result of a mistaken impression that the population of cities (with 100,000 or more persons) has been growing much faster than that of smaller towns. This impression is a consequence partly of the manner in which the decennial censuses estimate the inter-censal growth in towns of different sizes. Population of all towns in different population size classes at two censuses is compared without allowance for changes in the number of towns in each class. Population growth should really be estimated for fixed sets of towns, classified according to their size at the preceding census. When this procedure is used, the rate of population growth does not appear to be markedly higher in larger cities than in smaller towns¹⁴. Even the metropolitan cities seem to be growing at a slower rate than cities with a population between 500,000 and 1,000,000.

NOTES

1. The matching state samples surveyed in most states of the country would double the percentage cited above.
2. The first NSS data on migration related to towns of 50,000 or more population excluding four big cities, viz., Calcutta, Bombay, Delhi and Madras. The survey identified those persons as migrants (a) who did not belong originally to the town of their present residence, and (b) who came to the town with the intention to stay there (not for formal visits) for more than a year. The survey found that migrants constituted nearly 40 per cent of the labour force; more than half of them had come from rural areas and one-sixth from urban areas. A little less than one-fourth were displaced from Pakistan. But the survey gathered very little information on migrants because its primary emphasis was on unemployment.
3. Incidentally, the proportions of migrants among persons in the labour force in urban India in 1957-58 (13th Round) were markedly higher than in the general population. The differences reflect both the age composition effects as well as the association between migration and search for employment or better employment.
4. Note that the UPR criterion is no different from the NP criterion. Given the comparability of the 1961 Census estimates of migrants based on the BP criterion with the NSS estimates for 1958-59 and 1959-60 based on NP criterion, one would expect the 1981 Census estimates based on the BP criterion to be similar to those of the 1983 NSS estimates based on the UPR criterion. It seems unlikely that the 1981 Census

estimates are overestimates; the usual tendency is to miss reporting migration. More likely, the 1983 NSS estimates are underestimates.

5. Most drought related migration is probably intra-rural. In any case, it is unlikely to involve a change in the usual place of residence. If the 38th Round estimates of migrants during the two halves of 1983 were significantly different, they would imply either an overestimation of migration in the first half or some seasonality in migration. Such seasonal migration is unlikely to affect the census-based estimates because the censuses are usually conducted in February.

6. The number of migrants identified by PLR criterion is higher compared to BP criterion because the former criterion also identifies 'return migrants' (for whom BP was same as PE but not PLR).

7. The same was also true for the NSS estimates of migrants in the labour force.

8. A first approximation to age-standardisation could have been obtained by limiting the tabulation to the age group 15 and above.

9. This explains the fact that the proportion of females moving because of marriage is lower and that of females migrating because of family movement is higher among migrants of the previous year than among all female migrants.

10. See NSS, 1962, p. 10.

11. Differentials in the level and nature of economic activity by migration status, indicated by the 1961 Census, have been examined by the senior author of the present study. See: Visaria, 1980, Pp. 1-14.

12. Between the 22nd and the 38th Rounds, only the 28th Round (1973-74) had collected data on migration and these data focussed only on inter-state migration during the previous year.

13. See Visaria, 1980.

14. See Jain, 1977. A similar analysis for 1971-1981 has been attempted by a Task Force on Housing and Urban Development set up by the Planning Commission in its report on *Planning of Urban Development*, New Delhi, September 1983.

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Annex

TABLE A.1. CRITERIA FOR IDENTIFYING MIGRANTS USED IN DIFFERENT NSS ROUNDS

Round	Year	Criterion	Coverage of Data	Source NSS Report No.
-	1953	Not belonging to the towns of residence, with intention to stay more than a year	Towns with population of above 50,000 excluding four big cities	8
9	1955	NP; excluding change in the NP of females after marriage	Labour force	53
11 & 12	1956-57	UPR	Labour force	53
13	1957-58	NP; including change in the NP of females after marriage	Urban labour force and population	53
14	1958-59	(a) NP, (b) UPR one year earlier	Entire population	126 & 128
15	1959-60	(a) NP, (b) change in UPR atleast once during lifetime	Urban population	126
18	1963-64	UPR one year earlier but excluding return migrants	Entire population	182
19-22	1964-68	- do -	Urban population	163, 166, 181, 223, 214
28	1973-74	- do -	Entire population	Sarvekshana, July 1977
38	1983	(a) UPR (b) Whether the household had moved to place of enumeration during the last 365 days	Entire population	347 Sarvekshana, January-March 1990

NP: Native Place

UPR: Usual Place of Residence

Annex

TABLE A.2. NUMBER OF HOUSEHOLDS/PERSONS/MIGRANTS SURVEYED IN DIFFERENT ROUNDS OF THE NSS IN RURAL AND URBAN INDIA, 1955 AND 1983

Round	Rural			Urban		
	No. of Households	Population	Migrants	No. of Households	Population	Migrants
9*	8,037	17,296*	1,694	16,703	30,829*	10,893
11 & 12*	35,746	69,861*	7,560	11,516	17,719*	7,407
13	-	-	-	11,872	53,854	20,296
14	10,348	53,368	15,244 (1,746)	7,587	34,382	14,178 (1,152)
15	-	-	-	7,621	35,807	14,282
18	-	810,988	8,033	-	448,830	10,917
19	-	-	-	-	156,031	4,074
20	-	-	-	-	132,201	2,517
21	-	-	-	87,939	143,567	2,207
22	-	-	-	-	424,338	11,344
28**	139,680	-	-	79,104	-	-
38	78,612	414,723	81,635 (1,032)	42,231	208,492	58,915 (1,529)

Notes: * Only persons in the labour force were asked questions about migration.

Figures in parentheses for the 14th Round identify migrants according to UPR1 criterion; those for the 38th Round refer to the migrant households.

** The number of households surveyed in the 28th round has been estimated on the assumption that the target of 16 households each from 8730 villages and 4944 urban blocks was achieved.

Annex

TABLE A.3. VARIOUS CHARACTISTICS ON MIGRATION COVERED IN DIFFERENT NSS ROUNDS BY COVERAGE OF THE SURVEY

Characteristics	Numbers of NSS Rounds Covering		
	Entire Population	Urban Population Only	Labour Force Only
I. General:			
Location of previous place of residence	14, 18, 38	13, 15, 19 20, 21, 22	9, 11 & 12
Size classes of towns	14	13, 15	9, 11 & 12
Nature of movement (temporary or permanent)	14, 38	13	9
Period elapsed since migration	38	13, 14, 15	11 & 12
Reasons for migration	14, 18, 38	13, 15, 21	11 & 12
State of origin	18, 28	19, 20, 21	-
State of destination	14, 18, 28, 38	19, 20, 21, 22	-
Net migration	28	21	-
II. Demographic Social			
Sex	14, 18, 38	13, 15, 20, 21, 22	9, 11 & 12
Age: Current	14, 18	13, 15, 21	9
At the time of migration	38	-	-
Education: After migration	18	15	11 & 12
Before migration	38	-	-
Marital status at the time of migration	38	-	-
Caste	38	-	-
III. Employment:			
Activity Status:			
After Migration	14, 18, 38	13, 15, 19 20, 21, 22	-
Before Migration	18, 38	19, 20, 21, 22	-
Occupation: After Migration	14, 18	13	-
Before Migration	38	-	-
Industry	-	13	11 & 12
Monthly per capita expenditure	38	-	-
Household type*	38	-	-

* Information relates to the major source of income of the household during the year preceding the date of survey.

DEVELOPMENT OF OIL INDUSTRY IN INDIA

S.N. Visvanath

A hundred years ago, the successful drilling of Digboi Well No. 1 in Upper Assam signalled the birth of the oil industry in India. Since then, the industry has travelled a long way, major landmarks being Nahorkatiya, Moran, Anklesvar, Cambay, and the Bombay High, to name a few. This has brought the country closer to the goal of self-reliance in oil but, with increasing demand, the goal itself is moving further away. Unless the gap is closed, the country can face serious economic difficulties.

The story of oil exploration in India began in the dense jungles at the extreme north-eastern corner of Assam in the early years of the nineteenth century. The report of Lieut. Wilcox contains the earliest recorded (1825-28) reference to oil in Assam. He saw it "rising to the surface at Supkhong with great bubbling of gas and green petroleum". In 1836, C.A. Bruce came across "many oil seepages upstream of Makum for a distance of about 5 miles." In 1837, W. Griffith reported that "petroleum wells are most numerous towards the summits of the range, and the place where they occur is free from shrubs. The petroleum is of all colours, from green to bluish-white; this last is the strongest, partaking of the character of naphtha." There followed a rash of 'military' discoveries of oil seepages: Major A. White (Nampong, 1837); Lt. W. Bigge (Namrup, 1837); Capt. Francis Jenkins (Borhat and Makum, 1838); Capt. H. Vetch (Makum, 1842); and Capt. P.S. Hannay (Namchik Pattar, 1845). Hannay's description is particularly colourful as he describes "muddy pools in a constant state of activity, throwing out with more or less force white mud mixed with petroleum. This is indeed a strange-looking place. At times there is an internal noise as that of distant thunder, when it bursts forth suddenly with a loud report and then subsides". In 1854, Capt. Dalton further described the Namchik and Makum finds¹.

Acting on these reports an Austrian speculator, Wagentreiber, applied for "leases and monopolistic rights over the tract of land between Bappoong and Namchik". A ten-year lease was granted to him in 1854 by the Government of Bengal (Revenue Department) on the recommendation of the Chief Commissioner of Assam to "operate the petroleum springs at Makum". Apparently, the venture folded up swiftly. In

1865, H.B. Medlicott of the Geological Survey of India chanced upon the Makum oil seepages while reporting on the coal-fields of Upper Assam and he recommended trial boring in the area. This was an important first step in scientifically assessing the oil prospects of the northeastern region [Medlicott, 1865, Pp. 387-442].

In November 1866, having been granted certain rights over a large tract of land on both sides of Dihing river from Jaipur to beyond the Namchik confluence, Mr. Goodenough, a member of the Calcutta firm of McKillop, Stewart & Co, commenced drilling at Nahorpung near Jaipur. This well, bored by hand, was abandoned dry at 102 ft. Undismayed, he tried again with a steam engine, acquired from Mather and Platt, to drive the machinery. Three wells drilled to 171, 162 and 99 ft encountered some gas but very little oil.

While these borings were in progress at Jaipur, others were begun at Makum-Namdang in accordance with the recommendations of Medlicott. The first well went down to 195 ft but there was no success: only a few signs of gas. But on 26 March 1867, oil was struck in another well at a depth of 118 ft and it immediately rose 74 ft in the bore. About 300 gallons were drawn after which it was not found to flow continuously. This second well at Makum was the first successful mechanically drilled well in Asia. Between 1866-69, eight wells were sunk by the prospectors, with sporadic success. One well at Makum yielded about 400 gallons a day. Some flowed intermittently and others yielded "pure water which spouted for three or four hours, then almost pure oil for 15 to 30 minutes, after which all action ceased for an hour; and then activity set in again" [Redwood, 1890, Pp. 359-370]. On the whole, Makum - Namdang drilling was distinctly more encouraging than at Jaipur. Notwithstanding the

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generally promising results obtained, the enterprise did not succeed. Because of transport difficulties, freight costs raised the price of oil in Calcutta to a figure at which it could not compete with oil from Burma. Hughes remarks: "the prospect of an abundance of mineral oil in Assam has been proved and if this splendid province should ever be opened up, fortunes will yet be made in this branch of mining" [Hughes, 1874].

For the next 20 years, there was little progress, except for a few shallow wells at Namdang, though considerable geological and mineral exploration work was carried out in the area by the Geological Survey of India. The outstanding names are those of F.R. Mallet, T.H.D. La Touche, R.D. Oldham and H.H. Godwin-Austen. By 1880, the foundations for the understanding of Assam geology had been well and truly laid².

In a pioneering venture S.E. Peal, a tea-planter, sailed up the Dihing river in early 1879 up to the Nongyang Lake on the Burmese frontier. He reported Jaipur as having "coal, and petroleum to be found in large quantities not far off" and mentioned petroleum springs near Margherita. Talking to village elders at Insa (or Bor Bhakial), just upstream from Makum, he found evidence to believe that someone was extracting kerosene from local oil obtained from oil springs.

Further progress in oil-winning was not possible without a railway line running as close as possible to the oil seepages of Borbhil and Makum. Construction of the line was undertaken in January 1882 by the Assam Railways and Trading Company Limited (AR & T) which was registered in London on July 30, 1881. Work began at the Dibrugarh end and the line to Makum junction was opened for passenger traffic on July 16, 1883. Meanwhile, construction had progressed northwards from the Margherita end as well. On Christmas day 1883, the two lines met at Borbhil in the middle of a dense forest. Borbhil was essentially the future Digboi.

In 1882, AR & T acquired concessions covering petroleum rights over 30 square miles at Makum including the area on which Mr. Goodenough had laboured. However, owing to preoccupation with railway construction and collieries and general paucity of funds, it was only in 1887-88 that three wells were drilled on the south bank of the Dihing

river to depths of 110, 216 and 310 ft respectively but no new resources were established. In the meanwhile, the Company had also turned its attention to the north bank of the Dihing river and particularly to the Borbhil area where railway engineers and workmen of a plate-layers camp had noticed oil seeps. In March 1888, the Company applied to the Government for a licence to extract petroleum in the area now known as the Digboi field. At a time when ecology and environment were unknown concept, the Chief Commissioner rejected the application on grounds that "a proposal that involves the destruction of so much timber of a reserve forest area cannot be lightly entertained" [Gawthrop, 1951]. He, however, agreed that if the borings south of the Dihing proved fruitless, the application may be reconsidered incorporating suitable safeguards for preserving the forest. Ignoring this reply, the Company went ahead in 1888-89 with arrangements to drill at Digboi, merely submitting a memorandum to the Viceroy, Lord Lansdowne, asking that "all the terms and conditions of the lease or deed concession to be granted by Government may be forthwith considered and definitely decided upon" [Gawthrop, 1951].

Digboi Well No. 1 (1889-1890)

Decision to drill was taken. Heading the team was W.L. Lake, an employee of the AR & T and, earlier, an engineering apprentice at the Royal Small Arms Ordnance Factory, Enfield. He immediately started collecting drilling equipment, portable boilers, and local labour. Piecing together various bits of information, it would appear that the derrick was about 64 ft high with three main platforms at 10, 36, and 62 ft³. It was built of *Makai* planks with four strong uprights fastened together with braces and resting on two runners of *Nahor* wood which in turn rested on and were keyed to the mud stills. The whole structure was nailed together and Strychrine run in at the joints to prevent the rain getting in and rotting the timber. The sheave block was also made of *Nahor* wood⁴. The engines used were probably 10" by 12" single cylinder engines for a working pressure of 80 psi/sq inch. They were mounted on a wooden foundation. The boilers

were of the semi-portable locomotive type and placed 5 yards away from the well on account of gas. The boilers were fired by coal produced by the Margherita collieries. The labour consisted of local Assamese and Bengalis "who were prone to vanish during the harvesting season with little certainty of return" and of Punjabis recruited directly from the Punjab.

With such material and human resources, Lake started Digboi Well No. 1 in September 1889. A month later, on 19 October, a most encouraging oil presence was established at 178 ft in soft sandstone and "it was anticipated that the well might yield as much as 80 barrels of oil per day. However, the production rapidly diminished and it was evident that it was just a small pocket. Hence, drilling was recommenced and, month after sweltering month, the hole was deepened. Legend has it that Lake used to urge his men "Dig boy, dig" whence the name⁵. In November 1890, the well was completed as a producer at a total depth of 662 ft. The initial production was 200 gallons per day.

The oil industry of India was officially born.

Uphill and Downhill (1890-1920)

In 1893, negotiations with Government were finally concluded with the grant of the Digboi concession to the AR & T. Besides, an adjoining concession to the north was granted to the Assam Oil Syndicate and they drilled several wells from which modest but short-lived production was obtained. Finally, a small refinery was built at Margherita and, for 6 years, Digboi oil was sent there for refining by rail in tank wagons.

The drilling activities of the AR & T progressed satisfactorily with 11 wells yielding oil in 1894. The Directors of the Board of AR & T saw that the oil business was a full time business which could not be mixed up with timber, coal, railways, etc., and that a separate organization was necessary to manage the Digboi and Makum fields. Accordingly, a new Company, the Assam Oil Company (AOC) was promoted in 1899 with a capital of £ 310,000 to take over the petroleum interests of the AR & T including the Digboi and Makum concessions. There was a common

Chairman, Lord Ribblesdale. The General Manager and the Agent were also common, but the Boards were separate.

The new Company inherited 14 producing wells with a total production of 2,000 gallons per day, that is, 50 barrels of oil per day (bopd). A prospectus issued by the AOC in 1899 says: "As evidence of the remarkably prolific character of the Digboi Field it should be mentioned that out of the 15 wells drilled only one has been unproductive, and that one would almost certainly have yielded oil if it had been carried deeper. It will be seen that the Field is a most valuable one".

Almost immediately after coming into being, the AOC expanded the concessional area of the Field by purchasing the rights of the Assam Oil Syndicate. A new refinery was built at Digboi and the transportation of Digboi oil to the Margherita refinery declined and finally ended with the dismantling of the latter in 1902. The first batch of kerosene oil made in the new refinery was symbolically released to the market in December 1901.

The early wells of the Digboi Field were drilled by the percussion system using pole tools. This was subsequently modified by the substitution of wire-line for poles in the lower portion of the deeper wells. Shortly afterwards, poles were entirely discarded and cable drilling adopted as standard. In 1912, the rotary system was introduced. It was an immediate success. Several wells in north-eastern Digboi were commenced by rotary and finished by cable tool. Production increased from 43 bopd in 1901 to 120 bopd in 1902, to 247 bopd in 1911, and to 435 bopd in 1917. However, accompanying this growth, there were certain lapses.

The Company was not entirely devoid of geological knowledge of the Field. There was a belt of good producers that could have been followed up. Instead, an enormous amount was spent in obtaining worthless ground from the Assam Oil Syndicate. Sensing that things could go wrong, the Board called for an increase in crude oil supply keeping the capital expenditure down to a minimum. A letter dated May 6, 1904 from London warned that "until we treble our present supply there must be no rest to your feet nor slumber to your eyelids". Cold-shouldering geology, the

local management opted for a drilling orgy. The circular went forth: "I do not think it matters much to my Board where you drill so long as you drill, but only drill and drill anywhere you like and get us oil". The same letter also insisted upon an adequate labour force, irrespective of cost. This wildcat mania contributed much to the later decline of the Company. On the other hand, proved areas were neglected. The original objective was to drill 6 to 7 wells a year in the proved area but it took 10 years to reach the objective of 6 wells per year. Nevertheless, the Company continued to dish out dividends unmindful of dwindling profits.

The same lack of direction underlined the Company's approach to refining. Potential should first have been established in the Fields before giving up the Margherita Refinery and embarking on a new one at Digboi. Records show that even as early as 1904, almost £ 100,000 had been spent on the Refinery and only a quarter of this sum on the Fields.

Many drilling problems such as fishing and crooked holes arose due to inexperience. Non-observance of elementary safety rules regarding lighting, dumping of waste oil, open fires, and handling of gassy wells led to fires and massive destruction in Wells 5, 20, 21, 25, and 27. There was a near total lack of technical support to a non-technical General Manager in the Fields. He viewed every accident as "a piece of bad luck". Regarding casing troubles in Wells 20 and 22, he wrote "everything that can go wrong has done so ... and I can give no idea as to what has caused this terrible trouble". And again "it is a terrible climax to a horrible season and I am feeling utterly impotent".

By 1920, by which time the Company had completed 80 wells with a total average production of 350 bopd, the impotence had become all pervasive in both technical and financial aspects. From Burma, across the Patkai hills, the Burmah Oil Company (BOC), which had already established a toe-hold in the Surma Valley⁶, thought it the right moment to move in.

Flexing the Muscles (1921-1939)

Even as early as 1906, Burmah's corporate presence was felt in the AOC. In that year, AOC entered into an agreement with the Asiatic Petroleum Company (a marketing agency formed by the Royal Dutch Company, the Shell Transport and Trading Company, and Rothschilds of Paris) for the marketing of surplus kerosene. Earlier on, Burmah also had an agreement with Asiatic. Since the arrangements were interlocking, the two Companies decided to have representatives on each other's boards. H.S. Ashton was the BOC nominee on the AOC Board, while Sir Thomas Bowring was AOC'S nominee on the BOC Board.

However, BOC's physical presence in India in respect of oil exploration began only in 1911 when news trickled in of seepages and structures in the Surma Valley. Though oil and gas shows were known to occur in the Badarpur area, they attracted real attention only in 1901 when W.G. Stoker, Manager of the Budderpore Tea Garden, sank a hand-drilled well to 130 ft near a seepage and obtained a little oil. In 1910, a Syndicate was formed and a well was drilled in 1911-12 to a depth of 730 ft using a tea factory engine, a home-made rig, and the services of an Australian driller, Berry. Good shows were found and this prompted the Syndicate to form the Budderpore Oil Company with a Dr. Bleek as adviser. However, enthusiasm was not matched by expertise. In November 1914, BOC Geologist T. Dewhurst wrote "The DC of Badarpur informed me that the Badarpur well gave some oil some months ago but not in paying quantities. I also hear that Stoker has no money and that both he and Dr. Mchaughan are dissatisfied with the results and would be glad if someone took over the Syndicate. The planters and other people in this District are keenly interested in the oil... Our work in Assam is still of a pioneer nature and it seems to me that the first object should be to safeguard all areas of possible value such as this".

The principal target area for the BOC on arrival in the Surma Valley with their teams of surveyors, geologists and engineers was the structure (arrangement or disposition of rocks which, in oil exploration, could provide a trap for oil) near the

town of Badarpur. The BOC negotiated with the Budderpore Oil Company in 1915 and obtained a testing option over the Badarpur structure. The Field was developed without delay. The first well found an oilsand but had to be abandoned because of water trouble. Well No. 2 drilled nearby failed to produce oil from the sand found but reached a lower productive sand in November 1915. Further drilling gave encouraging results. Well No. 17 with a settled production of 600 bopd was the best producer in the Field. By early 1920, production was of the order of 1,000 bopd.

The boom, however, did not last. By end 1921, production had sharply declined to 300 bopd. Thereafter, a considerable amount of water arrived in the production, with 40 to 50 barrels of water accompanying every barrel of oil produced. Combined with the slowness of drilling and deepening operations, this created an economically impossible situation. After drilling 63 wells and producing a total of 1,864,000 barrels (321,000 tonnes) of oil, the Field was abandoned in March 1933. More wells were drilled and tested within the range of the positive evidence of Badarpur. The wells drilled at Chhatachura, Kanchanpur, Patharia-1 and Masimpur 1 to 4 were around 3,000 feet in depth, quite an achievement in those days, but there was no worthwhile prospect.

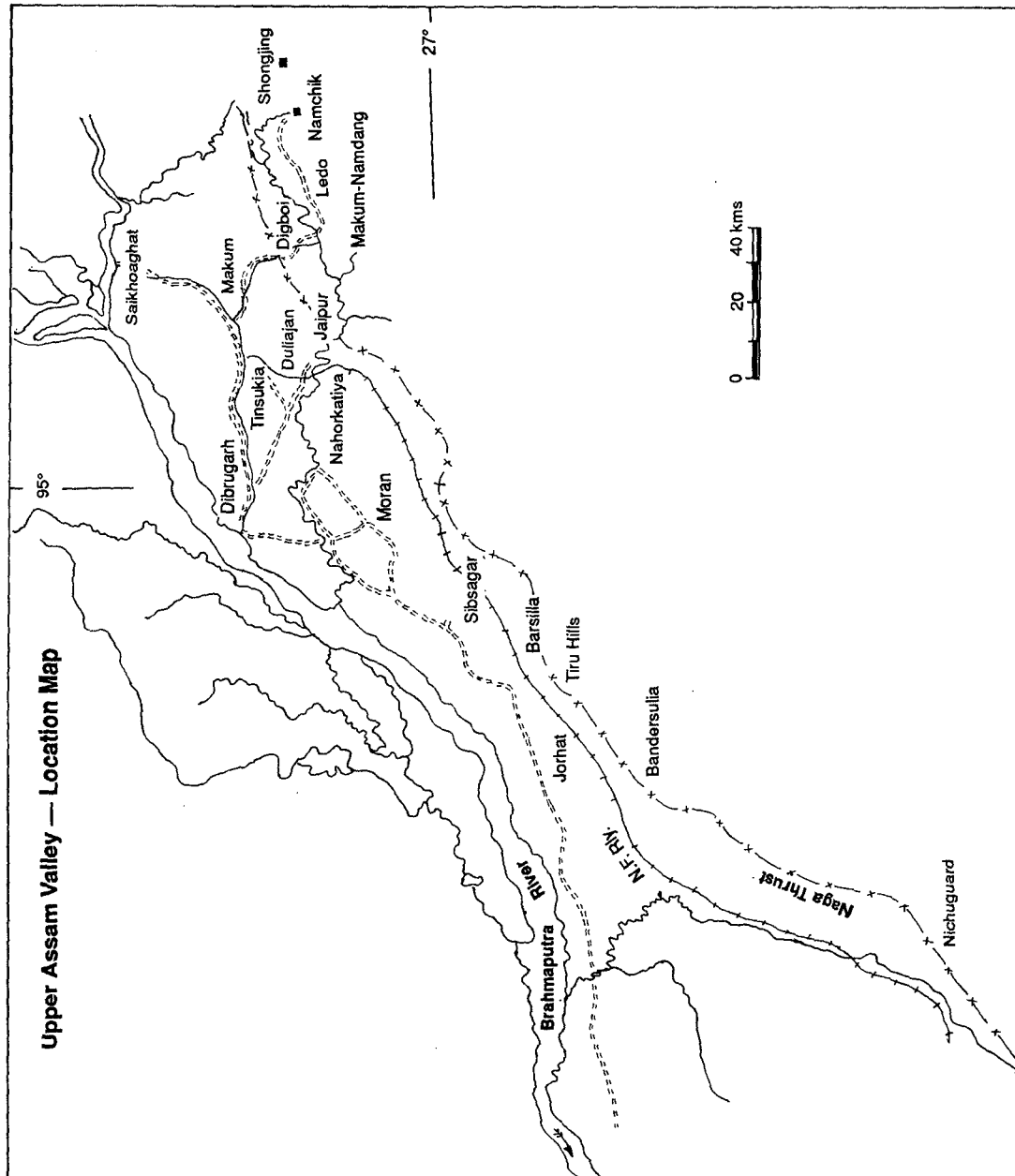
Masimpur Well 1 was started (the technical term is spudded) in 1922 and reached a total depth of 3,244 ft. By 1930, three more wells had been drilled with unpromising results. In August 1931, Masimpur 5 was spudded in and abandoned as dry in 1936 at a total depth of 7,685 ft. Masimpur 6 was then drilled to 476 ft and abandoned. Supplementing these efforts was a total of about 1,000 shallow wells called geological information borings and a variety of geophysical surveys in the 1935-39 period.

The drillers in Masimpur had to combat a combination of drilling difficulties which was possibly unparalleled elsewhere. Every nightmare was present: high and low pressure zones, loss of circulation, heaving shales and the almost inevitable loss of equipment in a bore-hole. The intensive research which had to be carried out in respect of mud and drilling techniques and implemented with the minimum delay put the BOC among the leaders of the world oil industry

in respect of drilling, and far in advance of many others who did not have the incentive of such difficulties.

In spite of signs of failure at Badarpur and Masimpur, the search for oil continued southwards into Tripura and Lushai-Chittagong Hills and westwards towards the Sylhet plains. A well was drilled in a geological feature known as an anticline (a fold in sedimentary rock strata that is convex upward) at Patharia, 28 miles southeast of Sylhet between June 1923 and January 1925. It flowed oil, gas, and water but a second well in 1927-30 was dry. More reconnaissance work had been planned but war and, later, partition foiled these intentions.

The BOC had also its eyes on Digboi. In late 1919, it made the first tentative move to acquire the petroleum interests of the AR & T which were being managed by its associate, the Assam Oil Company. However, before acquiring, the BOC carried out a discreet technical assessment. The report dated October 28, 1920 listed a number of lapses and shortcomings: no reliable geological or topographic map, a lamentable system of keeping well logs, inability to utilize and implement competent geological advice serious shortage of materials and labour, substantial loss of oil between Field and Refinery, etc. On the credit side, the drilling team was excellent. In 1920, the team was headed by E. Lake, an Englishman. Under him, Superintending Drillers Datta, Rajkhowa, and Dhanu Singh displayed an admirable level of competence. Their salaries ranged from Rs 150 to Rs 250 a month. Second grade drillers, of whom only P.N. Hazarika is mentioned, received Rs 40 per month while the third grade driller was on Rs 25 per month. They were better than Canadian or American drillers in tackling the problems of sticky clay, steep inclination of rocks, sand ingress, and frequent collapse of casing. The report concluded that the prospects were good and that, with a methodical, scientific approach, Digboi could become a viable proposition with a guaranteed minimum production of 1.75 million barrels and a probable production considerably exceeding this, particularly when the deeper sands were opened up. The report was accepted and the oil interests were acquired in January 1921.



Immediately, the BOC began systematic mapping of the Digboi Field. Topographic and geological maps were prepared on 16" scale. New drilling and production machinery was brought in; many of them are still functioning with brightly polished plates proclaiming Glasgow: 1915, or Manchester: 1918. The geology was reviewed in detail and a cautious programme of drilling was adopted to extend the productive limits of the Field, both laterally and vertically. The review was remarkable not merely for its wealth of information and penetrating analysis but also because it propounded many concepts bordering on a field of knowledge which, three decades later, came to be known as reservoir engineering. The following figures pay eloquent tribute to all this effort (Table 1)

TABLE 1. AVERAGE DAILY PRODUCTION OF DIGBOI FIELD

Year	Average Daily Production (barrels of 40 gallons)
1921	350
1925	990
1929	2,150
1933	3,600
1937	4,500

Perhaps the most significant technical development was the introduction of electrical well-logging in 1933, a mere 5 years after the Schlumberger brothers had established this indispensable oilfield technique in distant Alsace. On October 21, 1933, a simple resistivity tool was lowered into Digboi Well 269 by Raymond Sauvage, the Schlumberger engineer assigned to Digboi. The event helped to reduce the hunch factor in Digboi development and moved it decisively into scientific realms. The surveys provided the evidence to put correlation on a firm footing and enabled the details of underground structure to be traced accurately; as a corollary, oil and gas distribution fell into recognizable patterns. Over a thousand wells have been drilled in the Field and many firsts accomplished in its development.

Exploration

Even as Digboi was being developed, geological exploration was being carried out in the foothill areas to the south of Assam valley, where rocks and seepages were visible and test wells

were drilled on a number of geologically interesting features. Between 1922 and 1932 exploratory wells were drilled on 10 structures without success, so that by the early thirties the prospects of finding a new oilfield in Assam seemed poor. One well in the Makum-Namdang area had an encouraging show of oil which led to the hope that a field would be developed there, but further drilling was disappointing. Altogether, over 40 test wells were drilled in Upper Assam besides nearly a hundred borings for geological information, and these provided a thorough test of the more accessible areas.

In the search for oil in the foothills, the BOC faced the active competition of the Whitehall Petroleum Corporation (WPC). Registered in London on June 28, 1919 with a capital of £100,000, the WPC carried out substantial geological work in southwest Naga Hills, North Cachar Hills, and Southeast Mikir Hills and drilled 3 wells. Eminent geologists like L. G. Weeks and Dale Condit were associated with the work. About 14 reports were published on the geology of the areas surveyed, but a veil of secrecy was drawn over the well-data. The Corporation ceased its operations in India in 1927 without discovering any oil and was finally dissolved on December 15, 1941.

The evidence of oil in the foothill areas naturally led to speculation that oil could also be entrapped in rocks now buried by several thousand feet of alluvium i.e. earth, sand, clay, etc., left by floods, in the main Assam plains or valley to the north. To study these concealed rocks, some new technique was required. Fortunately, such a technique was available. Towards the end of the last century, Baron Roland Van Eotvos of Hungary (1848-1919) developed a torsion balance (an instrument that, in gravity surveys, measures the distortion or warping of the gravitational field rather than the intensity of the field; now outdated) that bears his name. Originally designed for studies in geodesy (branch of mathematics dealing with the figure and area of the earth), it was successfully adapted for geophysical surveys for oil in the Gulf Coast of the USA in 1922. Barely three years later, the torsion balance was used at Bordubi, on the plains west of Digboi by a two-man geophysical team from the Eotvos

Geophysical Institute, Budapest. Assisting the team leader, Dr. Pekar, were three Indian assistants. The picture of the subsurface which emerged from Dr. Pekar's survey led to some interpretation problems and so the idea of drilling in the area was shelved.

During the thirties, much progress was made in the development of geophysical methods of exploration, particularly seismic. In 1937, an important forward step was taken. The BOC jointly with British Petroleum (then Anglo Iranian Oil) and Shell proposed to the Government of India (GOI) that the three companies should carry out a geophysical survey of all the more important plains areas in India. The proposal was accepted. The rules governing the search for oil were framed for geological survey and were not suitable for exploration by geophysical methods, where the survey had to cover thousands of square miles without any prior indication of where, if at all, there might be territory for further investigation. Therefore, a new form of grant known as a geophysical licence was issued by the Assam Government, giving for a period of five years the exclusive right to carry out geophysical surveys and to receive prospecting licences within an area of 5,320 sq miles, subsequently increased to 6,290 sq miles.

In accordance with the terms of the geophysical licence, the Assam Oil Company began a gravity and seismic survey of the alluvial area of Upper Assam. The general plan of campaign was to cover the alluvial areas with an open network of gravity surveys and add details by other instruments. Although the gravity readings would not be likely by themselves to give sufficiently precise evidence to enable a definite structural interpretation to be made, they would define the more promising areas in which seismic surveys could be taken up. Such a definition having been made, seismic reflection survey was begun in October 1938 by the Petty Geophysical Engineering Company of the USA. The survey strongly suggested the presence of an anticlinal feature near Nahorkatiya, not far from (but not coincident with) the gravity maximum discovered in 1925-26. Here, at last, was a sub-alluvial

structure worth testing. At this exciting stage, all prospecting work had to be suspended because of the outbreak of World War II.

It should be mentioned that, for its own reasons, the BOC had favoured Indianization of its technical staff even in the heyday of the Empire. In 1921-28, few Indians had reached fairly senior positions. When the first two batches of students came out from the Indian School of Mines in Dhanbad in 1928-30, many of them- Metre, Mahant, Mathur, Kale to name a few- were readily absorbed, trained, and given positions and assignments of responsibility. It was an expression both of Indian competence and of BOC's recognition of that competence. Such recognition extended to the world of Indian science also. There was a collaborative arrangement with Calcutta University in 1936-37 for studies in drilling mud. Some palaeontological investigations were also initiated. Participation in the Indian Science Congress (ISC) was mandatory; in fact, Percy Evans who headed the Geology Department at Digboi was the President of the Geology Section of the ISC in 1937, and before he left India the following year, he had been given the country's highest scientific award: Fellowship of the National Academy of Sciences. In January 1942, when the Japanese Army was within 75 miles of Digboi, an AOC team left to participate in the ISC at Lucknow and another for lectures at Calcutta University.

Despite its remoteness, Digboi could not be kept insulated from the freedom wave of the thirties. Therefore, a politically-aware trade union movement, which was registered in August 1938 as the Assam Oil Company Labour Union with a membership of 582, presented a charter of 21 demands to the Company. These included dearth allowance, wage, leave, and working hours. At the request of the Company, a Court of Enquiry was appointed by the Government of Assam to look into the matter. The Court's recommendations, submitted in January 1939, helped maintain an uneasy truce between the Company and the Union. The flash point was reached on April 3, 1939 when a general strike was declared with complete stoppage of work. Tensions climaxed with a police firing on 18 April which took three lives. Yet another Committee was appointed to

bring about reconciliation and it submitted a report on December 3, 1939. However, the strike had collapsed on September 3, 1939 when, following declaration of war, the Digboi-Tinsukia area was declared protected under the Defence of India Ordinance and nine strike leaders removed from the neighbourhood. The 5-month strike was the longest ever in north-eastern India and it marked a new milestone in the labour movement in this part of the country.

The War Years (1939-1945)

The Second World War erupted at a time when AOC had yet to recover from the 5-month strike at Digboi.⁷ Production from the Field had fallen, albeit temporarily. Test drilling was in hand at Namchik and Namphuk and core-drilling in the Tiru Hills. An extensive geophysical survey had just been completed in the Upper Assam alluvial area and an interesting structure, worthy of testing, had been located in Nahorkatiya. In the Surma Valley, the BOC was still carrying on geological and geophysical surveys despite the discouraging evidence of 5 test wells and about a hundred structure-holes, some of them over 3,000 feet deep.

The outbreak of the war led to a suspension of these activities as a result of a Government of India ruling that no prospecting should be carried on unless there was a good chance of oil being proved and refined products made available within three years. The imposition of the moratorium was disappointing but understandable. The prospecting work was still in its early stages and the drilling which would follow might be expected to take several years with no certainty of success at the end of it. This prospecting work and all related drilling had, therefore, to give way to the surer prospects of production, which meant concentrating on the development and extension of known fields and of drilling in the most promising areas in the immediate neighbourhood of available refining facilities. In effect this meant that the only permitted activity was development/production of the Digboi Field and some exploratory drilling to prove its eastern extension.

For Digboi and for Assam, the war really began in 1941-42 when Japan, after capturing Rangoon

on March 9, 1942, was at the gates of India in May 1942. In order to prevent the strategically important supplies of oil from falling into enemy hands, BOC's oilfields and refineries in Burma were systematically destroyed. The toll was dreadful: 3,500 derricks, 700,000 barrels of crude oil, several hundred miles of oil and gas lines and above all the Syriam Refinery whose destruction resulted in the world's most dramatic man-made fire⁸.

Through such circumstances, Digboi became the easternmost allied oilfield in operation during the entire Japanese campaign. Located in the forward area from 1942 to 1945, it was for some time only 75 miles from the Japanese headquarters at Shingbuiyang. In the Fields, 3-shift drilling was maintained under tarpaulin cover which hid the lights but posed other problems. Production was at 5,500 bopd, much above the peace-time level. Admittedly, this was pitiful by world standards but in the early part of the war it was on this production that the army and air force relied heavily for their gasoline⁹.

Transition (1945 - 1953)

Digboi's resources were badly depleted by over-production during the war years, attaining over 5,500 bopd for fairly long periods and a peak of 7,000 bopd. After the end of the war, there was a drastic cut back in production to salvage the situation, with the result that in 1946 Digboi could meet only 9 per cent of the national requirement of kerosene, 11 per cent of petrol and 5 per cent of fuel oil. On the bright side, exploration of the Digboi structure revealed an important eastward extension of the productive area. But, the partition of India in 1947, on the eastern side, ran through the Patharia Anticline, 28 miles southeast of Sylhet, and the Rokhia Anticline in Tripura, throwing into disarray the plans for an integrated exploration and development of these structures. The governments of both India and Pakistan were understandably wary as to what a foreign oil company was planning. The 1948 Annual Geological Conference of the BOC noted with regret that East Pakistan authorities "refused to allow the passage of oilfield equipment and stores from the railhead at Saldanadi into Tripura State, a

distance of about 50 yards".

Pre-war results from a continuous sequence of test wells and core-drilling in Masimpur area had been discouraging. Prospecting work and some more core-drilling was undertaken towards the end of the forties, but these efforts did not radically change the situation. After spending well over Rs 2 crore on the Masimpur project, it was finally abandoned.

However, two events of 1949 had a salutary though indirect impact on the operations of the BOC in Assam. The first was the revision of the Petroleum Concession Rules which systematically codified the procedures in the spirit of the post-1947 economic policy. The second was the completion of the Assam Rail link bypassing East Pakistan and linking up directly with Siliguri in North Bengal. Built at a cost of Rs 9 crore in the incredibly short period of 22 months, the railroad traversed a very difficult terrain of rivers, streams and forests. It was a triumph of engineering over geography.

On 15 August 1950, Assam was shaken by an earthquake of magnitude 8.6 on the Richter scale. Digboi was also affected. However, no changes of a geological nature were observed except that, on the alluvial area at the eastern end of the Field, a number of fissures were opened from some of which sand and water were ejected. Five wells were being drilled at the time of the earthquake but no operation was in progress, it being Independence Day. Earth movements did not affect these uncased wells. A number of pumping wells located on alluvium were put out of action by the bending of sucker rods at the surface. No change in the production of fluids from any part of the Field was observed. In the Refineries and Tinsukia installations, the principal damage was caused to the tank farms. The railway line and road between Dibrugarh and Margherita were not at all affected.

At Barsilla, in the foothills area where test-well drilling was in progress, the derrick and pipes swayed and rattled wildly with the threat of an imminent collapse. Fortunately, this did not happen; man was given the privilege to finally abandon the well as dry at a total depth of 7,200 ft.

Meanwhile, BOC debated deep drilling at the famous seismic high at Nahorkatiya. The expertise and technology were now available to drill down to 10,000 ft which was the anticipated depth of the oil-bearing rocks. Finally, on November 1, 1951, the decision was taken by BOC to go ahead and drill "to investigate the stratigraphy, structure and fluid content of the beds which give rise to the seismic high at Nahorkatiya". It was undoubtedly one of the most momentous decisions in the history of the BOC and, as subsequent events proved, in the history of oil in India.

Even before the well-policy document was formally issued, the time-honoured and time-tested machinery had swung into action. The small patch of land on the south bank of the Burhi Dihing river over which the AOC held a prospecting licence was swiftly cleared of elephant grass and weeds under the sullen eyes of the tribals, locally called Lamas, from whom the land had been acquired. An existing approach road up to Nahorkatiya ghat on the south bank was strengthened. The road from the operational headquarters at Digboi followed a circuitous route via Tinsukia and Tingrai before making a U-turn to reach Tipling Ghat on the north bank of the Dihing river. In view of the weak condition of the roads and bridges, only light vehicular traffic made the journey; the heavier items went by train from Digboi to Nahorkatiya. The passage between the two Ghats on the north and south banks of the Dihing river was by a ferry. In winter months, a sturdy bamboo bridge upstream of the existing railway bridge used to link Nahorkatiya to the north bank till such time as temporary accommodation on the north bank became fully functional (1954-55).

Slowly, the derrick rose skywards at the site of Nahorkatiya Well No. 1. At more earthy levels, the mud tanks, pumps, engines, generator sets, etc., covered the plinth while tubulars started arriving to occupy the casing racks. On April 30, 1952, Thomas Arthur, the Driller in Charge (DIC) left Digboi on transfer to Nahorkatiya. Other drilling engineers - Charlie Reilly, Fred Nilsson, Laurie Noronha, V. K. Menon, and S. K. Dhar - moved in two weeks later while the next wave brought in Johnson and Clark. The mud chemist

was N.N. Gogoi and the well-site geologist was C. R. Jagannathan who was to become the Chairman and Managing Director of Oil India a quarter of a century later.

On 26 May 1952, Nahorkatiya Well No. 1 was formally spudded in with mud of 80 lbs/cft. The 24" casing was set at 84 feet and the journey to objective depth continued with appropriate casings at appropriate depths. It was a slow and cautious journey. First traces of oil were found in mudstone and shale at around 9,425 ft. On further drilling, sand bodies appeared. Drilling alternated with coring and occasional drill-stem testing. The moment of greatest excitement was when a 9 ft core between 9,722 ft and 9,731 ft came to the surface with unmistakable evidence of oil. The evidence was further strengthened by the results of a drill-stem test of approximately the same range.

Cores from a lower sand between 9,847 and 9,866 ft smelt nice, but oil staining was feeble. However, a drill-stem test of the range 9,852 ft to 9,879 ft was conclusive; a violent ejection of water hit the bottom of the 8 ft x 6 ft tank in which it was to be collected and then shot up 60 ft to 80 ft into the air. Gas then blew out with such violence that the test had to be terminated immediately. With such visible manifestations of hydrocarbon, there was an understandable desire to carry out detailed production tests at this stage (February 1953, depth 9,879 ft), particularly since a controversy was also developing on casing-setting depths. However, it could not be done because of lack of high pressure testing equipment. And so the well drilled ahead to its total depth of 11,715 ft on May 18, 1953. Five sand bodies had been encountered, all of them with evidence of hydrocarbon; such evidence, however, ceased decisively below 10,210 ft and so the well was plugged back to 10,220 ft preparatory to testing. On June 16, 1953, the lowest sand body was tested in the range 10,150-10,160 ft in a full column of mud. The mud was displaced with water and as no pressure was noted at the surface, swabbing was started on June 18. Officers and men gazed fixedly at the discharge pipe with quickening pulses as the brownish water started spluttering. And then with a hiss and a

roar the oil came in. The failures at Barsilla, Bandersulia, Tiru Hills, Nichuguard were erased from the memory¹⁰.

Aftermath of Success (1953-1959)

Perhaps the most salutary fall-out of the Nahorkatiya discovery was the hastening of the decision to create what was ultimately to become the Oil and Natural Gas Commission (ONGC). As early as 1948, an Industrial Policy Statement had clearly indicated increasing State participation in the commanding heights of economy. The Industrial Policy Statement of 1956 endorsed and strengthened the 1948 Resolution and placed oil as a priority Schedule 'A' Commodity. In order to carry out this directive, the Oil and Natural Gas Division of the Ministry of Natural Resources was established in 1955, incorporating a petroleum exploration group which for some time had been working in the Geological Survey. The Division became a Directorate and, in May 1956, a Commission working as a department of Government. In 1959, the Commission was accorded the status of an autonomous statutory body. Between 1956 and 1959, the ONGC had completed a well at Jwalamukhi in the Punjab foothills, established the Cambay and Anklesvar fields (the Anklesvar completion was actually in 1960) and was poised for exploration in other parts of the country.

In West Bengal¹¹, another development was taking place. In 1949, the Standard Vacuum Oil Company, a joint venture of Secony Vacuum Oil Company of New York and the Standard Oil Company of New Jersey, was formed for oil exploration in West Bengal. Between October 1951 and March 1952, the Company carried out an aeromagnetic survey of approximately 15,000 line miles at a cost of Rs 64 crore. This was the first survey of its kind in Asia. In December 1953, an agreement was signed between the Government of India and Standard Vacuum Oil Company for a joint exploration programme over 10,000 sq miles in West Bengal with Government participation of 25 per cent with a ceiling of Rs 2.5 crore. This was the Indo-Stanvac Project under which extensive geophysical surveys, seismic and gravity, were carried out in 1954-1956 followed

by the drilling of 10 wells in 1957-60. All the wells proved to be dry and the Project was terminated in 1960.

Reverting back to Nahorkatiya and Upper Assam, arrangements were made for a detailed gravity survey of the whole alluvial area, using the improved methods that had then become available, and for an aeromagnetic survey and for seismic work in selected areas. The magnetic survey provided a general picture of the distribution of sediments throughout the whole of the Assam Valley. The gravity survey proved to be disappointing and failed to produce a satisfactory guide to the areas which were worthy of serious investigation by seismic survey. In consequence, the seismic survey had to be far more extensive than expected; but the reconnaissance survey and much detailed work had been completed by 1954 when the geophysical licence expired. In accordance with the terms of the guarantee given by the Assam Government in 1937, the Assam Oil Company, before the expiry date, applied for prospecting licences over 2,516 sq miles within the alluvial area. Meantime, drilling continued at Nahorkatiya and several producers were satisfactorily completed. A prospecting licence had already been issued for the Nahorkatiya Extension Area in 1953. In 1955, licences were issued for the Hugrija area and for Moran, about 30 miles southwest of Nahorkatiya. A well was drilled at Moran and completed as a producer in October 1956. By 1957, the seismic survey of the areas for which prospecting licences had been granted was complete.

In the meanwhile, much technical progress had been achieved in several spheres of the oil exploration industry in Assam. Some of the techniques such as heavy mineral correlation were of truly pioneering nature and set world standards of excellence. Similarly, giant steps were taken in mud engineering, drilling fluids, pipelining, interpretation of electric logs, reservoir engineering, etc. Many Indians were associated with and actually master-minded these developments: W.B. Metre, A.B. Das Gupta, N.C. Sen Gupta, Y. Nagappa, C.R. Jagannathan, N.D. Mahant. Excellent service support was provided throughout these difficult decades by K.C. Das and K.C. Roy. All of this reservoir of talent,

nurtured under the benevolent management of the BOC, moved over to Oil India Private Ltd. (OIL) on the formation of the Company, save for Y. Nagappa who was forced into premature retirement by ill-health and an early death in 1960. The biographical sketches of these stalwarts are given in Appendix III. Several qualified young men from foreign and Indian Universities were recruited in the 1953-59 period. Amongst others, these included R. Mitra, K.P. Gupta, S. Chaliha, C. Ratnam, B.D. Datta in the geosciences; B.K. Bhattacharyya and C.G. Banerjee in Chemical; H.L. Khushalani, A. Chandwani, D.K. Chanda in drilling; and, A.K. Sarma, R.K. Barooh, S. Palit, K.N. Ramchandani, P.D. Kataria in engineering departments. In a marked departure from the managerial practice of that era, these young men were given responsible assignments from the start of their career and they invariably proved worthy of the confidence thus reposed in them.

All of the heavy work load of exploration and drilling following the Nahorkatiya discovery obviously meant the building and/or upgrading of roads, bridges, culverts, embankments, etc., for the safe movement of heavy oilfield traffic. However, it was still too early to think of building a township and Digboi continued to be the main base. A South Bank camp near Nahorkatiya town housed the personnel immediately concerned with drilling of the first few wells. In 1954, Barua Camp was built at the Field on the north bank of the Burhi Dihing river as a temporary local headquarters to cut down on commuting from Digboi. The camp consisted of a few houses and two-roomed residential bungalows built in the Assam-style with rush walls and grass thatch. Despite their flimsy appearance, these buildings have withstood over 30 years of beating by heavy monsoons. Some of them were destroyed to make way for a new oil-collecting station but many are still inhabited after minor repairs.

Around this time, it was also decided to construct a 24-mile long road through the thick Dihing Reserve Forest to link Digboi with the Nahorkatiya Field. The new road would replace the twice-as-long road of poor quality via Tinsukia. Work began in August 1953. At the Digboi end, there was a 7.5 mile jungle track which originally accommodated a light railway serving

the oil-drilling operations many years earlier. Following this, was 3.5 miles of an ancient 'ali' (highway of the Ahom Kings). These 10 miles were cleared, widened to 16 ft and strengthened. Much of the remaining 14 miles lay in thick uncharted jungle and assorted bush country. With a massive effort from the Digboi and Nahorkatiya ends as also from the centre of the spread, the road was carved out in 8 months time. On June 16, 1954, Peter Williams an assistant engineer of the AOC had the distinction of being the first person to drive down the entire length of the road. A vital link had been established in the industrial life of Upper Assam. This was fortified by the opening of the telephone link on July 1, 1954.

The success of Nahorkatiya Well No. 1 set in motion a series of field activities, one of the most important of which was the release of new locations for follow-up drilling. The geologist and civil engineer of 1989 would be surprised to learn that, within a year of the Nahorkatiya discovery, locations had already started posing problems. A technical writing of April 1954 laments: "Up to the present we have had scope to move locations to get on to good ground; shortly, this will have to stop and the number of unavoidable bad locations will increase". The acquisition of land was in most instances a sensitive and emotionally wrenching experience. In overcoming the difficulty, patient negotiations with landowners, village elders, and the local civil officials conducted well in advance, paid off making it unnecessary in most cases to resort to the lengthy and unpopular process of compulsory acquisition. This was an important aspect of the early development programme, for the goodwill of a population drawing its livelihood from the land was an essential pre-requisite to the launching of the large-scale works that were to follow. The same tact and tolerance paid rich dividends in the Moran Field where, as mentioned earlier, oil was struck in 1956.

While these oilfield activities continued in the heat and dust and swamps of the Valley, the winds of change were blowing at the higher echelons¹². Bowing to these winds, the BOC signed a Promotion Agreement with the GOI in January 1958 to form a Rupee Company to take over the management of the AOC-discovered fields of

Nahorkatiya and Moran. The new company, known as Oil India Private Limited (OIL), was incorporated on February 18, 1959 with the BOC holding two-thirds of the shares and GOI one-third. The agreement contained the assurance that BOC would get a guaranteed dividend of 10 per cent and OIL would supply 1.3 million barrels of oil per year to Digboi Refinery. Mr. W.P.G. Maclachlan, who played a decisive role in the negotiations, became the first Chairman of OIL.

On the day of its incorporation, the underground assets of the Company consisted approximately of 260 million barrels (40 million tonnes) of gross ultimate recovery of which about 193 million barrels (30 million tonnes) were under the category of proved oil reserves.

On July 27, 1961, the GOI share holding in the Company was increased from one-third to one-half and a 50:50 partnership, destined to endure for 20 years and to become an example and an inspiration to the joint sector concept, came into being. At the beginning of 1962, J.C. Finlay, became the Chief Representative of the Burmah Group in India as also the Managing Director of OIL. As deputies, he had men of exceptional calibre, G.N.S. Robertson and V.W. Good, who helped him keep the BOC culture alive and well in Delhi. Under the Finlay regime, the process of Indianization was accelerated; it climaxed with the appointment of A.B. Das Gupta, a renowned geologist and administrator with 28 years of service in BOC/AOC/OIL, as Managing Director on November 5, 1969.

It was also fortunate that in the formative years, the Chairmanship of OIL was held by distinguished personalities drawn from the political and social life of the country.. These included Sarvashree Khandubhai K. Desai (1961-68), Sriman Prafulla Goswami (1972-74) and Raja Ajit Narayan Deb (1974-76). Their presence at the helm provided the stability and that atmosphere of tolerance and adjustment between the two partners that led Mrs. Indira Gandhi to remark that "OIL is a fine example of the cooperation between the public and private sectors".

The new Company quite understandably sought to establish its own identity away and apart from Digboi. The search was started for an area near to or in the heart of oilfield activity where a

township and industrial complex could be set up. The search proved to be unexpectedly easy. A large tract of land, with satisfactory natural features and close to the railway station of Duliajan, was available. The land belonged almost entirely to the Zaloni Tea Estate and its acquisition was effortless since only one owner was involved. Provision had to be made for schools, hospital, recreation and all the other needs of community life. There was more than ample space; what was required was that special blend of aesthetics and engineering.

Abandoning architectural sophistication, the planners settled for 5 basic types of bungalow design. They then set out to make wide roads, parks, flowering trees in the 590 acres set aside for housing (this figure presently stands at 743 acres). Building material was obtained by the railway which was running through Duliajan since 1905 although the actual siding was built only in 1912. The Company encouraged private businessmen to manufacture bricks from local clay by making natural gas available to the kilns. Brickworks were thus established and as work for the new township tailed off, other markets were found.

The first priority in the building programme was, of course, on the operational and administrative side. This included, besides the office buildings, an industrial complex spread over 131 acres (exclusive of the 35 acres since occupied by the LPG plant) and a water-treatment plant for both industrial and domestic purposes. At the same time, streets and sites were prepared in the "Settlement Area" where employees could build their houses to a standard design with liberal assistance in cash and kind from the Company. At present there are about 600 settlement area houses and 2,100 Company houses. The OIL market came up in 1961, the Duliajan Club in 1962, the Zaloni Club in 1968, and the general office in 1968-69. Today, the new Duliajan has a population of about 60,000 from all over India. There are adequate educational, medical, and recreational facilities and a fine scope for social and cultural expression.

Other Places, Other Times, Pre-1959

We have hitherto dealt with pre-1959 oil exploration activities in northeastern India. In the following, we shall briefly describe the activity, during the same period, in other areas of the country.

Gujarat: Interest in the petroleum prospects of the large alluvium-covered area of Gujarat started after receipt of reports, in 1921, of natural inflammable gas issuing sporadically from the ground at Jagatia, a small village near the southern shores of Saurashtra. In September of the same year, a shallow well dug for water in the Dewan Sahib's compound yielded gas at 100,000 cft a day, declining to 50,000 cft after a couple of months.

Seven shallow wells were drilled in the Jagatia area, by the Tata Engineering Company on behalf of Baroda State, ranging in depth from 75 ft. to 120 ft. They had a brief history of small gas production; on the recommendations of Capt. R. W. Palmer of the Geological Survey of India, a test-well was drilled in Baroda to a depth of about 570 ft. This well, known as the Bhimnath well, was completed by the rotary method of drilling and gave some indications of oil and gas.

In 1928, the BOC decided to investigate the gulf of Cambay but unfortunately the Baroda State authorities initially refused permission for work to be carried out on their territory and later granted it on the distinct understanding "that His Highness's Government is under no obligation to give the Company a prospecting or other licence". Even a Certificate of Approval was refused. In 1933-34, a Cambay merchant, Sultan Chinoy, financed an exploratory programme in the Cambay region. An Ahmedabad firm of contractors, working under the supervision of a Canadian driller, drilled wells at Gogha, 50 miles due west of Broach, and at several other sites. However, these endeavours did not bear any fruit. Chinoy also drilled two shallow wells at Hazat¹³ near Anklesvar under a two-year prospecting licence beginning from March 1934.

After a lapse of 14 years, interest in the Gujarat area was revived by the extensive geophysical surveys carried out by the Geological Survey of India. This formed the basis for the successful oil exploration programme of the Oil and Natural Gas Commission (ONGC) in the Cambay and

Anklesvar areas towards the end of the 1950's.

Jwalamukhi: The gas seepages at Jwalamukhi (then in Punjab, now in Himachal Pradesh) have been known for centuries. In 1916, H.M. Sale of the BOC carried out an investigation of the area and reported that though gas was manifest there were no indications of oil in the immediate vicinity. Sale also reported natural gas at Lunsoo village, 45 miles northwest of Jwalamukhi. The Geological Survey of India carried out systematic mapping in the area between 1948 and 1951 and in 1957-58 the ONGC drilled their first well which confirmed the presence of gas at depths of between 2,900 and 3,100 ft.

Ganga Valley: There is no record of any oil exploration in the Ganga Valley prior to 1937. In September 1937, an application was made by the BOC for licence over 57,300 sq. miles in the Ganga Delta including the West Bengal Basin. Some geological and geophysical work was done with inconclusive, generally discouraging, results. More serious investigations were cancelled following the unwillingness of Government to grant any concession rights, particularly where permanent settlement lands were involved.

Malabar Coast: The prospects of the Cochin area on the Malabar Coast of southwestern India, where lagoonal conditions in the geological past and the nature and organic constituents of the mud bank appear to exemplify the primary conditions favourable for the formation of petroleum, have long appeared attractive. The earliest wells drilled at Alleppey (1915) and Narrakal (1918) were unsuccessful.

Breaking of a New Dawn (1959-1989)

The year 1959 is in many ways a significant landmark in the history of the oil industry in India. It was the year when the scattered energies of the oil hunt were formally brought into the national mainstream with the incorporation of Oil India Limited on February 18, 1959¹⁴ and the transformation of the Oil and Natural Gas Commission into a statutory body on October 15, 1959. It was also the year when Indian Oil Company Limited was formally registered (June 30, 1959) thus marking the first cautious step towards eventual take-over of the marketing activities of

Burmah-Shell, Stanvac, Caltex, and Indo-Burmah Petroleum¹⁵. Growth, dynamism, adaptability and technological awareness have marked the activities of OIL and ONGC in the three decades since then. The story has been told and re-told in several places and forms. All that is attempted here is an outline and an overview.

The first decade (1959-1969)

The early years of the decade were marked by partition of the staff between OIL and AOC. Some moved to OIL at Duliajan and Moran; others stayed back with the AOC at Digboi. On January 1, 1962, OIL formally came into being at its new headquarters at Duliajan with an already trained and experienced work force of 2,174 men. Some technical and administrative links, however, persisted for quite a few years. The most important dependence was on the excellent medical facilities at Digboi for all urgent maternity and other serious cases. Earlier, in 1960-61, Digboi was witness to yet another transfer operation. With a view to promoting its friendly ties with Government, the BOC shifted its headquarters from Digboi to Delhi¹⁷. The border war with China erupted on October 20, 1962. For the second time in 20 years, Digboi became the target and possible victim of the invader. 'Operation Denial' was readied in three phases: training, preparation, demolition. It was an atmosphere of much strain and tension, with families evacuated and the men digging in for a fight or planning to escape via the Pangsau Pass. Fortunately, only the first two phases of Operation Denial were completed, and Digboi was saved from self-immolation.

During this first decade, OIL actively developed the Nahorkatiya and Moran Fields; commissioned the world's first crude oil conditioning plant (1963); pioneered the application of deviated drilling, dual completion and pressure maintenance techniques in the country (1962-65); commissioned the 1,157 km oil pipeline to Guwahati (1962) and Barauni refineries (1964); climaxed an arduous exploration programme in Arunachal Pradesh by drilling the first well in Kharsang (1968) and discovered the Kusijan hydrocarbon-bearing structure (1969). ONGC

discovered the Cambay and Anklesvar fields in Gujarat and the Rudrasagar field in Upper Assam (1959-60); started offshore seismic surveys in the Gulf of Cambay (1963) in a contractual arrangement with the USSR; and, discovered oil in Lakwa (1964) and Geleki (1968). All this was in addition to a widespread exploration programme in Jammu and Kashmir, Punjab, Himachal Pradesh, Rajasthan (with participation of the Institut Francais du Petrole) and Kutch.

The second decade (1969-1979)

The global oil crisis created by the Arab-Israeli War of 1973 only served to harden the national determination to find more oil and find it more quickly. For OIL it was a period of extensive geophysical surveys in Assam and Arunachal Pradesh, and consolidation/acceleration of developmental effort. The results were manifest in the discovery of the Jorajan Field (1972); establishment of gas resources in the Eocene (1973); initiation of India's first polymer flood project into a subsurface reservoir (1975); and establishment of oil resources in the Kharsang Field of Arunachal Pradesh (1976). It was also the period when OIL stepped out of Assam and acquired concessional areas in Orissa onshore and offshore (1976-78).

By 1969, ONGC had completed the drilling of 700 onshore wells; on 14 March 1970, ONGC spudded the first offshore well at Aliabet near the mouth of the Narmada. Exploration in the various basins of India, particularly Gujarat and Assam, was vigorously pursued. On February 19, 1974, the first well drilled in the Bombay High Offshore structure with the jack-up rig Sagar Samrat acquired from Japan, struck oil. Through a well-designed development programme, production attained 40,000 bopd initially through 2 production platforms; with the addition of more platforms, production rose to 80,000 bopd by January 1978. The Bombay High discovery was a major factor in the increase of the national oil production from about 6.8 million tonnes in 1970-71 to over 11.6 million tonnes in 1978-79.

Three other offshore production-sharing contracts were, however, not so lucky.¹⁶ These contracts were with Reading and Bates (Kutch),

Natomas- Carlsberg (West Bengal) and Asmara Group (Palk Bay and Gulf of Mannar). These areas are by no means write-offs; they are best considered as first-round disappointments so characteristic of the industry.

During this period, all the refining and marketing activities of foreign oil companies operating in India were fully taken under the public sector umbrella.

The third decade (1979-1989)

The early eighties were a period of deep national concern. Imported crude oil price shot up from \$13-15/bl in 1979 to \$35-36/bl in early 1981. Domestic economy was thus subjected to enormous pressure and the country was faced with a staggering import bill. Augmentation of indigenous resources of hydrocarbons and their accelerated exploitation thus acquired critical importance in the national petroleum strategy. For OIL, whose only resources lay in Upper Assam, implementation of this strategy was thwarted from the very beginning of the decade by the political agitation in Assam. The situation was particularly bad not merely in terms of operational paralysis but also in terms of social tensions. A thick fog of doubt and despair lay over Duliajan; the work culture, assiduously cultivated through generations of creative toil, was gravely wounded. Total crude oil sales in 1980 was a dismal 791,000 tonnes earning only Rs 24.01 crore for the Company as against Rs 84.87 crore in the previous year. Towards the end of 1980, the oil blockade was lifted and OIL slowly limped back to normalcy. The task of restoration and reconstruction was taken up in right earnest and within a year it yielded tangible results in both the administrative and technical fronts.

While this process of stabilization was going on, the other much-debated process of nationalization was nearing its climax. On 14 October 1981, OIL finally became a Government of India enterprise and the BOC gracefully bowed out of the picture. Thus ended a 60-year link marked by high purpose and common endeavour in the winning of oil in northeast India. The last joint-sector Board Meeting was held on 13 October 1981 and one of the BOC representatives

was A.M.M. Maclachlan, son of W.P.G. Maclachlan, the first Chairman of Oil India.

Nationalization was not as gruesome as many had feared. Thanks to the foresight of an enlightened Board and of a responsive Ministry, salaries were protected and many privileges retained. This, together with a welcome revival of team-spirit enabled OIL to deliver 3.501 million tonnes of crude oil in 1981-82 (the figure is for 15 months ending March 31, 1982 in view of change over to financial year) thereby earning Rs 295.20 crore. An intensive exploratory drilling programme was launched and, between 1984 and 1987, it helped establish oil resources at Bogapani, Kumchai, Hapjan, Shalmari and Rajgarh.

Kumchai deserves special mention. The area is in boulder-strewn country across the turbulent Noa-Dihing river. The boulders make seismic data acquisition and subsequent interpretation difficult. Even more problematic is drilling through the boulders into a relatively unknown geological environment. Braving all these hazards, drilling was undertaken. The first well had to be given up at a depth of around 5,459.6 metres owing to high pressures but it helped establish hydrocarbon resources which are presently being developed.

In 1982 an LPG plant, based on the cryogenic principle, was set up at Duliagan. The policy of consistent upgrading of technology and skills paid rich dividends in every area of activity and will be referred to later.

These achievements could quite conceivably have been more impressive had the fever generated by the 1979-80 agitation subsided. Unfortunately, it did not. Fuelled by the passions of the moment, it ran an erratic course throughout the decade, reaching alarming levels in early 1983 and again between November 1986 and March 1987. The respite that followed proved to be deceptive. Voicing anxiety and concern at this continued war of attrition, the Annual Report of the Company for 1987-88 laments that "OIL's social environment landscape in these past few years has been jagged. Road blockades and bandhs not only affected production adversely but have also taken a heavy toll by affecting the morale of the employees and ripping apart a

carefully nurtured work ethos that has traditionally distinguished OIL". A vigorous campaign has been undertaken to give the general public a clearer perception of OIL's role and importance in Assam's socio-economic life. This, together with the support and understanding of the State Government, should help restore normalcy.

On the bright side, it was during this decade that OIL effectively shook off its 'only northeast' image and acquired concessions in offshore and onshore Orissa, grouped under the name of the Bay Exploration Project, (BEP), offshore Andamans and onshore Rajasthan. This acquisition was followed up by intensive geoscientific surveys and/or interpretation on the basis of which 15 exploratory wells were drilled in the BEP (of which 11 offshore) and 3 wells in Andamans offshore; all of them proved non-productive.

In Rajasthan, however, the picture has been brighter. Two wells drilled in 1988-89 on the Tanot structure in the 10,000 sq. km Petroleum Exploration Licence area of OIL have encountered commercially exploitable gas while a third shallow well drilled to 2,757 m in 1988 on the Ramgarh structure remains to be tested. A fourth well drilled to 4,303 m also remains to be tested. The Rajasthan discoveries, though admittedly modest by giant gas-field standards, were a refreshing departure from the run of bad luck in other areas, and to that extent they served as a morale-booster to OIL.

Meanwhile, there has been no let-up in technological upgradation. In the last two years, an in-house capability has been created to carry out geochemical surveys, and 10,200 line km of such surveys have been carried out in the offshore areas of Orissa and Andamans to help delineate possible hydrocarbon accumulations in the subsurface. In geophysics, the powerful tool of 3-D surveys has been employed in 2,600 line km of Orissa offshore. The use of polymers to enhance oil recovery has helped increase the oil recovery factor. A multi-access radio telecommunication system (MART) was introduced in early 1989 for swift and reliable communication with remote work sites. Upgradation, however, is a process and not a status. Future plans include a large computer system (Cyber-830) for the growing

needs of the Company in seismic data processing and reservoir modelling; a supervisory control and data acquisition system (SCADA) for management of natural gas; and, above all, the setting up of five institutional centres of learning, research and development in Assam. In the realms of safety and environment management, the OIL record has been at once an example and an inspiration. Safety consciousness occupies a very important place in the Company's training and enforcement agenda. Experts from OIL have played a significant role in updating and finalizing safety standards for the industry.

To improve the quality of life, the environment needs to be both protected and exploited. OIL has demonstrated that this apparent dichotomy can be reconciled by a rational resource planning which involves scientific control of pollutants, afforestation, etc. Working in close consultation with State and Central Government agencies, the Company strives to ensure that in every phase of its activities starting from preliminary field surveys to disposal of the produced fluids there is respect for the ecology.

With its exploration areas scattered all over India, ONGC was more advantageously placed to implement the petroleum strategy of the third decade. Based on their prospectivity, the 26 sedimentary basins of India were put into 4 categories for purposes of planned development¹⁷. Drilling performance climbed from around 100 wells in 1981-82 to over 300 wells per year in 1986-87. Crude oil production during the same period rose from 9.21 million tonnes (of which 4.98 offshore) to 27.86 million tonnes (of which 20.62 offshore). In 1988, about 120 rigs were operational in the Commission's onshore and offshore areas. The Bombay High Field continues to be the largest single contributor (66 per cent) to the national oil demand. The ONGC have made significant onshore discoveries recently at Gandhar (which is partly offshore) and Nade in Gujarat as also at Sonari in Assam. A vigorous development programme has been initiated in the Krishna- Godavari and Cauvery basins. To supplement these indigenous efforts, the Government of India entered into production sharing contracts in early 1988 with foreign companies for offshore exploration in 9 blocks.

With particular reference to northeastern India, the activities of OIL and ONGC have helped establish a total prospective area of over 200,000 sq km with prognosticated reserves of 2,700 million tonnes of oil and oil equivalent of gas. Major oilfields on production are Digboi, Nahorkatiya, Moran, Jorajan and Kharsang of OIL and Rudrasagar, Lakwa, Geleki and Borholla of ONGC. Geological reserves of oil are estimated at 900 million tonnes and recoverable reserves at 235 million tonnes. Cumulative production of oil as on January 1, 1988 was 116 million tonnes. The oil production rate is presently 5.5 mtpa and the rate of gas 6.6 mmcum/d. Taking into consideration production from extension of known fields, tangible benefits from the implementation of EOR processes and expected discovery of new fields as per present geological reasoning, oil production from the northeast region is likely to reach 9 mtpa by the end of 1994-95 and 11 mtpa by the end of the century. The northeast contains substantial reserves of natural gas in Assam and Tripura. The projected gas availability in these areas is as follows (Table 2)

TABLE 2. PROJECTED GAS AVAILABILITY IN ASSAM AND TRIPURA
(In million cubic metres per day)

Year	Assam	Tripura
1989-90	9.5	7.7
1994-95	9.5	12.1
1999-2000	9.5	16.3

In both the areas substantial quantities of gas are flared mainly owing to the fact that actual consumption is only about 60 per cent of the commitment¹⁸. To close the gap, it is necessary to synchronize availability with utilization. In view of the increasingly important role that natural gas is destined to play in the national fuel economy, several techno- economic studies have been and are being carried out in natural gas management.

By the end of the decade, both OIL and ONGC have attained and surpassed the reserve- establishment goals. Geological in-place reserves of oil and oil equivalent of gas as on January 1, 1988 is 5 billion tonnes. For both OIL and ONGC the decade was, above all, the decade of Grand Vision: a controlled journey into the future to see what lay in store for the oil industry, what options

were available, and what steps had to be undertaken. The control was a rigorous management exercise integrating corporate objectives, exploration strategy (with particular emphasis on basin evaluation), long-term prospective goals and financial analysis. Mathematical modelling has been extensively used to evaluate several scenarios. The objective of all this effort has been to see how best we could reduce our dependence not only on imported oil but on oil itself.

Admirably, our self-reliance in oil has grown steadily from 34 per cent in 1975-76 to 73 per cent in 1984-85; but there has since been a decline and the self-reliance may have dropped to 66 per cent in 1989-90. Mapping the future with the mathematical models devised for the purpose, it seems that by the turn of the century, the demand for crude oil will be about 97 million tonnes while the production would be about 50 million tonnes. A two-pronged strategy is necessary to narrow this gap: (i) curb the demand by tight fiscal and conservation measures, by promoting alternative

sources of energy, and by substituting natural gas for liquid petroleum wherever practicable; and, (ii) increase indigenous production by more developmental effort, by introduction of enhanced oil recovery (EOR) schemes, rapid repair of sick wells by workover, etc.

For the basic fact remains that the oil scenario is a troubled one; no other natural resource is so deeply drawn into the vortex of geopolitics. Crude oil price variations, largely dictated by OPEC, administer both shocks and bonanzas to the national economies of oil-importing nations. Crude oil itself is becoming an increasingly hard-to-find commodity. In India, as indeed throughout the world, the focus is now on elusive stratigraphic traps whose detection calls for the utmost in technological innovation and interpretative skills. Evidently, the growth in demand is faster than growth in production which is limited not only by the oil resource potential but also by the resources available for discovery and development.

APPENDIX I
SOME STATISTICS PERTAINING TO THE OIL AND GAS INDUSTRY

TABLE 1. PROGNOSTICATED RESERVES IN THE VARIOUS BASINS OF INDIA
(all figures approximate in million tonnes of oil and oil equivalent of gas)

Name of Basin	Onshore	Offshore	Total
Assam Shelf*	1,800	-	1,800
Bombay Offshore	-	5,530	5,530
Cambay	900	-	900
Andaman-Nicobar	-	440	440
Bengal	850	1,650	2,500
Mahanadi**	60	520	580
Cauvery	200	450	650
Himalayan Foothills	370	-	370
Rajasthan	195	-	195
Krishna-Godavari	200	500	700
Tripura-Cachar	1,870	-	1,870
Kutch	195	350	545
Kerala-Konkan	-	340	340
Saurashtra	70	150	220
Total	6,710	9,930	16,640

* Includes Arunachal Pradesh; ** Includes NE coast offshore

Note: Of the total prognosticated reserves of 16.6 billion tonnes, only 5 billion tonnes were converted to geological reserves as on January 1, 1988.

TABLE 2. COMPANYWISE PRODUCTION OF CRUDE OIL IN INDIA

('000 Tonnes)

Financial Year	Onshore				Offshore	Grand
	AOC	OIL	ONGC	TOTAL	ONGC	Total
1965-66	151	1,895	1,427	3,473	-	3,473
1966-67	148	2,217	2,538	4,903	-	4,903
1967-68	128	2,836	2,821	5,785	-	5,785
1968-69	117	2,848	3,084	6,049	-	6,049
1969-70	112	3,079	3,627	6,818	-	6,818
1970-71	104	3,084	3,634	6,822	-	6,822
1971-72	97	3,159	4,003	7,259	-	7,259
1972-73	90	3,131	4,100	7,321	-	7,321
1973-74	82	3,079	4,028	7,189	-	7,189
1974-75	71	3,079	4,534	7,684	-	7,684
1975-76	66	3,103	5,279	8,448	-	8,448
1976-77	62	3,085	5,345	8,492	406	8,898
1977-78	57	3,113	5,519	8,689	2,074	10,763
1978-79	53	2,671	5,599	8,323	3,310	11,633
1979-80	40	2,215	5,089	7,344	4,422	11,766
1980-81	48	1,243	4,231	5,522	4,985	10,507
1981-82	23(e)	2,995	5,201	8,219	7,975	16,194
1982-83		2,830	5,356	8,186	12,877	21,063
1983-84		2,873	5,755	8,628	17,392	26,020
1984-85		2,730	6,120	8,850	20,140	28,990
1985-86		2,654	6,691	9,345	20,823	30,168
1986-87		2,623	7,243	9,866	20,617	30,483
1987-88		2,453	7,757	10,210	20,160	30,370

(e) After take-over of AOC by Govt. in Oct. 1981, its production wing was merged with OIL. Hence the production figures shown under AOC are upto 14th Oct. 1981; thereafter the same have been merged with OIL.

Source: Ministry of Petroleum.

TABLE 3. COMPANYWISE PRODUCTION OF NATURAL GAS IN INDIA

(million cubic metres)

Year	Onshore				Offshore	Grand
	AOC	OIL	ONGC	Total	ONGC	Total
1970-71	65	905	475	1,445	-	1,445
1975-76	40	1,405	923	2,368	-	2,368
1980-81	38	710	937	1,685	673	2,358
1985-86	-	1,553	1,401	2,954	5,180	8,134
1986-87	-	1,631	1,517	3,148	6,705	9,853
1987-88	-	1,567	1,633	3,200	8,229	11,429

TABLE 4. OIL AND GAS PRODUCTION IN NORTHEASTERN INDIA

	OIL	Gas
	(thousand tonnes)	(million cubic metres)
1970-71	3,367	980
1975-76	4,300	1,595
1980-81	1,714	843
1985-86	5,026	2,029
1986-87	5,296	2,142
1987-88	5,294	2,193

TABLE 5. COMMODITY BALANCE OF CRUDE PETROLEUM

(million tonnes)

Year	Refinery Through-put	Domestic Production			Imports	Exports	Net Imports (6)-(7)
		On Shore	Off Shore	Total (3)+(4)			
1	2	3	4	5	6	7	8
1948	0.3	0.3	-	0.3	-	-	-
1949	0.3	0.3	-	0.3	-	-	-
1950	0.3	0.3	-	0.3	-	-	-
1951	0.3	0.3	-	0.3	-	-	-
1952	0.3	0.3	-	0.3	-	-	-
1953	0.3	0.3	-	0.3	-	-	-
1954	0.7	0.3	-	0.3	0.5	-	0.5
1955	3.3	0.3	-	0.3	3.0	-	3.0
1956	4.2	0.4	-	0.4	3.8	-	3.8
1957	4.8	0.4	-	0.4	4.4	-	4.4
1958	5.1	0.4	-	0.4	4.7	-	4.7
1959	5.4	0.5	-	0.5	5.0	-	5.0
1960	6.1	0.5	-	0.5	5.7	-	5.7
1960-61	6.1	0.5	-	0.5	5.7	-	5.7
1961-62	6.6	0.5	-	0.5	6.0	-	6.0
1962-63	7.3	1.1	-	1.1	6.0	-	6.0
1963-64	8.5	1.7	-	1.7	6.5	-	6.5
1964-65	9.0	2.2	-	2.2	6.8	-	6.8
1965-66	10.2	3.5	-	3.5	6.8	-	6.8
1966-67	12.7	4.9	-	4.9	7.5	-	7.5
1967-68	14.8	5.8	-	5.8	8.7	-	8.7
1968-69	16.5	6.1	-	6.1	10.5	-	10.5
1969-70	17.9	6.8	-	6.8	10.7	-	10.7
1970-71	18.4	6.8	-	6.8	11.7	-	11.7
1971-72	20.0	7.3	-	7.3	13.0	-	13.0
1972-73	19.3	7.3	-	7.3	12.1	-	12.1
1973-74	21.0	7.2	-	7.2	13.9	-	13.9
1974-75	21.1	7.7	-	7.7	14.0	neg.	14.0
1975-76	22.3	8.4	-	8.4	13.6	-	13.6
1976-77	23.0	8.5	0.4	8.9	14.0	-	14.0
1977-78	24.9	8.7	2.1	10.8	14.5	-	14.5
1978-79	26.0	8.3	3.3	11.6	14.7	-	14.7
1979-80	27.5	7.3	4.4	11.8	16.1	-	16.1
1980-81	25.8	5.5	5.0	10.5	16.2	-	16.2
1981-82	30.2	8.2	8.0	16.2	15.3	0.8	14.5
1982-83	33.2	8.2	12.9	21.1	16.9	4.5	12.4
1983-84	35.3	8.6	17.4	26.0	16.0	5.5	10.5
1984-85	35.6	8.9	20.1	29.0	13.7	6.5	7.2
1985-86	42.9	9.4	20.8	30.2	15.1	0.5	14.6
1986-87	45.7	9.9	20.6	30.5	15.5	-	15.5
1987-88	42.7	10.2	20.2	30.4	18.0	-	18.0
1988-89	48.8	10.9	21.1	32.0	17.8	-	17.8
1989-90							

Sources: (i) *Economic Survey*, Government of India, various years. (ii) *Indian Petroleum and Natural Gas Statistics*, Ministry of Petroleum and Natural Gas, Government of India, various years.
Footnote: Compiled and Added by Editor.

APPENDIX II
CHRONOLOGY OF INDIA'S OIL STORY

1825	Earliest recorded reference to oil in Upper Assam in the despatches of Lieut R. Wilcox of the 46th Regiment Native Infantry.	1923	Wells drilled at Barjan and Namchik in Upper Assam Valley proved to be failures.
1825-1845	The era of individual intrepid explorers: C.A. Bruce, Major A White, Lieut. Bigge, Capt. F. Jenkins, Capt. P.S. Hannay: who stumbled upon oil in the course of their reconnaissance surveys.		First well at Patharia in the Surma Valley was spudded in by the BOC in 1923 and finished in 1931. Recovered about 10,000 barrels of oil before abandoning well.
1865	H. B. Medlicott of the Geological Survey of India while visiting the coal areas of Assam observed the oil seepages at Makum Pani and recommended test drilling in the Makum-Namdang area.		Digboi refinery entirely rebuilt and capacity enlarged.
1866-1869	The above drilling plus drilling of test wells in the Jaipur area were carried out by Mr. Goodenough of McKillop, Stewart and Co., Calcutta. Drilling at Makum - Namdang was distinctly more encouraging than at Jaipur, but owing to transport difficulties the venture folded up.	1925	Torsion balance survey in Bordubi area represented India's first attempt to use geophysics in the search for oil.
	One of the above wells at Makum drilled to a depth of 118 ft on 26 March 1867, was Asia's first successful mechanically drilled oil well.		Drilling at Baragolai gave encouraging results, but the well at Dhekiajuli was a failure.
1881	The Assam Railways and Trading Co. Ltd. (AR & T Co.) was registered on 30 July with objectives that included construction of railways and exploiting the natural resource of coal.	1926	BOC's Masimpur Well No. 4 proved to be a dry hole.
1889	Spudding in of Digboi Well No. 1 in September by the AR & T Co. : First gush of oil struck on 19 October.		AOC drilled two test wells at Dilli, Upper Assam, to depths of 439 ft and 328 ft Unremunerative.
1890	Completion of Digboi Well No. 1 as producer in November.	1928	Two product pipelines were laid from Digboi to Tinsukia.
1891-1892	Continued drilling in Digboi field with fair success.	1930	Wax extraction plant installed in Digboi Refinery.
1893	A small refinery erected at Margherita where for about six years oil from Digboi was sent by rail. The Assam Oil Syndicate was granted a mining lease over the northern Digboi area.	1931	BOC drilled a well to 2,757 ft at Bandersulia and abandoned it the following year owing to disappointing results.
1899	The AR & T Co. forms a new company, the Assam Oil Company, to take over their oil interests.		BOC's Well No. 5 at Masimpur encountered a high pressure gas sand at 5,800 ft capable of yielding 3000,000 cubic ft a day.
1900	Construction of Digboi Refinery begins.		Edeleneau Plant, and Dubbs cracking unit installed in Digboi Refinery.
1901	Digboi Refinery commissioned with running of the first "still" in December.	1933	Badarpur Field in Surma Valley abandoned.
1911-1912	The Burmah Oil Company Ltd (BOC) arrived on the Indian scene in the Surma Valley.	1936	Masimpur Well No. 5 abandoned at a depth of 7,685 ft.
1915	BOC acquired the oil interests of the Budderpore Oil Company and starts exploration/development of the Badarpur structure.	1937-1938	Extensive programme of geophysical surveys implemented in Upper Assam.
1919	AOC began drilling at Namchik and abandoned the well the following year at 592 ft.		Two cable-tool wells completed by AOC at Makum to depths of 685 and 837 ft without success.
1920	BOC drilled Masimpur Well 2 and Hilara Well No. 1 in Surma Valley. Both abandoned on account of feeble shows.	1939-1944	War time regulations permitted only extension drilling to prove eastern limits of Digboi Field.
	AOC drilled a well upto 715 ft at Balijan, Upper Assam, with no success.	1945	AOC drills 2 wells at Balijan to depths of 2,428 and 1,324 ft
1921	By arrangement with the AR & T Co. the Burmah Oil Company took over in a phased manner the control of the Assam Oil Company operations.	1948	Geological Survey of India starts geophysical surveys in the Cambay area and delineates the basin.
1922	BOC encountered a succession of failures at Chhatachura, Masimpur and Kanchanpur in the Surma Valley.	1949	AOC abandons its efforts to develop the Makum-Namdang field.
			A geological and geophysical survey of the alluvial area of West Bengal and East Pakistan begun by the Standard Vacuum Oil Company (SVOC).
		1951	On basis of earlier geophysical surveys, site for drilling selected on the south bank of the Burhi Dihing River at Nahorkatiya.
			AOC starts test drilling at Nichuguard in the Naga Hills.
		1952	Well No. 1 at Nahorkatiya spudded in by AOC on 26 May.
		1953	Gasoline Extraction Plant commissioned in Digboi Refinery. Nahorkatiya Well No. 1 completed as producer at a depth of 11,715 ft in June.

- 1954 Lube oil distillation unit, first of its kind in India, installed in Digboi Refinery. Favourable subsurface structures discovered by AOC at Rudrasagar and Geleki. Second refinery in India owned by the Standard Vacuum Oil Company comes on stream at Trombay near Bombay. Indo Stanvac Project for oil exploration in West Bengal formed between Government of India (GOI) and SVOC.
- 1955 The Oil and Natural Gas Division set up by the GOI. Third refinery owned by Burmah-Shell Refineries Limited set up at Bombay.
- 1956 Discovery of Moran Field by the AOC. The first well drilled upto 13,739 ft; deepest in Asia; struck oil in November. Oil and Natural Gas Division converted into a Directorate in May and later to a Commission in August.
- 1957 Fourth Refinery in India owned by Caltex Oil Refinery (India) Ltd. comes on stream at Visakhapatnam on 15 April.
- 1958 Promotion Agreement signed between AOC/BOC and GOI for formation of Oil India Private Limited to exploit the oil resources found by AOC in Nahorkatiya and Moran. Gas struck in Jwalamukhi in Himachal Pradesh. Cambay Well No. 1 (Lunej structure) spudded in by ONGC and completed as a producer. Indian Refineries Limited, a public sector undertaking registered on 22 August.
- 1959 Oil India Private Limited incorporated on 18.2.59 and registered at Shillong as a Rupee Company with two-third shares owned by AOC/BOC and one-third by the Government of India. ONGC becomes an autonomous statutory body.
- 1960 Oil struck at Anklesvar in Gujarat and Rudrasagar in Assam by ONGC. Indian Institute of Petroleum comes into being.
- 1961 By a new agreement dated 27.7.61, GOI and BOC become equal partners in OIL. Completed 100th well in OIL areas. India's first gas turbine for power supply commissioned at Duliajan. Oil struck in Kalol by ONGC.
- 1962 The first public sector refinery comes on stream at Guwahati. Nahorkatiya-Guwahati pipeline commissioned on 26.4.62. First shipment of Anklesvar crude leaves for Bombay by tank wagons. OIL completes India's first dual completion well on 13.10.62 (NHK Well 117).
- 1963 World's first crude oil conditioning plant commissioned at Nahorkatiya. OIL drills India's first deviation well (NHK 122). Offshore seismic surveys started by ONGC in Gulf of Cambay. Oil struck in Sanand and Nawagam in Gujarat by ONGC.
- 1964 Guwahati-Barauni crude oil pipeline commissioned. First long-distance product pipeline in India commissioned from Guwahati Refinery to Siliguri. Indian Refineries Limited and Indian Oil Company merge to form Indian Oil Corporation Limited. Oil discovered in Lakwa by ONGC. Supply of gas from Cambay to Dhruvan Thermal Power Station starts.
- 1965 OIL pioneers gas injection for pressure maintenance in one of its Nahorkatiya reservoirs. OIL starts gas supplies to ASEB on a regular basis. ONGC's 16" dia pipeline from Anklesvar to Koyali Refinery commissioned. For the first time in India AOC applies the technique of formation fracturing in its field to stimulate production. Cochin Refinery comes on stream.
- 1967 Water injection starts in Nahorkatiya (OIL) and Anklesvar (ONGC). Lubrizol India Ltd. starts production. Oil discovered in Geleki by ONGC. OIL starts drilling in Arunachal Pradesh at Kharsang, 9th May. Madras Refinery comes on stream. ONGC completes drilling of 700 wells. Discovery of oil in Kusijan by OIL. After a lapse of 10 years AOC resumes drilling in the Digboi oilfield and 12 infiller shallow wells drilled using a light mobile rig. India's first offshore well in the Gulf of Cambay spudded in on 14 March.
- 1971 Several new structures discovered in Gujarat by ONGC. 300 wells completed in OIL areas.
- 1972 AOC starts water injection in Digboi Field. OIL discovers oil in a new structure at Jorajan. Highest Wax production in Digboi Refinery: 45,852 tonnes.
- 1973 ONGC completes drilling of 1,000th well. OIL discovers gas in the Eocene at Tengakhat. First offshore well on the Bombay High spudded in by the ONGC on 31.1.74 using the drill-ship Sagar Samrat; oil struck on Feb. 19. GOI takes over 74% shares in ESSO.
- 1975 Fuel sector of Haldia Refinery goes into commercial production. OIL builds first aerial ropeway across the Noa-Dihing in Arunachal Pradesh and initiates India's first polymer flood project. Bombay High put into commercial production by ONGC. OIL spuds Manabum-1, the first well on the north bank of the Noa Dihing River. OIL strikes oil in Kharsang and puts Arunachal Pradesh on oil map of India. GOI takes over 100% shares in Burmah Shell Refineries which is renamed as Bharat Refineries

- Limited and remaining 26% shares in ESSO which is renamed as Hindustan Petroleum Company Limited.
- 1977 Bharat Refineries Limited renamed as Bharat Petroleum Corporation Limited. OIL spuds in Kumchai Well No. 1 on north bank of Noa Dihing.
- 1978 OIL steps out of Assam into Orissa onshore and offshore. Gas supply from Bombay offshore for power generation and fertilizer manufacture starts.
- 1979 ONGC starts oil production in Amguri.
- 1980 OIL spuds in offshore Mahanadi-1 on 29 January. ONGC discovers oil in offshore Ratnagiri structure and gas in Dahej.
- 1981-1982 OIL completes second well in Mahanadi offshore. Production in Assam fields slowly picks up from adverse effects of the 1980 agitation. SEDCO spuds first well in Godavari offshore under contract arrangement with ONGC. Drilling begins in Barsilla where AOC had explored 30 years earlier.
- 1982-1983 OIL commissions LPG plant based on the cryogenic method of manufacture. Second phase of offshore drilling begins in Mahanadi Basin. ONGC embarks on aggressive exploration policy and takes up 21 new structures for drilling.
- 1983-1984 OIL obtains lease and finalizes exploration programme for Rajasthan. ONGC takes up 27 new structures for drilling. Gas struck at Razole in Andhra Pradesh and Gotaru in Rajasthan. Water injection commences in Bombay High (North).
- 1984-1985 OIL starts Vibroseis surveys in its Rajasthan Concession through contractual arrangements with CGG of France. Arrangements finalized for Andaman exploration.
- ONGC takes up 28 new structures for drilling. Oil struck in Kutch offshore, Godavari offshore and at Changmaigam in Assam. Drilling commences at Narimanam in the Cauvery Basin.
- 1985-1986 OIL wins Corporate performance award given by the Harvard Business School Association of India and The Economic Times for the best public sector unit in the country. Three significant oil finds in the south bank of the Burhi Dihing river between Nahorkatiya and Moran. First well commenced in Eastern Shelf of Andamans. ONGC strikes oil at Narimanam thus brightening the prospects of Cauvery basin. LPG plant at Uran commissioned.
- 1986-1987 OIL starts onshore drilling in Mahanadi through contract arrangements with Richter Drilling of Australia. Two more wells drilled in Andamans, one on the east and the other on the west shelf. ONGC strikes oil in the Tapti offshore area and in the Namti structure in Assam.
- 1987-1988 OIL pulls out of Andaman project temporarily. Reassessment of prospects in Mahanadi taken up. Bombay offshore gas charged into HBJ pipeline. EOR caustic flood pilot project started in Sanand. GOI, ONGC and OIL signed 9 production sharing contracts with 4 foreign companies for offshore exploration.
- 1988-1989 OIL establishes commercial gas in its Rajasthan concession area, and acquires license to explore over 24,900 sq. km. in Saurashtra offshore basin. ONGC discovers Nade field in Gujarat and establishes new resources near Thanjavur in the Cauvery Basin.

APPENDIX III BIOGRAPHICAL SKETCHES

In the following, we give brief biographical sketches of those men who played a key role in AOC/OIL affairs in the post-independence period. Key is a rather elusive word and one does not quite know where to draw the line and what unassailable criteria to adopt, with the result that there could be some significant omissions. These are sincerely regretted.¹⁹ ABEL, Medida Paul (1910-1979). Educ: Guntur, Madras; joined BOC, 1929 and put in over 40 years service in Burma, Digboi, Karachi, Chittagong and Duliajan in the Accounts Dept.; first Secretary and consequently first employee on payroll of OIL; financial controller, 1962-70. Retired July 1970. He played a decisive role in all financial matters and negotiations leading to the formation of OIL. Once it was formed, he helped lay the foundations of sound financial practices and controls which have stood the test of time. BHARALI, Pranab (b. 1937). Educ: Guwahati, IIT Kharagpur, IISc Bangalore; Ph. D. from Imperial College, London; joined OIL 1963; in Electrical dept, 1963-67; F.S. Moran, 1970-71; TA to MD, 1971-73; CE(F), 1973-79; PLS, 1979-82; GM (Tech. Services), 1982-84; Director Operations,

1984-present. Pranab Bharali was closely associated with and significantly contributed to several engineering projects of OIL, notably the design of the power station at Duliajan, COCP at Moran, ropeway across the Noa-dihing etc. During a rather turbulent period of the Assam agitation he held the difficult post of Pipeline Superintendent at Nunmati with distinction.

BHAT, Som Nath (b. 1927). Educated M.A. from Punjab University, joined OIL 1969 and served as Financial Adviser/Financial Controller till 1972. After a 6-year break returned to OIL as Financial Director in 1978 from which post he retired in 1985. S.N. Bhat brought to OIL a rich experience gathered through two decades of service in government undertakings such as the Railways, Hindustan Aeronautics Ltd and Fertilizer Corporation of India. This proved to be of immense help in OIL's transition from a joint-sector to a public sector enterprise in 1981 and in streamlining and consolidating financial procedures within the Company.

CHALIHA, Surajit (b. 1932). Educ: Presidency College Calcutta, Leeds Univ; joined AOC 1955; transferred to OIL

in 1962 and rose steadily in the geological ladder from Resident to Development to Chief Geologist in 1970; transferred to technical management services as Dy. T.M. 1973 and later held the posts of Operational Manager and Technical Services Manager, 1975-84; GM Rajasthan Project, 1984-87; Dir (Expl & Dev.), 1987; CMD-OIL, 1987. A background in mining with a career in geology has invested Surajit Chaliha with remarkable versatility. He represented the Government on a petroleum delegation to the USSR, he initiated OIL's consultancy services in reservoir engineering in the Middle East, he adroitly started OIL's Rajasthan Project, and as CMD he has been at the helm of OIL's expansion and diversification ventures. Significant hydrocarbon finds in Arunachal Pradesh, Assam and Rajasthan, recognition through national awards of corporate excellence, safety and sports for OIL, and National Unity Award bestowed on him individually illustrate his competence. During his tenure as CMD, OIL went into offshore Saurashtra and made a tie up with a multinational combine to explore in the Mahanadi Basin. His interest in OIL's growth has brought on the anvil proposals for OIL farming into foreign acreage for exploration and setting up a natural gas cracker unit in Assam.

DAS, Kshitish Chandra (1910-1977). Educ: BHU, 1932; joined AOC, 1939; Chief Engineer OIL, 1957; Project Manager, 1964; retired 1966. The civil engineering works in the township and industrial areas of Duliajan/Moran with their bewildering assortment of roads and houses, as also the works in operational areas such as embankments, bridges, etc., all owe their existence to the efforts of K.C. Das, particularly in the post 1957 era.

DAS GUPTA, Amiya Bhusan (b. 1917). Educ: Calcutta Univ M. Sc. 1940; joined BOC 1941; exploration work in Upper Assam 1941-46, Surma Valley & Arakan region 1947-51; development of Digboi Field, planning & supervision of all aspects of BOC's work in India 1952-57; acting Chief Geologist, Burma 1957-58; Chief Geologist, India, 1959-62; Fields Manager OIL, 1962-65, Senior Technical Adviser, 1965-68, Senior Technical Adviser, 1965-68; Technical Director 1968-69; Managing Director OIL, 1969-1976. Awarded Padma Shri, 1971. AB's assumption of office as the first Indian Managing Director of OIL climaxed a 28 year career of exceptional versatility not only in the home ground of geosciences (to which he has made lasting and profound contributions both in exploration and development) but also in the fields of drilling, production, pipelining. His stewardship of OIL between 1969-76 generated impressive achievements in all these fields and put OIL on the cutting edge of new technologies.

EVANS, Percy (1892-1974), Geologist BOC, 1915; India 1915-31; Geologist Digboi, 1931-36; Senior Geologist India, 1936-39; Chief Geologist London office, 1939-55; Consultant Burmah Group, 1955-70.

Hailed as the father of Assam geology, the astonishing 55 - years career of Mr. Evans in the BOC started in the Digboi Field in 1915. Over the next quarter of century, he carried out geological surveys over hundreds of square miles in the Surma Valley, along the southern foothills of the Upper Assam Valley and in the Upper Assam Valley (only to mention northeast India). At the same time he was deeply involved in the development of the Digboi Field. All of this prodigious effort is recorded in hundreds of reports, notes, letters and mails each of which reflect a passion for careful observation

and recording. He laid the foundations for the understanding of Assam geology with his magnum opus 'Explanatory Notes to Accompany a Table showing the Tertiary Succession in Assam' *Trans. Min & Geol. Inst. Ind.* Vol. XXVII (3), 1932. His talents went beyond the purely geoscientific. He invented an inclinometer (an instrument to determine the magnitude and direction of deviations in a bore-hole during the drilling phase so that corrective measures could be taken if required), wrote a note on correct usage of words and spellings, and helped build and train a fine band of Indian geologists. He maintained intimate links with scientific associations and academic institutions in the country. In 1964, he was one of the leaders of the Assam Excursions of the International Geological Conference in which connexion he wrote the tour guide and, in collaboration with Shri L.P. Mathur of ONGC, the book *Oil in India*. A road named after him in the Oil India Township of Duliajan symbolizes the very high esteem and regard in which he is held by the Digboi/Duliajan community. FINLAY, John Campbell (b. 1918). Grandson of Kirkman Finlay, one of the two founders of BOC; Burma fields, 1942-52; AOC Representative, Digboi & Delhi, 1952-55; Manager PPL, 1955-59; Burma, 1960-61; Managing Director, OIL, 1962-69 & Chief Representative Burmah Group, 1962-76. His role as the first M.D. of a pioneering joint sector enterprise called for the utmost in tact, tolerance and adjustment without compromising on basic interests and operational efficiency. He played the role admirably well.

GOWAN, Anthony Campbell (1918-1988). Educ: Rugby & Oxford, 1937; joined BOC in Rangoon, 1939; in army, 1939-1946; rehabilitation of Burma fields, 1946-52; Manager Digboi Field, 1961-64; Principal Group Information Officer London 1964-75. Born in the India as the third son of Sir Hyde and Lady Gowan ICS, Governor of the then Central Provinces, Tony Gowan retained a fanatical attachment to the region and visited it at every opportunity and excuse for lecture tours. His finest hour was in 1962 when, along with 'KB' he had to cope with the partition of AOC and the Chinese invasion. His masterly handling of the situation earned him an OBE.

JAGANNATHAN, Chakravarthi Ramabhadrachari (b. 1924) Educ. Presidency College Madras, joined BOC at Lahore 1945; exploration and development geology in Upper Assam, 1946-1962; Chief Geologist OIL, 1962-1968; Head, Planning & Programming Machinery, 1968-69; TM-OIL, 1969-1972; RCE, 1972-1977; CMD-OIL, 1977-84. After a 32-year career in many areas of BOC/AOC/OIL, Jag, as he is known to his friends, took over as CMD of OIL at a time when major constitutional changes in the Company were being finalized. He presided over the passage of OIL from a joint-sector to a public sector enterprise on 14 October 1981 and ensured that the transition was as painless as possible. Also it was during his tenure that OIL stepped out of its traditional Assam home to an offshore venture in Orissa. Unfortunately, it was around this period, 1978-81, that the Assam agitation built up and severely affected oilfield operations. The clouds had not yet dispersed at the time of his retirement in 1984 which, incidentally, was also the Silver Jubilee year of OIL.

JATAR, Major General S.C.N. (b. 1932) Educ: B.E. Civil, Pune Univ. Joined OIL 1981 and after a 3 1/2 year tenure as Resident Chief Executive at Duliajan became CMD in July 1984, a post which he held till mid 1987. The Jatar innings was marked by much growth and accomplishment in the technical and administrative fronts despite the agitational

environment that prevailed since 1980 when the Company's account books dipped into a loss of Rs 388 crore and over one third of the middle level executives left for more peaceful pastures. Gen. Jatar pulled up OIL's socks, increased production, inducted skilled manpower and bagged for OIL the prestigious Corporate Performance Award 1985 instituted by the Economic Times and the Harvard Business School Association of India. His concern for the Company's social obligations ensured an Environment Trophy from the Government of Assam and a comprehensive programme for the welfare of the public around OIL's operational areas. As CMD he increased OIL's activities outside the North-east and initiated a 20-year Strategic Plan for the Company.

KANUGA, Kewalram Boolchand (b. 1912), Educ. D.J. Sind College, 1934; joined BOC Karachi, 1937; twenty years of service in fields as diverse as geophysics, refining, marketing, and administration; first Indian to act as General Manager, AOC, 1958; closely associated over next three years with negotiations leading to the formation of OIL; General Manager OIL, 1962-68; Resident Director OIL, 1968-69, Retired 1969.

A colourful and dominant father-figure on the Digboi-Duliajan scene, especially between 1957 & 1969, 'KB' was a natural leader. He rose steadily up the corporate ladder through a combination of extraordinary skills; these skills were tested to the utmost twice in 1962: the surgery leading to the creation of OIL as a separate entity and the Chinese invasion of India which brought a hostile army within three day's march of Digboi/Duliajan. His intimate, almost fanatical, involvement in social cultural and sports activities is still admiringly remembered not only in Digboi-Duliajan but almost throughout the State.

MACLACHLAN, William Patrick Gawain (b. 1918) MBE 1945; Assistant BOC, 1939; army 1941-46 in Burma & India; General Manager, AOC, 1957-60; first Chairman, Oil India Private Ltd., 1959-60; General Manager, BOC (Pakistan Trading), 1960-62, London Office, 1962-68; Director BOC, 1968-75. Although his tenure in the oil industry of India was relatively brief, Bill MacLachlan's name is linked with the delicate negotiations leading to the formation of Oil India Private Limited of which he was the first Chairman.

MAHANT, Nihal Das (1907-1977). Educ. Lahore and ISM-Dhanbad, 1930; Assistant in Prodn. Dept., 1930-36; Production Foreman and in-charge gas section, 1936-42; Production Engineer, 1942-53; Asst. Prod. Supdt, 1953-57; Prodn. Supdt AOC 1957-62; retired early 1962. He was the first Indian Production Superintendent. His 32-year career was mainly in the Digboi Field but following the Nahorkatiya discovery in 1953 he helped establish the basic production facilities in OIL areas.

METRE, Waman Bapuji (1906-1970) Doyen of Indian petroleum geologists Educ. Yeotmal, Nagpur, ISM-Dhanbad, 1930; joined AOC, 1930; worked in Digboi Field and Assam foothills, 1930-31; mapping and exploration in Surma Valley, Garo Hills and Arakan Coast, 1932-39; BOC's London Office, 1939-41; Senior Geologist Digboi, 1953-60; brief spell as Shillong Representative and then STA-Delhi, 1960; retired 1965 but continued as part-time Director till shortly before his death. In his career of 35 years, Dada Metre, as he was affectionately called by friends and colleagues, encompassed a wide range of geological studies and assessments in Upper

Assam, Surma Valley, Arakan Coast and areas now constituting Pakistan. His steady rise in the Company ladder was a natural recognition of the quality of his work. National recognition was not far behind: in 1967 he was awarded the Padma Bhushan. Despite the burdens of office he maintained the closest links with ONGC, GSI, Bureau of Mines etc., and with academic institutions where he was frequently called upon for lectures.

MITRA, Rabindranath (1929-1980). Educ. Calcutta & Toronto University; joined AOC in Geological Dept in 1955; Resident Geologist at Digboi, Nahorkatiya, 1955-62; Senior Development Geologist, 1962-68; Chief Geologist, 1968-70; Dy TM, 1970-71 and 1975-77; STA-Delhi 1971-73; seconded to BOC London, 1973-75; TM-OIL (1977-80). The services of "Robi" Mitra were harnessed largely in the development aspects of geology. He initiated projects of fundamental importance in subsurface correlation, well-log interpretation, paleostructural analysis, oil recovery, etc. His knowledge of production aspects usefully supplemented these studies. Methodicity and absolute dedication marked his life till the day of its tragic termination on 18 Jan, 1980.

NAGAPPA, Yedatore (1907-1960). Educ. MSc. in Geology from Mysore Univ. 1933; joined BOC in Burma as Asst Palaeontologist, 1935; BOC Lahore, 1939-45; Calcutta, 1945-49; Digboi as Palaeontologist, 1949; promoted to Supdt. Pal., 1954; Burma, 1958-59; retired on medical grounds, 1960. In addition to general geological work, Nagappa specialized in Cretaceous and Tertiary foraminifera and ostracoda and their application to problems in oil exploration. His contributions were widely recognized and appreciated and won him, among other distinctions, a UN fellowship in 1954.

RATNAM, Chudamani (b. 1933). Educ. Doon School, St. Stephens College, Delhi; Imperial College, London, Joined AOC as geophysicist, 1955; exploration in Upper Assam and later in West and East Pakistan to supervise exploration for PPL, 1955-62; exploration geophysicist OIL, 1962-67; on deputation to BOC's offshore activities in North Sea, 1967-68; Senior Development Geologists 1968-73; Chief Geologist Oil, 1973-77; initiated, implemented and supervised OIL's maiden offshore project in Orissa first as Project Manager and then as General Manager, 1977-85; Senior Geotechnical Adviser to CMD, 1985-87; Director Exploration and Development, 1987. His educational background and assignments in various areas of BOC activity made 'Chudamani' the natural leader for supervision of all geophysical parties who were contracted for surveys in the Upper Assam Valley, nearly 30 years ago. Later, he built up and streamlined the Company's own geophysical team. His tenure in development geology was marked by the initiation of several reservoir engineering studies and projects. Credit goes to him for bringing geoscientific and related activities of OIL into the computer age.

ROY, Khirode Chandra (b. 1914). Educ. BIU; joined AOC, 1936; in various activities of the mechanical engineering stream in AOC/OIL particularly after the Nahorkatiya discovery, 1936-62; Fields Supdt-OIL, 1962-65; TM-OIL, 1965-69; RCE, 1969-72. He played a decisive role in the first decade of OIL's existence when the infrastructure necessary for and devolving from oil exploration and development had to be established.

SARMA, Ajit Kumar (b. 1924). Educ: BHU, Michigan Univ. M.S. in Electrical Engineering; joined AOC, 1953 as Asst Electrical Engineer, promoted to Chief Electric Engineer, 1959; moved to OIL as Electrical Engineering Supdt, 1962; Field Supdt Moran, 1965-67; Chief Engineer, 1967-69; STA-Delhi, 1969-71; Dy TM, 1971-72; TM, 1972-77; RCE, 1977-80. Retired 1980. Credit for the pioneering role in providing the electrical infrastructure for operational, industrial, and housing areas in Nahorkatiya and Moran and for starting off gas-turbine power generation goes to A.K. Sarma. SENGUPTA, Narayan Chandra (1912-1985). Educ: Calcutta University 1935; joined BOC Burma 1941; BOC Research Asst at Calcutta, 1942-49; Senior Fields Chemist Digboi, 1949-62; services transferred to OIL where he headed all chemical activities till 1972. During the course of his 31-year career in AOC/OIL, Dr. Sengupta made valuable contributions to drilling mud technology, oil & gas studies, etc. The experiments that he carried out between 1956-61 on rheology of crude oils vis-a-vis pipeline transportation were of critical significance; they ultimately contributed to the construction of the world's first crude oil conditioning plant at Nahorkatiya in 1962-63.

NOTES

1. The earlier non-geological writing of the pioneers, mainly military officers on reconnaissance duties or punitive expeditions;

See Wilcox, 1832, Pp. 314-469; Bruce, 1836; White 1837; Bigge, 1837, p. 243; Griffith 1837; Jenkins, 1838; Hannay, 1845, p. 817; Dalton, 1854. Also, *Revenue Proceedings Bengal*: 27 July No. 18 of 1854 deals with the application for lease by Wagentreiber and disposal thereof.

2. See: Goodwin - Austen, 1874, Pp. 79-84; Hughes, 1874; Mallet, 1876, Pp. 269-363; Oldham, 1883, Pp. 217-242; La Touche, 1886, Pp. 111-115, and Gawthrop, 1951.

3. No authentic details were available specifically in respect of Well No. 1 but they would not have been vastly different from turn-of-the-century wells described by Charles Eric Capito in the Proceedings of the Institute of Civil Engineers, London (1911). A summary is given in Digboi Batori, March 1964.

4. Nahor (Mesua Ferreya) is also called Indian Ironwood. Makai is Shorea Assamica. Uriam (Bischofia Javanica) found special use in the cooling towers of the refinery while Hollong (Dipterocarpus Pilosus) and Hollock (Terminalia Myriocarpia) found extensive use in house construction.

5. In all writings, Digboi was used till 1910. Only thereafter did Digboi come in. Di in Bodo dialect means stream and it is quite likely that the name Digboi originated from a stream; certainly there are several streams in the neighbourhood of the oil-town.

6. The Suma Valley is a broad belt of low ground about 125 miles long and 60 miles wide, south of the Shillong Plateau and the North Cachar Hills. It is occupied by the Barak River and its tributaries, including the Suma River.

7. AOC was the wholly-owned subsidiary of the BOC and was the operating Company for the development of the Digboi oilfield. There were a few on deputation from BOC. Also, a marketing subsidiary called BOC (India trading) was operating in Digboi. But the main presence in post-1921 Digboi upto 1981 was AOC.

8. In retrospect, this denial programme was largely futile. With that innovative spirit which was (and still is) the envy of their friends and the despair of their foes, the Japanese were able to make essential oil products.

9. In 1942 an oil pipeline was laid from Digboi to Ledo. The following year, China pooled its resources with its allies to hack out the Stilwell Road from Ledo to Wanting in Yunnan and laid, under American supervision, an oil pipeline through the entire length of the highway. The project apparently was part of a Calcutta-Digboi-N.Burma-Yunnan oil pipeline project decided at the Anglo-American summit at Quebec in the spring of 1943. A still-existing signboard on the national highway at Lekhapani gives the distances to various places in North Burma and South China.

10. About 265 unproductive wells were drilled before the Nahorkatiya discovery, of which 220 by BOC and AOC.

11. For the sake of geographic and geological continuity, West Bengal is included in northeast India.

12. Like all winds, it started as a breeze with the Industrial Policy Resolution of 1948 which divided industries into three categories:

(i) exclusive monopoly of the State like atomic energy, defence;

(ii) six industries in which the State took the responsibility for the establishment of new undertakings without disturbing the old such as coal, iron and steel, telephones, petroleum etc.; and

(iii) broadly controlled private enterprises in respect of 18 industries such as textiles, rubber, sugar, cement etc. Foreign investment was still welcome in the field of oil exploration and refining, and assurances were given that such investment would be accorded rational treatment. This was reiterated in an official policy statement by the Prime Minister on 6 April 1949. Two years later, the Industrial Development and Regulation Act, 1951 laid down specific guidelines for controlling private sector enterprises.

At the 60th session of the Indian National Congress held at Avadi on January 21-23 1955, the Socialistic pattern of society was adopted as India's natural destiny. The Industrial Policy Resolution of 1956 correspondingly reflected a hardened attitude. Increasing state intervention was envisaged in all sensitive industries and restrictions were placed on foreign investments, collaborations and pricing policies. It was the historically inevitable and logical assault on "the commanding heights of economy".

For an excellent account of the changing petroleum economics in India, the reader is referred to Vedavalli, 1976 and Dasgupta, 1971

13. As recently as December 1988 Hazat was in the news with ONGC officials trying to assure scared villagers about small gas quantities creeping to the surface through drought-induced crevices and catching fire. (Times of India dated Jan 4 1989).

14. As mentioned earlier, it actually started off as Oil India Private Limited with Government of India shareholding of one-third and BOC two-thirds. By successive constitutional changes the word 'Private' was dropped and on 27 June 1961 the Company became a joint venture in equal partnership between the two parties.

15. Each of these Companies had a colourful association with the Indian sub-continent. Price-wars, compromises, sharing of market territories marked their relationships. In the

fifties they were persuaded by guarantees of non-nationalization for 25 years to set-up Refineries; in the seventies they came under the national umbrella along with their marketing functions.

16. A production-sharing contract is a mutually beneficial arrangement through which the international oil industry collaborates with host governments in oil exploration and development. The risk of exploration is borne by the foreign contractor. If there is a commercial discovery, the host government or its nominated agent has the option to get back into the project from the development stage onwards. The government's share rises in accordance with a pre-determined ratio.

17. The categories into which the 26 presently recognized sedimentary basins of India have been divided are as follows:

CATEGORY I: Proved Basins with commercial production of petroleum: (i) Assam Shelf, (ii) Bombay Offshore, (iii) Cambay;

CATEGORY II: Basins with known occurrence of oil and gas but commercial production yet to be clearly established: (i) Andamans, (ii) Assam-Arakan fold belt, (iii) Bengal, (iv) Cauvery (since upgraded to Category I), (v) Himalayan Foothills and Ganga Valley, (vi) Rajasthan, (vii) Krishna-Godavari (since upgraded to Category I), (viii) Kutch-Saurashtra;

CATEGORY III: Basins with no significant oil and gas shows but geologically considered prospective: (i) Kerala-Lakshadweep, (ii) Mahanadi;

CATEGORY IV: Basins with uncertain prospects where basic data have yet to be generated for prognosis: (i) Deccan Syncline, (ii) Gondwana (e.g. Damodar), (iii) Karewa (Kashmir Valley), (iv) Narmada, (v) South Rewa (including Son-Satpura), (vi) Vindhyan, (vii) Pranhita-Godavari, (viii) Tectonized zones of Himalayas

The remaining 5 basins, namely, Bastar, Bhima, Chattisgarh, Cuddapah and Kaladgi, are not considered prospective on account of the age of the sediments, their low organic content and the severe metamorphism to which they have been subjected.

18. Presently, the sector-wise commitment of natural gas in Assam is as follows:

	Million Standard Cubic Metres per day (MMCUMD) Amount	% of Commit- ment
Fertilizer	2.21	84
Power	2.27	
IOC etc.	0.45	8.5
Others	0.40	7.5
	5.33	100
Additional Commit- ment to Power	0.47	
	5.80	

Consumers have been drawing only about 60 per cent of their committed quantity.

19. Biographical details of some of the expatriate staff taken from Corley, 1983.

ABBREVIATIONS

AOC	Assam Oil Company Ltd.
AR&T Co.	The Assam Railways & Trading Co. Ltd.
ASEB	Assam State Electricity Board
BOC	Burmah Oil Company Ltd.
bopd	Barrels of oil per day
CEF	Chief Engineer (Fields)
CGG of France	Campagnie Generale de Geophysique of France
CMD	Chairman & Managing Director
EOR	Enhanced Oil Recovery
ESSO	Esso Standard Eastern Inc.
FS	Field Superintendent
GOI	Government of India
HBJ pipe lines	Hazira Bijapur Jagdishpur pipe lines
ISC	Indian Science Congress
LPG	Liquefied Petroleum Gas
NHK	Nahorkatiya
OIL	Oil India Ltd.
ONGC	Oil and Natural Gas Commission
PLS	Pipeline Superintendent
PPL	Pakistan Petroleum Limited
RCE	Resident Chief Executive
SEDCO	South East Drilling Company
SOVC	Standard Vacuum Oil Company
Stanvac	
STA	Senior Technical Adviser
TA	Technical Adviser
TM	Technical Manager
WPC	Whitehall Petroleum Corporation

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MAINTENANCE OF HIGHWAYS - AN EVALUATION

Sudha Mahalingam

Only about one third of our National Highways have acceptable riding surface quality. The reason for poor maintenance of National Highways has been attributed to inadequate funds provided for maintenance. The present paper finds that, though adequate funds are made available, a considerable proportion is spent on contingent repairs arising out of damages due to floods and landslides and, as a result, routine maintenance gets neglected. On the other hand, expenditure on maintenance of State Highways seems to be lower than normative requirements. The paper underlines the need for strict supervision and control of maintenance expenditure, as well as periodic evaluation of riding surface quality, to render maintenance activity more responsive to requirements.

MAINTENANCE OF HIGHWAYS - AN EVALUATION

Capital assets like roads, buildings and irrigation projects have been created over a period of time, and as such, these warrant regular, adequate and timely maintenance, if they are not to deteriorate and fall into disuse. In the case of roads, the ratio of maintenance to replacement cost being as high as 1: 30¹, maintenance is a cost-effective option in a resource-scarce country like ours. The issue has assumed urgency in the context of two factors: First, according to the Planning Commission, there was already a backlog of maintenance arrears at the beginning of the First Five Year Plan [Planning Commission, 1987]. Second, even roads that were newly constructed during the Plans require regular annual maintenance and surface renewals every three to twelve years depending upon the type of surface. In the absence of adequate maintenance, the cumulative impact of these two factors is likely to be considerable.

From the available literature on the subject it is evident that the expenditure on maintenance is inadequate, relative to normative requirement. The Planning Commission conducted a critical study on the problem of road maintenance and reported its findings in February 1987. The study points out that the cumulative impact of neglect over the years has led to a rapid deterioration in riding surface quality and warns of an impending breakdown of the road network beyond redemption unless maintenance receives the priority it requires. It observes: "Availability of funds generally does not exceed even 60 per cent of normative requirements," although it adds that the circumstances may vary from state to state and

from one class of roads to the other [Planning Commission, 1987, p. 2].

A Study Group constituted by the Ministry of Surface Transport (MOST), under the chairmanship of A. J. Trivedi, to update norms for maintenance of roads submitted its report in August 1988. It found that, in 1983-84, only 29 per cent of the National Highways had acceptable riding surface quality. Table 1 gives the percentages of National Highways in Good, Fair and Poor condition, in 1983-84, in different States. Clearly, there are large inter-State differences. The Study Group also found that allocation of funds for maintenance was inadequate, and recommended a revised set of norms for each category of roads, to be applicable from 1989-90 onwards.

With particular reference to National Highways, the Comptroller & Auditor General (CAG) in his audit report on National Highways, published in 1989, points out several irregularities in their maintenance. Commenting on the inadequacy of funds, CAG remarks: "The shortfall in the provision of funds on maintenance has increased from 7.78 per cent during 1970-71 to 1974-75 to 44.16 per cent in 1987-88, affecting adversely, the state of maintenance of National Highways" [CAG, 1989, p. 27]. MOST has observed that there is shortfall between requirement and allotment for maintenance. Table 2 shows, for the period from 1970-71 to 1988-89, the shortfall between funds demanded by MOST and finally agreed to by the Ministry of Finance. The shortfall ranges from 5 per cent in 1970-71 to 47 per cent in 1986-87.

But, maintenance is by no means the sole

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The author expresses gratitude to the officials of the Ministry of Surface Transport (Roads Wing) for providing the necessary information, and to Dr. A. Bagchi and Dr. M.G. Rao of the NIPFP for their valuable suggestions. The usual disclaimer holds.

determinant of road conditions. In fact, despite adequate maintenance efforts, structural inadequacies and inherent crust deficiencies in construction could seriously hamper pavement quality. Heavier axle loads and increased traffic intensities, more than what the roads were originally designed to bear, also contribute to deterioration of road surface. To consider all these factors is outside the scope of this paper which is rather limited, namely, to examine the adequacy or otherwise of maintenance efforts. Technical committees appointed from time to time by the Ministry of Surface Transport have prescribed separate per unit norms for maintenance of road network on the basis of relevant criteria. Actual expenditure on maintenance is expected to conform to these norms. The paper proposes to evaluate the adequacy of maintenance in the case of two road networks - National Highways and State Highways at a disaggregated level, namely, state-level. For National Highways, this is done for the ten-year period, 1979-88, and for the State Highways, for the six-year period, 1978-84.

II

Road network comprises National Highways, State Highways, roads of inter-state importance, District roads, Urban roads, and Rural and Village roads, besides roads administered by agencies like Electricity Boards, Border Roads Organisation, and others. These are administered by different authorities; National Highways by Central Government, State Highways by State Governments, and Urban and Village roads by respective Local Bodies.

National Highways constitute an arterial network connecting state capitals, major cities and towns of economic importance. It has grown from 22,255 kms in 1950-51 to 33,925 kms in 1988-89. National Highways are constructed and maintained by MOST, Government of India. While MOST is responsible for the overall planning, sanctioning of projects, and providing funds from the Central Budget, the construction and maintenance is entrusted to State Governments on agency basis under Article 258 of the Constitution.

In 1984-85, National Highways constituted 1.8 per cent of the total road network in the country,

while they appropriated approximately 10 per cent of the total expenditure, and 7 per cent of the total maintenance expenditure, on all roads. During the decade 1979-88, maintenance accounted for 30 per cent of all expenditure on National Highways.

Maintenance of roads consists of routine maintenance on the one hand, and contingent maintenance on the other. Routine maintenance refers to ordinary repairs like patch and berm repairs, strengthening of pavements and shoulders, arboriculture, drainage, etc. It also includes periodic surface renewals through pre-mix carpeting, semi-dense carpeting, liquid sand seal coat, etc. Contingent maintenance is undertaken to set right damages caused by natural calamities like floods, earthquakes, etc., as well as certain special repairs. It varies from year to year and from state to state depending upon need.

In 1968, MOST appointed a Technical Committee to prescribe norms for routine maintenance as well as flood damage repairs and special repairs [Malhotra, 1968]. The Committee divided the National Highways into three categories based on width of carriageway into Single Lane, Double Lane, and Multilane Expressways. Each of these was further subdivided into sub-categories based on the volume of traffic passing over them, namely, Low Traffic (Less than 450 commercial vehicles daily (cvd)), Medium Traffic (450-1500 cvd), and Heavy Traffic (Over 1500 cvd). The country was divided into four zones based on the price of metal chips as the metal chips constituted a large proportion of maintenance cost and the price of metal chips varied considerably from region to region. Norms on a mile basis were prescribed for each of these categories and sub-categories. There was, thus, a separate set of per mile norms for maintenance of National Highways in each zone. Besides, certain fixed premia were allowed for National Highways in difficult terrain, namely, high rainfall areas, hilly areas, and desert areas. In this paper we have computed the average per kilometre norm for maintenance of National Highways in each state, based on these prescriptions.

We obtained from MOST, the distribution of National Highways according to lane width, traffic density, and terrain characteristics, in each

State for the year 1988 and computed the percentage of National Highways in each zone within each State. Applying the per kilometre norms for each category/sub-category/Zone, to the respective lengths of National Highways in each category/sub-category/Zone, we obtained, for each state, the total requirement for maintenance as per norms at 1968 prices; and, by dividing it by the length of National Highways in the state, we obtained the per km norm for maintenance of National Highways in each state, at 1968 prices.²

To arrive at the per kilometre norms for maintenance at current prices for the decade 1979-1988, we computed, from the Typical Rate Analysis provided by MOST, the percentages of labour, bitumen, and metal chip going into maintenance cost in each zone. Using weighted averages of lengths of National Highways in each zone, in each State, we computed the average shares of labour, bitumen and metal chips used in maintenance in each State. We then inflated the labour component of the norms at 1968 prices by the Industrial Workers Consumer Price Index³ (Labour Bureau), the bitumen component by the bitumen index calculated from the data provided by the Ministry of Petroleum & Chemicals, and the metal chip component by the implicit mining and quarrying price index in the National Accounts Statistics. This gave statewide per kilometre norms for maintenance at current prices for the decade 1979-1988. These are given in Table 3.

We also obtained, from MOST, the actual maintenance expenditure on National Highways, statewide, for the year 1979-1988. Dividing this by the length of National Highways in the respective states in the respective years, we arrived at the actual per kilometre expenditure on maintenance, statewide, for the decade 1979-1988, also at current prices.⁴

Both the norms as well as actual expenditures vary widely from State to State. To judge the adequacy of the actual expenditure in relation to the norms, we have expressed the actual expenditure as percentage of the norm (Table 4). It will be seen that, in 1979, all States/UTs except Delhi, Andhra Pradesh, Assam, and Gujarat spent less than the norm; Delhi spent over twice the norms. In 1980-1982, besides Delhi, only two States

(Gujarat and Kerala) spent in excess of the norm. However, beginning with 1983, in an increasing number of States/UTs, expenditure began to exceed norms. In 1988, in 14 States and three UTs, the actual expenditure exceeded the norm and, in some cases, by a large margin: Delhi 341.68 per cent, Goa 250.14 per cent, West Bengal 191.01 per cent, and Gujarat 184.89 per cent. The all-India average expenditure, as per cent of norm, was 81.00 per cent in 1979, dropped to 68.84 per cent in 1982, gradually increased to 96.66 per cent in 1985, 99.63 per cent 1986, 102.71 per cent in 1987 and shot to 123.71 per cent in 1988. In that year, the States where maintenance expenditure was below the norm were Bihar, Jammu & Kashmir, Madhya Pradesh, Manipur, Nagaland, Rajasthan, Tamil Nadu, and Arunachal Pradesh.

In Table 5, we give the normative requirement of funds computed by us for all-India, after making appropriate adjustments for lane-width, traffic density, geographical characteristics, and zonal location. To make this comparable with the figures given in col. 2 of Table 2, the length of National Highways in Mizoram, Sikkim, Tripura, and those maintained by Border Roads Development Board, Cochin Port Trust, and Ferry Vessels at Pandu is included in computing the total requirement of funds reported in Col. 2 of Table 5. Col. 3 gives the requirements projected by MOST. It may be noticed that, for 1979-83, our estimates are higher than those of MOST, while thereafter, they are lower than those of MOST. This is partly because of the in-built bias in our estimates referred to earlier². (ii). Besides, it is not clear what price index MOST uses to update the norms from year to year⁵. We have used a composite price index of labour aggregate and bitumen, in proportion in which they are used in maintenance. The index used by MOST seems to have risen much faster than our index. Col. 4 of Table gives the average per kilometre norm adopted by MOST, and Col. 5 gives the average per kilometre norm computed by us. From 1984-85, MOST figures are considerably higher than our figures, which explains the shortfall seen in Col. 5 of Table 2.

Besides, the percentage shortfall listed by MOST in Col. 5 of Table 2, is obtained by comparing requirement with allotment, which, in

our opinion, would be misleading, because, the States spend more than the allotted amount, most of which is subsequently reimbursed by the Centre. Therefore, in Col. 8 of Table 5, we have compared the difference between requirement (computed by us) and actual reimbursement. Here again, we find that there was a shortfall upto 1985 but no shortfall thereafter.

Thus, the problem of inadequate funds for maintenance is essentially a pre-1985 phenomenon and, therefore, in the case National Highways, citing paucity of funds as the reason for undermaintenance is untenable in the years after 1985. Besides, the gap between requirement and actual expenditure is not as large as it has been made out to be, if we go strictly by the norms. Moreover, the situation is not uniform all over the country. There are some States/UTs in which expenditure has constantly exceeded norms. Delhi, particularly, is a big spender, spending over twice the normative requirements during the whole decade. Even after compensating for input price increases and heavier traffic intensities, a majority of the States/UTs appear to be spending in excess of norms in recent years.

How does one explain the observation that less than a third of National Highways have acceptable riding surface quality (Table 1) if indeed adequate funds were available and spent for maintenance of National Highways, particularly after 1985? First, riding surface quality measurements relate to 1983-84, while spending in excess of norms is a post-1985 phenomenon. It is possible that there is improvement in riding surface quality after 1985. This calls for a periodic evaluation of riding surface quality. Second, it is also possible that the norms prescribed for maintenance were themselves inadequate. We do not feel technically competent to comment; we have taken the norms as they are given and adjusted them for increased traffic intensities and wider lane-widths.

Third, it is possible that a part of the maintenance expenditure is taken up by Flood Damage and other Special Repairs, at the cost of routine maintenance. That this is so is evident from Table 6 which gives the share of contingent maintenance in total maintenance expenditure. The Malhotra Committee (1968) allocated 20 per cent

of routine maintenance as the norm for Flood Damage and Special Repairs which works out to 16.66 per cent of the total. However, in a majority of States, the actual expenditure exceeds 16.66 per cent. Considering that states have little control over contingent expenditure, we decided to check the extent of deviation of routine maintenance expenditure with reference to norms for routine maintenance only.

The allotment figures for routine maintenance as well as for contingent repairs were available statewise, for the years 1979-88, from MOST. From these, we worked out the share of routine maintenance in the total maintenance (allotment). Applying these allotment proportions to the actual expenditures for the respective states for the respective years, we computed the likely actual expenditure on routine maintenance only, during the decade and compared this with the norms prescribed for routine maintenance by the Malhotra Committee all at current prices (Table 7). It will be seen that routine maintenance has suffered because of a high proportion of Flood Damage and other Special repairs. The country as a whole spent only 57 per cent of normative requirement on routine maintenance in 1979, while this proportion was 84 per cent in 1988. Perhaps, the 20 per cent of the normal maintenance earmarked by the Malhotra Committee is insufficient to meet contingent maintenance when the need arises. This was also the observation made by the Vora Committee appointed by MOST to review the agency system in September 1983. Planning Commission expressed the same view and suggested that the provision may have to be revised upwards [Vora, 1983, Pp. 15-16]. In this context, the recommendations of the Trivedi Study Group (1988) are timely [Trivedi, 1988].

III

State Highways are the next most important network in the country. Once again, we attempted to compare the actual expenditure on maintenance of State Highways with the norms prescribed for the purpose. However, detailed distribution of State Highways in terms of lane width, traffic density, and type of terrain was not available. Therefore we could not apply the same methodology, as used for National Highways, to

compute average per kilometre maintenance norm for State Highways. However, the Eighth Finance Commission had worked out the average per kilometre maintenance norms for single lane and double lane roads in different states at 1983-84 prices [Finance Commission, 1984, Annex III-22]. We obtained the length of single and double lane State Highways in different States during the years 1979-1983 from the *Statistical Abstract of India*, and computed the total normative requirement for maintenance of State Highways, using the same (as in the case of National Highways) composite price index as deflators. From the Combined Finance and Revenue Account of the CAG, we obtained the actual expenditure on maintenance of State Highways during the years 1979-1983 at current prices. Table 8 gives the actual maintenance expenditure as per cent of normative requirements.

Table 8 presents no consistent picture. In all the five years examined, the all India average expenditure on maintenance of State Highways is below normative requirements, although there are a few states (Assam and Bihar) where it is over 100 per cent. We ascertained from the Finance Commission that, in some years, a lot of stores and spares were accumulated, which were used in subsequent years which may explain the excessively high percentages recorded in some States. Also, it is possible that some expenditures of a capital nature are registered in the Revenue Account of the CAG, in which case, our index may be an overestimation.

Besides, States like Gujarat, Uttar Pradesh, and Kerala which have considerable lengths of State Highways record no revenue expenditure at all in some years and negligible expenditure in other years. In the absence of a clear and consistent picture, no conclusions can be drawn as to the state of maintenance of State Highways except to point out that, during 1979-83, the average maintenance expenditure on State Highways was below normative requirements.

In conclusion, we may note: First, that although the expenditure on maintenance of National Highways relative to normative requirements has been adequate in recent years, nearly 40 per cent of this was absorbed by Flood Damage and other

Special Repairs, seriously affecting routine maintenance. Second, that there are wide inter-State variations in the extent and magnitude of deviation of maintenance expenditures from normative requirements with an increasing number of States spending in excess of normative requirements. There are certain States/UTs which spend in excess of normative requirements even for routine maintenance, and in these States/UTs, paucity of funds for maintenance cannot be cited as a cause for undermaintenance of National Highways. If National Highways in these States do not have acceptable riding surface quality, it points to the possibility of leakage of funds provided for maintenance and calls for strict supervision and control of maintenance activities. Third, that the average expenditure on maintenance of State Highways fell short of normative requirements during 1979-1983.

In this context, it is relevant to reiterate that adequacy of even prompt and timely maintenance depends very much on the quality of surface prepared at the time of construction or the last surface course renewal and the pavement thickness in relation to the prevailing traffic. A discussion with the officials of Ministry of Surface Transport, as well as in the Central Road Research Institute suggested that newly built roads seldom possess the requisite riding surface quality. Perhaps here lies the problem of bumpy highways, not so much in the paucity of funds for maintenance.

NOTES

1. Cost kilometre of new construction obtained from Road Development Plan for India (1981-2001), Ministry of Shipping & Transport, Roads Wing, 1984. Maintenance norms per kilometre obtained from our own computation.

2. Although the norms were at 1968 prices, the distribution of National Highways by categories of lane width and traffic density pertained to 1988, so that the standardised per kilometre norm computed by us would take into account the distribution prevailing in 1988. While it would have been more accurate to take into account, the actual distribution prevailing in the year 1979-1988, this data was available for the year 1988 only. To the extent that there were fewer stretches of double lane roads and less traffic density in the years prior to 1988, our estimates of maintenance norms for these years will be an overestimation, and consequently our indices of deviation, an under-estimation. This may explain the seemingly in-built bias in the indices.

3. We tried inflating the labour component of maintenance

norms, using both Agricultural Labourers' CPI and Industrial Workers' CPI. The results were not very sensitive to the index used.

4. Both the norms and the actual expenditure exclude cost of spares/tools, etc., and depreciation of machinery and equipment.

5. The officials at the Ministry of Surface Transport, Roads Wing could not give any satisfactory indication of the exact index used for updating the norms.

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TABLE 1. CONDITION OF PAVEMENT OF NATIONAL HIGHWAYS, 1984-85

Sr. No.	State	(Percentages)		
		Good	Fair	Poor
1. Andhra Pradesh		31.97	55.09	12.94
2. Assam		0.81	78.73	20.46
3. Bihar		33.49	59.96	6.55
4. Chandigarh		100.00	0.00	0.00
5. Delhi		100.00	0.00	0.00
6. Goa		11.06	70.59	18.35
7. Gujarat		78.93	21.07	0.00
8. Haryana		33.84	66.16	0.00
9. Himachal Pradesh		10.84	47.89	41.26
10. J & K		65.92	23.53	10.55
11. Karnataka		24.81	55.43	19.76
12. Kerala		6.06	93.94	0.00
13. M.P.		20.63	61.58	19.69
14. Maharashtra		27.87	52.22	18.18
15. Manipur		0.00	0.00	100.00
16. Meghalaya		0.00	76.48	23.52
17. Nagaland		0.00	0.00	100.00
18. Orissa		0.00	36.49	63.51
19. Punjab		28.03	61.37	10.60
20. Rajasthan		37.52	23.23	39.26
21. Tamil Nadu		61.57	38.43	0.00
22. U.P.		22.22	66.91	10.00
23. West Bengal		52.29	45.85	1.87
24. Arunachal		0.00	100.00	0.00
25. Pondicherry		0.00	100.00	0.00
26. Mizoram		0.00	71.42	28.58
27. Sikkim		0.00	0.00	100.00
28. Tripura		0.00	61.13	38.87
All India		28.74	52.46	18.81

Source: MOST, (Roads Wing)

TABLE 2 FUNDS DEMANDED AND FUNDS FINALLY AGREED TO BY THE MINISTRY OF FINANCE FOR MAINTENANCE AND REPAIRS OF NATIONAL HIGHWAYS IN THE COUNTRY

(Rs Crore)

Year	Requirement Projected to Finance	Amount Provided	Shortfall	Percentage Shortfall
1970-71	13.50	12.83	0.67	4.96
1971-72	16.00	14.03	1.97	12.31
1972-73	16.62	15.79	0.83	4.99
1973-74	15.49	14.73	0.76	4.90
1974-75	19.59	17.50	2.89	10.67
1975-76	20.49	18.57	1.92	9.37
1976-77	24.29	21.00	3.29	13.54
1977-78	27.20	25.30	1.90	7.26
1978-79	34.50	28.85	5.65	16.30
1979-80	41.25	38.20	11.05	26.79
1980-81	55.55	37.00	10.55	33.39
1981-82	55.55	47.00	8.55	15.39
1982-83	60.08	51.00	9.00	15.00
1983-84	71.90	61.00	18.90	15.16
1984-85	188.30	75.00	33.30	30.75
1985-86	116.82	90.00	26.82	22.96
1986-87	176.78	94.25	82.53	16.69
1987-88	178.24	99.03	79.21	44.44
1988-89	176.36	117.50	58.86	33.37

Source: MOST, (Roads Wing)

TABLE 3. PER KM MAINTENANCE NORMS (1968) AT CURRENT PRICES (ROUTINE + FLOOD + SPECIAL REPAIRS) (INFLATED BY RESPECTIVE INPUT PRICE INDICES)

(Rs)

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
1. Andhra Pradesh	12,462.96	16,438.55	21,511.58	22,955.57	24,753.84	26,029.11	26,451.16	27,597.81	28,274.44	28,776.92
2. Assam	9,880.68	13,038.67	17,092.58	18,241.92	19,561.79	20,376.57	20,748.93	21,617.57	22,196.30	22,967.33
3. Bihar	15,690.84	20,409.97	26,970.06	29,793.99	31,837.30	32,626.76	33,167.84	34,310.91	35,305.46	36,636.35
4. Chandigarh	11,754.81	15,809.53	20,204.78	21,393.47	22,958.68	24,003.86	24,467.76	25,186.14	26,025.79	26,787.74
5. Delhi	27,961.04	36,626.49	47,734.82	50,985.18	54,601.10	56,491.84	57,823.80	58,991.46	62,767.49	64,357.68
6. Goa	12,272.29	16,112.73	21,269.47	22,809.21	24,596.39	25,916.33	26,428.30	27,517.12	28,333.60	29,042.15
7. Gujarat	13,733.12	18,284.49	23,482.70	25,194.58	27,165.61	28,357.18	28,742.93	29,779.08	30,751.26	31,300.83
8. Haryana	16,620.00	21,983.10	28,716.29	30,629.39	32,773.50	34,237.73	34,852.28	36,046.52	37,241.50	38,256.72
9. Himachal Pradesh	16,297.39	21,558.85	28,188.01	30,279.79	32,545.08	34,482.92	34,960.52	36,578.11	37,771.88	38,644.62
10. J & K	16,050.98	20,876.24	27,718.79	29,891.59	32,107.09	34,127.22	34,622.00	36,305.73	37,476.23	38,337.66
11. Karnataka	11,903.36	15,698.85	20,850.99	22,271.74	23,956.11	25,253.79	25,632.13	26,633.24	27,318.25	27,979.23
12. Kerala	16,386.28	21,518.37	29,035.66	30,789.90	33,322.46	35,233.07	35,509.89	36,834.24	37,761.97	38,226.89
13. M.P.	14,083.87	18,520.00	24,402.79	26,123.90	27,982.29	29,332.95	29,825.52	31,275.36	31,989.53	32,545.34
14. Maharashtra	14,515.42	19,295.30	25,035.72	26,759.38	28,895.99	30,373.24	30,986.46	32,226.48	32,417.71	34,158.09
15. Manipur	14,226.24	18,773.13	24,609.96	26,264.79	28,165.14	29,338.27	29,874.39	31,125.06	31,958.33	32,719.83
16. Meghalaya	14,127.35	18,512.71	24,503.96	26,204.39	28,087.00	29,311.85	29,842.85	31,110.76	31,905.30	32,635.25
17. Nagaland	14,952.40	19,593.87	25,935.02	27,734.76	29,727.31	31,023.69	31,585.70	32,927.66	33,768.60	34,541.18
18. Orissa	13,253.06	17,527.69	22,995.69	24,680.66	26,749.31	27,716.42	28,308.92	28,969.48	30,077.98	30,698.22
19. Punjab	15,427.90	20,749.62	26,518.27	28,078.40	30,132.69	31,504.47	32,113.33	33,056.19	34,158.20	35,158.25
20. Rajasthan	12,574.24	16,831.25	21,813.52	23,190.15	24,783.15	25,894.33	26,483.36	27,438.80	28,319.11	28,967.92
21. Tamil Nadu	18,796.43	25,013.71	32,062.72	33,956.75	37,034.56	38,589.19	39,531.79	41,016.18	42,494.70	44,793.65
22. U.P.	18,499.71	24,108.06	31,956.36	34,245.96	36,798.62	38,657.31	39,510.24	41,246.43	42,079.28	42,901.66
23. West Bengal	19,227.45	24,941.11	32,981.79	35,323.94	38,056.58	40,454.14	41,151.03	42,855.57	43,631.83	44,774.08
24. Arunachal Pradesh	12,346.71	16,120.49	21,277.06	22,756.89	24,398.32	25,459.57	25,943.60	27,079.30	27,824.68	28,818.29
28. Pondichery	12,279.99	16,341.83	20,947.06	22,184.46	24,195.24	25,210.90	25,826.72	26,796.49	27,762.43	29,264.37
All India	14,628.66	19,288.75	25,282.84	26,986.27	29,094.60	30,596.05	31,088.71	32,432.21	33,048.40	33,796.30

Source: Computed

TABLE 4. ACTUAL EXPENDITURE ON MAINTENANCE AS PER CENT OF 1968 NORMS

(Per cent)

Sr. No.	State	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
1.	Andhra Pradesh	101.80	78.76	69.78	71.12	101.28	109.34	89.21	101.90	126.37	138.88
2.	Assam	121.18	83.93	93.71	67.54	57.46	73.85	104.25	97.62	109.75	111.51
3.	Bihar	74.00	71.48	66.57	65.43	62.64	74.44	108.63	110.69	90.40	72.62
4.	Chandigarh	70.89	58.51	65.99	62.32	90.74	156.22	302.27	233.10	138.32	185.56
5.	Delhi	214.73	200.75	157.12	231.55	225.24	220.78	231.38	199.72	275.22	341.68
6.	Goa	63.16	45.67	48.04	57.84	138.43	87.92	153.67	353.30	207.76	250.14
7.	Gujarat	170.66	172.33	146.90	118.73	117.43	169.52	195.86	124.14	143.94	184.89
8.	Haryana	63.01	66.48	59.71	61.83	75.18	74.80	72.67	66.59	62.53	120.76
9.	Himachal Pradesh	90.22	73.78	53.21	59.72	54.90	62.44	68.30	95.51	114.35	151.22
10.	J & K	43.02	27.42	28.30	16.86	19.11	23.16	38.39	29.26	51.46	76.08
11.	Karnataka	60.47	79.41	73.04	83.47	90.37	82.39	90.01	100.30	113.65	142.11
12.	Kerala	90.96	118.07	140.04	119.01	97.90	107.70	114.33	155.35	148.16	129.76
13.	M.P.	59.29	45.24	51.07	56.71	53.87	61.23	77.90	74.69	75.75	92.97
14.	Maharashtra	78.06	79.37	71.34	80.27	102.86	89.91	104.78	107.74	110.68	131.26
15.	Manipur	71.19	31.47	46.08	30.30	39.43	39.72	50.58	59.60	51.54	47.47
16.	Meghalaya	47.01	36.47	50.59	66.38	109.35	121.83	130.79	100.26	75.16	114.98
17.	Nagaland	14.44	3.61	6.55	6.64	15.63	3.22	6.19	8.73	3.28	11.94
18.	Orissa	61.60	54.79	54.98	70.19	80.04	78.69	94.97	109.93	94.74	136.12
19.	Punjab	94.96	68.23	72.58	72.47	81.54	89.75	88.02	117.43	141.32	181.88
20.	Rajasthan	73.13	53.57	64.87	57.48	70.08	71.93	81.77	99.57	111.93	87.44
21.	Tamil Nadu	43.25	33.88	34.03	34.22	38.87	52.23	63.58	66.49	72.66	83.25
22.	U.P.	84.65	87.86	81.34	93.49	99.24	95.25	107.86	103.18	85.96	129.94
23.	West Bengal	98.31	85.08	83.06	52.71	65.75	92.48	116.02	120.27	131.31	191.01
24.	Arunachal			3.70	4.70	6.21	13.16	13.55	21.26	37.05	52.73
25.	Pondicherry						77.61	83.16	163.79	185.74	108.31
	All India	81.00	71.80	70.12	68.84	76.34	82.94	96.66	99.63	102.71	123.71

TABLE 5. ALL INDIA - DIFFERENCE BETWEEN REQUIREMENT AND ACTUAL EXPENDITURE ON MAINTENANCE OF NATIONAL HIGHWAYS

(Rs Crore)

Year	Total Requirement As per Norms Computed by us	Requirement Projected to Finance by MOST	Per KM Norm for Maintenance as per MOST Projections (Rs)	Per KM Norm for Maintenance as per Our Computations	Actual Expenditure Reported by States	Amount Reimbursed by Finance to MOST	Excess/Short fall of Reimbursement over Norm (7-2)
1979	42.46	41.25	14,214	14,629	34.50	n.a.	-
1980	60.52	55.55	17,704	19,289	43.19	40.84	-19.68
1981	79.50	55.55	17,667	25,283	55.55	47.74	-31.76
1982	84.85	60.00	19,082	26,986	59.07	56.47	-28.38
1983	91.67	71.90	22,821	29,095	70.22	68.77	-22.90
1984	97.35	108.30	34,037	30,597	81.51	80.26	-17.09
1985	98.92	116.82	36,727	31,089	96.19	87.57	-11.35
1986	105.30	176.78	54,447	32,432	104.25	106.97	1.67
1987	107.38	178.24	54,858	33,048	109.16	107.56	0.18
1988	114.65	176.36	51,985	33,796	131.01	140.30	25.65

Source: Col. 3, 4, & 6, MOST; Col. 7: Controller of Accounts (MOST)

Note: Maintenance of KM in Mizoram, Sikkim, Tripura, BRDB, ferry vessels at Pandu, Cochin Port Trust, etc., included in the computations.

TABLE 6. PERCENTAGE SHARE OF FLOOD & SPECIAL REPAIRS IN TOTAL MAINTENANCE EXPENDITURE (ALLOTMENTS)

Sr. No.	State	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
1.	Andhra Pradesh	41.84	26.88	28.84	17.24	43.39	49.02	24.90	29.64	46.44	37.74
2.	Assam	53.31	52.91	45.01	36.14	33.05	45.87	44.82	32.89	38.87	44.19
3.	Bihar	48.64	49.99	45.08	44.14	45.63	52.67	52.69	48.39	43.84	50.70
4.	Chandigarh	0.00	0.00	0.00	0.00	0.00	44.44	60.05	32.48	0.00	0.00
5.	Delhi	32.67	39.91	26.43	15.22	9.19	15.25	0.00	0.59	0.00	16.35
6.	Goa	27.96	14.82	39.17	18.90	19.19	51.52	54.07	75.68	29.06	50.70
7.	Gujarat	69.78	74.55	61.84	53.34	52.72	70.25	63.57	47.79	47.32	52.21
8.	Haryana	22.34	12.05	13.84	11.94	35.28	31.71	12.47	11.81	11.71	33.10
9.	Himachal Pradesh	74.90	62.31	59.10	60.64	48.75	46.16	41.02	47.50	55.83	69.28
10.	J & K	79.05	64.86	65.06	52.27	52.48	57.90	62.74	29.86	65.15	73.71
11.	Karnataka	21.42	40.27	38.43	36.45	48.56	41.59	31.14	27.56	18.33	22.12
12.	Kerala	54.11	58.88	54.99	46.99	20.01	42.05	34.32	28.34	37.00	52.89
13.	M.P.	23.28	13.09	16.39	16.39	25.82	39.98	32.53	32.14	27.39	27.63
14.	Maharashtra	32.01	27.22	30.32	29.60	49.37	42.84	36.44	29.57	39.35	40.82
15.	Manipur	32.55	38.34	37.11	32.79	38.90	25.85	43.70	29.14	40.74	49.71
16.	Meghalaya	26.29	7.57	19.10	40.34	65.63	65.39	61.25	46.34	25.73	45.94
17.	Nagaland	77.78	24.69	62.92	53.37	0.00	0.00	0.00	0.00	0.00	0.00
18.	Orissa	31.48	27.26	30.73	45.12	51.68	46.93	42.01	46.32	37.67	40.91
19.	Punjab	34.69	11.22	13.95	14.09	14.01	19.92	27.40	27.53	30.29	53.53
20.	Rajasthan	40.15	44.77	41.31	35.91	42.59	36.99	30.58	34.83	30.07	32.23
21.	Tamil Nadu	17.24	5.43	2.14	6.38	23.81	31.63	22.94	18.20	21.72	18.22
22.	U.P.	39.84	61.07	62.57	57.01	60.00	62.25	49.93	50.23	39.33	49.75
23.	West Bengal	42.20	39.83	34.78	31.37	24.87	39.33	47.08	36.62	52.63	53.89
24.	Arunachal							24.04	0.00	68.45	87.78
25.	Pondicherry							37.99	32.96	45.00	17.84
	All India	41.79	42.35	39.25	35.70	42.82	47.33	40.89	36.94	38.09	43.29

Source: The MOST (Roads Wing)

TABLE 7. ACTUAL MAINTENANCE EXPENDITURE ON ROUTINE MAINTENANCE AS PER CENT OF 1968 NORMS

Sr. No.	State	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
1.	Andhra Pradesh	71.05	69.11	59.59	70.63	68.80	66.90	80.40	86.03	81.23	103.76
2.	Assam	67.90	47.43	61.83	51.75	46.17	47.97	69.03	78.61	80.51	74.69
3.	Bihar	45.61	42.90	43.87	43.86	40.87	42.28	61.67	68.56	60.92	42.96
4.	Chandigarh	85.07	70.21	79.19	74.79	108.89	104.15	144.93	188.86	165.99	222.68
5.	Delhi	173.49	144.75	138.70	235.58	245.46	224.52	277.65	238.25	330.27	342.92
6.	Goa	55.05	46.68	35.07	56.29	134.24	51.15	84.69	103.10	176.85	147.97
7.	Gujarat	61.88	52.64	67.27	66.48	66.63	60.53	85.63	77.78	91.00	106.08
8.	Haryana	58.72	70.16	61.74	65.33	58.39	61.30	76.34	70.47	66.25	96.95
9.	Himachal Pradesh	27.17	33.37	26.12	28.21	33.76	40.34	48.34	60.17	60.61	55.74
10.	J & K	10.82	11.56	11.87	9.65	10.90	11.70	17.16	24.63	21.52	24.00
11.	Karnataka	57.02	56.92	53.96	63.66	55.78	57.75	74.39	87.18	111.37	132.80
12.	Kerala	50.10	58.27	75.64	75.71	93.97	74.89	90.11	133.60	112.02	73.36
13.	M.P.	54.59	47.18	51.23	56.90	47.96	44.10	63.07	60.83	66.01	80.74
14.	Maharashtra	63.69	69.31	59.66	67.81	62.49	61.67	79.91	91.05	80.55	93.21
15.	Manipur	57.62	23.28	34.78	24.44	28.91	35.35	34.17	50.48	36.37	28.65
16.	Meghalaya	41.58	40.45	49.11	47.52	45.11	50.60	60.82	64.55	66.96	74.59
17.	Nagaland	3.85	3.27	2.92	3.71	18.75	3.87	7.43	10.48	3.93	14.33
18.	Orissa	50.65	47.83	45.71	46.23	46.42	50.11	66.09	70.81	70.89	96.52
19.	Punjab	74.41	72.68	74.94	74.71	84.13	86.25	76.68	102.12	118.22	101.43
20.	Rajasthan	52.52	35.51	45.69	44.20	48.27	54.39	68.11	77.87	93.93	71.11
21.	Tamil Nadu	42.95	38.45	39.97	38.44	35.54	42.85	58.79	65.27	68.25	81.69
22.	U.P.	61.11	41.04	36.53	48.23	47.63	43.14	64.81	61.59	62.58	78.36
23.	West Bengal	68.20	61.42	65.01	43.41	59.28	67.33	73.68	91.47	74.69	105.69
24.	Arunachal			4.44	5.64	7.45	15.80	12.35	25.51	14.03	7.73
25.	Pondicherry						93.13	61.88	131.70	122.58	106.78
	All India	56.58	49.67	51.12	53.12	52.38	52.42	68.57	75.40	76.30	84.19

TABLE 8. ACTUAL EXPENDITURE AS PER CENT OF NORMS - STATE HIGHWAYS

Sr. No.	State	1979	1980	1981	1982	1983
1.	Andhra Pradesh	93.11	81.47	100.16	89.23	74.35
2.	Assam	553.18	442.73	545.44	441.96	498.45
3.	Bihar	235.17	311.50	281.90	161.35	172.78
4.	Goa	34.87	16.60	17.63	33.46	59.94
5.	Gujarat	-	-	-	-	-
6.	Haryana	84.25	62.85	48.55	51.76	41.87
7.	Himachal Pradesh	109.17	94.95	79.89	76.31	63.99
8.	J & K	-	-	-	-	-
9.	Karnataka	47.20	45.98	36.42	43.76	41.55
10.	Kerala	1.56	1.57	0.29	0.00	0.00
11.	M.P.	97.40	93.36	93.15	99.63	94.24
12.	Maharashtra	89.95	92.38	91.39	97.97	108.52
13.	Manipur	64.59	30.73	27.36	34.35	43.13
14.	Meghalaya	-	-	-	-	-
15.	Nagaland	21.20	68.29	63.52	84.76	114.21
16.	Orissa	56.75	68.62	60.72	59.77	58.34
17.	Punjab	115.46	84.39	60.86	69.26	50.78
18.	Rajasthan	80.21	62.19	68.01	54.07	79.28
19.	Tamil Nadu	110.45	67.63	222.33	64.12	109.90
20.	U.P.	-	-	-	-	-
21.	West Bengal	98.96	83.04	111.59	113.50	95.72
22.	Pondicherry	186.29	-	137.87	-	53.46
	All India	83.28	79.67	79.99	73.64	75.06

INTERSTATE VARIATIONS IN EXPENDITURES OF STATE GOVERNMENTS IN INDIA

Varkey K. Titus

There are large differences in the expenditure levels of different state governments in India. The present study attempts to determine the factors underlying these differences and analyses the performance of the fiscal transfer policies in narrowing these differences. Main economic determinants of the expenditure levels are per capita income and central government's assistance. While agreeing with the fiscal transfer regressivity hypothesis of previous studies, the study points out that recent changes in the direction of central transfer policies may have resulted in a moderately progressive transfer of financial resources to the poorer states.

In countries characterised by fiscal federalism, there are likely differences in the levels of taxation and expenditure among the states. Such differences on the revenue side are due to differences in the fiscal capacity of the states and/or in their tax effort. The differences on the expenditure side are due to the differences in the levels of public goods and services the state governments provide and in the investments they undertake. These differences can be partly reduced by fiscal transfers from the central or federal government to the state governments. The commonly used instruments for the purpose are sharing of revenue from certain central taxes and general purpose or earmarked grants from the central to the state governments. The role and scope of fiscal transfer policies and its impact on state governments' finances are important issues in fiscal federalism¹. In a broader sense these fiscal issues also affect the political and social stability of federations. India is one such country.

This study examines the differences in the levels of expenditure of the state governments in India, attempts to determine the underlying factors and analyses the performance of the fiscal transfer policies in narrowing the differences. The data covers the period from 1960-61 to 1986-87. The expenditure figures are calculated from the revenue and capital accounts of the states' budgets as published in the Bulletins of the Reserve Bank of India. We have adopted the official classification of total expenditure into development and non-development expenditures². At present, there are twenty-two states in the Union. However, only 15 major states are included in the present study for which data are available for the time period on a continuous basis.

EXPENDITURE AS SHARE OF STATES' DOMESTIC PRODUCT

Table 1 shows the development, non-development and total expenditures as percentage share of the states' domestic product (SDP) for the five year periods 1960-65, 1965-70, 1970-75, 1975-80, and finally for the seven year period 1980-87. SDP estimates for Haryana, Punjab, and Assam are not available for the first two periods. It will be seen that most of the increase in expenditure has been in the development category. The non-development expenditures have remained relatively stable between three and six per cent of the SDP.

Another way to compare levels of government expenditures in different states is to express them on a per capita basis. Table 2 shows per capita development, non-development, and total expenditures for five year intervals from 1960-61 to 1985-86 and for 1986-87. Clearly, Punjab, Haryana, and Maharashtra have higher per capita government expenditures, especially total expenditures, than any other states. On the other hand, they are the lowest in Uttar Pradesh and Bihar. The Table shows that the relative positions of the states at the bottom and the top have not changed over the years³.

DETERMINANTS OF PER CAPITA GOVERNMENT EXPENDITURE

An important determinant of per capita government expenditure is of course the per capita state income (SDP). To judge the responsiveness of the state government expenditures to SDP changes, we have calculated, for each state, the elasticity of per capita government expenditure (total) in relation to per capita SDP. These are based on, for each state, data for 27 years from 1960-61 to 1986-87. The estimated elasticities are

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given in Table 3. It will be noticed that, in all cases, the elasticities are greater than one and, in most cases, greater than 1.33 and, in the remaining, greater than 1.25. It means that with one per cent increase in per capita SDP, the per capita government expenditure has increased by more than 1.25 per cent and, in most states, by more than 1.33 per cent.

Across the states, differences in per capita government expenditure may be due to, besides differences in per capita SDP, differences in per capita federal transfers⁴. To examine the joint effect of these two factors, we have computed the following multiple regression across the states but separately for each of the years 1970-71, 1975-76, 1980-81, 1985-86 and 1986-87.

$$Y = a + b_1x_1 + b_2x_2$$

where

Y = per capita government expenditure

x₁ = per capita SDP

x₂ = per capita federal transfer

We have done this separately for the development, non-development, and total government expenditure. The results are shown in Table 4. The coefficient of determination can be interpreted as the proportion of variation in the particular dependent variable that is explained by the independent variables. Thus, for 1970-71, 55 per cent of the variation in per capita development expenditure of the 15 states is associated with variations in per capita income and transfer of funds from the central government. In relation to the per capita total government expenditure, 58 to 76 per cent of the variation between the states is due to differences in per capita state income and per capita transfer of funds from the federal government.

FISCAL TRANSFER FROM THE CENTRAL GOVERNMENT

As mentioned earlier, fiscal transfer policies of the central government can help reduce the interstate fiscal disparities. Revenue sharing from the central taxes, grants and loans are the instruments used in India to transfer resources from the centre to the states. A number of studies have

pointed out that India's fiscal transfer policies have not been successful in narrowing the fiscal differences among the states [Ansari, 1985; Bajaj, et al, 1985; Bhatia, 1979; Doss, 1978; Jha, 1983; Rao, 1981; Sinha, 1984]. The general conclusion of these studies is that the richer states (states with higher per capita income) have received more financial assistance from the central government than the poorer states and thus that the post-independence federal fiscal transfer policies have been regressive in nature. In order to evaluate the validity of the fiscal transfer regressivity hypothesis, we may examine the performance of the transfer policy instruments for the period under consideration. Total federal transfers include the states' share in income tax, union excise duties, estate duty, and grants from the Central government. Loans granted to the states by the Central government are not included in this study. Although such loans may have an element of grants equivalent, theoretically they are to be paid back. Therefore, loans are not included within the strict definition of fiscal transfer instruments.

Table 5A shows the total per capita federal transfer for the period from 1960-87 and for its various sub-periods. Grants are included in the total federal transfer (Table 5A), and are also shown separately in Table 5B. Because data for Assam, Haryana, and Punjab are not available for 1960-70, we have examined for them the total amounts and yearly averages for the period 1970-87 and sub-periods.

Considering the last sub-period, 1980-87, we notice that, among the poorer states, Assam, Orissa, and Rajasthan have received larger per capita fiscal transfers. On the other hand, Bihar, Madhya Pradesh, and Uttar Pradesh have received smaller per capita central transfers; nevertheless, they are larger than those received by some of the richer states such as Punjab, Haryana, Maharashtra, and Gujarat. Again, though Bihar received the lowest grants per capita, the other two states received closer to what is allocated to the richer states. Thus, the overall direction of the central transfer policy of recent years appears to be larger per capita allocation to poorer states.

NOTES

1. I will be examining some of these issues in the Indian context later in the study. For theoretical analysis of fiscal federalism, see Musgrave and Musgrave [Musgrave and Musgrave, 1989] and Buchanan and Flowers [Buchanan and Flowers, 1987].

2. The major categories under the Development Expenditure are: Education, Art and Culture, Scientific Services and Research; Medical, Family Planning, Public Health, Sanitation and Water Supply; Housing; Labor and Employment; Social Security and Welfare; Relief Expenditure on Natural Calamities; Co-operation; Agriculture and Allied Services; Industry and Minerals; Water and Power Development; Transport and Communications. The Non-Development Expenditure or General Services include: Administrative Services; Fiscal Services; Organs of State; Appropriation to Reserves and Interest Payments; Pensions and Miscellaneous General Services.

3. The only exception to this is for 1986-87; Uttar Pradesh has moved up to the fourth place from the bottom and Tamil Nadu has moved down to the second place.

4. For the purpose of this study total federal transfer includes the states' share from the central taxes - income tax, union excise duties, estate duty - and grants including statutory, plan, and discretionary grants.

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TABLE 1. EXPENDITURES OF STATE GOVERNMENTS AS PER CENT OF STATE DOMESTIC PRODUCT

State	1960-65	1965-70	1970-75	1975-80	1980-87
Development Expenditure					
Andhra Pradesh	8.32	8.42	8.34	14.18	16.63
Assam	NA	NA	11.48	12.62	14.94
Bihar	6.82	6.88	8.20	10.23	14.59
Gujarat	6.38	7.62	9.44	11.59	14.12
Haryana	NA	NA	9.90	12.45	14.38
Karnataka	10.06	10.32	9.22	13.29	15.91
Kerala	10.22	10.32	11.92	15.07	18.24
Madhya Pradesh	7.52	7.72	8.94	13.52	17.17
Maharashtra	5.30	7.18	8.94	10.25	13.40
Orissa	11.38	9.84	10.78	16.96	18.19
Punjab	NA	NA	8.24	9.79	10.50
Rajasthan	7.86	9.46	10.48	13.67	16.12
Tamil Nadu	7.64	8.58	9.90	11.45	15.50
Uttar Pradesh	5.14	5.20	7.78	11.03	13.07
West Bengal	5.30	5.20	6.60	9.02	10.79
Non-Development Expenditure					
Andhra Pradesh	3.40	4.50	3.62	3.78	4.51
Assam	NA	NA	5.40	4.67	5.22
Bihar	3.14	3.96	4.64	3.52	4.58
Gujarat	3.92	4.70	3.70	3.45	3.66
Haryana	NA	NA	3.82	3.27	4.05
Karnataka	3.70	4.94	4.09	4.12	5.64
Kerala	3.44	4.10	4.40	4.67	6.08
Madhya Pradesh	3.40	4.54	3.42	3.87	4.27
Maharashtra	4.10	5.62	5.22	4.53	5.46
Orissa	4.80	5.70	5.34	5.27	5.32
Punjab	NA	NA	3.44	2.96	3.99
Rajasthan	4.96	6.88	5.24	4.47	5.37
Tamil Nadu	3.48	4.76	4.26	4.17	4.72
Uttar Pradesh	3.60	3.56	3.86	3.83	4.34
West Bengal	3.56	3.74	4.04	3.24	3.87
Total Expenditure					
Andhra Pradesh	11.58	12.98	12.12	18.29	22.42
Assam	NA	NA	16.94	17.51	21.44
Bihar	9.92	10.84	12.84	13.81	20.00
Gujarat	10.30	12.36	13.20	14.13	18.88
Haryana	NA	NA	13.70	15.74	19.98
Karnataka	14.20	15.26	13.48	17.74	23.61
Kerala	13.66	14.42	16.32	19.78	25.76
Madhya Pradesh	10.92	12.30	12.38	17.66	22.60
Maharashtra	9.42	12.76	14.22	14.84	19.73
Orissa	16.78	15.54	16.16	22.59	24.33
Punjab	NA	NA	11.48	12.77	16.38
Rajasthan	12.82	16.38	15.76	18.26	22.83
Tamil Nadu	11.12	14.60	14.40	16.04	22.08
Uttar Pradesh	8.72	8.76	11.68	14.96	18.52
West Bengal	8.92	8.94	10.76	12.52	16.16

Source: Reserve Bank of India Bulletin (various issues) for expenditure figures.

Central Statistical Organization, New Delhi, for estimates of State Domestic Product.

Notes: 1. Total expenditure includes compensation and assignments to local bodies. 2. NA - Not Available

TABLE 2. PER CAPITA STATE EXPENDITURES FOR SELECTED YEARS: 1960-61 TO 1986-87

(Rs at current prices)

State	1960-61	1965-66	1970-71	1975-76	1980-81	1985-86	1986-87
Development Expenditure							
Andhra Pradesh	22.4	40.3	43.3	106.9	207.8	365.0	489.2
Assam	26.5	47.5	65.3	86.3	166.9	353.8	418.2
Bihar	14.8	20.8	29.4	58.4	127.9	256.9	274.7
Gujarat	22.7	36.5	57.9	108.7	253.0	465.9	578.0
Haryana	-	-	68.8	150.3	314.2	553.1	561.8
Karnataka	28.0	38.4	61.1	122.3	208.8	408.6	452.9
Kerala	23.2	37.7	62.3	129.2	246.1	449.5	463.1
Madhya Pradesh	16.6	28.6	37.3	82.3	195.4	352.6	394.4
Maharashtra	20.8	40.2	58.3	141.4	260.2	515.7	595.7
Orissa	16.4	43.8	43.5	100.7	223.5	336.7	401.7
Punjab	-	-	65.1	158.5	283.6	569.9	408.7
Rajasthan	22.7	39.6	48.4	108.4	194.1	336.3	408.0
Tamil Nadu	20.5	36.6	49.8	99.9	188.7	368.5	408.5
Uttar Pradesh	10.4	14.9	26.3	68.8	152.2	275.0	313.2
West Bengal	18.9	23.0	39.8	85.5	158.2	279.5	337.3
Non-Development Expenditure							
Andhra Pradesh	9.7	16.5	24.9	31.4	53.2	119.2	128.8
Assam	13.9	23.4	29.0	34.8	52.1	133.6	155.0
Bihar	8.2	13.3	23.1	22.6	42.8	78.0	91.2
Gujarat	13.0	27.1	34.3	38.3	72.5	135.2	156.8
Haryana	-	-	37.2	50.1	78.4	164.1	197.4
Karnataka	9.8	15.8	31.0	38.2	71.7	160.5	142.3
Kerala	8.6	13.6	24.7	42.6	64.9	146.7	196.4
Madhya Pradesh	10.1	17.0	18.7	27.7	45.3	91.1	117.7
Maharashtra	15.8	26.8	45.1	61.6	102.7	213.5	201.3
Orissa	6.9	19.8	25.3	36.7	53.0	106.7	135.3
Punjab	-	-	31.8	52.1	93.8	204.1	224.9
Rajasthan	13.6	22.5	43.9	38.5	60.7	122.8	134.7
Tamil Nadu	11.2	19.9	25.6	36.3	61.7	123.1	140.5
Uttar Pradesh	10.9	13.1	19.1	27.2	46.4	89.5	108.5
West Bengal	14.6	20.2	33.1	34.6	55.6	112.7	127.2
Total Expenditure							
Andhra Pradesh	31.5	57.3	68.1	140.8	265.4	491.8	584.5
Assam	40.4	70.9	94.3	123.3	220.9	546.1	701.8
Bihar	23.1	34.1	52.5	81.4	171.4	384.7	426.9
Gujarat	35.7	63.6	92.2	148.3	327.2	701.9	872.1
Haryana	-	-	106.1	200.4	392.9	894.4	1006.2
Karnataka	44.2	54.2	92.1	162.8	289.8	705.8	734.2
Kerala	31.7	51.3	87.0	171.9	312.0	713.3	766.6
Madhya Pradesh	26.7	45.6	56.0	110.4	246.3	505.4	568.6
Maharashtra	38.0	66.0	103.4	203.6	364.2	828.2	910.8
Orissa	30.5	63.6	68.7	138.2	278.0	493.2	592.5
Punjab	-	-	96.8	210.9	378.1	1061.2	967.5
Rajasthan	36.2	62.2	92.3	147.3	256.3	545.4	642.6
Tamil Nadu	31.7	56.5	75.3	139.7	256.7	633.9	681.5
Uttar Pradesh	21.3	28.1	45.4	96.7	200.3	437.0	499.6
West Bengal	33.5	43.2	72.8	122.7	225.9	497.4	576.0

Source: Reserve Bank of India Bulletin various issues, for expenditure figures.

Note: Per capita State Expenditures are estimated by using population estimates derived from the estimates of State Domestic Product and Per capita GDP taken from the Central Statistical Organization, New Delhi.

TABLE 3. ELASTICITY OF PER CAPITA GOVERNMENT EXPENDITURE IN RELATION TO PER CAPITA SDP IN DIFFERENT STATES

State	Elasticity	Standard Error	R ²	Durbin-Watson Statistic
Andhra Pradesh	1.3813	.0509	.9671	1.1813
Assam ²	1.2504	.0742	.9498	0.8122
Bihar	1.3976	.0414	.9785	0.9234
Gujarat	1.2890	.0369	.9798	1.9965
Haryana ³	1.4653	.0396	.9870	1.4703
Karnataka	1.2732	.0374	.9788	0.9853
Kerala	1.3518	.0309	.9871	1.0354
Madhya Pradesh	1.4118	.0442	.9761	1.0971
Maharashtra	1.3361	.0335	.9845	0.8754
Orissa	1.2425	.0452	.9679	1.1355
Punjab ³	1.3812	.0501	.9768	1.3821
Rajasthan	1.2862	.0514	.9616	1.9687
Tamil Nadu	1.3657	.0379	.9811	1.9712
Uttar Pradesh	1.4771	.0353	.9859	1.0193
West Bengal	1.3862	.0367	.9828	1.2037

Notes: 1. t tests showed that elasticity coefficients are significant at .05 or better level of significance. 2. Due to data limitations figures for Assam are from 1970-71 to 1986-87. 3. Figures for Haryana and Punjab are from 1967-68 to 1986-87.

TABLE 4. REGRESSION PER CAPITA STATE GOVERNMENT EXPENDITURE ON PER CAPITA STATE INCOME AND PER CAPITA FEDERAL TRANSFER TO STATES

Expenditure Category	Constant Term	Per Capita State Income	Per Capita Federal Transfer	Coefficient of Multiple Determination R ²
Development Expenditure				
1970-71	-6.9705	.0456 (.0146)	1.1013 (.4080)	.5506
1975-76	-1.9258	.0633 (.0189)	.9733 (.5710)	.5060
1980-81	-78.0193	.0949 (.0195)	1.5953 (.6524)	.6643
1985-86	183.9514	.0992 (.0198)	-.2681 (.4477)	.7274
1986-87	305.6196	.0538 (.0289)	-.1142 (.5669)	.2926
Non-Development Expenditure				
1970-71	4.1207	.0176 (.0107)	.5682 (.2973)	.3150
1975-76	-2.4872	.0176 (.0070)	.4940 (.2118)	.4510
1980-81	-51.5351	.0270 (.0074)	.8205 (.2462)	.5848
1985-86	29.2119	.0398 (.0087)	.0122 (.1974)	.6657
1986-87	-2.7872	.0406 (.0073)	.2187 (.1432)	.7301
Total Expenditure				
1970-71	-2.8498	.0632 (.0198)	1.6695 (.5516)	.5823
1975-76	-1.9435	.0799 (.0251)	1.4602 (.7554)	.4990
1980-81	-112.3401	.1193 (.0244)	2.3035 (.8167)	.6697
1985-86	153.0296	.2025 (.0300)	-.2101 (.6808)	.8189
1986-87	131.0859	.1784 (.0303)	.4469 (.5957)	.7680

Note: Standard errors of regression coefficients appear in parentheses below each coefficient.

TABLE 5A. TOTAL TRANSFER FROM THE CENTRAL GOVERNMENT: 1960-87
(Rs per capita at current prices)

	Total for the Period				Yearly Average for the Period			
	1960-87	1970-87	1970-80	1980-87	1960-87	1970-87	1970-80	1980-87
Andhra Pradesh	1478	1345	467	878	55	79	47	125
Assam	-	1936	662	1274	-	114	66	182
Bihar	1384	1283	400	833	51	75	40	126
Gujarat	1305	1155	420	735	48	68	42	105
Haryana	-	1203	408	795	-	71	41	114
Karnataka	1295	1148	375	773	48	68	38	110
Kerala	1560	1393	493	900	58	82	49	129
Madhya Pradesh	1386	1265	389	876	51	74	39	125
Maharashtra	1291	1164	412	752	48	68	41	108
Orissa	2061	1856	630	1226	76	109	63	175
Punjab	-	1242	472	770	-	73	47	110
Rajasthan	1638	1483	554	929	61	87	55	133
Tamil Nadu	1369	1243	374	869	51	73	37	124
Uttar Pradesh	1402	1298	411	887	52	76	41	127
West Bengal	1422	1297	454	843	53	76	45	120

TABLE 5B. GRANTS: 1960-87

(Rs per capita at current prices)

	Total for the Period				Yearly Average for the Period			
	1960-87	1970-87	1970-80	1980-87	1960-87	1970-87	1970-80	1980-87
Andhra Pradesh	617	548	214	334	23	32	21	48
Assam	-	1152	431	721	-	68	43	103
Bihar	455	414	135	279	17	24	14	40
Gujarat	528	463	158	305	20	27	16	44
Haryana	-	582	187	395	-	34	19	56
Karnataka	481	396	125	271	18	23	13	39
Kerala	673	574	232	342	25	34	23	49
Madhya Pradesh	507	447	135	312	19	26	14	45
Maharashtra	453	407	134	273	17	24	13	39
Orissa	1114	978	374	604	41	58	37	86
Punjab	-	570	230	340	-	34	23	48
Rajasthan	850	759	310	449	32	45	31	64
Tamil Nadu	462	403	110	293	17	24	11	42
Uttar Pradesh	539	495	151	344	20	29	15	49
West Bengal	527	476	193	283	20	28	19	40

Source: Reserve Bank of India Bulletin (various issues)

DEVELOPMENT OF POLICY TOWARDS SOCIALLY AND EDUCATIONALLY BACKWARD CLASSES

F.K. Wadia

The problem of ameliorating the conditions of the socially and educationally backward classes in the country has been over a century old. Two types of facilities were considered from time to time, viz., enhancing their educational standards and reservation of jobs in government services. In the pre-Independence period, such reservations were largely undertaken in the Bombay and Madras Presidencies and the Princely State of Mysore. The Constitution of Independent India laid down special provisions for these classes. Two Central Commissions, in 1953 and 1979 respectively, were set up to examine the conditions of the backward classes and make recommendations for improvement of their lot. Nearly all the States in the country have appointed Committees and taken measures such as reservation of seats in educational institutions and jobs in State Government services. But the acceptance by the Central Government of the Second Commission's Report has resulted in widespread disturbances.

The problem of ameliorating the lot of the backward classes of the country has been over a century old. As early as in 1882, the Education Commission appointed by the then Government of India referred to the 'aborigines, Musalmans and the poorer classes' whose poverty had practically debarred them from all education. The Commission recommended a number of concessions for these classes in the matter of education, including exemption from payment of fees, extra allowances, establishment of a graduated system of scholarships, setting up of special schools, etc.

Educational Facilities for Backward Classes

However, nothing much was done. In 1929, the Auxiliary Committee of the Indian Statutory Commission (Hartog Committee) again raised the question. The Committee stated: "The problem of effective school provision is complicated by the barriers of caste, by religious, communal and linguistic difficulties. in many parts of India they are peculiarly acute and they impede the construction of a system of mass primary education which on grounds of social solidarity as well as on grounds of economy and efficiency is now generally regarded as the best type of public system, - a system under which the children of all sections of the population sit together in the same school and enjoy equal opportunities of education. The existence of millions of persons, who are regarded by the majority of the population as untouchable and who in some places cannot even use all the public roads and wells,

creates an educational problem which it would be difficult to parallel elsewhere. In Madras, for example, large numbers of schools are situated in areas which the Hindu social system does not permit a depressed class pupil to enter" [Hartog, 1929, p. 39]; further: "the general economic position of the villager is unfavourable to the spread of education or an appreciation of its advantages. If an appeal to him to educate his children is to be successful, it must rest on a concerted effort to make the school an instrument of village 'uplift', economic and social as well as intellectual" [Hartog, 1929, p. 37]; and hence: "if the 'depressed' and 'untouchable' classes are to be enabled to start fair, something must be done for them, and to this extent they are treated as favoured communities" [Hartog, 1929, p. 206].

The Committee found that in all the provinces, special measures had been adopted to develop and expand the education of the depressed classes, but the need for special treatment had varied between province and province. These measures included (i) the right of admission of depressed class pupils in all publicly managed schools, (ii) the opening of special schools and hostels for the depressed classes, (iii) the remission of fees and the provision of scholarships, (iv) special scholarships for the 'backward classes', (v) remission of fees in the primary and secondary classes, etc. The Committee was "strongly of the opinion that the policy of the 'mixed school' is the right one. The system of segregate schools tends necessarily to emphasise rather than to reduce the differences between the depressed classes and the other Hindu castes. All the provincial Governments

have for some years past ordered that depressed class pupils should receive equal opportunities of entering into, and equal treatment, in all publicly managed institutions. But the figures for the enrollment of depressed class pupils suggest that, unfortunately these orders have not been strictly carried out. We feel strongly that the wisest policy for the future will be a determined insistence on the carrying out of the orders of the provincial Governments, instead of an extension of the system of separate provision" [Hartog, 1929, Pp. 226-228].

Demands for State action to provide the socially and educationally backward communities with increased facilities for education continued to be made from time to time, but it was not until 1944 that definite provision for the purpose was made in the Central Budget. In 1944, Government of India decided to institute a scheme for the award of scholarships to Scheduled Caste candidates to enable them to pursue post-matriculation education in scientific and technological subjects. The scheme was restricted to British Indian subjects only and an annual grant of Rs 3 lakh was given for a period of five years beginning from 1944-45. Later, in 1948, the scheme was extended to the Scheduled Tribes. The working of the scheme was reviewed by the Government in 1948-49. It was decided "to extend the benefits of the scheme to educationally backward classes other than Scheduled Castes and Scheduled Tribes". A revised scheme of scholarships was formulated "to include also other backward classes recommended as such by the respective State Governments in relation to their territories. A grant of Rs 10 lakh was sanctioned for the year 1949-50 for scholarships for all approved post matriculation courses in India" preferably "Medicine, Engineering, Technology, Agriculture and Science. With the coming into force of the Constitution of India from 26th January, 1950, the problem of the education of the Backward Classes came to the forefront and almost all the State Governments put into operation their own schemes for the grant of educational concessions to these classes at all stages of education particularly at the Primary and Secondary stages. Demand for

the expansion of the Central Scheme of Scholarships at the post-matriculation stage, by providing larger funds, became more insistent" [Ministry of Education and Scientific Research, 1957, Pp. 2-3]. These stipends and scholarships have continued until now.

In addition to the Scheduled Castes and Scheduled Tribes, the other backward classes eligible for these scholarship were defined as "Castes, races or tribes other than those recognised as Scheduled Castes or Scheduled Tribes, which are recommended as educationally backward classes by State Governments in relation to their respective territories" [Ministry of Education and Scientific Research, 1957, p. 5].

The Report of the Education Commission, 1964-66 stressed "the important social objective of education .. to equalize opportunity, enabling the backward or under-privileged classes and individuals to use education as a lever for the improvement of their condition. Every society that values social justice and is anxious to improve the lot of the common man and cultivate all available talent, must ensure progressive equality of opportunity to all sections of the population. This is the only guarantee for the building up of an egalitarian and human society in which the exploitation of the weak will be minimized" [Kothari, 1966, p. 108]. The Commission's recommendations in this context referred largely to the Scheduled Castes, Scheduled Tribes, and the nomadic and semi-nomadic groups.

Reservation of Posts for Backward Classes:

(a) Pre-Independence Period

The demand for employment in government service commenced from early British days. Initially, the demand was from the more literate and forward communities in the areas occupied by the British. Accordingly, in 1833, an Act was passed by the British Parliament nominally opening up "administrative offices in India to the natives, irrespective of caste, creed, or race". However, the East India Company "had not sufficiently opened up the higher posts in its services to natives of education, talent or proved fidelity. It had taken steps in this direction in respect to the lower grades of appointments. But the

prizes of Indian Official life ... were then the monopoly of a handful of Englishmen". Even "the Army supplied no career to a native officer which could satisfy the reasonable ambition of an able man" [Imperial Gazetteer, Vol II, 1908, Pp. 509 & 514].

Employment of Indians in the administrative Offices began from Bengal, where the seat of British Administration commenced. "Higher Caste Bengalis served the colonial administration officials as mint-masters, Commissaries and subordinates In the south, Tamil and Telegu Brahmins moved into British service with alacrity" [Gazetteers of (a) East India Company, 1854 (b) Southern India, 1855 cited in Bayly, 1988, II. 1, p. 153]. As the administration spread to other parts of the country, employment in government services were drawn almost entirely from among Brahmins, and a few upper castes having a literate tradition. The dominance of upper castes in government services and the prestige and power the service commanded attracted other castes and communities too. In Bihar, for example, "the Government service commanded great respect, irrespective of emoluments for it A clerk in the Government service getting a small salary commanded more respect in society than a *mahajan* who employed *munshis* of similar rank. Thus a Goala earning good income by selling his milk and milk products would rather see his son as a clerk or even as a *chaprasi* than continue with the family trade" [Bihar, 1970, p. 102].

From the second half of the nineteenth century, particularly in south India, and in the Bombay Presidency, the sons of rich peasants among the dominant land owning castes, and of local traders and money-lenders who expanded into commerce, started to acquire English education. A small fraction of this newly educated class came from lower *Shudra* cultivating, artisan and trading castes and even from among untouchables. *Shudra* aspirants to English education and government employment were confronted in the Presidencies by the virtual monopoly of *Brahmins* and other *litterati* castes over the new sources of prestige and power created in colonial educational, administrative and judicial institutions.

Reservation of posts in the public services in favour of backward classes came to be considered from this period onwards in some parts of the country. The then princely State of Mysore announced in 1874 reservation for backward classes. In 1895, a Circular was issued making appointments in the Public Services in Mysore, with reservation in fixed proportion for the 'Brahmins, Musalmans and other Hindu castes'. The Ruler of the State "issued strict instructions that reservation of posts should be earmarked for all communities, except the Brahmins who had a practical monopoly of the entire services. In spite of such reservations, the position did not change. Hence in 1918, the Government of His Highness the Maharaja of Mysore observed that there was a large preponderance of Brahmins in the public services and that steps should be taken to ensure that all other important communities in the State are also adequately represented in the services of the State. For this purpose, the Government appointed a Committee in August 1918 under the Chairmanship of Sir Leslie C. Miller, Kt, Chief Justice, to investigate and report on the problem". The Committee was to consider the changes needed in the existing rules of recruitment to public services and to suggest what special facilities be given to members of backward communities to encourage them to take to higher and professional education. The Committee defined the Backward Classes to include all communities in the State other than the Brahmins, the Europeans, and the Anglo-Indians. Based on the recommendations of this Committee, the Government of Mysore issued orders in 1921 extending special facilities to the Backward Classes with regard to education and recruitment in State services. "This position continued till the Reorganisation of the State in November 1956" [Havanur, 1975, Pp. 57-58].

The anti-Brahmin movement for employment in government offices was most acute in the British Presidencies of Madras and Bombay. The Muslims were the first to be treated as a backward class in Madras in 1872. By a resolution passed by the Education Department of the Province in August 1885 special inducements were to be given to this 'backward class' for promoting their education and employing those qualified among

them in the public service. Later, the term depressed classes was extended to all backward classes. A Grant-in-Aid Code was framed in that year to regulate financial aid to educational institutions, providing special facilities for students of depressed classes. "Subsequently, in 1921, acting on a resolution passed by the State Legislative Council, Madras Government took steps for higher representation of non-Brahmins in Government services. The scheme was reviewed in 1927 and the scope of reservation was enlarged further, dividing all the communities in

the State into five broad categories and earmarking separate quota for each category" for recruitment to Government services. This system continued until 1947 when the quotas were revised (Table 1). The 1947 scheme continued until 1951 when it was struck down by the Supreme Court of India. Later, Government of Madras passed revised orders for reservation quotas for the backward classes and Scheduled Castes and Scheduled Tribes [Mandal, 1980, Vol. I p.5].

TABLE 1. RESERVATION OF POSTS IN MADRAS GOVERNMENT SERVICE

Group	1927		1947	
	No. of Posts	Quota Reserved	No. of Posts	Quota Reserved
1. Non-Brahmin Hindus	12	5	12	6
2. Brahmins	12	2	14	2
3. Scheduled Casts/Depressed Classes	12	1	14	2
4. Muslims	12	2	14	1
5. Anglo-Indian/Christians	14	2	14	1
6. Backward Hindus			14	2

Source: *Report of the Backward Classes Commission*, First Part, 1980, p. 10.

In the then Bombay Province the demand for reservation for non-Brahmins first in the legislative bodies of the Province, districts and blocks, and later for recruitment in Government services, began in the 1920s. The Marathas and allied castes were in the forefront in this agitation. As a result, a resolution was passed in 1927 which prescribed a minimum of 50 per cent recruitment from 'backward classes' (non-Brahmins and untouchables) to clerical staff in all Government departments [Legislative Council Debates, 1927, Pp 1,218-19]. Earlier, the Government of Bombay, Finance Department Resolution No 2,610 of February 5, 1925 had defined backward classes as all except Brahmans, Prabhus, Marwaris, Parsis, Baniyas and Christians. However there was little progress in recruitment of backward classes. In 1928, the Government of Bombay set up a Committee to identify backward classes and recommend special provisions for their advancement. In its report, submitted in 1930, the Committee classified backward classes into three categories viz., depressed classes, aboriginal and hill tribes, and other backward

classes. The Committee recommended special facilities for these categories in the matter of education and recruitment to Government services. The Government of Bombay issued instructions accordingly in May 1933 [Government of Bombay, General Department Resolution No. 9,330 dated May 29, 1933]. Later in April 1942, by a Resolution of the Political and Service Department, the Government of Bombay categorised the classes into 'intermediate' and 'backward'. The intermediate classes consisted of as many as 228 castes and communities including Darji, Gam Vakkal, Gangadikar, Halvakki Vakkal, Indian Christians, Jains (Chaturta, Panchas, and Shetwal), etc. The backward classes consisted of 49 castes and communities, 29 aboriginal and hill tribes, and 139 nomadic, semi-nomadic, and criminal tribes and begging communities. The advanced classes who were not eligible for any concessions comprised Brahmans, Buddhists, Parsis, and certain sections of Muslims and Jains.

At the all-India level, the first official recognition of the depressed and backward

classes was in the Government of India Act, 1919 which gave them separate representation on a number of public bodies. The Government of India Act, 1935 replaced the nomenclature of depressed classes to Scheduled Castes, and separate lists of Scheduled Castes were notified to the various Provinces. The nomenclature 'Scheduled Tribes' came to be used in the Constitution of independent India.

*(b) Post-Independence Period
The First Backward Classes Commission*

Article 340 of the Constitution of India provides "(1) The President may by order appoint a Commission consisting of such persons as he thinks fit to investigate the conditions of the socially and educationally backward classes within the territory of India and the difficulties under which they labour and to make recommendations as to the steps that should be taken by the Union or any State to remove such difficulties and to improve their condition and as to the grants that should be made for the purpose by the Union or any State and the conditions subject to which such grants should be made, and the order appointing such Commission shall define the procedure to be followed by the Commission. (2) A Commission so appointed, shall investigate the matters referred to them and present to the President a report setting out the facts as found by them and making such recommendations as they think proper. (3) The President shall cause a copy of the report so presented, together with memorandum explaining the action taken thereon to be laid before each House of Parliament."

The first Backward Classes Commission was set up by a Presidential Order under Article 340 of the Constitution, in January 1953. The Commission was expected to (a) determine the criteria to be adopted in considering whether any sections of the people in the country (including Scheduled Castes and Scheduled Tribes) should be treated as socially and educationally backward classes; and in accordance with such criteria, prepare a list of such classes setting out also their approximate numbers and their territorial distribution; (b) investigate the conditions of all such socially and educationally backward classes and the difficulties under which they labour; and make recommendations as to the steps required to be taken to

remove their difficulties or improve their conditions. The Commission submitted its Report in March 1955.

After determining the criteria to be adopted, the Commission prepared a list of 2,399 backward castes or communities for the entire country and 837 of these were classified as most backward. The Registrar General and Census Commissioner of India assisted the Commission in making population estimates of 930 backward castes or communities. The recommendations of the Commission to improve the conditions of the backward classes were wide ranging, the more important ones being (i) undertaking caste-wise enumeration of population in the 1961 Census, (ii) relating social backwardness of a class to its low position in the traditional caste hierarchy of the Hindu society, (iii) treating women as a class, 'backward' (iv) reservation of 70 per cent seats in all technical and professional institutions for qualified students of backward classes, and (v) minimum reservation of vacancies in Government services and local bodies for backward classes at 25 percent for Class I, 33.33 per cent for Class II and 40 per cent for classes III and IV. The Report of the Commission was not unanimous and the Chairman of the Commission (Shri Kaka Kalelkar), in his forwarding letter to the President expressed his reservations on several of the recommendations and opposed the acceptance of caste as the basis for backwardness.

Government laid a copy of the Commission's Report in Parliament in September, 1956, together with a Memorandum of the action taken on the Report. The Memorandum stated: "For the purpose of the enquiry specifically contemplated in Article 340 of the Constitution it was necessary to consider whether these other backward sections could be properly classified, and the Commission had to find objective tests and criteria by which such classifications were to be made; they had to find indisputable yardsticks by which social and educational backwardness could be measured. The report of the Commission has not been unanimous on this point, in fact, it reveals considerable divergence of opinion. ... The Commission's list contains as many as 2,399 communities out of which 930 alone account for an estimated population of 11.5 crores; Scheduled Castes and Tribes will make up another 7 crores (on the basis of 1951 Census). ... If the entire community, barring a few exceptions, has to be

regarded as backward, the really needy would be swamped by the multitude and hardly receive any special attention or adequate assistance, nor would such dispensation fulfil the conditions laid down in Article 340 of the Constitution" and finally "It cannot be denied that the caste system is the greatest hindrance in the way of our progress towards an egalitarian society, and the recognition of the specified castes as backward may serve to maintain and even perpetuate the existing distinctions on the basis of caste" [Mandal, 1980, Pp. 1-2]. Incidentally, the Commission's report was not discussed by the Parliament.

The Central Government ultimately took a decision that no all-India lists of backward classes should be drawn up, nor any reservation made in Central Government services for any group of backward classes, other than the Scheduled Castes and Scheduled Tribes. On August 14, 1961, the Ministry of Home Affairs addressed all the State Governments: "Even if the Central Government were to specify under Article 338(3) certain groups of people as belonging to 'other backward classes', it will still be open to every State Government to draw up its own lists for their purpose of Articles 15 and 16. As, therefore, the State Governments may adhere to their own lists, any all-India list drawn by the Central Government would have no practical utility." Finally, "While the State Governments have the discretion to choose their own criteria for defining backwardness, in view of the Government of India it would be better to apply economic tests than to go by caste." [Mandal, 1980, p. 2]. Subsequently, a number of State Governments set up their own Commissions or Committees for defining criteria for backwardness and recommending measures for its removal.

With the reorganisation of States in 1956, Mysore State was merged with Coorg and parts of Bombay, Hyderabad, and Madras, to form the present State of Karnataka. On the basis of lists drawn up in the different areas, the new State prepared a uniform list of backward classes for the whole of Karnataka. The list was struck down by the Mysore High Court in 1959. In January 1960, a Backward Classes Committee was set up by the Government of Karnataka with Dr. R. Naganna Gowda as chairman. The Government Order, 1961, based on the recommendations of this Committee, was struck down by the Supreme

Court with the observation that the State Government had committed a fraud by the powers vested in it by Article 15(4) of the Constitution. In view of this, as a temporary measure, the State Government, started treating individuals instead of classes as backward for giving them special benefits. The validity of this temporary measure was challenged in the Mysore High Court in July 1963, and "the High Court observed that caste was a relevant, nay, an important factor in the determination of backward classes and that classifying individuals as backward was a very imperfect classification which had harmed the Hindu backward castes, that the State Government should soon make a proper classification, lest its bonafides should be questioned" [Havanur, 1975, Pp. 7-8].

Thereafter, in August 1972, the State Government appointed another Backward Classes Commission under the chairmanship of Shri L.G. Havanur, which submitted its Report in November 1975. In its findings, the Commission stated that it had not gone by the criterion of caste in deciding the social backwardness of caste and communities. Instead, it had relied on multiple tests, such as economic, residential, and occupational factors in determining social backwardness of castes and communities. It had worked out the percentage of their population in the State and recommended reservation of vacancies in Government services as follows (Table 2).

TABLE 2. RESERVATION RECOMMENDED FOR BACKWARD CLASSES IN KARNATAKA

	Name of Backward Classes	Percentage of Population	Percentage of Reservation
1.	Backward Communities	19.20	16.00
2.	Backward Castes	14.47	10.00
3.	Backward Tribes	8.00	6.00
	Total	41.67	32.00

Source: As at Table 1. p. 8.

Similar reservations were proposed in educational institutions. The Commission also recommended the setting up of a separate Financial Corporation and a Directorate for Other

Backward Classes. Broadly accepting the Commission's recommendations, the State Government ordered the following reservations for backward classes in services and educational institutions (Table 3).

TABLE 3. RESEvation FOR BACKWARD CLASSES IN KARNATAKA, 1975

Name of Backward Classes	Percentage of Reservation in	
	Educational Institutions	Government Services
1. Scheduled Castes	15	15
2. Scheduled Tribes	3	3
3. Backward Communities	20	18
4. Backward Castes	10	10
5. Backward Tribes	5	5
6. Special Groups	15	15
Total	68	66

Source: As at Table 1, p. 8.

Note: To satisfy the Brahmins, Lingayats and other forward Communities excluded by the Havanur Commission, the Government of Karnataka added a 'Special Group' irrespective of caste/community consisting of actual cultivators, artisans, petty businessmen, persons holding 'inferior' appointments (class IV or equivalent), and self-employed or those engaged in manual labour.

In 1978, the two Government Orders were challenged before the Karnataka High Court on many grounds. The Court upheld the division of Backward Classes into three categories, the creation of the special group and the inclusion of Muslims and Scheduled Caste converts to Christianity; but struck down certain castes from the definition of Backward Classes. The matter was taken up before the Supreme Court where, in November 1982, the Government of Karnataka gave an assurance for the setting up of another Commission to examine the matter.

Accordingly, in April 1982, the Second Backward Classes Commission was set up with Shri T. Venkataswamy as its chairman. The Commission submitted its Report in 1987. It identified backwardness according to 17 socio-economic/education indicators covering caste/community, houseless/siteless families, families living in pukka/kutch houses, families with annual income of less than Rs. 5,000 and more than Rs. 20,000, families holding one standard acre of land and more than 20 standard acres, population of agricultural labourers, urban settlers, illiterates, drop-outs below the seventh

standard, etc. Based on these indicators, the Commission identified as socially backward 15 communities under group A categories and 20 under group B categories. The Commission took the SSLC (Secondary School Leaving certificate) performance test as yet another indicator. It treated 15 communities under group A categories whose SSLC performance was below the state average but above 50 per cent of it and 20 communities under group B whose performance was 50 per cent below the state average. Further, of the 35 communities so identified, 31 were identified as backward from the employment point of view and recommended that (a) 35 castes/communities be treated as backward for educational purposes and of them 31 for employment purposes; (b) an overall reservation of 27 per cent for both purposes, 14 per cent for group A (comprising 18 per cent of the population) and 13 per cent for group B (15 per cent population); (c) gradual upliftment of the backward classes through reservation in promotions, and carry forward system for unfilled quotas; (d) exclusion from the reservation benefits all those with annual basic income above Rs. 15,000 per annum, and all those whose grandparents and parents had availed the benefits under education/employment; (e) insistence of income certificates for claiming the benefits; and (f) abolishing of the 'special group' categorised by the State Government, as only the forward communities had benefitted mainly by entry into professional colleges and state services.

The Report raised a storm in Karnataka, as out of over 200 communities/castes earlier identified as backward, the Venkataswamy Commission identified only 35 communities. The State Government decided to set up another Commission; in the interim period nearly all the castes except Brahmins (other than Padartis, Staniks and Vysyas) were covered as Backward Classes.

The third Backward Classes Commission was set up in March 1988 with Justice O. Chinnappa Reddy as chairman. The Commission submitted its Report in April 1990. The Commission arrived at the conclusion that social and educational backwardness was the outcome of economic underdevelopment, educational unawareness, and the caste degradation. The Commission

divided the list of backward classes into three categories based on economic, education, and caste/social criterion. 52 caste/communities were included under category I, 14 under category II, and numberless occupational groups under category III. The population covered under the first two categories was about 8 per cent and 33 per cent, respectively. The Commission made a number of recommendations for these categories - (a) exclusion from reservation of all those, whose either parent is/was employed in higher grades (A or B) or is a qualified professional as doctor, engineer, etc., is an income tax or sales tax assessee or is owner of more than eight hectares of rain-fed dry land or its equivalent; and also all those whose parents are graduates; (b) eligibility for the reservation benefits by any member of the BCs only on production of a tehsildar's certificate issued on affidavits by parents and by a 'responsible resident' of the locality; (c) punishment by imprisonment up to six months of all those who obtain false certificates and of all their accomplices including the issuing authorities, and forfeiture of benefits issued through such certificates; (d) application of the reservation rule not only for the initial appointment but also for the first stage of promotion; (e) setting up of a permanent committee for making the reservation scheme self-moderating and self-regulatory, by evaluating the progress of each of the castes, communities included in the BC's list, by deciding before February 15 every year whether the list needs any revision on a consideration of how each of them has fared in the SSLC examination and in the admissions to higher employment and higher education during the preceding three years and by recommending measures for their overall advancement; and (f) creating conditions for the advancement of the BCs through literacy and poverty eradication, education, and economic improvement programmes, rather than substituting such programmes by mere reservations from which in any case a select few benefit and not the bulk of the BCs [Radhakrishnan, 1990, Pp. 1,749-1,754]. The Report has yet to be accepted by the State Government.

Prior to the formation of the State of Kerala, the government of Travancore-Cochin had reserved in 1952 posts in services to several communities in proportion to their population. 35 per cent of the vacancies reserved for the backward classes were distributed by an Order of 1952 to Ezhava Hindus (13 per cent), Muslims (5 per cent), Kammalas (3 per cent), Nadars (3 per cent), Syrian Christians (1 per cent), Latin Christians (6 per cent), Other Hindus (2 per cent), and Other Christians (2 per cent) [Havanur, 1975, Vol. I Part II, p. 80].

In June 1961, Government of Kerala appointed an Evaluation Committee under the chairmanship of Shri V.K. Vishvanathan. The Committee submitted its report in October 1963 and recommended (1) reservation of 40 per cent of the seats in technical and professional colleges for OBC students and 10 per cent for students belonging to Scheduled Castes and Scheduled Tribes; (ii) the same reservation be made applicable to all fresh appointments under the State Government; and (iii) appointment of an Expert Committee to go into the question of reclassification of backward communities. The State Government accepted these recommendations except that reservation of seats for OBC students in the technical and professional institutions was limited to 25 per cent.

The decision of the Government regarding the reservation of seats in educational institutions was challenged under Article 15(4) of the Constitution in the High Court of Kerala and the State Government was directed to start a fact-finding enquiry and evolve objective criteria for giving educational benefits to backward classes. Accordingly, a Commission was appointed by the State Government under the chairmanship of Shri G. Kumara Pillai in July 1964. The Commission submitted its Report in December 1965. Its main recommendations were (a) classification of 91 communities as 'backward'; (b) benefits recommended in the Report to be extended only to those members of the Backward Classes whose aggregate family income was below Rs 4,200 per annum; and (c) in technical and professional institutions 25 per cent of the seats to be reserved for OBCs. It also indicated separate quotas for various categories of OBCs in the allocation of

these seats. The State Government accepted these recommendations with the modification that the income ceiling of Rs 4,200 was raised to Rs 6,000 per annum. No action was taken to disturb the existing arrangements regarding the reservation of 40 per cent posts under the Government for Other Backward Classes.

Subsequently, based on a petition filed before it, the Kerala High Court directed the State Government to 'undertake a detailed survey and collect the relevant data periodically regarding reservation of jobs for backward classes'. Accordingly, the Government appointed the Backward Classes Reservation Commission under the chairmanship of Shri M.P. Damodaran in October 1967. The Committee submitted its report in June 1970. The Government took more than eight years in examining the Report and as the findings had lost their validity, felt a new enquiry commission would need to be appointed. In the interim period, certain minor adjustments were made regarding the *inter se* percentages of reservations in services prescribed for the eight separate groups of other Backward Classes without disturbing the overall reservation of 40 per cent (Table 4).

TABLE 4. RESERVATION FOR OBCS IN KERALA

Name of Group	(per cent)	
	Reservation for Class IV Posts	Reservation for other than Class IV Posts.
1 Ezhavas	11	14
2 Muslims	10	12
3 Latin Catholics & Anglo Indians	4	4
4 Nadars	1	1
5 Scheduled Castes Converts to Christianity	2	1
6 Communities like Asaris, Kammalas, Viswakaranas, etc.	2	3
7 Dheevara Community	2	1
8 Other Backward Classes	8	4
	40	40

Source: As at Table 1. p. 9.

The Government of Madras (now Tamil Nadu) ordered in 1964 that 16 per cent of all posts under the State Government should be reserved for Scheduled Castes and Scheduled Tribes and 25 per cent for Backward Classes. Orders were

issued for reserving 15 per cent seats for Scheduled Castes and Scheduled Tribes and 25 per cent for Backward Classes, for admission to medical colleges, etc.

In November 1969, Tamil Nadu Government appointed a Backward Classes Commission under the chairmanship of Shri A.N. Sattanathan. The Commission submitted its report in November 1970. Its main recommendations were (i) the existing list of Backward Classes contained several inconsistencies and the same should be rationalised; (ii) 33 per cent of posts under the State Government should be reserved for the candidates of Other Backward Classes; (iii) the above reservations should be followed in respect of admission to various professional and technical institutions also; and (iv) various educational concessions, special coaching facilities, etc., should be provided to the students of Other Backward Classes [Mandal, 1980, p. 11].

Keeping in view the recommendations of the Commission, various Supreme Court judgments, and the population of Scheduled Castes and Scheduled Tribes in the State on the basis of the 1971 Population Census, the State Government ordered reservation of 31 per cent of all posts for Other Backward Classes and 18 per cent for Scheduled Castes and Scheduled Tribes. In respect of educational institutions also, the reserved quota for these two categories of students was fixed at 31 per cent and 18 per cent, respectively. The State Government enhanced the reservation quota to 50 per cent for Other Backward Classes from January 1980, in addition to the 18 per cent for Scheduled Castes and Scheduled Tribes. This Order was challenged before the Madras High Court and later in the Supreme Court [Mandal, 1980 p. 11].

While disposing of the writ petitions on October 15, 1982, the Supreme Court directed the Tamil Nadu government to appoint a Commission within two months for reviewing the existing list of Backward Classes in the State after enumeration and a factual and scientific investigation of their conditions. In pursuance of this directive, the State government constituted on December 13, 1982, the Second Backward Classes Commission with Shri J.A. Ambasankar as chairman. The Commission submitted its report in 1985. It got conducted a door-to-door census for enumeration of backward classes, and organised a 5

per cent random sample survey of school and college students to ascertain their educational conditions. For determining social and educational backwardness, the Commission applied the criteria of social, occupational, economic, and educational backwardness as manifested through caste/class, occupations, poverty, educational attainments and illiteracy.

The Commission awarded nine points for indicators of social backwardness and six points for those of educational backwardness. Those communities in the existing backward classes list which scored eight points or more out of the 15 points, with at least two points under educational backwardness, were recommended for retention in the backward classes list. Also those communities not in the backward classes list which scored more than 50 per cent of the points were recommended for addition to the list as 'socially and educationally backward classes' for purposes of reservations in educational institutions under Article 15(4) of the Constitution. The communities recommended were 174 from the existing backward classes list in Tamil Nadu, and 24 from communities not so listed. The Commission estimated their total population at 67 per cent of the state population, and suggested that reservations for them be restricted to 32 per cent so as to ensure that, in confirmation with court rulings, the total reservations did not exceed 50 per cent (32 per cent for backward classes and 18 per cent for scheduled Castes and Scheduled Tribes).

Of the communities so declared as backward, those whose representation in services was found to be less than the state average by 10 per cent were recommended for purposes of reservations under Article 16(4) on quantitative basis. 111 communities from the existing backward classes list and five communities not so listed were

recommended for such reservation [Radhakrishnan, 1989, Pp. 1,265-68]

The Government of Tamil Nadu continued the 50 per cent reservation quota for backward classes and 18 per cent for Scheduled Castes and Scheduled Tribes in both educational institutions and public services. Considering the Commission's estimate that 67 per cent of the population belonged to the backward classes, the Vanniyars community accounting for 19 per cent of the backward classes population were given, on a trial basis, from March 1989, 20 per cent reservation out of the overall 50 per cent for backward classes.

In Andhra Pradesh, the Andhra districts of the former Madras Presidency were governed by the reservation policy of Madras Presidency until their merger for the formation of Andhra Pradesh in 1960. In 1966, the Government of Andhra Pradesh notified a list of 112 communities as 'Other Backward Classes and ordered reservation of seats for them in Government services and professional colleges, etc. Several writs were filed against this order. The High Court of Andhra Pradesh struck down the order on the ground that the State could not produce evidence regarding the social and educational backwardness of the listed communities.

In 1968, the Government of Andhra Pradesh appointed a Backward Classes Commission under the chairmanship of Shri Manohar Pershad. The Commission submitted its report in June 1970. The Commission identified four different categories of 'Other Backward Classes' (OBC), and recommended reservation of seats both in professional colleges and in Government services. The recommendations of the Commission and Governments acceptance in this connection are given in Table 5.

TABLE 5. RESERVATION IN PROFESSIONAL COLLEGES AND GOVERNMENT SERVICES
IN ANDHRA PRADESH, 1970

Category of OBCs	As Recommended by the Commission (per cent)	As Accepted by the Govern- ment (per cent)
1. Aboriginal Tribes Vimukta Jatis, Nomadic and Semi-Nomadic Tribes	7	7
2. Vocational Groups	13	10
3. Harijan Converts	1	1
4. Other Classes	9	7
Total	30	25

Source: As at Table 1, p. 6.

The State Government also accepted the Commissions' recommendations that candidates selected on merit in an open competition would not be adjusted against the reserved vacancies. The reservation of 25 per cent was extended to all posts under the control of local bodies, State Government undertakings, etc.; 25 per cent of house-sites and 15 per cent of the houses constructed by the State Housing Board were also reserved for the OBCs. Backward class students whose family income was below Rs 6,000 per annum were exempted from the payment of tuition fees and were eligible for award of scholarships, hostel facilities, etc.

Subsequently, a Committee of the fifth Legislative Assembly, with Shri Agisam Veerappa as chairman, was set up to recommend further measures for the welfare of the backward classes. In its report, submitted in 1977, the Committee recommended (i) the grant of scholarships from the first standard onward instead of the sixth standard; (ii) enhancement in the rate of scholarships; and (iii) lowering the qualifying marks for OBCs from 40 per cent to 35 per cent for admission to various institutions. Government of Andhra Pradesh accepted these recommendations [Mandal, 1980, p. 6].

After the bifurcation of the former Bombay State into Maharashtra and Gujarat, the Government of Maharashtra appointed a Committee in November 1961 under the chairmanship of Shri B.D. Deshmukh to report on reservation of Backward Classes in the services. In its report, submitted in January 1964, the Committee recommended that (i) Backward Classes should be grouped into (a) Scheduled Castes and Neo-Buddhists, (b) Scheduled Tribes, (c) Denotified and nomadic Tribes and (d) Other Backward Communities; and (ii) reservation in services and educational institutions should be related to the percentage of their population in the State. The Government broadly accepted these recommendations and made reservations in State services and educational institutions for the four categories of Backward Classes as given in Table 6.

TABLE 6. RESERVATION FOR OTHER BACKWARD CLASSES IN MAHARASHTRA

Name of Category	Percentage of Reservation
1. Scheduled Castes and Scheduled Castes converts to Buddhism	13
2. Scheduled Tribes	7
3. Denotified and Nomadic Tribes	4
4. Other Backward Communities	10
	40

Source: As at Table 1, p. 9.

Subsequently, in April 1979, the State Government issued orders that 80 per cent of all vacancies under the State Government, local bodies, etc., should be reserved for the economically weaker sections of society. The weaker sections were defined as families whose income was less than Rs 200 per month. Where adequate number of suitably qualified candidates were not available, preference for the balance of the reserved seats was to be given to candidates whose family income ranged from Rs 200 to Rs 400 per month. It was further clarified that 80 per cent reservation was inclusive of the earlier reservation made for the four categories of Other Backward Classes [Mandal, 1980, Pp. 9-10].

The Government of Gujarat set up a Backward Classes Commission in August 1972 with Shri A.R. Bakshi as chairman. The Commission submitted its report in 1976. The Commission listed 82 castes and communities as socially and educationally backward classes and recommended measures for their advancement. These measures included (i) reservation of 10 per cent of seats in medical, engineering and other professional institutions; (ii) reservation of 10 per cent of vacancies in all Class III and Class IV Government services; (iii) reservation of 5 per cent of all Class I and Class II vacancies in all Government services, local bodies, State public undertakings, etc., (iv) reservation of 10 per cent of seats in training-cum-production centres; and (v) award of scholarships and other educational facilities to OBC students provided their parental income did not exceed Rs 4,800 per year. This income limit was raised to Rs 7,200 in the case

of nomadic tribes and denotified tribes. All the recommendations were accepted and implemented by the Government of Gujarat [Mandal, 1980, p. 7].

The anti-reservation movement which had erupted in Gujarat during 1980-81, resulted in the setting up of the second Backward Classes Commission in March 1981 with Justice Rane as chairman. The Commission submitted its report in December 1983. Earlier, the Bakshi Commission had identified 82 communities mainly on the basis of caste though indices of backwardness had also been taken into account. The Rane Commission used occupation and income as criteria for indentifying backwardness. The Commission wanted the reserved seats in educational institutions to be made available to those whose family income was less than Rs 10,000 per year. It also fixed reservation at 28 per cent after considering the percentage of population living below the poverty level. The Government of Gujarat accepted the reservation quota at 28 per cent recommended by the Commission without, however, accepting its criteria. Instead, it set up a one man committee to determine the castes who could be classified as OBC to take advantage of the increased quota [Patel, 1985, Pp. 681-682].

In 1952, the Government of Jammu and Kashmir issued an order for reservation of posts for Muslims and others and break the monopoly of Kashmiri Pandits who held over 90 per cent of all posts in Government service. The distribution by reservation was, 50 per cent for Muslims, 40 per cent for Dogra Hindus from Jammu, and the remainder for Kashmiri Pandits, Sikhs, Buddhists, and others. Muslims, Sikhs, and Dogras were defined as backward classes [Havanur, 1975, p. 102]. In 1956, the State Government notified Civil Service Rules which *inter alia* provided that reservation could be made for backward classes in Government services. In November 1967, the State Government appointed the Gajendragadkar Commission, and one of the terms of reference was to examine the existing recruitment policies with a view to recommending measures for giving equitable

representation to various regions, communities, and backward classes in Government employment. In its report in December 1968, the Commission recommended that economic backwardness, occupation, habitation, literacy and caste (in respect of Hindus) should be the criteria for determining backward communities and that a High Power Committee should look into the matter.

Accordingly, a Backward Classes Committee was set up in February 1969, with Shri. J.N. Wasir as chairman. The Committee submitted its report in November 1969. Based on the Committee's recommendations, the State Government framed the Jammu and Kashmir Scheduled Castes and Backward Classes (Reservations) Rules, 1970. Certain lacunae were pointed out in these Rules by the Supreme Court. Consequently, a new Committee under Justice (Dr.) Adarsh S. Anand was appointed in August 1976. The Committee submitted its report in September 1977 and recommended that (i) permanent residents of the State falling in specified weak and under-privileged classes and (ii) residents belonging to specified backward areas, be declared backward classes. The benefits to be given to these backward classes included (i) reservation of 42 per cent of vacancies arising in all Government services; (ii) reservation of 42 per cent seats in all technical and professional institutions; and (iii) award of scholarships and stipends to students whose family income did not exceed Rs. 3,000 per annum and award of similar scholarships and stipend at higher rates to students from backward classes with the same limit on their family income. These reservations would be in addition to the 8 per cent reservation for Scheduled Castes in the State [Mandal, 1980, Pp. 78].

The Government of Bihar had prepared in 1951 a list of 109 backward classes for award of post-matriculate scholarships under the scheme launched by the Government of India since 1944. In 1964, the Patna High Court had declared the list invalid as it had relied on caste as the criterion

for backwardness. The State Government therefore decided that the educational benefits should be given only to such students of Other Backward Classes mentioned in the 1951 Order whose family income was below Rs 500 per month. For admission to medical colleges the income limit was fixed at Rs 250 per month.

The State Government appointed a Backward Classes Commission in June 1971 with Shri Mungeri Lal as chairman. The Commission submitted its report in February 1976. It identified 128 communities as 'Backward' and 94 of them were classified as 'Most Backward'. The Commission recommended (i) reservation of 20 per cent vacancies in all Government Departments, local bodies and State Government undertakings for the candidates of Other Backward Classes. In addition, 3 per cent of such vacancies were recommended to be reserved for women and the same percentage for economically weaker sections. Only those candidates should be given this benefit whose family income was below the minimum income tax limit; (ii) reservation of 24 per cent seats in engineering, medical and other professional institutions for students of other backward classes; and (iii) grant of various other benefits like allotment of house sites, grant of scholarships, reimbursement of tuition fees, etc., to OBCs [Mandal, 1980, Pp. 6-7].

The State Government accepted these recommendations with some revisions in November 1978. Instead of providing 26 per cent reservation to all Backward Classes, "it was decided to provide 12 per cent reservation to exceptionally backward castes, 8 per cent to the other backward castes, 3 per cent for women, and 3 per cent for the economically weaker sections of the upper castes". Further, only those backward class families with an annual family income below the income tax limit were eligible for reservations. "The revised formula made it clear that reservations were not permanent and with the upward mobility of the backward classes, the facility would be gradually abolished. It was also made clear that reservations would apply only in the case of direct recruitment and not for promotions. The revised formula became effective from

November 18, 1978 [Bharti, 1990, p. 2,407]. In July 1979, the Government of Bihar clarified that the reservation quota indicated the minimum and not the maximum quota for backward class candidates; and that the percentage of backward class candidates selected on merits should not be adjusted against their reserved quota.

The then Government of Punjab had appointed a Committee on Backward Classes in 1951. On the basis of the recommendations of that Committee, the State Government declared 14 castes constituting 2 per cent of the State's population as Other Backward Classes. Identification was done on the basis of economic, educational and social backwardness. 2 per cent seats in services were reserved for these backward classes; similar concessions were given in respect of admission to educational institutions.

In 1965, an Evaluation Committee was appointed with Shri Brish Bhan as chairman to review the concessions of backward classes. In its report submitted in August 1966, the Committee recommended (i) the existing list of backward classes should be rationalised so that classes or castes who were no longer backward could be excluded; and (ii) the existing reservation of 2 per cent of seats in educational institutions should be raised to 5 per cent. The Committee also observed that reservation in services was not serving any useful purpose and Government should give concessions mainly in matters of education. The Government did not accept the Commission's recommendations for abolishing reservation in services. Instead, these were raised to 5 per cent both for services and educational institutions.

In its Fourth Report 1975-76, the Punjab Vidhan Sabha Committee on Welfare of Scheduled Castes, Scheduled Tribes and Backward Classes recommended that 15 per cent reservation should be made for OBCs in services. The State Government examined this recommendation and pointed out that as 25 per cent seats were reserved for Scheduled Castes and 20 per cent for ex-service men and as the reservation limit could not exceed 50 per cent, only 5 per cent of seats could be earmarked for Backward Classes [Mandal,

1980, p. 10].

The Government of Himachal Pradesh had reserved from 1965, 5 per cent of all posts for OBCs and extended educational concessions to OBC students as in the erstwhile State of Punjab.

In Haryana, provision was made in 1965 for reservation of 10 per cent for posts in Government services and 2 per cent in professional and technical institutions for Other Backward Classes. In addition, scholarships were awarded for post-matriculate studies, exemption from tuition fees, and relaxation in qualifying marks for students whose parental income was below Rs 4,200 per annum. The Government of Haryana appointed a Commission in September 1990, under Shri Gurnam Singh to investigate the reasons for backwardness of various agricultural communities/classes in the State such as the Ahirs, Gujars, Sainis, Jats, Jat-Sikhs, Rodes, and Meos. The Commission, in its report submitted in the same year, recommended 69 per cent reservation for jobs and for admissions to educational institutions in the State. In addition to the seven communities/classes mentioned above, the Gurnam Singh Commission included Rajputs, Tyagis, and Bishnois as 'backward'. The State Government accepted the Commissions recommendations and issued notifications in February, 1991.

The State Government's notifications were challenged in the Supreme Court by a voluntary organisation on the grounds that all the ten communities identified by the commission as 'backward' were, 'forward' communities and, further, that more than 50 per cent reservation on the basis of backwardness was unconstitutional. The Supreme Court declined to stay the operation of the notifications in April 1991, but issued notice to the Haryana Government and its Social Welfare Department on the writ petition.

In October 1975, the Government of Uttar Pradesh set up a Most Backward Classes Commission with Shri Chhedi Lal Sathi as chairman. The Commission submitted its Report in 1977. It recommended the classification of Backward

Classes into three categories and prescribed reservation of separate quota in Government services, and in educational institutions, for each of the three categories as shown in Table 7. Further, it recommended that preference may be given to students of poor families. Special provisions of hostel facilities, scholarships, etc., were also recommended.

TABLE 7. RECOMMENDATIONS OF THE SATHI COMMISSION FOR UTTAR PRADESH

Name of Category	Percentage of Reservation in Government Services
1. List 'A' Comprising Landless Labourers, Unskilled Workers, Non-artisans, and Domestic Servants.	17
2. List 'B' Comprising Marginal and Small Cultivators	10
3. List 'C' Muslim Backward Classes	2.5
Total	29.5

Source: As at Table 1, p. 10.

The Government of Uttar Pradesh accepted partially the recommendations of the Commission. 15 per cent of all vacancies in Government services were reserved for Other Backward Classes. Similarly, reservations of 15 per cent was made for admission to all technical and professional institutions. These orders of the State Government were challenged in the Allahabad High Court and later before the Supreme Court [Mandal 1980, p. 10]. The Allahabad High Court, while striking down the State Government Order, had suggested that the State should keep under constant periodical review, the list of backward classes and the quantum of reservation of seats for the classes determined to be backward at a point of time.

The Government of West Bengal set up a Committee in August, 1980, to study whether it was necessary to invoke the powers vested in the State Government under Articles 15(4), 16(4), and 29(2) read with Article 15(4) of the Constitution. In its Report submitted on August 30, 1980, the Committee recommended that poverty and low levels of living standards rather than caste

should be the most important criteria for identifying backwardness. It also recommended the identification of occupational groups as backward and formulation of a comprehensive programme for the economic development and educational advancement of those groups who were below the poverty line. The Committee was against the reservation of quotas in Government services for backward classes. The report of the Committee was accepted by the Government of West Bengal [Mandal, 1980, p. 11].

The Second Backward Classes Commission

In January 1979, the President appointed the second Backward Classes Commission, with Shri B.P. Mandal as Chairman, to (i) determine the criteria for defining the social and educationally backward classes, (ii) recommend steps to be taken for the advancement of the socially and educationally backward classes of citizens so identified, and (iii) examine the desirability or otherwise of making provision for the reservation of appointments or posts in favour of such backward classes of citizens which are not adequately represented in public services and posts in connection with the affairs of the Union or of any State. The Commission submitted its Report in December 1980.

In its very first Chapter titled 'The First Backward Classes Commission', the Mandal Commission made some observations on Governments' decisions on the report of the First Commission. It referred to a letter which the Home Ministry addressed to all the State Governments which concluded: "They (Government of India) also consider that while the State Governments have the discretion to choose their own criteria for defining backwardness, in the view of the Government of India it would be better to apply economic tests than to go by caste" (emphasis added by the Commission); and commented: "As the main thrust of Government's development programmes has always been the removal of mass poverty, this pre-occupation with economic criteria in determining backwardness is quite understandable. But howsoever laudable the objective may be, it is not in

consonance with the spirit of the Article 340 of the Constitution under which the Commission was set up. Both Articles 15(4) and 340(1) make a pointed reference to 'socially and educationally backward classes'. Any reference to 'economic backwardness' has been advisedly left out of these Articles. Whereas we shall have more to say on this subject in a subsequent Chapter, it may be pertinent to point out that in giving primacy to 'economic tests' in determining the type of backwardness referred to in Article 340 (1) of the Constitution, the Government has, perhaps inadvertently, paid less than adequate attention to the Constitutional requirements in the matter. It may be possible to make out a very plausible case for not accepting caste as a criteria for defining 'social and educational backwardness'. But the substitution of caste by economic tests will amount to ignoring the genesis of social backwardness in the Indian society" [Mandal 1980 p. 4].

As against 2,399 backward classes identified by the first Commission, the Mandal Commission listed 3,743 castes as backward; and concluded that 52 per cent of the country's population comprised backward classes. As the Supreme Court of India had laid down that reservation of posts must be below 50 per cent and as 22.5 per cent posts were already reserved for the scheduled castes and scheduled tribes, the Commission recommended a reservation of 27 per cent of posts under the Central Government for the backward classes.

Government's decision on the Mandal Commission's Report was announced in Parliament on August 7, 1990, and a Memorandum was issued on August 13, 1990 by the Ministry of Personnel, Public Grievance, and Pensions as follows:

"Government have carefully considered the report and the recommendations of the Commission in the present context regarding the benefits to be extended to the socially and educationally backward classes as opined by the Commission and are of the clear view that, at the outset, certain weightage has to be provided to

such classes in the services of the Union and their public undertakings. Accordingly orders are issued as follows:

(i) Twenty-seven per cent of the vacancies in civil posts and services under the Government of India shall be reserved for SEBC. (Socially and Economically Backward Classes).

(ii) The aforesaid reservation shall apply to vacancies to be filled by direct recruitment. Detailed instructions relating to the procedure to be followed for enforcing reservation will be issued separately.

(iii) Candidates belonging to the SEBC recruited on the basis of merit in an open competition on the same standards prescribed for the general candidates shall not be adjusted against the reservation quota of twenty - seven per cent.

(iv) The SEBC would comprise in the first phase the castes and communities which are common to both the list in the report of the Mandal Commission and the State Government's lists A.

(v) The aforesaid reservation shall take effect from August 7, 1990. However, this will not apply to vacancies where the recruitment process has already been initiated prior to the issue of these orders.

Similar instructions in respect of Public Sector Undertakings and financial institutions including public sector banks will be issued by the Department of Public Enterprises and the Ministry of Finance, respectively" [Ministry of Personnel etc, 1990]

This led to widespread disturbances and agitation pro and against the Government's decision. The matter still seems to be unsettled.

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DOCUMENTATION

Beginning this year, we are introducing a new section called Documentation. Its purpose is to make available to the readers official documents such as reports of committees, commissions, working groups, task forces, etc., appointed by various ministries, departments, and agencies of central and state governments which are not readily accessible either because they are old, or because of the usual problems of acquiring governmental publications, or because they were printed but not published, or because they were not printed and remained in mimeographed form. It will be difficult and probably not worthwhile to publish the documents entirely. We shall publish only such parts of them as we think will interest our readers. The readers are requested to send their recommendations of official documents or parts thereof for inclusion in this section.

In the present issue, we publish parts of the following documents.

1. Report of Karnataka Backward Classes Commission, 1975
2. Report of the Backward Classes Commission (Kalelkar), 1955
3. Report of the Backward Classes Commission (Mandal), 1980

REPORT OF KARNATAKA BACKWARD CLASSES COMMISSION (1975)

The Government Karnataka (then Mysore) appointed, on August 8, 1972, the Karnataka (Mysore) Backward Classes Commission under the chairmanship of Shri L.G.Havanur. The Commission submitted its report on November 19, 1975. In the following, we reproduce Chapters VI and X of the Report.

CHAPTER VI. CLASSES OF CITIZENS

Natural and ordinary meaning:

1. It may appear strange and unsupported when we say at the outset that under the Constitution of India the expression "classes of citizens" means groups of people associated with their religion, race or caste.

The said expression is used in Articles 15, 16, 29 (by virtue of clause 4 of Article 15), 338 and 340. The said Articles are reproduced below for immediate reference.

15(1) The State shall not discriminate against any citizen on grounds only of *religion, race, caste, sex, place of birth* or any of them.

(2) No citizen shall, on grounds only of *religion, race, caste, sex, place of birth* or any of them, be subject to any disability, liability, restriction or condition with regard to (a) access to shops, public restaurants, hotels and places of public entertainment; or (b) the use of wells, tanks, bathing ghats, roads and places of public resort maintained wholly or partly out of State funds or dedicated to the use of the general public.

(4) Nothing in this article or in clause (2) of article 29 shall prevent the State from making any special provision for the advancement of any socially and educationally *backward classes of citizens* or for the Scheduled Castes and the Scheduled Tribes.

16(1) There shall be equality of opportunity for all citizens in matters relating to employment or appointment to any office under the State.

(2) No citizen shall, on grounds only of *religion, race, caste, sex, descent, place of birth, residence* or any of them, be ineligible for, or discriminated against in respect of, any employment or office under the State.

(4) Nothing in this article shall prevent the State from making any provision for the reservation of appointments or posts in favour of any *backward class of citizens*, which in the opinion of the State, is not adequately represented in the Services under the State.

29(2) No citizen shall be denied admission into

any educational institution maintained by the State or receiving aid out of State funds on grounds of *religion, race, caste, language* or any of them.

15(4) Nothing....in clause (2) of Article 29 shall prevent the State from making any special provision for the advancement of any socially and educationally *backward class of citizens* or for the Scheduled Castes and the Scheduled Tribes.

340(1) The President may by order appoint a Commission consisting of such persons as he thinks fit to investigate the conditions of socially and educationally backward classes within the territory of India and the difficulties under which they labour and to make recommendations as to the steps that should be taken by the Union or any State to remove such difficulties and to improve their conditions and as to the grants that should be made for the purpose by the Union or any State and the conditions subject to which grants should be made, and the order appointing such Commission shall define the procedure to be followed by the Commission.

(2) The Commission so appointed shall investigate the matters referred to them and present to the President a report setting out the facts as found by them and making such recommendations as they think proper.

(3) The President shall cause a copy of the report so presented together with a memorandum explaining the action taken thereon to be laid before each House of Parliament.

338(1) There shall be a Special Officer for the Scheduled Castes and Scheduled Tribes to be appointed by the President.

(2) It shall be the duty of the Special Officer to investigate all matters relating to the safeguards provided for the Scheduled Castes and Scheduled Tribes under this Constitution and report to the President upon the working of those safeguards at such intervals as the President may direct, and the President shall cause all such reports to be laid before each House of Parliament.

(3) In this article references to the Scheduled Castes and Scheduled Tribes shall be construed

as including references to such other backward classes as the President may, on receipt of the report of a Commission appointed under Clause (1) of Article 340, by order specify and also to the Anglo-Indian Community.

Since Article 338 makes a reference to the "Scheduled Castes", "Scheduled Tribes" and the "Anglo-Indian" community, the relevant Articles of the Constitution are mentioned below:

341(1) The President may with respect to any State or Union Territory, and where it is a State, after consultation with the Governor thereof, by public notification, specify the castes, races or tribes or parts of or groups within castes, races or tribes which shall for the purpose of this Constitution be deemed to be scheduled castes in relation to that State or Union Territory, as the case may be.

(2) Parliament may by law include in or exclude from the list of Scheduled Castes specified in a notification issued under clause (1) any caste, race or tribe or part of or group within any caste, race or tribe, but save as aforesaid a notification issued under the said clause shall not be varied by any subsequent notification.

342(1) The President may with respect to any State or Union Territory, and where it is a State, after consultation with the Governor thereof, by public notification, specify the tribes or tribal communities or parts of or groups within tribes or tribal communities which shall for the purpose of this Constitution be deemed to be Scheduled Tribes in relation to that State or Union Territory, as the case may be.

(2) Parliament may by law include in or exclude from the list of Scheduled Tribes specified in a notification issued under clause (1) any tribe or tribal community or part of or group within any tribe or tribal community, but save as aforesaid a notification issued under the said clause shall not be varied by any subsequent notification.

366. In this Constitution, unless the context otherwise requires, the following expressions have the meanings hereby respectively assigned to them, that is to say-

(2) "an Anglo-Indian" means a person whose father or any of those other male progenitors in the male line is or was of European descent but who is domiciled within the territory of India and

is or was born within such territory of parents habitually resident therein and not established there for temporary purpose only;

(24) "Scheduled Castes" means such castes, races or tribes or parts of or groups within such castes, races or tribes as are deemed under article 341 to be Scheduled Castes for the purposes of this Constitution;

(25) "Scheduled Tribes" means such tribes or tribal communities or parts of or groups within such tribes or tribal communities as are deemed under article 342 to be Scheduled Tribes for the purposes of this Constitution.

2. Part XVI of the Constitution, which contains articles 330 to 342, intends to make special provisions relating to certain classes. It is common knowledge that India is a land of many castes, tribes, tribal communities, races and many religious communities with their respective sections. "There are some Jews there and many Christians. There are many millions of Mohammadans in that land. There are Buddhists, Jains, Kabir Panths, Sikhs. There are the Brahma Samaj and the Arya Samaj. There are, in the hill country, worshippers of trees, rivers and spirits. In India today there are many religions and religious sects. The followers of *Brahminism* still believe in the holiness of the caste. *Brahminism* is the only religion in the whole world teaching the belief in the division of people into *castes*".¹ "The religion which best illustrates not only the general line, but also the immense diversity and complexity within that pattern, is Hinduism. Hinduism is prehistoric, and India has been called the 'Cradle of Religion'. The two main ideas that unite Hindu religious thought are reincarnation and the principle of *caste*".² "Within India, Jews, Christians and Muslims are affected by it (caste) in varying degrees. There are the Rajput Muslims in Uttar Pradesh.³ The tribes and the tribal communities live in forests and hills. They have been specified by the President as Scheduled Tribes under Article 342. There is a presumption in law that they are Hindus, but some do not belong to any known religious community.⁴ But there are some tribals who are Muslims and Christians.⁵ There are tribals who are Buddhists. There are the Anglo-Indians who form a community of their own on the ground of their descent

in a particular way. Although the Constitution, at some places, says that the State shall not make any discrimination against a citizen on grounds only of religion, race, caste, or descent it does not make discrimination in favour of the Anglo-Indian community on ground of their descent, in favour of the Scheduled Castes on ground of their religion and caste and in favour of Scheduled Tribes on ground of their race. Reservation of seats for the Scheduled Castes and Scheduled Tribes, and the Anglo-Indian community in the Parliament and the State Legislature, and the Government services have been made. There are other provisions which need not be referred to here. As the heading of Part XVI shows, such castes, tribes, races and their groups, and the Anglo-Indian community are *classes* of citizens associated with their religion, race, caste or descent. The framers of the Constitution did not find any difficulty in defining the Anglo-Indian community, and the same is defined as a community of certain descent. Scheduled Tribes have been defined and specified because of their race, and residence in forests and hills. Scheduled Castes have been defined and specified on the ground of their religion and caste, because it is the Hindu religion that practices *Untouchability* amongst its castes.⁶⁻⁷ The Constitution recognises the factual existence of castes, tribes, races, religious communities and people of peculiar descent. In Part XVI each of such groups is termed as *class*. Census Reports, Gazetteers, anthropologists, social scientists, etc. have described each caste, tribe, racial community or group and religious community as a *class*. Articles 338, 341 and 342 authorise the President to specify the factually existing social *classes* but they do not authorise him to make any *new classes*. It is accepted that Scheduled Castes and Scheduled Tribes are socially and educationally backward *classes* of citizens. Indian society consists of *other classes* also, and of them some are also socially and educationally backward. Scheduled Castes and Scheduled Tribes were discriminated against for long in social, economic, educational and political fields, and so they deserve to be protected, and their interests in those fields promoted. They were subjected to all forms of social injustice and exploitation.

Therefore, as one of its fundamental principles of directive policy, the State is enjoined with the duty of ameliorating the conditions of the Scheduled Castes and Tribes (Art. 46). Indian Society is not rigidly divided into Scheduled Castes, Scheduled Tribes and the rest. There are other classes who are similarly subjected to social injustice and exploitation. They also are similarly discriminated against in social, economic and educational fields. The Constitution, for them too except the political safeguards, intends for making special provisions.

3. The other *backward classes* referred to in Articles 15, 16 and 29 are to be specified by the President under Article 338 (3) on the receipt of the Report of the Commission appointed under Art. 340. Hence, the expression *backward classes* should have a uniform meaning throughout. Let us first take Art. 29 (2). The non-discriminatory grounds in matters of admission to educational institutions of the kind mentioned therein are religion, race, caste or language. Art. 15 (4) is an exception also to Art. 29 (2). When an exception is to be made to Art. 29 (2) in favour of the backward classes the only grounds could be all or any of the non-discriminatory grounds. That is to say, the *classes* to be favoured should be determined on grounds of religion, race, caste or language. The ground of language is a vague and indefinite basis and individuals forming such a group overlap indiscriminately. In a recent case the Calcutta High Court⁸ in interpreting the meaning of the expression *classes of citizens* as it occurred in section 153-A of the Indian Penal Code held that the term 'non-Bengali' cannot be included in the term *class*. Hence, what remain to be the only grounds of exception under Art. 29(2) read with Art. 15 (4) are *religion, race and caste*. Backward classes for whose benefit special provisions can be made under Art. 29 (2) read with Art. 15 (4) are groups of citizens associated with their religion, race or caste. The expression *backward classes* used in the Constitution is, at all places, associated with *religion, race or caste*. And whenever the said expression is used the common grounds of non-discrimination are religion, race and caste. The backward classes (other than the Scheduled Castes/Tribes) are to be benefitted only under Art. 15, 16 and 29. Grounds

common in all these Articles are *religion, race and caste*. The expression commonly used in all these articles as an exception is *backward class*. Therefore, *classes* are groups of citizens associated with their *religion, race or caste*. This exposition is in consonance with the fundamental rule of interpretation that if the words of the statute are in themselves precise and unambiguous no more is necessary than to expound those words in their natural and ordinary sense, the words themselves in such case best declaring the intention of the legislature⁹. It is very desirable, in all cases, to adhere to the words of an Act of Parliament giving to them that sense which is their natural import in the order in which they are placed¹⁰. Similarly when the language is not only plain but admits of but one meaning the task of interpretation can hardly be said to arise. It is not allowable to interpret what has no need of interpretation.¹¹

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9. *Income Tax Commissioner v. Pansel* (1919) A.C. 534 and other cases (Maxwell-on Interpretation of Statutes Page 2).
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CHAPTER X. COURT DECISIONS AND CONSTITUTION AMENDMENT

1. The Constitution of India was enacted on 26th November 1949. Some of the provisions came into force from that day, and the remaining provisions from 26th January 1950 (Art. 394).

Article 29(2) speaks of non-discrimination on the ground of religion, race, caste, language or any of them in the matter of admission of students to educational institutions maintained or aided by the State. Similarly, Article 15(1) and (2) prohibit discrimination, particularly in regard to access to

shops, public restaurants, public places of entertainment etc., on the ground of religion, race, caste, sex, place of birth or any of them. When the Constitution came into force Articles 15 and 29 did not contain the exception clause similar to clause (4) of Article 16. The practice that was in vogue in Madras, probably in most of the States, was the allotment of all the available seats to different communities and castes in fixed proportion. The Madras Government continued the same practice even after the coming into force of the Constitution. The Government Order known as Communal G.O. allotted all the available seats in this way:

Out of a total of 14 seats-
 6 to non-Brahmin Hindus,
 2 to Backward Hindu communities,
 2 to Brahmins,
 2 to Harijans,
 1 to Anglo-Indian and Indian Christian communities and
 1 to Muslim community.

2. It is evident that every seat was to be filled in fixed proportion strictly on communal grounds. The constitutional validity of this G.O. was questioned in the Madras High Court¹. The ground of attack was that Article 15 and 29(2) prohibited discrimination on the ground of *religion, race and caste* and that it was not permissible to make selection on communal grounds. Their Lordships found that while there is a provision in Article 16(4) to make reservation of posts on communal grounds in favour of *backward classes*, no such provision was to be found either in Article 15 or in Article 29(2). The learned Advocate-General drew a vivid picture of the injustice which would result if no discrimination were made between, say, Brahmins and Harijans. If the marks standard were to be applied uniformly, the result would be, he stated, that while 249 Brahmin candidates would secure admission, no Harijans and only three Muslims would be selected. In the same case Justice Viswanatha Shastri said "If the rule of allotment of seats according to castes and communities had been ignored, the selection of candidates had been made on the basis of merit, that is to say, the marks obtained by the candidates in the qualifying

examination, irrespective of their castes, community or religion, 249 Brahmins, 112 Non-Brahmin Hindus, 22 Christians, 3 Muslims and no Harijan would have been selected". Looking to the figures given by the Chief Justice Rajamannar and Justice Viswanatha Shastri, it is clear that no candidate of the *Backward Hindu communities* would have got seat, and so too the Harijan students. However, since Article 15 and 29 did not contain any provision to reserve seats on grounds of religion, race and caste the selection made in terms of the *communal* G.O. was held unconstitutional.

3. The matter was taken by the Madras Government in appeal to the Supreme Court. The Supreme Court said² "Seeing, however, that clause (4) was inserted in Article 16, the omission of such an express provision from Article 29 cannot but be regarded as significant. It may well be that the intention of the Constitution makers was not to introduce at all communal considerations in matter of admission into any educational institution maintained by the State or receiving aid out of State funds. The protection of backward classes of citizens may require appointment of members of backward classes in State services and the reason why power has been given to the State to provide for reservation of such appointments for backward classes may under those circumstances be understood. That consideration, however, was not obviously considered necessary in the case of admission into an educational institution and that may well be the reason for the omission from Article 29 of a clause similar to Clause (4) of Article 16".

The appeal was dismissed.

How could the *Backward Classes* claim benefit under Article 16(4) on grounds of their *religion, race or caste* if they are not educated? Soon an Amendment was introduced in the Parliament. Prime Minister Nehru moved the Resolution for amendment.

4. Referring to the decision of the Madras High Court quashing the *communal* G.O. (In *Champakam Dorairajan case*) the Prime Minister said that "according to which (*Communal G.O.*) certain reservations were made for certain *classes* and *communities*. The High Court of Madras said this Government Order was not in order, that it

was against both the spirit and letter of the Constitution". He proceeded to say that "their argument was quite sound and perfectly valid, that is to say if communities as such are brought into the picture, it does go against certain explicit or implied provisions of the Constitution. Nevertheless, while it is quite valid and we bow to the decision of the High Court of Madras in this matter the fact remains that we are faced with a situation for which the present generation is not to blame. Therefore, some sort of special provision must be made. We have to do something for the *communities* which are backward educationally, economically and in other respects, if we wish to encourage them in these matters. We come up against the difficulty that, on the one hand, in our Directive Principles of Policy we talk of removing the inequalities, of raising the people in every way socially, educationally and economically, of reducing the distance which separates the *groups* or *classes* of individuals from one another, on the other hand we find ourselves handicapped in this task by certain provisions in the Constitution".

5. While dealing with some of the directive principles and ideals he goes on to say "hence, we must find a middle way between our objectives and the existing facts. We must keep our ideal in view and then take steps which will gradually carry us in that direction. At the same time, we *must not ignore the existing facts*. We have to deal with the existing facts anyhow, even if it means fighting the existing situation".

6. The Select Committee had unanimously recommended for the amendment of Article 15 and 29 (for insertion of clause 4) but it had expressed its fears and apprehensions that the provision was likely to be misused by the Government for perpetuating any class discrimination or *treating non-backward classes as backward* for the purpose of conferring privileges on them. Then, the Prime Minister expressed "*We earnestly hope that if and when this provision is passed, it will not be misused. Nobody can give a guarantee against its misuse. We can only try our best to create the conditions where such misuse may not be made. What I wish to assure this House about is this, that we are alive to the possibility that this Article may be used for a*

purpose to which we are opposed. May I add that when we talked with certain members, including the Chief Minister of Madras, they told us that they realised and appreciated our difficulty and assured us that they had no desire to use it in any objectionable way. Hence I would commend this particular amendment of Article 15 to the House".³ Ambedkar defended the said amendment.⁴

7. That the introduction of the expression 'Backward Classes' in Article 15(4) and Article 29 (by virtue of Clause 4 of Article 15) by the First Amendment to the Constitution came to be made indicating groups of people associated with their religion, race or caste was as a direct consequence of the observations made by the Madras High Court and the Supreme Court referred to above, wherein their Lordships held that Article 15 and 29 (as they stood before Amendment) did not provide for reservation of seats in educational institutions on grounds of *religion, race or caste*. Though in the course of the arguments at the Bar, rulings of the Supreme Court of America were cited, their Lordships rightly held that the expression 'backward class' occurring in Article

16(4) was not to be found in any of the Constitutions of the world and that the meaning to the expression Backward Classes be given on the bare construction or interpretation of the provisions of the Indian Constitution. Their Lordships said that while there is a provision under clause (4) of Article 16 to make reservation in favour of Backward Classes on grounds of their *religion, race and caste*, there was no such expression found in Article 15 or in Article 29 so as to enable the State to make reservation on grounds of *religion, race or caste*.

This is how religious, racial and caste considerations came to be introduced in Article 29 in the matter of admission to educational institutions.

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4. *Life and Mission of Dr. Ambedkar* by Dhananjay Keer-Page 427.

REPORT OF THE BACKWARD CLASSES COMMISSION (KALELKAR), 1955

In exercise of the powers conferred by Article 340 of the Constitution, the President appointed, on January 29, 1953, the first Backward Classes Commission under the chairmanship of Shri Kakasaheb Kalelkar. The Commission submitted its report on March 30, 1955. In the following, we reproduce, with some abridging, the Summary of its Conclusions and Recommendations.

CENSUS AND CASTE

Before the disease of caste is destroyed all facts about it have to be noted and classified in a scientific manner as in a clinical record. To this end we suggest that the 1961 Census be remodelled and reorganised so as to secure the required information on the following lines: (1) The Census operation should be conducted as a well equipped continuous organisation competent to supply information on various topics of sociological importance. (2) The Census Offices must have permanent ethnologists and sociologists in addition to the economists attached to them. (3) As long as social welfare and social relief have to be administered through castes, classes or groups, full information about these groups should be obtained and tabulated. (4) Some of the staff for the census should be recruited from social workers and village-level workers of the Planning and Development Departments. (5) Estimated family income and expenditure should be collected and tabulated. (6) The Census slips should consist amongst others 'caste' in a separate column. If possible, Census should be carried out in 1957 instead of in 1961.

SPECIAL GROUPS

(1) *Muslims*: It would not be correct or just to list all Muslims as socially and educationally backward. But there are a number of communities amongst them that are suffering from social inferiority in their own society and consequent educational backwardness. Such backward communities are included in the list of other backward classes. Various State governments have mentioned such communities under separate heads of Hindu and Muslim backward communities. But the Commission has indicated the names of the communities to include those of Muslims and Hindus. (2) *Christians*: Christianity has consistently refused to recognise caste. And yet, in practice, it was found that segregation of

converts from the Scheduled Castes was not successfully overcome in certain parts of South India. We have included such communities, especially in the South, in the list of other backward classes. We add that if Scheduled Caste converts to Christianity in other parts of the country also suffer from any recognisable degree of segregation and social disability their case should be considered for being included in the list of other backward classes. (3) *Anglo-Indians*: The problem of Anglo-Indians does not come strictly within the purview of our inquiry. Yet, certain representations were made on their behalf. The Constitution of India guaranteed certain concessions to this community for a fixed period. Apart from this, this community cannot be classed as backward either educationally or socially. (4) *Eurasians in Travancore-Cochin*: A small community in the extreme south which is really Eurasian in character is now being called Anglo-Indians in the list published by the Education Ministry, Government of India. This nomenclature is a mistake. It may be renamed Eurasian for the purpose of relief and included in the list of other backward classes of Travancore-Cochin State. (5) *Sikhs*: It is our view that the Sikhs constitute an integral part of the broader Hindu religion. Although, in theory, the Sikhs do not subscribe to caste system, in actual practice they cling to many Hindu traditions and practices. We recommend that the communities or groups who are treated as untouchables among the Sikhs should be included in the list of Scheduled Castes. Any distinct community among the Sikhs found to be socially and educationally backward must be included in the list of Other Backward Classes. (6) *Gurkhas*: The Gurkhas are socially and culturally an integral part of the Hindu community. Such of the communities among the Gurkhas found in Uttar Pradesh, Bihar, and West Bengal, who are educationally and socially backward, are included in the list of Other Backward Classes. In the rest of India, they are known to ignore caste

and to live as one homogeneous community. Such of those who have settled down in other States (except U.P., Bihar, and West Bengal) should be included in the list of other backward classes if they are found to be socially and educationally backward. (7) *Bhangis*: The lot of Bhangis at present is far from satisfactory. Their living conditions are bad and the tools with which they work should enable them to carry out their work in a more decent and hygienic manner. The Bhangis should not be condemned to live in segregated locations. They should be distributed and given quarters among other groups. (8) *Women*: Women in India have lived under great social handicaps and as a class must be regarded as backward. But since they do not form a separate community they cannot be included in the list of backward classes. The condition of women among the backward classes is worse. The girls from among the backward classes should be given better facilities for education. They should be encouraged to live in special hostels for girls of all communities. They should be trained in basic education. Women should have a share in the political life of the country. The following measures are recommended for the advancement of women in general: (i) Free education in all stages to all girls whose parents' income is less than Rs. 3,000 per annum. (ii) Scholarships for girls belonging to the backward classes. (iii) Residential hostels for girl students, with priority for girls of the backward classes. (iv) Samata Ashrams for girls of all communities to be run by trained staffs of women and men. (v) Creation of special facilities for girls to study Medicine, Home Science, and other subjects specially suited for women. (vi) More facilities for training women in the Fine Arts, and in Social Service. (9) *Unfortunate Women*: The administration of the 'Suppression of Immoral Traffic Act' is found to be more punitive than reformatory. It is found that the punished offenders drift back to their old profession in the absence of any properly organised rescue homes where they could find refuge. There is great scope for starting rescue homes and the government should be able to help such efforts with finance and legislation. Rescue homes should not be mere asylums for such women. Such homes must be controlled by committees

consisting of social workers under government supervision. Women social workers from well-to-do society should accept an increasingly larger role in tackling this problem. In addition to providing food and shelter for these unfortunate women, they must be taught different occupations to enable them to earn a living and become useful members of society. They must also be taught to change their outlook and to lead normal married lives. (10) *Delinquent Children*: The lower sections of society often neglect their children with the result that the latter go astray and sometimes become the victims of greed, cupidity and passion. Such children generally learn all kinds of vices and are trained to deceit and crime. The provisions for the rehabilitation of delinquent children are totally inadequate. It is not legislation that matters but better provision for the maintenance and education of such children that counts; it is the quality of the reforming agency that is all important. The State must help persons who take up the work of amelioration of these delinquent children. (11) *Denotified Communities (Ex-Criminal Tribes)*: The following measures are recommended for adoption for the amelioration of the conditions of the communities in this group: (i) The Ex-Criminal Tribes should hereafter be called denotified communities. (Vimochit Jati). (ii) These communities have been classed as Scheduled Castes, Scheduled Tribes or Other Backward Classes according to the criterion applicable to them for the purpose of relief. (iii) The nomadic groups should be given facilities for leading a settled life. Efforts must be made to distribute them in the towns and villages so that they could gradually be assimilated by society. (iv) The children of these groups should be trained in Basic Education. They must also be trained in cottage industries, handicrafts, and agriculture. Services of trained psychologists and social workers should be employed to reform these habitual offenders. (v) Group criminality should be treated differently from the acquired criminality of the individuals. (12) *Backward Areas*: Backward areas in Himachal Pradesh, Uttar Pradesh, Udaipur in Rajasthan, Bastar in Madhya Pradesh, Alirajpur and Jobat in Madhya Bharat, Amarakantak in Vindhya Pradesh should be developed by allocating more community

projects, national extension service blocks, social welfare extension projects, and other developmental schemes. The proposals of some of the States to declare them as Scheduled Areas may be examined by the Government of India and early action taken.

CRITERIA OF BACKWARDNESS

A variety of causes - social, environmental, economic and political - have operated both openly and in a subtle form for centuries to create the present colossal problem of backwardness. Economic backwardness is the result and not the cause of many social evils of the present day. Social backwardness, therefore, is not today due to the particular profession of a person. It is not easy to group sections of people under certain occupations. There are certain distinct communities who are not confined to any one occupation and it would be difficult to categorise them under any known occupation. There are certain castes and sub-castes based on regionalism.

The Commission is justified in interpreting the terms of reference as mainly relating to social hierarchy based on caste. Caste generally depends upon birth; it may also depend upon habits and it may create further cleavage due to conventions and denominational differences.

After a consideration of the social conditions in Indian society and the causes for backwardness of a large section of the people, the following criteria are adopted for general guidance: (i) Low social position, in the traditional caste hierarchy of Hindu society. (ii) Lack of general educational advancement among the major section of a caste or community. (iii) Inadequate or no representation in Government service. (iv) Inadequate representation in the field of trade, commerce and industry.

CLASSIFICATION OF COMMUNITIES

We have taken into consideration the social position which a community occupies in the social hierarchy, the percentages of literacy and its general educational advancement; and its representation in Government service or in the industrial sphere. The economic backwardness

had also to be kept in view in order to find out the ability of the community to take advantage of the available opportunities as also the recent trends in its advancement.

The list of other backward classes published by the Education Ministry, Government of India, and the lists furnished by the State Governments form the basis. The opinions of the representatives of various communities, leaders of public opinion and social workers were also taken into consideration.

We thus prepared the lists of Other Backward Classes and also revised the lists of Scheduled Castes and Scheduled Tribes. We made every effort to bring in as many communities as possible who answer the criteria but we are conscious that in the conditions prevailing in the country it has not been possible for us to get in touch with some communities who are not well known. Our desire is that such omissions should not come in the way of any community being included later and we suggest that in these cases backwardness be presumed. We have suggested the setting up of a Board for the implementation of the policy for the advancement of all the backward classes. The Board should be empowered to investigate the conditions of the communities who may later seek inclusion in the list of Other Backward Classes.

The names of castes have not been specified as Hindu or Muslim and they should invariably be treated as caste names common to both.

CONDITIONS OF BACKWARDNESS AND MEASURES FOR THEIR REMOVAL

A - Political

The framers of the Indian Constitution recognised the historical processes that were at work in India and the uneven development of the various sections of the Indian population. They have, therefore, made adequate provision for the protection and betterment of Other Backward Classes also. Universal adult franchise has given to the masses the most potent and powerful instrument with which to shape their destiny. What is wanted now is the strengthening of their hands through education and not to offer another weapon to weak hands.

After considering all aspects of the question, we have come to the conclusion that it would be suicidal to accord any additional or special political representation to any community or communities.

There are disruptive forces that are trying to entrench themselves by exploiting the prevailing social atmosphere. We suggest that the political parties in the country should take note of the unhealthy symptoms in the body-politic and draw people together under a well-defined economic and social programme.

B - Economic & Industrial

The objectives should be full employment and the removal of economic inequalities. Maximum production, full employment, the attainment of economic equality and social justice should constitute the accepted objective of planning under the present-day conditions.

Unplanned industrial development in India, urbanisation and expansion of trade and commerce, growth of towns and large cities and the British educational and industrial policy have disrupted the old village economy and have resulted in denuding the rural areas of local talent and leadership.

During the 30 years following 1921 the population has increased by 11 crores, and there is a drop of 25 per cent in the per capita area of cultivated land.

The pressure on land has increased from decade to decade. The decay of rural industries has aggravated the rural situation. All these factors have contributed to the growth of landless agriculturists' families.

Smallness of holdings, primitive system of cultivation, lack of educational facilities, lack of adequate agricultural equipment, decay of rural industries causing unemployment and underemployment have all contributed to the present poverty of the rural people.

Any plan for economic reconstruction of the country must necessarily include measures designed for the speedy uplift of the backward classes. Conditions must be recreated in which the development of these classes takes a natural growth. Removal of economic and social causes

that are operating to their detriment should receive first priority.

No time should be lost in making fuller use of the human resources, available skill and experience of the artisan and occupational classes to produce goods which are needed by the community. Improved equipment or improved tools and training in modern methods of production may follow the above measures.

The main solution, therefore, for the speedy uplift of the backward classes in the rural area is not so much to wait for the creation of new avenues of employment, as to provide favourable conditions in which their lost or decaying occupations could be revived. A large scale employment in traditional occupations will alone relieve the present pressure on land. It will also help in creating suitable social atmosphere for economic uplift. It is only thereafter that we will have a clear picture of rural life which will enable us to reorganise rural life on a sound and rational bases.

'The economic policy and the ideology behind the Five-Year Plan do not inspire sufficient confidence. It is felt that even the policies enunciated in the Five-Year Plan have not been properly implemented.' The administrative set-up entrusted with the task of implementing the welfare measures requires a complete reorientation. There was widespread demand from the representatives of the backward classes that a large number of their own men should be taken into services to bring about better social contact with the masses.

All developmental activities should radiate from central villages of compact blocks consisting of 10 to 15 villages. The country should be divided into compact blocks of such dimensions on a planned basis, and modern amenities should be taken to such *Panchkoshi* units. The disturbing causes of rural life such as factious feeling, presence of anti-social elements and the habit of litigation often leading to breaches of peace should be removed to help development of the rural areas.

Land Policy	Fisheries
Large Landowners and Ceilings on Holdings	Agricultural Labour
Distribution of Land	Minimum Wages
Small and Middle Owners	Development of Industries
Regulation of Tenancy Rights	Rural and Cottage Industries
Record of Rights	Khadi Industry
Agricultural Class Structure	Handloom Industry
Rural Credit and Marketing	Special Features of Cotton and Silk Weaving in Assam and Manipur
Rural Indebtedness	Silk Handloom Industry
Marketing Facilities	Sericulture
Price Support	Wool Spinning and Weaving Industry
Irrigation	Village Oil Industry
Land Tax Policy	Village Potter
Rural Savings	Bamboo and Cane Workers
Communities Engaged in the Cultivation of Vegetables and Flowers	Paddy Husking
Communities Engaged in Growing Betel Vine	Coir Industry
Reorganisation of Village Economy	Minor Industries
Bhoodan Movement	Village Handicrafts
Development of Livestock	Beedi Industry
Dairying	Mill and Factory Competition
Cattle Insurance	Communities Whose Traditional Occupation is Personal Service
Sheep and Wool	Wandering Communities
Poultry and Bee-keeping	Traditional Beggars
Piggery	(We have omitted details under the above men-

tioned headings because most of them relate to policies and programmes of rural development in general not specific to Backward Classes - Editor).

MEASURES TO PREVENT EXPLOITATION OF THE BACKWARD CLASSES

Backward classes are subject to various kinds of exploitation. Measures to save them from exploitation are absolutely essential for the improvement of their economic conditions.

Proper institutions must be set up for the distribution of wealth produced. A chain of suitable co-operative institutions or government stores is badly needed for this purpose. Steps should be taken to train these communities in running institutions set up for their benefit.

The ultimate solution seems to be that all production and distribution should be on a socialistic basis and that people should be encouraged to establish the necessary moral basis and to get trained for the change over.

COMMUNICATIONS

India is a land of vast distances and unless all kinds of communications are developed it will not be possible to remove either the backwardness of areas cut off from urban centres or of people inhabiting these areas.

PUBLIC HEALTH AND RURAL WATER SUPPLY

Backward class communities generally live in insanitary conditions and in ill-ventilated houses. Ideas of sanitation and public health among them are still primitive. Large scale preventive measures are necessary to improve the health of these classes. It is absolutely essential that the rural public should be educated in the necessity of maintaining sanitary conditions.

Rural water-supply should be improved a great deal. Public wells and reservoirs must be built within the easy reach of the Harijan quarters for the use of the whole area. These should be

maintained in sanitary conditions under the supervision of a Village Water Committee with a Harijan as President.

RURAL HOUSING

The housing conditions of many of the communities belonging to backward classes are far from satisfactory. They live in ill-ventilated mud houses of thatched sheds. These houses are generally overcrowded.

A planned programme of rural housing should be drawn up to provide housing for the poorer sections in proper village layouts. Sites for building houses should be made available to those people either free or at nominal rates. Financial assistance either in the form of subsidies or loans should also be given to help the backward communities to construct cheap houses. Housing co-operatives may be organised for this purpose.

SOCIAL BACKWARDNESS AND MEASURES FOR ITS REMOVAL

Social backwardness of many communities of the backward class group is due to the undesirable features of the Hindu social system. The sense of caste and discrimination based on social inequality is eating into the vitals of the nation. Modern conditions no doubt, are gradually toning down some of these rigid caste ideas but the spirit of caste still permeates the major ranks of our society. In condemning the inequitable features of the caste system, it is not suggested that Hinduism should be liquidated. Hinduism could be purified or cleansed of the dross which it has accumulated during the course of centuries. Hinduism must re-examine itself in the world context and boldly shed all its undesirable features. It must cease to be mediaeval in its concept of life; must refresh itself and take a new form which would liberate the spirit of man and enable him to assimilate the best and the noblest that Hinduism has treasured through the ages.

The Hindu view of life was based on a harmonious pursuit of the four chief conceivable objects, viz. *Dharma, Artha, Kama and Moksha*. It taught the universal brotherhood of man, or rather the essential unity of mankind as all individual beings were regarded as part of one Eternal Soul.

The process of equalisation is beset with many hazards, Poverty, ignorance and illiteracy make the task all the more difficult. Therefore, nothing short of firm determination by the entire nation and in particular by the leaders of society to effect a complete revolution in the fundamental social outlook of the people can possibly fuse the diverse elements into a homogeneous society.

We indicate below, on general lines, the measures that the Governments - Central and State - should undertake for the eradication of social evils: (1) A clear enunciation and effective implementation of this policy of social solidarity and national progress. (2) Necessary legislation on marriage and inheritance laws. (3) Prohibition by law of social disabilities. (4) Arrangements for the production and distribution of literature on social problems. (5) Liberal use of the Press, Films, Platform and Radio for the removal of social evils. (6) Prohibition of all observances tending to promote caste feelings in governmental activities. (7) Re-organisation of the educational system with special emphasis on the dignity of manual labour. (8) Full assistance to promote education as speedily as possible among the backward classes. (9) Adequate representation in Government Service and Government controlled industrial establishments of those sections who had no chance so far. (10) Encouragement to art, literature, special cultural groups and assistance and promotion of cultural activities with this social end in view.

EDUCATIONAL BACKWARDNESS AND MEASURES FOR ITS REMOVAL

The following are the various causes of educational backwardness of the backward classes: (1) Traditional apathy for education on account of social and environmental conditions or occupational handicaps. (2) Poverty and lack of means of a large number of communities to educate their children. (3) Lack of educational institutions in the rural areas. (4) Living in inaccessible areas and lack of proper communications. (5) Lack of adequate educational aids in the form of free-ships, scholarships and monetary grants for the purchase of books and clothing. (6) Lack of residential hostel facilities in places where educational institutions are situated. (7) Unemployment among the educated acting as a damper on

the desire of some of the communities to educate their children. (8) Defective educational system which does not train students for appropriate occupations and social professions.

The general progress of literacy in India is slow and literacy among the backward classes is appallingly low. Introduction of free and compulsory elementary education is imperative to wipe off illiteracy from among the backward classes. In recommending immediate introduction of free and compulsory education for the age group 6-14 we are not advocating the extension of the present orthodox system of education. We are in favour of immediate conversion of the existing elementary schools into basic schools and the establishment of only basic schools wherever there are no schools.

The teachers for the basic schools should be drawn from the artisan and occupational communities in the rural areas. They must be trained in general education and then posted as teachers. The establishment of basic schools should be on a planned basis and central villages should be selected for the location of senior basic schools so that they could serve all the feeder villages within a radius of five miles. Each *Panchkoshi* area should have a small Board or Committee whose responsibility it would be to see that no child in that area went without basic education.

Non-communal hostels should be established and the cost of board and lodging for the poorer sections of the backward classes should be borne by the government. Students of all communities and all religious denominations should be encouraged to live together and to lead a common life. It should be possible for such teachers and students to live together, work together, and study together.

Special type of Ashram schools (*Samata Ashrams*) where teachers with their families live with the students should be established. One such Ashram school in each of the 300 and odd districts into which India is divided should be established. These Ashrams should be run by special trained teachers who have equal respect for all religions and who regard all communities as belonging to one human family.

The *Panchkoshi* schools as also *Samata Ashrams* will naturally culminate into rural universities of the basic type.

In order to make basic education popular with

the masses and to carry conviction with them, it is necessary that government should categorically declare that in selecting candidates for government service, especially of the upper grades, students trained in basic education will be given a decided preference.

Pre-basic or pre-school education is necessary to overcome the initial social handicap under which the backward classes children are suffering.

The secondary stage of education is vital from the point of view of the educational advancement of the backward classes. Until suitable senior basic schools are established, there is need to start secondary schools in rural areas. Hostels should be attached to the secondary schools on non-communal lines. But it is necessary that a majority of the places in those hostels should be reserved for the boys belonging to backward classes. The aim should be to make the hostels training grounds for developing that common social outlook which is so necessary for the future well-being of the country.

UNIVERSITY EDUCATION

Since the Basic Rural Universities would gradually take their place, the present-day Universities should confine themselves to technical education and research, certain percentage of seats being reserved for qualified students of the backward classes and liberal scholarships being granted to poorer amongst them.

POST-GRADUATE COURSES AND RESEARCH CENTRES IN INDIA AND ABROAD

Adequate provision should be made both by the State and the Central Governments for training students of all backward classes in post-graduate courses and in research centres both in India and abroad.

ADULT EDUCATION

In the interests of the backward classes, the scheme of social education should be expanded

to cover the whole country, priority being given to those areas where the standard of literacy is low.

RURAL READING ROOMS AND LIBRARIES

Reading rooms and libraries in rural areas should be established and a judicious selection of books be made for stocking rural libraries. Important periodicals should be read out in the rural reading rooms to keep the people in touch with the day-to-day happenings in the country. Also seminal books should be read out before serious adults and explained.

ALL INDIA INSTITUTIONS FOR HIGHER LEARNING

In order to achieve speedy educational advancement of the backward classes and to create new conditions to root out casteism and regional and linguistic tendencies, special residential institutions of the university grade should be set up in various States to inculcate an All India outlook among the students. These institutions should be manned by professors and lecturers of learning and patriotism. The courses of studies should be suitably devised. The medium of instruction should be Hindi but one or two original languages must also be taught. Professors and students drawn from all parts of the country and from all communities should live, study and work together.

Government should spend all money on basic education and only where basic schools cannot be started for want of teachers money may be spent on orthodox education.

FACILITIES FOR ADVANCED STUDIES ABROAD

Government of India should make adequate provision for award of various scholarships to backward class students.

SCHEME OF SCHOLARSHIPS IN STATES

(a) Schemes for freeships and scholarships should be introduced in all the States for the benefit of students belonging to Other Backward

Classes. The State Governments should make adequate provision in their budgets for the purpose.

(b) In awarding scholarships the claims of all communities among the backward classes should be taken into consideration and the allotment in the first instance should be on the basis of population of various communities in a State, preference being given always to those who are extremely backward, viz., starred communities, in the lists prepared by the Commission.

(c) Small committees consisting of representatives of various communities be constituted for various grades of scholarships in each State to assist the educational authorities to select deserving candidates from among the various communities for purposes of award.

(d) General income of the parents of a student applying for a scholarship should not exceed Rs. 1,800 per annum to enable him to get a scholarship up to the secondary course.

(e) In all cases of education abroad, income of the parents of a student should not exceed Rs. 3,600 per annum for giving a scholarship.

RESERVATION OF SEATS IN SCIENCE, MEDICINE, ENGINEERING, AGRICULTURE, VETERINARY AND OTHER TECHNICAL AND TECHNOLOGICAL INSTITUTIONS OF HIGHER LEARNING

(a) In all Science, Engineering, Medicine, Agriculture, Veterinary and other technical and technological institutions, a reservation of 70 per cent of seats should be made for qualified students of backward classes till such time as accommodation is provided for all the students eligible for admission. The remaining 30 per cent as also all seats unavailed of by backward classes should go to the rest of the students.

(b) In making selection to the reserved quota of seats, qualified candidates from extremely backward classes should be taken into consideration first, and in making distribution, the principle of favouring the lower of the two claimants among the candidates from the various communities should be followed.

(c) A Selection Committee consisting of some of the representatives of all Communities (not

necessarily, of the backward alone) should be set up to assist the educational authorities in the selection of deserving candidates.

REPRESENTATION OF O.B.Cs. IN GOVERNMENT SERVICE - CENTRAL AND STATES

(i) Prestige, power and influence, scales of pay, security of employment and scope to distribute patronage - all these have made Government service attractive. So long as it continues to be so, claims of O.B.Cs. for adequate representation in the service should be recognised by providing reservation of definite quota of vacancies in each class.

(ii) To lessen the keen desire for Government services on the part of the O.B.Cs. one way is to render them as unattractive as possible by reducing the emoluments attached to them. Social justice and communal harmony both demand that the present alarming disparity between the scales of pay of the lowest and the highest appointments should be reduced. As an immediate step, the ratio between the emoluments of the lowest and those of the highest paid persons may be reduced to 1 : 20. But this ratio may be ultimately brought down to 1 : 10.

(iii) Keeping in view the necessity for maintaining high administrative efficiency in conjunction with social justice to all sections of the population, best candidates should, as a rule, be recruited by means of a competitive examination without any regard to caste considerations.

(iv) Even in the sector of reservation, the best amongst the qualified backward classes should be recruited. The method of recruitment to this sector could be either by personal interview and nomination or by open competition. In the latter case the selection should be confined to the best among those satisfying the required standard in the examination despite their lower ranks in the general list.

(v) Whatever the procedure of recruitment, whether through selection after personal interview or by limited competition amongst the candidates of backward communities, the reservation specified must be secured in favour of candidates of the O.B.C. group. Strict adherence to rules of recruitment, with a severe penalty

for any breach thereof, would be the best remedy.

(vi) The interest of the State, the efficiency and the running of the administrative machinery and the increasing role of welfare which the administrative services have to play in relation to masses of the country - all these demand that reservation should, where education is sufficiently high among the communities, be in proportion to the population of the communities of the Other Backward Classes. Taking all these factors into consideration the conclusion reached by a majority of the members of the Commission is that in all Government and Local Body Services, the minimum basis of representation of O.B.Cs. should be as follows:

Class I	25 per cent of vacancies.
Class II	33.1/3 per cent of vacancies.
Class III }	40 per cent of vacancies.
Class IV }	

This percentage would be over and above that which has already been conceded by Government in the case of Scheduled Castes and Scheduled Tribes.

(vii) At the end of 10 years the adequacy of representation of O.B.Cs. should be reviewed in the light of the statistics then available as a result of the 1961 or earlier census which may contain all communities listed by the Commission in the O.B.Cs. group.

(viii) For purposes of distribution of the reserved quota of posts among all the communities comprising the O.B.Cs. no hard and fast rule need be followed. The circumstances and the social conditions prevailing in the country necessitate greater consideration for the most backward and unrepresented communities in the group. Some system of rotation worked out in the conditions prevailing in the respective State is called for. Communities should be conveniently grouped according to the degree of advancement in each State and representation in the reserved quota be granted beginning with the most unrepresented groups. This method need not be adhered to for all time. After a period of 15 years the position should be reviewed.

(ix) While recognising the desirability of selecting the best qualified candidates in technical

services, the O.B.Cs. should be increasingly given facilities in educational and more especially in technical institutions. It should be the definite policy for many years to come that, qualifications being fairly equal, preference should be given to a candidate from among the backward classes.

(x) Where training is needed to improve efficiency among the candidates belonging to backward classes after selection to various posts, they should be given training for a year or two during the period of probation.

(xi) While in the selection of members for Public Service Commission appointments from among the members of backward classes should continue on as liberal a scale as possible, Caste or community consideration should have no place whatsoever in making the selection. Merit should be the sole criterion.

(xii) A Board consisting of a small body of trained and experienced administrators and social workers should be set up with sufficient powers to enforce full and proper implementation of the policy for recruitment to Government service and also to consider any complaints from non-backward classes in the unreserved sector of employment under Government service. The precise powers and functions of the Board should be carefully worked out by Government.

MINISTRY FOR THE ADVANCEMENT OF BACKWARD CLASSES

(i) The new Ministry should be created both at the Centre and in the States similar to the Ministry of Rehabilitation to handle in an effective manner the problems for the advancement of backward classes and also to prevent anti-social elements from fostering disruptive tendencies among the backward classes by exploiting discontentment among them.

(ii) This Ministry should have sufficient powers to co-ordinate ameliorative measures and welfare work done through different agencies in the various States. In particular, the following should be its special functions: (a) All educational problems, (b) Rural housing schemes, (c) Representation in services under Govt. and Local Bodies, (d) Administration of grants for welfare measures, (e) Provision of full employment in

rural areas, (f) Drawing up schemes for the advancement of backward classes, (g) Provision of adequate finances for implementation of schemes.

(iii) A department consisting of distinct sections each administering separately the affairs of Scheduled Castes, Scheduled Tribes and Other Backward Classes should be placed under the new Ministry. Sanctioning of schemes, allotment of funds, co-ordination of work, training of personnel, etc., would be the main functions of the Department. Funds should be separately earmarked for each of the three categories of the backward classes, namely Scheduled Castes, Scheduled Tribes and Other Backward Classes and the expenditure should also be separately debited.

(iv) *Constitution of an Advisory Board:* (a) An advisory Board both at the Centre and in each State to assist the new Ministry in the administration of welfare measures should also be set up. (b) Major question of policy and specific schemes for uplift should be placed before this Board for eliciting opinion. (c) The powers and functions of the Board should be worked out in detail by the Government of India.

GRANTS

A statement containing a summary of the recommendations in respect of financial grants required to give effect to various ameliorative measures will be found at the end of Chapter VIII of the Report.

REVISION OF LISTS OF THE SCHEDULED CASTES AND SCHEDULED TRIBES

(i) *General* - Members of Scheduled Castes and Scheduled Tribes when they go from one State to another should receive the amount of their help that is given to Other Backward Classes in the State where they have gone to reside.

(ii) The whole State should be one unit for purposes of help to Scheduled Tribes and the help offered to tribal people should be given to them irrespective of their shifting from one area to another in the State.

(iii) *Scheduled Tribes: Assam* - An exhaustive investigation of the tribes and their conditions in Assam should be made. Various agencies like Tribal Research Institution under the Government of India or under Universities may profitably be made use of for this purpose. Government may co-ordinate the work done by these agencies to collect more reliable data of various tribes of Assam. All the tribes should be listed by their own particular names in the hilly areas of Assam and Manipur. *Uttar Pradesh* - Tribes found in Uttar Pradesh should be included in the list of scheduled tribes. *Himachal Pradesh* - Gaddis and Gujars in Himachal Pradesh who lead a tribal life should be given help not only to improve the breed of their cattle but also amenities and rest houses both for men and cattle on the way when they go to plains during winter months. *Rajasthan* - Nomadic tribes who are breeders of cattle in Rajasthan should be given necessary assistance.

REPORT OF THE BACKWARD CLASSES COMMISSION (MANDAL), 1980

In exercise of the powers conferred by Article 340 of the Constitution, the President appointed, on January 1, 1979, the second Backward Classes Commission under the chairmanship of Shri B.P.Mandal. The Commission submitted its report on December 31, 1980. In the following, we reproduce chapters I, VII, VIII, XIII, and XIV of the Report.

CHAPTER I THE FIRST BACKWARD CLASSES COMMISSION

1.1 The First Backward Classes Commission was set up by a Presidential Order under Article 340 of the Constitution of India on January 29th, 1953 and it submitted its report on March 30th, 1955. The composition of the Commission and its terms of reference are given in Appendix-I, Volume II of this Report.

1.2 The Commission issued a Questionnaire comprising 182 questions for eliciting the views of the State Governments and the general public on various aspects of its inquiry. It also undertook extensive touring of the country to collect on-the-spot evidence.

1.3 After sifting and sorting the facts collected as above the Commission formulated the following criteria for identifying socially and educationally backward classes :-

(i) Low social position in the traditional caste hierarchy of Hindu society.

(ii) Lack of general educational advancement among the major section of a caste or community.

(iii) Inadequate or no representation in Government service.

(iv) Inadequate representation in the field of trade, commerce and industry.

It also prepared a list of 2,399 backward castes or communities for the entire country, and 837 of these were classified as 'most backward'. The Registrar General and Census Commissioner of India assisted the Commission in making population projections of 930 backward castes or communities.

1.4 The recommendations of the Commission for the upliftment of the backward classes are extremely wide-ranging and comprehensive. They cover such diverse fields as Extensive Land Reforms, Reorganisation of Village Economy, Bhoodan Movement, Development of Livestock, Dairy Farming, Cattle Insurance, Bee-keeping, Piggery, Fisheries, Development of Rural and Cottage Industries, Rural Housing, Public Health

and Rural Water Supply, Adult Literacy, University Education, Representation of Backward Classes in Government service, etc., etc. Some of the most noteworthy recommendations of the Commission were-

(i) Undertaking caste-wise enumeration of population in the Census of 1961;

(ii) Relating Social backwardness of a class to its low position in the traditional caste hierarchy of Hindu society;

(iii) Treating all women as a class as 'backward';

(iv) Reservation of 70 per cent seats in all technical and professional institutions for qualified students of backward classes;

(v) Minimum reservation of vacancies in all Government services and local bodies for other Backward Classes on the following scale:-

Class I	.. 25%
Class II	.. 33-1/3%
Class III	.. 40%

1.5 It is pertinent to note that the Commission could not present an unanimous report. In fact five of its Members recorded minutes of dissent. Dr. Anup Singh, Shri Arunangshu De and Shri P. G. Shah were opposed to the view of linking caste with backwardness. They were also opposed to the reservation of posts on the basis of caste. On the other hand, Shri S.D. S. Chaurasia strongly advocated the acceptance of caste as the criterion for backwardness in his 67-page minute of dissent. Shri T. Mariappa's minute of dissent was concerned only with the inclusion of a couple of castes in the list of Other Backward Classes.

1.6 Shri Kaka Kalelkar, the Chairman, took a rather equivocal stand on this issue. Though he did not record a formal minute of dissent, in his forwarding letter to the President he opposed the acceptance of caste as the basis for backwardness. He also expressed his reservations regarding several other important recommendations made by the Commission.

Government Action on Kaka Kalelkar Commission Report

1.7 After a detailed examination of the Commission's Report, the Government laid its copy together with a Memorandum of action taken before each House of the Parliament on September 3rd, 1956 in compliance with Article 340(3) of the Constitution. In this Memorandum it was observed, "For the purpose of the enquiry specifically contemplated in Article 340 of the Constitution it was necessary to consider whether these other backward sections could be properly classified, and the Commission had to find objective tests and criteria by which such classifications were to be made; they had to find indisputable yardsticks by which social and educational backwardness could be measured. The report of the Commission has not been unanimous on this point, in fact, it reveals considerable divergence of opinion". It was further stated, "The Commission list contains as many as 2,399 communities out of which 930 alone account for an estimated population of 11.5 crores; Scheduled Castes and Tribes will make up another 7 crores" (on the basis of 1951 Census). Regarding the acceptance of caste as criteria for backwardness, it was stated, "It cannot be denied that the caste system is the greatest hindrance in the way of our progress towards an egalitarian society, and the recognition of the specified castes as backward may serve to maintain and even perpetuate the existing distinctions on the basis of caste".

1.8 Regarding the recognition of a large number of castes and communities as backward, it was pointed out, "If the entire community, barring a few exceptions, has thus to be regarded as backward, the really needy would be swamped by the multitude and hardly receive any special attention or adequate assistance, nor would such dispensation fulfil the condition laid down in article 340 of the Constitution".

1.9 In view of the above, the Government considered it necessary that "some positive and workable criteria should be devised for specification of the socially and educationally backward classes" and to undertake further investigations "so that deficiencies that have been noticed in the

findings of the Commission are made good....". It was also pointed out in the Memorandum that the Planning Commission had already formulated the development programmes for the removal of backwardness and "the main point to be stressed was whether the special needs of the backward classes could be intensively and effectively served by appropriate shifts of emphasis or by rearrangement of priorities within the framework of the existing programmes or whether additional programmes needed to be drawn up.

Incidentally, the Commission's report was not discussed by the Parliament.

1.10 After presenting the Memorandum to the Parliament, the Government made efforts "to discover some criteria other than caste which could be of practical application in determining the backward classes". The Deputy Registrar General was asked to conduct a pilot survey to see if backwardness could be linked to occupational communities instead of caste. Such a survey was undertaken but it failed to throw up the desired criteria. The matter was also discussed at a conference of State representatives on 7-4-1959 and subsequently reviewed at a meeting of State officers convened by the Ministry of Home Affairs, but no consensus emerged as a result of these efforts.

1.11 The Central Government ultimately took a decision that no all India lists of backward classes should be drawn up, nor any reservation made in the Central Government service for any group of backward classes other than the Scheduled Castes and Scheduled Tribes. Consequently, on August 14th, 1961, the Ministry of Home Affairs addressed all the State Governments stating, "While the State Governments have the discretion to choose their own criteria for defining backwardness, in the view of the Government of India it would be better to apply economic tests than to go by caste". Regarding the preparation of lists of backward classes it was observed, "Even if the Central Government were to specify under Article 338(3) certain groups of people as belonging to 'other backward classes', it will still be open to every State Government to draw up its own lists for the purposes of Articles 15 and 16. As, therefore, the

State Governments may adhere to their own lists, any all-India list drawn up by the Central Government would have no practical utility".

Some Observations on Kaka Kalelkar Commission Report

1.12 It is well worth remembering that Kaka Kalelkar Commission Report was the first national level inquiry of its kind after the adoption of the Constitution. Since then ten States have set up fifteen Commissions and their reports provide a wealth of material on this subject. Further, the present commission has the additional benefit of a plethora of judicial pronouncements by the Supreme Court and several High Courts on the question of extending various types of benefits to backward classes other than the Scheduled Castes and Scheduled Tribes.

1.13 But despite making due allowance for its handicaps, it cannot be denied that Kaka Kalelkar Commission Report suffers from grave flaws of methodology and serious internal contradictions. For instance, the Commission was required to determine the criteria for identifying socially and educationally backward classes and, in accordance with such criteria, to prepare a list of such classes. The criteria evolved by the Commission is given in para 1.3 of this Chapter. The list of 2399 backward classes identified by the Commission is contained in Volume II of Kaka Kalelkar Commission Report. But it is not clear from the Report as to how the lists of backward classes were derived by the application of that criteria. The Commission's State-wise lists are based on the lists prepared by the Ministry of Education for the grant of scholarships, etc., to 'Other Educationally Backward Classes' in 1949. The Ministry of Education, in its turn, had compiled these lists on the basis of the recommendations received from the respective State Governments.

1.14 It is seen that Ministry of Education had prepared its list not only without undertaking any special survey for the identification of the backward classes, it was meant only for 'Other Educationally Backward Classes' and not for 'Socially and Educationally Backward Classes'

as contemplated in Article 340 of the Constitution.

1.15 Of course, Kaka Kalelkar Commission modified the Education Ministry's original lists in the light of evidence collected by it. But the fact remains that it broadly adopted the lists of Other Educationally Backward Classes prepared by another Government agency for an entirely different purpose, and created it as the list of socially and educationally backward classes of India. This was done without undertaking any field survey to check their validity for the purpose of the Commission. Nor were they tested against criteria evolved by the Commission for identifying socially and educationally backward class.

1.16 As stated in para 1.4 of this Chapter, Kaka Kalelkar Commission recommended different percentages of reservation of seats/vacancies in educational institutions, Government services, etc., for other Backward Classes (OBCs). For instance, it recommended reservation of 40% posts in class III and class IV categories, 25% in Class I category and 70% of the seats in professional and technical institutions. But in the absence of any explanation of the rationale for fixing different percentages for different groups of posts, etc., the approach appears somewhat arbitrary.

1.17 Though the above failings are serious, yet the real weakness of the Report lies in its internal contradictions. As stated in para 1.5 of this Chapter, three of the Members were opposed to one of the most crucial recommendations of the Report, that is, the acceptance of caste as a criterion for social backwardness and the reservation of posts in Government services on that basis. This degree of dissidence greatly compromised the force of the Commission's recommendations. But it was the 30-page forwarding letter of Shri Kaka Kalelkar to the President which demolished the very basis of the Report. The following extracts from this letter speak for themselves:

"Being convinced that the upper castes among the Hindus have to atone for the neglect of which they were guilty towards the 'lower' classes, I was prepared to recommend to Government that all special help should be given only to the backward classes and even the poor and the deserving

among the upper classes may be safely kept out from the benefit of this special help. My eyes were however opened to the dangers of suggesting remedies on the caste basis when I discovered that it is going to have a most unhealthy effect on the Muslim and Christian sections of the nation...."

"This was a rude shock and it drove me to the conclusion that the remedies we suggested were worse than the evil we were out to combat".

"This painful realisation came to me almost towards the end of our labours, I could not stem the current of opinion within the Commission itself and ultimately decided, though reluctantly, to side with the majority with whom I had cooperated throughout in formulating remedies on caste basis. It is only when the Report was being finalised that I started thinking anew and found that backwardness could be tackled on a basis or a number of bases other than that of caste. I only succeeded in raising the suspicion of the majority of my colleagues that I was trying to torpedo the recommendations of the Commission. This was another reason why I signed the Report without even a minute of dissent...."

"....If such communities have neglected education it is because they had no use for it. Now that they have discovered their mistake it is for them to make the necessary efforts for making up the leeway".

"Till recently, good many Communities were organising caste conferences and collecting funds for granting scholarships to boys and girls of their own community. That was a good lesson in self help and a good number of communities have thus come forward in material well-being. But now all burden is sought to be thrown on the common exchequer and those who have thoughtlessly neglected education in the past are now seeking preferential treatment in Government services. This is anything but fair...."

"I am definitely against reservation in Government Services for any Community for the simple reason that the services are not meant for the servants but they are meant for the service of society as a whole...."

"I believe that in Class I and Class II services, the backward classes will stand to gain both morally and materially, if they do not demand a reservation percentage in the vacancies and

simply rely on the fair-mindedness of the administration to use their preference in favour of the backward classes...."

1.18 The above extracts form an eloquent testament of Shri Kalelkar's views on backwardness and social justice. It must have caused this gentle Gandhian no end of anguish to refrain from recording a formal note of dissent to a Report which recommended caste as one of the main criteria for determining social backwardness. Despite giving such clear expression to his view, he in a latter para of this letter, "Following the analogy of the proverb, viz., 'Use the thorn to remove a thorn', we held that the evils of caste could be removed by measures which could be considered in terms of caste alone". Here, the strain of squaring the circle becomes so palpable that one can only sympathise with Kaka Sahib in his predicament.

1.19 A Report so fragmented in its conceptual design carried within itself the logic for its rejection.

Some Observations on Government Action

1.20 Whereas Kaka Kalelkar Commission Report received the closest attention of the Government right upto the highest level, there is one aspect of its examination which merits special attention. Despite referring to various constitutional provisions and accepting the need to give special relief to socially and educational backward classes, in the overall context the Government thinking was mainly conditioned by the national imperative of reducing economic disparities between different classes of society. This approach is clearly summed up in the letter that Home Ministry addressed to all the State Governments after full examination of the Report. The concluding sentence of this letter reads, "They (Government of India) also have the discretion to choose their own criteria for defining backwardness, in the view of the Government of India *it would be better to apply economic tests than to go by caste.*" (emphasis added).

1.21 As the main thrust of Government's development programmes has always been the removal of mass poverty, this pre-occupation with economic criteria in determining backwardness is quite understandable. But howsoever

laudable the objective may be, it is not in consonance with the spirit of Article 340 of the Constitution, under which the Commission was set up. Both Articles 15(4) and 340(1) make a pointed reference to "socially and educationally backward classes". Any reference to 'economic backwardness' has been advisedly left out of these Articles. Whereas we shall have more to say on this subject in a subsequent Chapter, it may be pertinent to point out that in giving primacy to 'economic tests' in determining the type of backwardness referred to in Article 340(1) of the Constitution, the Government has, perhaps inadvertently paid less than adequate attention to the constitutional requirements in this matter. It may be possible to make out a very plausible case for not accepting caste as a criteria for defining 'social and educational backwardness'. But the substitution of caste by economic test will amount to ignoring the genesis of social backwardness in the Indian society.

CHAPTER VII. SOCIAL JUSTICE, CONSTITUTION AND THE LAW

7.1 In the last Chapter we noticed the element of inherent conflict between the Fundamental Rights and the Directive Principles of State Policy and observed as to how Articles 15(4) and 16(4) helped to maintain a state of dynamic equilibrium between these two vital parts of the Constitution. In this Chapter, we shall examine the extent to which these two Articles have served as instrument of State Policy for securing social justice for weaker sections of the society.

7.2 In India, the State is by far the largest employer and the greatest dispenser of all sorts of patronage. Employment under the State and admission to various technical and professional institutions represent to an Indian citizen two most important opportunities to participate in the life of the nation. It is a telling comment on our unequal society that till the introduction of reservation of seats for Scheduled Castes and Scheduled Tribes, nearly 90 per cent of higher posts under the State and seats in medical and engineering colleges were filled by candidates from about 18 per cent of the higher castes. It was the enormity of this inequity that gave rise to various lower-caste movements, particularly in

the South, right from the beginning of this century. As a result of sustained agitations, specific quotas of seats had been earmarked in medical and engineering colleges in the States of Madras, Mysore, Travancore-Cochin, etc., much before Independence. In post-Independence India, the first important step to remedy this situation was taken with the incorporation of Clause 4 under Article 16 of the Constitution which empowered the State to reserve posts in favour of inadequately represented backward class citizens. The first major challenge to this policy of reservation was posed in Madras by two Brahmin candidates, one each for medical and engineering colleges respectively, who could not get admission despite higher marks. As the Supreme Court's^{**} decision in this case is of historical importance and marked the start of a legal battle the last shot in which has yet to be fired, it will be useful to give a gist of it.

7.3 Under an Order issued by the Madras Government (popularly known as Communal G.O.) all seats in medical and engineering colleges were distributed among six communities in a fixed ratio, and candidates of various communities could compete only among themselves for admission and not with candidates of other communities. Two Brahmin candidates who could not get admission against their quota, challenged the Government Order as being violative of the Fundamental Rights under Article 29(2) of the Constitution. The Supreme Court struck down the Communal G.O. on the ground that the classification was based on religion, race and caste and, thus, it was violative of Article 29(2). Madras Government's argument that the said classification was in pursuance of Article 46, which enjoined upon the State to promote with special care the educational and economic interests of the weaker sections of people, was rejected on the ground that the Fundamental Rights were "Sacrosanct and not liable to be abridged by any Legislative or Executive act or order, except to the extent provided in the appropriate Articles in part III. In our opinion, that is the correct way in which the provisions found in Parts III and IV have to be understood".

7.4 This decision of the Supreme Court had

^{**} Champakam Dorairajan v. State of Madras (A.I.R. 1951 S.C. - 226).

serious implications for the backward classes and widespread political agitations followed in its wake. These events also highlighted a lacuna in the Constitution and to the amendment of Article 15 by the addition Clause 4 through the Constitution (First Amendment) Bill, 1951. This clause reads as follows: Nothing in this Article or in Clause (2) of Article 29 shall prevent the State from making any special provision for the advancement of socially and educationally backward classes of citizens or for the Scheduled Castes and Scheduled Tribes.

7.5 Whereas Clause (4) of Article 16 provides for reservation of posts under the State, the new clause enjoined upon the State to make "any special provision for the advancement of any socially and educationally backward classes

7.6 It may be noticed that whereas Article 16(4) refers to "any backward class citizens", in Clause (4) of Article 15, the reference is "any socially and educationally backward classes". As Pt. Nehru explained before the Select Committee, this departure was made to bring the language of Article 15(4) in line with that of Article 340, which provides that Backward Classes Commission may be set up for "socially and educationally backward class citizens".

7.7 Perusal of the Parliament debates on this amendment clearly shows that irrespective of the criteria for the classification of backward classes, there had to be a list of castes or communities. During one of the debates, Pt. Nehru observed, "We want to put an end to all those infinite division that have grown up in our social life we may call them by any name you like, the caste system or religious division, etc" Ambedkar, the then Law Minister, was more forthcoming when he observed, "what are called backward classes are nothing else but a collection of certain castes".

7.8 Whereas the backward classes looked upon Articles 15(4) and 16 (4) as a sort of charter of rights, the forward classes and upper classes felt greatly cramped by the provision of reserved quotas in educational institutions and government employment. This greatly hurt their self-interest and they considered it as a denial of "equality of

opportunity", "equality before the law" and a breach of Fundamental Rights. Consequently, scores of aggrieved parties filed petitions before various High Courts, and the Supreme Court for the enforcement of their alleged Fundamental Rights and, over the years, a considerable body of case law has grown on this issue.

7.9 It is well known that the development of case law on really important issues seldom follows a smooth curve. If consistency is a virtue of small minds, the judicial mind can never be accused of any smallness. In view of the highly controversial and emotive nature of providing reserved quotas for backward classes, a large number of judgments delivered over the last two or three decades contain quite divergent findings on some very vital aspects of this matter. But all the same, taking an overall, impressionistic view, one can discern the emergence of some broad consensus on the really important issues agitated before the Courts.

7.10 Instead of undertaking an academic exercise of minutely tracing the history and development of judicial thinking on Article 15(4), 16(4) and 29(2), we shall try to briefly examine about half a dozen Supreme Court judgments which are regarded as landmarks in the evolution of case law on this subject and then, to list some of the important findings which have acquired general acceptance by courts and the legal pundits.

7.11 Supreme Court's decision in *Balaji v. State of Mysore*^{**} is the most celebrated judicial pronouncement on the question of reservation for backward classes and it has exercised a decisive influence on all the subsequent judgments delivered on this issue. A brief account of this case is given below.

7.12 On the basis of the report of the Naganna Gowda Committee, 1962, the Government of Karnataka, passed an order reserving 50 per cent of the seats in all medical and engineering colleges for the candidates of other backward classes. This was in addition to the reservation of 15 per cent of seats for Scheduled Castes and 3 per cent for Scheduled Tribes. Consequently, 68 per cent of the seats in medical, engineering and other

^{**} A.I.R. 1963, S.C. 649.

technical colleges were reserved for the weaker sections of the society, leaving 32 per cent for the merit pool. This Committee had also observed that under the Indian conditions the only practicable method of classifying backward classes in the State was on the basis of caste and community. Further, it sub-divided Other Backward Classes into 'backward' and the 'more backward' classes and distributed 50 per cent of the reserved seats among them in the ratio of 28 : 22 respectively.

7.13 The above order was challenged on the basis that it determined the social backwardness of communities in a manner not contemplated under Article 15(4).

7.14 The first important observation made by the court was that the concept of 'backwardness' is not intended to be relative in the sense that any classes who are backward in relation to most advanced classes of the society should be included in the list of backward classes. Also, backwardness under Article 15(4) must be social and educational, and not either social or educational.

7.15 Regarding social 'backwardness', the court observed that the group of people to whom Article 15(4) applies are described as 'classes of citizens' and not as 'castes of citizens'. Of course, in the Hindu social structure caste played an important part in determining the status of the citizen. Irrespective of its origin with the passage of time, the "functional and occupational basis of castes was later over-bounded with consideration of purity based on ritual-concepts and that led to its ramifications which introduced inflexibility and rigidity". In view of this, it may not be irrelevant to take into account the caste of a group of citizens in determining its social backwardness. But whereas "castes in relation to Hindus may be a relevant factor in determining the social backwardness of a group of classes of citizens, it cannot be made the sole dominant test in that behalf". To determine educational backwardness, the Naganna Gowda Committee had taken the State average of student population in the last three high-school classes of all high schools in the State and listed all communities as educationally backward whose average on the aforesaid basis fell even marginally below the State average.

Communities with less than 50 per cent of the State average were categorised as 'more backward'.

7.16 On this point, the court observed that it is only communities which are well below the State average that can be properly regarded as educationally backward class of citizens. Classes whose average was below 50 per cent of the State average are obviously educationally backward class of citizens. Marginal variation was not relevant for this purpose.

7.17 The court also felt that the sub-classification made by the order between 'backward classes' and 'more backward classes' was not justified under Article 15(4). "In introducing two categories of backward classes what the impugned order, in substance, purports to do is to devise measures for all the classes of citizens who are less advanced compared to the most advanced classes in the State, and that, in our opinion, is not the scope of Article 15(4)".

7.18 Regarding the quantum of reservation, the court observed that the interests of the weaker sections of the society had to be adjusted with interests of the community as a whole. "Speaking generally and in a broad way, a special provision should be less than 50 per cent, how much less than 50 per cent would depend upon the relevant prevailing circumstances in each case". Accordingly reservation of 68 per cent for backward classes, Scheduled Castes and Scheduled Tribes was considered excessive and declared unconstitutional.

7.19 In view of the aforesaid reasons, the impugned order of the State Government was struck down by the Supreme Court.

7.20 The next important case in this genre is that of *R Chitralekha v. State of Mysore** which is actually a sequel to the judgment delivered in the *Balaji* case.

7.21 In pursuance of the decision in *Balaji* case, Mysore Government devised profession-cum-means test for determining social and educational backwardness and incorporated it in its order of July 1963. Under this order, 50 per cent of the seats in medical, engineering and other technical institutions were reserved for backward classes in

* A.I.R. 1964 S.C. 1823.

addition to 15 per cent for Scheduled Castes and 3 per cent for Scheduled Tribes.

7.22 Validity of this Order was challenged before the Mysore High Court in *D.G. Viswanath v. Government of Mysore*** on the ground that the impugned Order altogether ignored 'caste' and 'residence' basis and, thus, it did not benefit the really backward classes among the Hindus. In *Balaji* case the Supreme Court had held caste, poverty, occupation, place of habitation as some relevant factors for determining social backwardness. According to the petitioner, the omission of caste and residence as relevant criteria from the Government Order ran counter to *Balaji* judgment and, therefore, it was bad in law. Mysore High Court allowed the petition and, relying on *Balaji*, stated, "As the Government had ignored caste and residence basis altogether in the instant case, the court felt that the classification of backward classes adopted did not really help the really backward classes among the Hindus".

7.23 In appeal the correctness of Mysore High Court's interpretation of *Balaji* case came up before the Supreme Court for decision in *R Chitralekha v. State of Mysore**. Supreme Court observed, "While this court said that caste is only a relevant circumstance and that it cannot be the dominant test in ascertaining the backwardness of a class of citizens, the High Court said it was an important basis in determining the class of backward Hindus and that the Government should have adopted caste as one of the tests caste is only a relevant circumstance in ascertaining the backwardness of a class and there is nothing in the judgment of this court which precludes the authority concerned from determining the special backwardness of a group of citizens if it can do so without reference to caste. While this court has not excluded caste from ascertaining the backwardness of a class of citizens, it had not made it one of the compelling circumstances affording a basis for the ascertainment of backwardness of a class We would also like to make it clear that if in a given situation caste is excluded in ascertaining a class within the meaning of Article 15(4) of the Constitution, it

does not vitiate the classification if it satisfied other tests".

7.24 Regarding 'caste' and 'class' the court stated, "Though it may be suggested that the expression 'classes' is used in clause (4) of Article 15, as there were communities without castes, if the intention was to equate classes with castes, nothing prevented the makers of the Constitution to use the expression 'backward classes'." The juxtaposition of the expression "backward classes" and "Scheduled Castes" in Article 15 also leads to a reasonable inference that the expression 'classes' is not synonymous with 'castes'.

7.25 In view of the above reasons, Mysore High Court judgment was set aside and the impugned Government Order was restored.

7.26 It may be observed in passing that the judgment in *Balaji* case and more so in that of *Chitralekha* represents, perhaps, the most conservative view on the relevance of caste for determining social backwardness and synonymy between 'classes' and 'castes'. We shall show presently that the passage of time has led to considerable shifting of emphasis on these two issues and the subsequent trend of judicial decisions has departed appreciably from the *Chitralekha* approach. The decision of Supreme Court in *P. Rajendran v. State of Madras**** marks a water-shed in this connection.

7.27 Rules made by the Government of Madras regulating admission to medical colleges provided for reservation of seats for socially and educationally backward classes specified in an appendix to that order. This Order was challenged as violative of Articles 14 and 15 on the ground that the list of classes specified castes. On this point the Court observed, "Now, if the reservation in question had been based only on caste and had not taken into account the social and educational backwardness of castes in question, it would be violative of Article 15(1). But it must not be forgotten that a caste is also a class of citizens and if the caste as a whole is socially and educationally backward, reservation can be made in favour of such a caste on the ground that

** A.I.R. 1964 Mys. 132

* A.I.R. 1964 S.C. 1823

*** A.I.R. 1968 S.C. 1012

it is socially and educationally backward class of citizens *within the meaning Article 15(4)* It is true that in the present case, the list of socially and educationally backward classes has been specified by caste. But that does not necessarily mean that caste was the sole consideration and that persons belonging to these castes are also not a class of socially and educationally backward citizens".

7.28 The Court also held that it was for the petitioners to show that the castes specified in the Government Order were not socially and educationally backward.

7.29 The upshot of *Rajendran* case was that caste-wise classification was held valid for identifying social and educational backwardness. The criterion of 'caste' as a sole basis of classification was rejected in *Balaji* and *Chitralkha* cases. But *Rajendran*, without overruling these cases, approved of caste-wise classification on the basis that "A caste is also a class of citizens".

7.30 The above decision was slightly modified in *P. Sagar v. State of Andhra Pradesh*.^{*} In this case, The Supreme Court, upholding the decision of Andhra Pradesh High Court, invalidated the caste-wise classification made by the State on the basis that the State had failed to specify the criterion on which the list was based. The main contention of the petitioner in this case was that the list of socially and educationally backward classes notified by the State Government was entirely caste-based and, hence, violative of Article 15(1). The main difference between this case and that of *Rajendran* is that here, on being questioned, the State Government failed to specify the criteria for the classification of backward 'classes'. The court observed that the expression 'classes' meant a homogeneous section of people grouped together because of certain likeness of common traits and identifiable by some common attributes such as status, rank, occupation, residence in a locality, race, religion and the like. In determining whether a particular section forms a class, caste could not be excluded altogether. But in case the class was made a criterion, proper inquiry or investigation should be conducted by the State Government before

listing certain castes as socially and educationally backward. ".... The assertion by the State that the officers or the State had taken into consideration the criteria which had been adopted by the courts or that the authorities had acted in good faith in determining the socially and educationally backward classes of citizens would not be sufficient to sustain such a claim Article 15 guarantees by the first Clause a fundamental right of far-reaching importance to the public generally. Within certain defined limits an exception has been engrafted upon the guarantee of the freedom in clause (1), but being in the nature of an exception, the conditions which justify departure must be strictly shown to exist."

7.31 The element of apparent contradiction between judgments in *Rajendran* and *Sagar*, only emphasises two aspects of the same situation. In the case of *Rajendran* "castes" listed as backward were so classified on the basis of their backwardness and not because they were castes as such and the State had produced evidence in support of the classification made by it. But in *Sagar* the State had failed to produce evidence in support of its classification. After the Supreme Court judgment in *Sagar* case, Courts have become much more particular about ascertaining the objective evidence or tests on the basis of which a particular caste was identified as socially and educationally backward.

7.32 In *Periakaruppan v. State of Tamil Nadu*^{**} the petitioners challenged the State Government's selection of candidates for medical colleges after dividing the State into six regions and reserving 41 per cent of the seats for socially and educationally backward classes, Scheduled Castes and Scheduled Tribes. The petitioners contended that (1) the method of unit-wise selection was violative of Articles 14 and 15 of the Constitution; (2) determination of backward classes on the basis of caste was unconstitutional; and (3) reservation of 41 per cent for backward classes, scheduled castes and scheduled tribes was excessive.

7.33 The Court allowed the plea that unit-wise selection was illegal. But it held that classification

* A.I.R. 1968 S.C. 1379.

** A.I.R. 1971 S.C. 2303

of backward classes on the basis of caste was within the purview of Article 15(4) and, that, 41 per cent reservation was not excessive. The Court observed, "Undoubtedly we should not forget that it is against the immediate interest of the nation to exclude from the portals of our medical colleges qualified and competent students but then the immediate advantages of the nation have to be harmonised with its long range interests. It cannot be denied that unaided many sections of the people in this country cannot compete with the advanced sections of the nation. *Advantages secured due to historical reasons should not be considered as fundamental rights* (Emphasis added). Nation's interest will be best, served - taking a long range view-if the backward classes are helped to march forward and take their place in line with advanced sections of people A caste has always been recognised as a class There is no gainsaying the fact there are numerous castes in this country which are socially and educationally backward". For this proposition the Court relied on the authority of *Rajendran* that the classification of backward classes on the basis of caste is within the purview of Article 15(4) if those castes are shown to be socially and educationally backward.

7.34 The Supreme Court's decision in *S.V. Balaram v. State of Andhra Pradesh** is also of particular interest regarding the determination of social and educational backwardness on the basis of caste and the quantum of reservation for backward classes. As a sequel to the Supreme Court's decision in *Sagar* case, the Andhra Pradesh Government set up a Backward Classes Commission to determine criteria for classifying backward classes, etc. The Commission evolved criteria based on poverty, occupation, caste and education. The Commission also prepared a list of backward classes in the light of this criteria. The State Government notified reservation of 25 per cent of the seats in medical colleges for the candidates of backward classes. Reservation for Scheduled Castes and Scheduled Tribes was 14 per cent and 4 per cent respectively. This order of the State Government was challenged in the High Court, which held that it was violative of Articles

15(1) and 29(2) of the Constitution and was not saved by Article 15(4). Supreme Court set aside the order of the High Court and held that the lists of backward classes notified by the State were in order and the reservation of 43 per cent for educationally and socially backward classes, Scheduled Castes and Scheduled Tribes was not excessive.

7.35 The Court observed that the Backward Classes Commission appointed by the State had circulated a questionnaire to various authorities and organisations, toured all the districts in the State and recorded oral evidence of the representatives of a number of communities. On the basis of this evidence the Commission had found certain castes as socially and educationally backward and classified them as such. The Court also referred to the "criticism levelled at the Commission that it had used its personal knowledge for the purpose of characterising a particular group as backward. That, in the circumstances of the case, is inevitable and there is nothing improper or illegal. The very object of the Commission in touring various areas and visiting the huts and habitations of people is to find out their actual living conditions".

7.36 Regarding the acceptance of caste as criterion, the Court observed, "It should not also be missed that a caste is also a class of citizens and that a caste as such may be socially and educationally backward. If after collecting the necessary data it is found that the caste as a whole is socially and educationally backward, in our opinion the reservation made of such persons will have to be upheld *notwithstanding the fact that a few individuals in that group may be both socially and educationally above the general average*."** There is no gainsaying the fact that there are numerous castes in the country which are socially and educationally backward, and, therefore, a suitable provision will have to be made by the State as charged in Article 15(4) to safeguard their interests."

7.37 The Court referred with approval to its observation in the earlier case of *Triloki Nath v.*

* A.I.R. 1972 S.C. 1375.

** Emphasis added.

State of Jammu and Kashmir[†] on the scope of Article 16(4) relating to reservation for backward classes in public employment. In that case the Court had held that the members of an entire caste or community may in the social, economic and educational scale of values, at a given time, be backward and may on that account be treated as backward classes, but that is not because they are members of a caste or community but because they form a class.

7.38 Regarding the overall reservation of 43 per cent, the Court did not consider it to be excessive as it was within the limit of 50 per cent laid down in *Balaji* case.

7.39 The relevance of means-test in classifying socially and educationally backward classes has also been agitated before the Courts. The case of *K.S. Jayasree v. State of Kerala** was an offshoot of the acceptance of the recommendations of Kerala Backward Classes Commission by the State Government. This Commission adopted a means-cum-caste/community test for identifying backward classes and recommended that such of the listed castes or communities whose family income was below a certain minimum should be treated as socially and educationally backward classes. The Kerala Government accepted this recommendation. In *Shamim v. Medical College, Trivandrum*** the Single Judge quashed the Government order holding that irrespective of their economic status all families from the backward classes were entitled to protective discrimination as "the test of poverty can not be the determining factor for social backwardness". However, on appeal, the Division Bench of the same High Court reversed this decision and upheld the Government's order. The High Court held that economic backwardness plays a part in social and educational backwardness and, therefore, power or economic standard was a relevant factor. In appeal in *Jaysree v. State of Kerala* the Supreme Court upheld the decision of the Kerala High Court. It also declared that a classification based only on poverty was not logical. This view was also expressed in *Laila Chacko v. State of*

Kerala.^{††} In this case the Court held an annual income of families alone cannot determine social and educational backwardness.

7.40 To sum up, we may refer to a very recent judgement of Allahabad High Court in *Chotelal and Others v. State of Uttar Pradesh*@ which contains gist of important case law on Articles 15(4) and 16(4) of the Constitution. In this case the Court observed that : "(i) The bracketing of socially and educationally backward classes with the Scheduled Caste and Tribes in Article 15(4) and the provision of Article 338(3) that the references to Scheduled Castes and Tribes were to be construed as including such backward classes as the President may by order specify on receipt of the report of the Commission appointed under Article 340(1), showed that in the matter of their backwardness they were comparable to Scheduled Castes and Scheduled Tribes; (ii) The concept of backward classes is relative in the sense that any class which was backward in relation to most advanced class in the community must be included in it; (iii) The backwardness must be both social and educational and not either social or educational; (iv) Article 15(4) refers to 'backward classes' and not 'backward castes'; indeed the test of caste would break down as regards several communities which have no caste; (v) Caste is a relevant factor in determining social backwardness but is not the sole or dominant test; (vi) Social backwardness is in the ultimate analysis the result of poverty to a very large extent. Social backwardness which results from poverty is likely to be aggravated by considerations of caste to which the poor citizens may belong, but that only shows the relevance of both caste and poverty in determining the backwardness of citizens; (vii) A classification based only on caste without regard to other relevant factors is not permissible under Art. 15(4); some castes are, however, as a whole socially and educationally backward; (viii) The occupations followed by certain classes (which are looked upon as inferior) may contribute to social backwardness; and so

†A.I.R. 1969 S.C. 1.

*A.I.R. 1976 S.C. 2381.

**A.I.R. 1976 Ker. 54.

†A.I.R. 1967 Ker. 124.

@A.I.R. 1979 All. 135.

(ix) The division of backward classes into backward and most backward classes is in substance a division of population into the most advanced and the rest, the rest being divided into backward and most backward classes and this is not warranted by Article 15(4); (x) Article 16(4) does not confer any right on a person to require that a reservation should be made. It confers a discretionary power on the State to make such a reservation if in its opinion a backward class of citizens is not adequately represented in the services of the State. Mere inadequacy of representation of a caste or class in the services is, however, not sufficient to attract Article 16(4) unless that class (including a caste as a whole) is also socially and educationally backward; (xi) The object of reservation would be defeated if on the inclusion of a class in a list of backward classes, the class is treated as backward for all times to come. Hence the State should keep under constant periodical review the list of backward classes and the quantum of the reservation of seats for the classes determined to be backward at a point of time; (xii) The aggregate reservation of posts for various categories (including backward classes) should be less than 50 per cent; and (xiii) The courts' jurisdiction is limited to deciding whether the tests applied by the State in determining the backward class of citizens are valid or not. If the relevant tests have not been applied it is not open to the Court either to modify the list of 'backward classes' prepared by the State or to modify the extent of reservation but it must strike down the offending part, leaving it to the State to take a fresh proper decision after applying the correct criteria".

7.41 Judgment in *Balaji* case was delivered nearly 17 years ago and subsequent decisions in *Rajendran*, *Sagar*, *Balram*, etc. show a marked shift from the original position taken in that case on several important points. But the powerful influence that *Balaji* continues to exercise on judicial thinking is highlighted by the manner in which Allahabad High Court has summarised the case law in *Chotelal*'s case cited above.

7.42 For instance, in paragraph 20 of its judgment in *Balaji* case the Supreme Court had observed that the backward classes for whose improvement special provision is contemplated

to be made under Article 15(4) should be comparable to Scheduled Castes and Scheduled Tribes in the matter of their backwardness. This was a very controversial observation and had caused a lot of confusion. But in actual effect such a test of backwardness has neither been applied by any State Government nor insisted upon by the Supreme Court. When this matter was agitated before the Supreme Court for reconsideration in *Balaram v. the State of Andhra Pradesh*, the Court observed that in regard to the case on hand "factually the castes enumerated as backward classes are really socially and educationally backward". After referring to the principles laid down by it in some earlier cases, the Supreme Court stated, "It must be pointed out that none of the above decisions lay down that social and educational backwardness must be exactly similar in all respects to that of the Scheduled Castes and Scheduled Tribes". Whereas various tests have been devised by State Governments to determine social and educational backwardness, nowhere the test of comparability to Scheduled Castes and Scheduled Tribes has been applied. Further, no list of Other Backward Classes prepared by a State Government has been struck down by the Supreme Court simply because the backward classes notified by it were not comparable to Scheduled Castes and Scheduled Tribes. Yet Allahabad High Court has observed in *Chotelal* that in the matter of their backwardness the Other Backward Classes should be comparable to Scheduled Castes and Scheduled Tribes.

7.43 The Allahabad High Court has also emphasised the point that Article 15(4) refers to 'backward classes' and not 'backward castes'. The case law on this point is fairly well settled by now and the judgements cited in this Chapter bring out the current thinking quite clearly. The position was amply clarified in *Rajendran*'s case when the Supreme Court stated "Caste is also a class of citizens and if the class as a whole is socially and educationally backward, reservation can be made in favour of such a caste on the ground that it was socially and educationally backward class of citizens within the meaning of Article 15(4)". In *Periakaruppan* the Supreme Court again observed "A caste has always been recognised as a Class".

7.44 One observation made in *Balaji* case and repeated several times in subsequent judgments including Allahabad High Court decision under reference concerns the relationship of poverty to social backwardness. In this case the Supreme Court had remarked, "Social backwardness is in the ultimate analysis the result of poverty to a very large extent. These classes of citizens who are deplorably poor automatically become socially backward". In Chapter IV of this Report we have shown as to how the lower and impure castes in the Hindu caste hierarchy were permanently assigned menial tasks and refused any access to all avenues for a better life. It was the all pervasive tyranny of this caste system which kept the lower castes socially backward and economically poor. The poverty of these castes stemmed from their social discrimination and they did not become socially backward because of their poverty. In view of this, historical and sociological evidence does not support the view that, in the ultimate analysis, social backwardness is the "result of poverty to a very large extent". In fact, it is just the other way round.

7.45 We may close this Chapter with an observation by Shri Justice K. Subba Rao on the import of Article 16(4) of the Constitution in *General Manager Southern Railway v. Ranga-chari*.^{*} Supreme Court held that Article 16(4) was in the nature of a proviso or exception of Article 16(1) and it could not be so interpreted as to nullify or destroy the main provision. "No provision of the Constitution or any enactment can be so construed as to destroy a provision contemporaneously enacted therein" In his dissenting judgment, Justice Subba Rao observed that Article 16(4) was not an exception to Article 16(1). "The expression 'nothing in the Article' is a legislative device to express its intention in a most emphatic way that the power conferred therein is not limited in any way by the main provision but falls outside it. It has not really carved out an exception, but has preserved a power untrammelled by the other provisions of the Article".

7.46 Though the observation was made in a

dissenting judgment, yet it merits serious considerations while examining the implication of the Article 16(4) of the Constitution for extending special benefits to Other Backward Classes.

CHAPTER VIII. NORTH-SOUTH COMPARISON OF OTHER BACKWARD CLASSES WELFARE

8.1 Setting right of historical wrongs is a very complex and difficult process. In the caste-ridden Hindu society, with its close correspondence of caste and socio-economic status, a handful of higher castes monopolised all the good things of life and the majority of lower castes were deprived even of the bare essentials of a decent living. In view of this the most pressing task before the country after independence was the reduction of disparities between the high and the low and the establishment of a more egalitarian society.

8.2 The Government of India adopted a two pronged approach to tackle this problem. On the one hand, it formulated Five Year Plans for the overall development of the country and, on the other it made special provisions under Articles 15(4), 16(4), 46, etc. for the upliftment of all sections of backward classes. Whereas the Government assumed direct responsibility for the framing and implementation of Plans, the welfare of backward classes, except that of Scheduled Castes and Tribes, it left to the discretion of the State Governments. Needless to say that this approach has resulted in a serious neglect of the interests of Other Backward Classes.

8.3 Left to their own resources, State Governments have adopted a variety of approaches to this problem. Southern States, with a long history of backward class movements, have made substantial progress in implementing programmes for the welfare of Other Backward Classes. On the other hand, the approach of Northern States to this question has been generally hesitant and half-hearted. One of the most concrete measures to help the backward classes is to make reservations for them in employment under the Government and in professional institutes. Such concessions were extended in the four Southern States quite some time back and the whole operation was relatively smooth and painless. But when States like Bihar and Uttar Pradesh introduced similar

^{*} A.I.R. 1962 S.C. 36

concessions on a much smaller scale, there was a violent reaction from the upper castes.

8.4 On the face of it, this was a rather baffling phenomenon. Generally speaking Hindu orthodoxy had a greater hold on South than on North India and, consequently, one would have expected stronger reaction in the South than in the North. As a proper understanding of the difference in response of Southern and Northern States to the question of welfare of the Other Backward Classes was very important for the Commission's work, we approached Tata Institute of Social Sciences, Bombay, to prepare a comparative study of the implementation of O.B.C. welfare measures in the four States of Tamil Nadu, Karnataka, Bihar and Uttar Pradesh. The study forms Volume IV of this Report. Except for some side observations, the following account contains a gist of this Study. The Commission does not necessarily subscribe to the views expressed in this Study.

8.5 To explain the phenomena of backlash to reservations in Uttar Pradesh and Bihar and its absence in Tamil Nadu and Karnataka, the Study formulates the following nine hypotheses: (1) If the communal reservation scheme has had a long history, retaliation by the forward castes is likely to be absent. (2) If the forward castes are divided against themselves, the chances of retaliation are less. (3) If the backward and scheduled castes are not getting on well together, the retaliation on the part of forward castes is likely to be high. (4) If the backward castes are also polished and organised, the retaliation on the part of the forward castes is less likely. (5) If the upper castes are suddenly faced with the prospect of losing their political and economic position, *i.e.* if a reservation scheme is likely to bring about a sudden rank disequilibrium, then the chances of retaliation on the part of such castes are very high. (6) If the forward sub-castes' persons can pass off as backward castes persons, the likelihood of retaliation is less. (7) If the State as a whole has experienced a kind of revivalism or is mobilized against outside symbols, the backward classes movement against the forward castes is likely to be less powerful. (8) The capacity on the part of the backward castes to retaliate is a function of (a) their numbers; (b) political consciousness; (c)

dominance, and (d) perceived lack of alternative opportunities. (9) If the non-government tertiary sector is expanding, the retaliation on the part of the forward castes is less likely.

8.6 To place the amalgams of open caste conflicts in proper historical context, the Study observes, "The British rulers produced many structural disturbances in the Hindu caste structure, and these were contradictory in nature and impact.... Thus, the various impacts of the British rule on the Hindu caste system, *viz.*, near monopolisation of jobs, education and professions by the *literati* castes, the Western concepts of equality and justice undermining the Hindu hierarchical dispensation, the phenomenon of Sankritisation, genteel reform movements from below, emergence of the caste associations with a new role set the stage for the caste conflicts in modern India. Two more ingredients which were very weak in the British period, *viz.*, politicisation of the masses and universal adult franchise, became powerful moving forces after the Independence.

8.7 Now we pass on to the treatment of each of the four individual States studied by the Institute.

8.8 Tamil Nadu

Being the hereditary custodians of higher learning, the Tamil Brahmins were the main beneficiaries of the British system of education and the advantages that flowed from it. This enabled them to establish a near-monopoly of all government services and the professions. "Alerted by the advent of the Montagu-Chelmsford reforms and dyarchy the non-Brahmin elite castes took lead in establishing first, the South Indian Liberal Federation and secondly, The Justice Party in 1916". After coming into power in 1920 this party took steps to loosen the hold of Brahmins on services. It was under the communal G.O. of 1927 that compartmental reservation of posts was made for various communities.

8.9 It may be noted that, "the Justice Party leaders were drawn from the landed classes and were not much keen on broadening their base by including the landless castes within their ranks The communal G.O. of 1927 represented a

victory for the Vellala castes, particularly the Mudaliars". This approach eroded the mass base of the Justice Party. Its aloofness from the national movement weakened it further.

8.10 In the meantime, angered by the domination of the Congress by the Brahmins, and annoyed at Gandhiji's adherence to a purified Varna ideology, E.V. Ramaswami Naicker walked out of the Congress party and started the Self-Respect movement. He rejected the Brahmanical religion and culture and demanded a separate Dravidstan. Subsequently, with the constitution of Dravida Kazagam party anti-Hindi and anti-North planks were added to this ideology.

8.11 In 1947 the communal G.O. of 1927 was revised and an important feature of the new Order was that, "For the first time the non-Brahmin castes were bifurcated into non-Brahmin Hindus and non-Brahmin backward Hindus". This compartmental reservation was struck down by the Supreme Court and, consequently, the Government issued another order in 1951 making reservations for Scheduled Castes and Tribes and Other Backward Classes only. This did not give to any sharp reaction from the non-Brahmin forward castes as they "had become sufficiently powerful to hold out to their benefits and did not have to resort to any kind of protest for backlash".

8.12 A special feature of the above scheme of reservation was that it divided most major community or caste groups into forward or backward sections. "Christian converts from the Scheduled Castes are backward; other Christians are forward. While Labbai and Dakhani Muslims are backward, Urdu-speaking Muslims are forward; Adisavia, Karghata, Kalavali-Vallals are forward; and Thuluvallas and Sozhia Vallas are backward. All Reddis are forward except Ganjam Reddis. Gavara and Vadugar Naidus are backward; Kamanaidus are forward...." This manner of division also greatly reduced the potential of the forward sub-castes to protest or agitate.

8.13 In actual operation, the benefits of reservation have gone primarily to the relatively more advanced castes among the notified backward classes. The Tamil Nadu Backward Classes Commission took special note of it and suggested

that compartmental reservation should be introduced for different categories of Other Backward Classes, but the State Government did not heed this suggestion. "The main question here is: Why did the weaker and minor backward castes who constitute 88.7 % of the backward classes population did not feel resentment against the benefits of reservation going to only a handful of castes?" In Karnataka, "Deveraj Urs capitalising on this resentment carved out a new political base of himself from these castes", but in Tamil Nadu such a movement did not take shape owing to "the peculiar Dravida Kazhagam culture.... As long as the Tamil culture revivalism continues to grip the State..... a real backward classes movement will not emerge".

8.14 Unlike some other States, an open conflict between the Harijans and the Other Backward Classes has not developed in Tamil Nadu to eclipse the Brahmin v. non-Brahmin cleavage. "Because Tamil Nadu is a non Sanskritic cultural area, the four-fold Var na system has less applicability there." Here the Harijans have also promptly responded to Self-Respect movement.

8.15 The expanding Tamil Nadu economy and the relatively higher rate of urbanisation have created new avenues and job opportunities for the youth of the Brahmin and non-Brahmin upper castes. This has certainly eased the tensions which would have otherwise built up among these communities as a result of job reservation, etc.

8.16 Karnataka

Mysore Brahmins, very much like their Tamilian counterparts "had established a run-away lead over the two dominant landed gentry castes of the Lingayats and Vokkaligas.... Almost contemporaneous with the rise of the Justice movement in Madras the Lingayats and Vokkaligas of the princely Mysore state became agitated over the Brahmin predominance in the Government service and education..... As the Brahmins turned increasingly urban-ward the Lingayats gentry bought up their lands". They started forming caste associations and in 1917 Praja Mitra Mandali was established to voice the claims of the non Brahmins. The Government viewed sympathetically the grievances of the backward classes and, on

the basis of Miller Committee report, issued orders in 1921 extending special educational and employment facilities to backward class candidates. This resulted in a gradual reduction in the percentage of the Brahmins in the services and professional institutions.

8.17 In the absence of a sharp focus, Praja Mitra Mandali disintegrated and its place was taken by Praja Paksha in 1928. This party was headed mainly by the "two dominant castes who had considerable exposure to the caste conflicts in the neighbouring States".

8.18 It was after Independence that the "Vokkaligas started controlling the State apparatus and the Congress party, while the Lingayats constituted their junior partners.....the formation of the unified Karnataka State in 1956 altered the caste balance considerably. The Lingayats constituted 15 per cent of the population in the entire State and Vokkaligas about 11 per cent. The political centre of gravity shifted from the old Mysore area to the newly integrated regions particularly the Bombay-Karnataka".

8.19 After Reorganisation, the new leaders extended the communal reservation scheme to the entire State. As a result of a number of court cases culminating in the famous *Balaji* judgment, the State Government ordered in 1963 30 % reservation for Other Backward Classes and 18 per cent for Scheduled Castes and Tribes. The beneficiaries of this scheme of reservation were the politically dominant castes of Lingayats and the Vokkaligas. This gave rise to considerable resentment amongst other minority castes, who found themselves left high and dry. "Deveraj Urs.....very carefully and sedulously cultivated the non-Lingayat and non-Vokkaliga communities". It was primarily the consolidation of this base that enabled him to rule the State from 1972-80.

8.20 In 1972 he set up Karnataka Backward Classes Commission under the chairmanship of Shri L.G. Havanur. On the basis of its surveys the Commission did not include the Brahmins, Lingayats, Kshatriyas, etc. in the list of backward classes. After modifying the Commission's recommendations the State Government divided the under-privileged classes into six broad categories and made separate reservation for each

group.

8.21 The special feature of this scheme was, "that some sub-castes of the Lingayats had been classified as backward, when majority of the sub-castes have been classified as forward. Also, while the Vokkaligas have been classified as a backward community, their erstwhile senior partners in the politics of the Karnataka State, the Lingayats have been classified as mostly forward. For these reasons the Lingayat community finds itself divided on the issue of the reservation scheme, based on the Havanur Commission Report. Also, on this issue an alliance of the Vokkaligas with the Lingayats cannot take place as they find themselves in different camps of the backward and the forward. This is in total contrast with the Bihar and Uttar Pradesh situation where all the major forward caste groups, viz, the Brahmins, the Kayasthas, the Rajputs and the Bhumihars have been classified as forward and can find a platform to unite upon".

8.22 Havanur Commission Report resulted in considerable controversy between Lingayats and other backward castes. But owing to effective mobilisation of the smaller backward castes, protests and agitations organised by Lingayats did not cut much ice.

8.23 "The Karnataka non-Brahmin movement in the decades following the 20's failed to produce any overarching revivalist Kannada ideology which might have prevented the cleavage among the non-Brahmins from emerging to the surface this more recent cleavage has displaced the older Brahmin v. non-Brahmin cleavage".

8.24 "Like the Brahmins, Kayasthas, Bhumihars and Rajputs of U.P. and Bihar, the Lingayats, the Brahmins and Bunts of Karnataka have been kept out of the reservation scheme. The Karnataka Brahmins are so weak that even if they join hands with the Lingayats, it will not make any difference. The Brahmin leaders feel that they have been slightly better off in regard to the jobs and seats since 1972. For all these reasons, the forward castes anger is muted in Karnataka and has not assumed any violent forms".

8.25 Urbanisation and rapid growth of industry

in Karnataka have produced the same effect of reducing caste tensions as they did in the case of Tamil Nadu.

8.26 Bihar

Unlike Tamil Nadu and Karnataka, the twice-born castes in Uttar Pradesh & Bihar are fully differentiated among themselves and also from the backward castes and the Harijans. Further, it is Kayasthas and not the Brahmins who constitute the main *literati* caste.

8.27 "In Bihar, the political struggle within the Congress till the middle of the sixties was characterised by the conflicts and competition among the twice-born castes. After the sixties, without these cleavages being significantly eroded, the conflicts between these caste groups and the lower peasant castes, and between the lower peasant castes and the Scheduled castes have come to prevail".

8.28 The three twice-born castes of Bihar i.e. Brahmins, Bhumihars and Rajputs were the dominant land-owning communities. Here it was the Kayasthas and not the Brahmins who took in a big way to modern education and the professions. Separation of Bihar from Bengal in 1911 was their big opportunity.

8.29 Bhumihars, who were better educated than Rajputs and more rural-oriented than the Kayasthas, dominated the Congress politics in the State till the death of their astute leader, Dr. Sri Krishna Sinha.

8.30 In the earlier phase of post-Independence Congress rule in Bihar, social cleavages surfaced in the political life of the State. "The Kayasthas tried to bolster their sagging position by supporting and encouraging the Rajput group. The Brahmins too entered the Congress in big numbers... the Bhumihar-Rajput rivalry reached its peak in the fifties". But all these developments will show that during this period the backward castes did not form an important element in this power game. It was with the rise of the Yadavas, Kurmis and Koeris that the backward castes began to organise themselves along caste lines. "The All India Yadava Mahasabha has its headquarters at Patna and the Bihari Yadavas along with their counterparts in Punjab and U.P.,

formed the backbone of the Indian Yadava Movement. In the initial stages, most of these caste groups functioned as appendages of the main contenders in the upper castes; leaders from the upper castes coopted men from the lower castes to leadership position". This obviously prevented the backward peasant castes from offering a united front and each caste group entered the Congress divided. Of course, with the acquisition of political skills, they became increasingly autonomous.

8.31 It will be interesting to note that between 1934 and 1960 the percentage of the Kayastha members in the Bihar Pradesh Congress Executive Committee declined steeply from 53.84% to 4.76%; that of the Bhumihars increased from 15.38% to 28.56%. "The Rajput and the Brahmin representation, after registering some increase, declined. The backward castes (both upper and lower) began appearing around 1948 and held about 14 per cent of the posts around 1960. As Blair (1980) shows, the percentage in the Congress legislature party in 1962 of the backwards was just 24.9 per cent, an overwhelming bulk of whom were the upper backwards. This once again contrasts with the success of the non-Brahmins in South India in ousting the Brahmins from the Congress and politics in general. In Bihar, the forward castes have been too well entrenched in politics and the economy to be ousted by divided and imperfectly mobilised backwards. In 1963, for the first time in the history of the Bihar Congress legislature party there was contest between a forward caste leader (K.B. Sahay, a Kayastha) and a backward caste-leader with considerable ability (Birchand Patel, a Kurmi). It is interesting to note that not only the backward caste legislators but also those belonging to the Scheduled Castes and Tribes, were divided between the two contestants. In fact, more backwards voted for Sahay than for Patel".

8.32 After 1962 the strength of forward caste MLAs has declined and that of backward class MLAs increased, though in neither case the variation is very steep. It was Ram Manohar Lohia who conceived the idea of uniting the backward castes to defeat the Congress and in the sixties the Samyukta Socialist Party started wooing them assiduously. "The Congress debacle of 1967

marks an important stage in the upsurge of the backward castes. In these elections to the Vidhan Sabha the Bania, Kurmi, Koeri and Yadava candidates were returned in big numbers and constituted 31.6 per cent of the MLAs. Most of them belonged to the SSP. This pattern repeated in the midterm polls of 1969 also. In the 1972 elections, the Congress rode back to power and the share in the Assembly of the Backward castes MLAs declined below the level of even 1962. The share went up again in 1977, their upsurge in 1977 was a temporary and transient one. Contrast this with the Karnataka elections of 1972 and 1978, which vindicated the durability and invincibility of the new backward castes coalition".

8.33 The pattern of land reforms in Bihar is one of the main reasons for the imperfect mobilisation of the backward castes into politics. The abolition of all intermediaries has definitely helped the hard working peasant castes like Kurmis, Koeris and Yadavas. These small peasant proprietors "work very hard on their lands and also drive their labourers hard", and any resistance by the agricultural labourers gives rise to mutual conflicts and atrocities on Harijans. In view of this, "the power structure in the Bihar countryside has not been as neatly settled as elsewhere..." This situation contains considerable potential for cleavages and conflict.

8.34 It was Karpoori Thakur's Government which introduced 20 per cent reservation for backward classes in November, 1978. (Details of this are given in Chapter II of the Report). "Thakur was only pursuing the Lohia line of further mobilizing the backward castes. He thought that he could successfully graft the Karnataka model on Bihar. The G.O. provoked widespread backlash on the part of the forward castes. The Universities and colleges came to be closed. Trains and buses were attacked. The government property was damaged".

8.35 In a recent article in *Economic and Political Weekly*,* James Manor has compared the achievements of Devaraj Urs and Karpoori Thakur as follows: "Thakur proclaimed his policy of preferment for the 'backward classes' soon after taking office. He did so in order to signify "that

the Backwards had displaced the Forwards as the dominant force in Bihar politics, that the old days of dominance in public affairs from village to "Vidhan Sabha by the 'twice-born' were gone forever". But he made this announcement before he had either consolidated 'backward class' control in the state-level political arena or developed programmes to provide 'backward class' people with new economic and political resources in the form of substantive patronage from government. His early offer of preferment inflamed feelings among both forward castes and scheduled castes who felt threatened by it and led to the collapse of his government before it had time to achieve its major goals. It was replaced by a government which is dominated by "Forwards and Jana Sanghis". In the words of Devaraj Urs, "Karpoori climbed into the ring before he learned how to box".

8.36 Regarding the adroit management of OBC-Scheduled Castes relations by Urs, Manor has observed: "If preferment programmes in North India have been seen as threats by the scheduled castes, how did Urs maintain an alliance between the 'backward classes' and the scheduled castes? He did so through a combination of symbolism and substantive action. On a symbolic level, he kept the scheduled caste leader, B. Basavilangappa, in the prominent role of Revenue Minister, more than doubled scheduled caste representation in the cabinet (with important portfolios) and had the Assembly Speaker chosen from among their number. Urs also sought—largely successfully, by all accounts—to re-assure the scheduled castes that reservations for 'backward classes' meant no diminution of their statutory quotas. He drove the point home by energetic efforts to see that scheduled caste quotas which had never been adequately filled in the higher ranks of government service were more fully met during his tenure...."

8.37 Unlike Tamil Nadu and Karnataka the process of urbanisation and industrialisation in Bihar has been very slow and the young aspirants of higher castes are not in a position to leave their original moorings and seek their fortunes in new avenues. This, coupled with the hold of higher castes on the Government services, has given

*E.P. W. Annual Number 1980.

them both the capability and the motivation to hit the backward castes whenever they try to raise their head.

Uttar Pradesh

8.38 "As in Bihar, in Uttar Pradesh too the caste system is found well differentiated in terms of the Varna model. According to the 1931 census, the forward twice-born castes constituted about 20.30% of the total population: the Brahmins formed 9.23% of the population and Rajputs 7.28%. The upper peasant castes of Yadavas, Kurmis, Jats, Lodhs and Koeris formed about 16.4% of the population. In Uttar Pradesh, the Brahmins, Kayasthas and, later, the Baniyas, were the main beneficiaries of modern education. The Rajputs being the dominant landed peasantry, did not show much resentment at the Brahmin Kayastha monopoly of education and the professions.

8.39 Another important reason as to why cleavages did not develop among the forward castes as in Bihar or among forward and backward castes as in Karnataka and Tamil Nadu, is that during the freedom struggle "The Hindu-Muslim and Congress-League cleavages overshadowed every other cleavages". Incidentally, this also shows how a larger issue tends to depress minor issues in the same area.

8.40 On the backward classes front, "the peasant castes of Yadavas, Kurmis, Koeris, Jats developed a high degree of affinity among themselves... Despite these stirring the OBCs could not forge a unified political front of the OBCs and the Scheduled Castes".

8.41 The caste composition of the various Ministries since 1937 demonstrates the weakness of the backward castes movement. In the 1937-39 cabinet the Brahmins held three out of six posts and OBCs none. This pattern continued till 1952, when Charan Singh, a Jat, was taken in the cabinet. Sampurnanand, C.B. Gupta and Sucheta Kripalani also continued this pattern. It was only in the S.V.D. Ministry headed by Charan Singh in 1967 that three ministerships were given to the peasant backward castes, including Yadavas and Kurmis. This became necessary as backward classes made considerable gains in the 1967 elections. "The decline of the Congress also

meant the decline of the forward caste representation in the Assembly. The second Charan Singh ministry of 1970 and T.N. Singh ministry of 1970-71 also gave considerably more representation to the upper peasant castes and inducted for the first time the artisan castes". But this trend did not represent an enduring gain for the OBCs, as the representation of forward castes again went up under the ministries formed by Tripathi, Bahuguna and Tiwari. It was only when the Janata Party came in power in 1977 that the share of OBCs increased considerably. "Like Karpoori Thakur in Bihar, Ram Naresh Yadav mistook this increase for a durable rise of the backwards and was emboldened to issue the famous G.O. of August 1977. The 1980 elections disproved the assumption of a critical change in the balance of power".

8.42 Land reforms produced similar changes in the political economy of Uttar Pradesh as in Bihar. "The tenant and share-cropping castes of Yadavas, Kurmi, Lodhs, Gujars, Koeris became owner cultivators and industrious as they are, they are better qualified to take advantage of the modern agricultural inputs....".

8.43 On the basis of the recommendations of the Most Backward Classes Commission, the Yadav Government ordered 15 per cent reservation of Government posts for Other Backward Classes in August, 1977. It is not clear as to why a "Most Backward Classes Commission" was appointed instead of a "Backward Classes Commission". Yet the very modest reservation of 15 per cent for OBCs gave rise to strong backlash on the part of forward castes. "Even the Government servants in some areas of U.P. joined in the agitation. The gravamen of the demands of the agitators was that class and not caste should be the criterion of social and economic backwardness".

8.44 The trend shows OBCs and Scheduled Castes in Uttar Pradesh do not possess political organisation and cohesion to force a demand for a higher representation of backward classes in service and educational institutions. Even the 15 per cent reservation made by the State Government has been set aside by Allahabad High Court. "Like Karpoori Thakur, Ram Naresh Yadav too

tried to telescope the backward classes mobilisation into a span of less than one decade. Unlike Devaraj Urs, they did not try to divide the forward castes with the help of any well-conceived strategy. The Janata victories of 1977 constituted only deviant cases".

Conclusions

8.45 In view of the foregoing account, the reasons for much stronger reaction in the North than South to reservations, etc. for Other Backward Classes may be summarised as below: (1) Tamil Nadu and Karnataka had a long history of Backward Classes movements and various measures for their welfare were taken in a phased manner. In Uttar Pradesh and Bihar such measures did not mark the culmination of a mass movement. (2) In the South "the forward communities have been divided either by the classification schemes or politically or both.... In Bihar and U.P. the G.Os. have not divided the forward castes". (3) In the South, clashes between Scheduled Castes and the Backward peasant castes have been rather mild. In the North these cleavages have been much sharper, often resulting in acts of violence. This has further weakened the backward classes solidarity in the North. (4) In the non-Sanskritic South, the basic Varna cleavage was between Brahmins and non-Brahmins constituted only about 3 per cent of population. In the Sanskritic North, there was no sharp cleavage between the forward castes and together they constituted nearly 20 per cent of the population. In view of this the higher castes in U.P. and Bihar were in a stronger position to mobilise opposition to backward class movement. (5) Owing to the longer history and better organisation of Other Backward castes in the South, they were able to acquire considerable political clout. Despite the lead given by the Yadavas and other peasant castes, a unified and strong OBC movement has not emerged in the North so far. (6) The traditions of semi-feudalism in Uttar Pradesh and Bihar have enabled the forward castes to keep tight control over smaller backward castes and prevent them from joining the mainstream of backward classes movement. This is not so in the South. (7) "The economies

of Tamil Nadu and Karnataka have been expanding relatively faster. The private tertiary sector appears to be growing. It can shelter many forward caste youths. Also, they are prepared to migrate outside the State. The private tertiary sectors in Bihar and U.P. are stagnant. The forward caste youths in these two States have to depend heavily on Government jobs. Driven to desperation, they have reacted violently".

CHAPTER XIII. RECOMMENDATIONS

13.1 It may appear that the upliftment of other backward classes (OBCs) is part of the larger national problem of the removal of mass poverty. This is only partially correct. The deprivation of OBCs is a very special case of the larger national issue: here the basic question is that of social and educational backwardness and poverty is only a direct consequence of these two crippling caste-based handicaps. As these handicaps are embedded in our social structure, their removal will require far-reaching structural changes. No less important will be changes in the perception of the problems of OBCs by the ruling classes of the country.

Reservations

13.2 One such change in the attitude of the ruling elite pertains to the provision of reservation in government services and educational institutions for the candidates of other backward classes. It is generally argued that looking to the large population of OBCs (52%), recruitment of a few thousand OBCs every year against reserved vacancies is not going to produce any perceptible impact on their general condition. On the other hand, the induction of a large proportion of employees against reserved vacancies will considerably impair the quality and efficiency of the government services. It is also stated that the benefits of such reservations will be skimmed off by those sections of OBCs, which are already well off and the really backward sections will be left high and dry. Another argument advanced against this approach is that the policy of large scale reservations will cause great heart burning to those meritorious candidates whose entry into services will be barred as a result thereof.

13.3 All the above arguments are based on fairly sound reasoning. But these are also the arguments advanced by the ruling elite which is keen on preserving its privileges. Therefore, like all such reasoning, it is based on partisan approach. By the same token, while illuminating some immediate areas of concern it tends to ignore much larger issues of national importance.

13.4 It is not at all our contention that by offering a few thousand jobs to OBC candidates we shall be able to make 52% of the Indian population as forward. But we must recognise that an essential part of the battle against social backwardness is to be fought in the minds of the backward people. In India, Government service has always been looked upon as a symbol of prestige and power. By increasing the representation of OBCs in government services, we give them an immediate feeling of participation in the governance of this country. When a backward class candidate becomes a Collector or a Superintendent of Police, the material benefits accruing from his position are limited to the members of his family only. But the psychological spin off of this phenomenon is tremendous; the entire community of that backward class candidate feels socially elevated. Even when no tangible benefits flow to the community at large, the feeling that now it has its 'own man' in the 'corridors of power' acts as morale booster.

13.5 In a democratic set-up every individual and community has a legitimate right and aspiration to participate in ruling this country. Any situation which results in a near-denial of this right to nearly 52 per cent of the country's population needs to be urgently rectified.

13.6 Apprehensions regarding drop in the quality of government services owing to large scale induction of SC/ST and OBC candidates against reserved posts may be justified only up to a point. But is it possible to maintain that all candidates selected on merit turn out to be honest, efficient, hard-working and dedicated? At present, top echelons of all the Government services are manned predominantly by open competition candidates and if the performance of our bureaucracy is any indication, it has not exactly covered itself with glory. Of course, this does not imply that candidates selected against reserved

posts will do better. Chances are that owing to their social and cultural handicaps they may be generally a shade less competent. But, on the other hand, they will have the great advantage of possessing first hand knowledge of the sufferings and problems of the backward sections of society. This is not a small asset for field workers and policy makers even at the highest level.

13.7 It is no doubt true that the major benefits of reservation and other welfare measures for other backward classes will be cornered by the more advanced sections of the backward communities. But is not this a universal phenomenon? All reformist remedies have to contend with a slow recovery along the hierarchical gradient; there are no quantum jumps in social reform. Moreover, human nature being what it is, a 'new class' ultimately does emerge even in classless societies. The chief merit of reservation is not that it will introduce egalitarianism amongst OBCs when the rest of the Indian society is seized by all sorts of inequalities. But reservation will certainly erode the hold of higher castes on the services and enable OBCs in general to have a sense of participation in running the affairs of their country.

13.8 It is certainly true that reservation for OBCs will cause a lot of heart-burning to others. But should the mere fact of this heart-burning be allowed to operate as a moral veto against social reform. A lot of heart-burning was caused to the British when they left India. It burns the hearts of all whites when the black protest against apartheid in South Africa. When the higher castes constituting less than 20 per cent of the country's population subjected the rest to all manner of social injustice, it must have caused a lot of heart-burning to the lower castes. But now that the lower castes are asking for a modest share of the national cake of power and prestige, a chorus of alarm is being raised on the plea that this will cause heart burning to the ruling elite. Of all the specious arguments advanced against reservation for backward classes, there is none which beats this one about 'heart-burning' in sheer sophistry.

13.9 In fact the Hindu society has always operated a very rigorous scheme of reservation, which was internalised through caste system. Eklivya lost his thumb and Shambhuk his neck

for their breach of caste rules of reservation. The present furore against reservations for OBCs is not aimed at the principle itself, but against the new class of beneficiaries, as they are now clamouring for a share of the opportunities which were all along monopolised by the higher castes.

Quantum and Scheme of Reservation

13.10 Scheduled Castes and Scheduled Tribes constitute 22.5% of the country's population. Accordingly, a pro-rata reservation of 22.5% has been made for them in all services and public sector undertakings under the Central Government. In the States also, reservation for SCs and STs is directly proportional to their population in each State.

13.11 As stated in the last Chapter (para 12.22) the population of OBCs, both Hindu and non-Hindu, is around 52 per cent of the total population of India. Accordingly, 52 per cent of all posts under the Central Government should be reserved for them. But this provision may go against the law laid down in a number of Supreme Court judgements wherein it has been held that the total quantum of reservation under Articles 15(4) and 16(4) of the Constitution should be below 50 per cent. In view of this the proposed reservation for OBCs would have to be pegged at a figure which, when added to 22.5% for SCs and STs, remains below 50%. In view of this legal constraint, the Commission is obliged to recommend a reservation of 27% only, even though their population is almost twice this figure.

13.12 States which have already introduced reservation for OBCs exceeding 27% will remain unaffected by this recommendation.

13.13 With the above general recommendation regarding the quantum of reservation, the Commission proposes the following overall scheme of reservation for OBCs.

- (1) Candidates belonging to OBCs recruited on the basis of merit in an open competition should not be adjusted against their reservation quota of 27%.
- (2) The above reservation should also be made applicable to promotion quota at all levels.

(3) Reserved quota remaining unfilled should be carried forward for a period of three years and dereserved thereafter.

(4) Relaxation in the upper age limit for direct recruitment should be extended to the candidates of OBCs in the same manner as done in the case of SCs and STs.

(5) A roster system for each category of posts should be adopted by the concerned authorities in the same manner as presently done in respect of SC and ST candidates.

13.14 The above scheme of reservation in its toto should also be made applicable to all recruitment to public sector undertakings both under the Central and State Governments, as also to nationalised banks.

13.15 All private sector undertakings which have received financial assistance from the government in one form or the other should also be obliged to recruit personnel on the aforesaid basis.

13.16 All universities and affiliated colleges should also be covered by the above scheme of reservation.

13.17 To give proper effect to these recommendations, it is imperative that adequate statutory provisions are made by the government to amend the existing enactments, rules, procedures, etc. to the extent they are not in consonance with the same.

Educational Concessions

13.18 Our educational system is elitist in character, results in a high degree of wastage and is least suited to the requirements of an overpopulated and developing country. It is a legacy of the British rule which was severely criticised during the independence struggle, and yet, it has not undergone any structural changes. Though it is least suited to the needs of backward classes, yet, they are forced to run the rat-race with others as no options are available to them. As 'educational reform' was not within the terms of reference of this Commission, we are also forced to tread the beaten track and suggest only the palliative measure within the existing framework.

13.19 Various State Governments are giving a number of educational concessions to Other Backward Class students (Chapter IX, paras

9.30-9.33) like exemption of tuition fees, free supply of books and clothes, mid-day meals, special hostel facilities, stipends, etc. These concessions are all right as far as they go. But they do not go far enough. What is required is, perhaps, not so much the provision of additional funds as the framing of integrated schemes for creating the proper environment and incentives for serious and purposeful studies.

13.20 It is well known that most backward class children are irregular and indifferent students and their drop-out rate is very high. There are two main reasons for this. First, these children are brought up in a climate of extreme social and cultural deprivation and, consequently, a proper motivation for schooling is generally lacking. Secondly, most of these children come from very poor homes and their parents are forced to press them into doing small chores from a very young age.

13.21 Upgrading the cultural environment is a very slow process. Transferring these children to an artificially upgraded environment is beyond the present resources of the country. In view of this it is recommended that this problem may be tackled on a limited and selective basis on two fronts.

13.22 First, an intensive and time bound programme for adult education should be launched in selected pockets with high concentration of OBC population. This is a basic motivational approach, as only properly motivated parents will take serious interest in educating their children. Secondly, residential schools should be set up in these areas for backward class students to provide a climate specially conducive to serious studies. All facilities in these schools including board and lodging, will have to be provided free of cost to attract students from poor and backward homes, separate government hostels for OBC students with the above facilities will be another step in the right direction.

13.23 A beginning on both these fronts will have to be made on a limited scale and selective basis. But the scope of these activities should be expanded as fast as the resources permit. Adult education programme and residential schools started on a selective basis will operate as growing-points of consciousness for the entire

community and their multiplier effect is bound to be substantial. Whereas several States are extended a number of *ad-hoc* concessions to backward class students, few serious attempts have been made to integrate these facilities into a comprehensive scheme for a qualitative upgradation of educational environment available to OBC students.

13.24 After all, education is the best catalyst of change and educating the backward classes is the surest way to improve their self image and raise their social status. As OBCs cannot afford the high wastage rates of our educational system, it is very important that their education is highly biased in favour of vocational training. After all reservation in services will absorb only a very small percentage of the educated backward classes and the rest should be suitably equipped with vocational skills to enable them to get a return on having invested several years in education.

13.25 It is also obvious that even if all the above facilities are given to OBC students, they will not be able to compete on an equal footing with others in securing admission to technical and professional institutions. In view of this it is recommended that seats should be reserved for OBC students in all scientific, technical and professional institutions run by the Central as well as State Governments. This reservation will fall under Article 15(4) of the Constitution and the quantum of reservation should be the same as in the government services, i.e. 27 per cent seats for OBC students will remain unaffected by this recommendation.

13.26 While implementing the provision for reservation it should also be ensured that the candidates who are admitted against the reserved quota are enabled to derive full benefit of higher studies. It has been generally noticed that these OBC students coming from an impoverished cultural background, are not able to keep abreast with other students. It is, therefore, very essential that special coaching facilities are arranged for all such students in our technical and professional institutions. The concerned authorities should clearly appreciate that their job is not finished once candidates against reserved quota have been admitted to various institutions. In fact the real

task starts only after that. Unless adequate follow-up action is taken to give special coaching assistance to these students, not only these young people will feel frustrated and humiliated but the country will also be landed with ill-equipped and sub-standard engineers, doctors and other professionals.

Financial Assistance

13.27 Vocational communities following hereditary occupations have suffered heavily as a result of industrialisation. Mechanical production and introduction of synthetic materials has robbed the village potter, oil crusher, black-smith, carpenter, etc., of their traditional means of livelihood and the pauperisation of these classes is a well known phenomenon in the country-side.

13.28 It has, therefore, become very necessary that suitable institutional finance and technical assistance is made available to such members of village vocational communities who want to set up small scale industries on their own. Similar assistance should also be provided to those promising OBC candidates who have obtained special vocational training.

13.29 Of course, most State Governments have created various financial and technical agencies for the promotion of small and medium scale industries. But it is well known that only the more influential members of the community are able to derive benefits from these agencies. In view of this, it is very essential that separate financial institutions for providing financial and technical assistance are established for the backward classes. Some State Governments like Karnataka and Andhra Pradesh have already set up separate financial corporations etc. for OBCs.

13.30 Cooperative Societies of occupational groups will also help a lot. But due care should be taken that all the office-bearers and members of such societies belong to the concerned hereditary occupational groups and outsiders are not allowed to exploit them by infiltrating into such cooperatives.

13.31 The share of OBCs in the industrial and business life of the country is negligible and this partly explains their extremely low income levels.

As a part of its overall strategy to uplift the backward classes, it is imperative that all State Governments are suitably advised and encouraged to create a separate network of financial and technical institutions to foster business and industrial enterprise among OBCs.

Structural Changes

13.32 Reservations in government employment and educational institutions, as also all possible financial assistance will remain mere palliatives unless the problem of backwardness is tackled at its root. Bulk of the small land-holders, tenants, agricultural labour, impoverished village artisans, unskilled workers, etc., belong to Scheduled Castes, Scheduled Tribes and Other Backward Classes. "Apart from social traditions, the dominance by the top peasantry is exercised through recourse to informal bondage which arises mainly through money-lending, leasing out of small bits of land and providing house-sites and dwelling space to poor peasants. As most of the functionaries of Government are drawn from the top peasantry, the class and caste linkage between the functionaries of Government and the top peasantry remain firm. This also tilts the socio-political balance in favour of the top peasantry and helps it in having its dominance over others."*

13.33 The net outcome of the above situation is that notwithstanding their numerical preponderance, backward classes continue to remain in mental and material bondage of the higher castes and rich peasantry. Consequently, despite constituting nearly three-fourths of the country's population, Scheduled Castes, Scheduled Tribes and Other Backward Classes have been able to acquire a very limited political clout, even though adult franchise was introduced more than three decades back. Through their literal monopoly of means of production the higher castes are able to manipulate and coerce the backward classes into acting against their own interest. In view of this, until the stranglehold of the existing production relations is broken through radical land reforms, the abject dependence of under privileged classes

* Rising Middle Peasantry in North India by Pradhan M Prasad, Economic & Political Weekly, Annual Number 1980.

on the dominant higher castes will continue indefinitely. In fact there is already sizeable volume of legislation on the statute books to abolish zamindari, place ceilings on land holdings and distribute land to the landless. But in actual practice its implementation has been halting, half-hearted and superficial. The States like Karnataka, Kerala and West Bengal which have gone about the job more earnestly have not only succeeded in materially helping the Backward classes, but also reaped rich political dividends into the bargain.

13.34 It is the Commission's firm conviction that a radical transformation of the existing production relations is the most important single step that can be taken for the welfare and upliftment of all backward classes. Even if this is not possible in the industrial sector for various reasons, in the agricultural sector a change of this nature is both feasible and overdue.

13.35 State Governments should, therefore, be directed to enact and implement progressive land legislation so as to effect basic structural changes in the existing production relations in the countryside.

13.36 At present surplus land is being allotted to SCs and STs. A part of the surplus land becoming available in future as a result of the operation of land ceiling laws etc. should also be allotted to the OBC, landless labour.

Miscellaneous

13.37 (1) Certain sections of some occupational communities like Fishermen, Banjaras, Bansforas, Khatwes etc. still suffer from the stigma of untouchability in some parts of the country. They have been listed as OBCs, by the Commission, but their inclusion in the lists of Scheduled Castes/Scheduled Tribes may be considered by the Government.

(2) Backward Classes Development Corporations should be set up both at Central and State levels to implement various socio-educational and economic measures for their advancement.

(3) A separate Ministry/Department for OBCs at the Centre and the States should be created to safeguard their interests.

(4) With a view to giving better representation

to certain very backward sections of OBCs, like the Gaddis in Himachal Pradesh, Neo-Buddhists in Maharashtra, Fishermen in the Coastal areas, Gujjars in J & K, it is recommended that areas of their concentration may be carved out into separate constituencies.

Central Assistance

13.38 At present no central assistance is available to any State Government for implementing any welfare measures for Other Backward Classes. The eighteen States and Union Territories which have undertaken such measures have to provide funds from their own resources. During the Commission's tours practically every State Government pointed out that unless the Centre is prepared to liberally finance all special schemes for the upliftment of OBCs, it will be beyond the available resources of the States to undertake any worthwhile programme for the benefit of Other Backward Classes.

13.39 The Commission fully shares the views of the State Governments in this matter and strongly recommends that all development programmes specially designed for Other Backward Classes should be financed by the Central Government in the same manner and to the same extent as done in the case of Scheduled Castes/Scheduled Tribes.

13.40 Regarding the period of operation of the Commission's recommendations, the entire scheme should be reviewed after twenty years. We have advisedly suggested this span of one generation, as the raising of social consciousness is a generational progress. Any review at a shorter interval would be rather arbitrary and will not give a fair indication of the impact of our recommendations on the prevailing status and life-styles of other backward classes.

CHAPTER XIV. SUMMARY OF THE REPORT

Chapter I - The First Backward Classes Commission

The First Backward Classes Commission was set up on 29 January 1953 and it submitted its report on 31 March 1955. On the basis of criteria evolved by it, the Commission listed 2,399 castes

as socially and educationally backward. It recommended various welfare measures for OBCs including reservation in Government services and educational institutions.

The Central Government did not accept the recommendations of the Commission on the ground that it had not applied any objective tests for identifying Backward Classes. Five out of the 11 Members of the Commission had given notes of dissent. The Government felt that the Commission had classified a very large section of the population as backward and if special assistance had to be extended to all these people, 'the really needy will be swamped by the multitude'. The Government was also opposed to the adoption of caste as one of the criterion for backwardness and preferred the application of economic tests.

As Article 340 of the Constitution speaks of "socially and educationally backward classes" the application of 'economic tests' for their identification seems to be misconceived.

Chapter II - Status of OBCs in Some States

It is for nearly 100 years that Provincial Governments in India have been implementing special programmes for the welfare of depressed and backward classes. Madras Government took the lead by framing Grant-in-Aid Code in 1885 to regulate financial aid to educational institutions for backward classes students. Mysore State was the next to follow and, by now, all the southern states are implementing fairly comprehensive programmes for OBCs. As on date 16 States and two Union Territories are providing special assistance of varying degrees to Other Backward Classes. Ten State Governments are doing so on the basis of recommendations made by Backward Classes Commission specially set up by them in this behalf and the others are doing in an *ad-hoc* manner.

Special concessions like reservation of jobs in Government employment and seats in educational institutions; financial assistance; subsidised educational facilities, etc. are being given by several State Governments to OBCs. Southern States have done much more work in this connection as compared to the rest of the country. Kamataka has reserved 48% of all Government

jobs for OBC candidates in addition to 18% for SCs and STs. In the case of Tamil Nadu, these figures stand 50% and 18% respectively.

Chapter III - Methodology and Data Base

One serious defect noticed by the Government in the report of first Backward Classes Commission was that it had not formulated any objective criteria for classifying Other Backward Classes (OBCs). The need for field surveys and formulation of objective tests has also been repeatedly emphasised by the Supreme Court in several cases. In view of this, the Commission has taken special care to tap a number of independent sources for the collection of primary data. Some of the important measures taken in this connection were : seminar of sociologists on social backwardness; issue of three sets of questionnaires to State Governments, Central Government and the public; extensive touring of the country by the Commission, taking evidence of legislators, eminent publicmen, sociologists, etc.; undertaking a country-wide socio-educational survey; preparation of reports on some important issues by specialised agencies; analysis of census data, etc.

By adopting this multilateral approach the Commission was able to cast its net far and wide and prepared a very firm and dependable data, base for its Report.

Chapter IV - Social Backwardness and Caste

Castes are the building bricks of the Hindu social structure. They have kept Hindu society divided in a hierarchical order for centuries. This has resulted in a close linkage between the caste ranking of a person and his social, educational and economic status.

This manner of stratification of society gave the higher castes deep-rooted vested interests in the perpetuation of the system. The priestly castes evolved an elaborate and subtle scheme of scripture, ritual and mythology and perpetuate their supremacy and hold the lower castes in bondage for ages. Most of our Shastras uphold the four-fold Varna system and, because of this religious sanction, caste system has lasted longer than most other social institutions based on inequality and inequity.

In view of the permanent stratification of society in hierarchical caste order, members of lower castes have always suffered from discrimination in all walks of life and this has resulted in their social, educational and economic backwardness. In India, therefore, the low ritual caste status of a person has a direct bearing on his social backwardness.

Chapter V - Social Dynamics of Caste

Caste system has been able to survive over the centuries because of its inherent resilience and its ability to adjust itself to the ever changing social reality. The traditional view of caste system, as contained in Chapter IV, is based more on Hindu Shastras than the actual state of social reality. Moreover, caste restrictions have loosened considerably as a result of the rule of law introduced by the British, urbanisation, industrialisation, spread of mass education and, above all, the introduction of adult franchise after Independence. But all the above changes mark only shift of emphasis and not any material alteration in the basic structure of caste.

It is generally agreed that whereas certain caste taboos have weakened as a result of the above changes, the importance of casteism in Indian politics is on the increase. This perhaps, was inevitable. Caste system provided the political leadership with readymade channels of communication and mobilisation and, in view of this, the importance of caste was bound to increase in Indian politics. As Rajni Kothari has observed, 'those in India who complain of 'casteism' in politics are really looking for a sort of politics which has no basis in society.'

The pace of social mobility is no doubt increasing and some traditional features of caste system have inevitably weakened. But what caste has lost on the ritual front, it has more than gained on the political front. In view of this it will be unrealistic to assume that the institution of caste will wither away in the foreseeable future.

Chapter VI - Social Justice, Merit and Privilege

Equality before the law is a basic Fundamental Right guaranteed under Article 14 of the Constitution. But the principle of 'equality' is a double-edged weapon. It places the strong and the

handicapped on the same footing in the race of life. It is a dictum of social justice that there is equality only among equals. To treat unequals as equals is to perpetuate inequality. The humanness of a society is determined by the degree of protection it provides to its weaker, handicapped and less gifted members.

'Equality of opportunity' and 'equality of treatment' places the weak and the strong on par and, to that extent, it amounts to denial of social justice. In fact, it is 'equality of results' which is the acid test of society's egalitarian pretensions. In a highly unequal society like ours, it is only by giving special protection and privileges to the under-privileged section of society that we can enable the weak to resist exploitation by the strong.

It was in view of these considerations that our Constitution makers made special provisions under Articles 15(4), 16(4) and 46, etc. to protect the interests of SCs, STs and OBCs. Some people consider provisions like reservation of posts for backward classes, etc., as a violation of their Fundamental Right and denial of meritorious person's legitimate due. In fact, 'merit' itself is largely a product of favourable environmental privileges and higher rating in an examination does not necessarily reflect higher intrinsic worth of the examinee. Children of socially and educationally backward parents coming from rural background cannot compete on an equal footing with children from well to do homes. In view of this 'merit' and 'equality' should be viewed in proper perspective and the element of privilege should be duly recognised and discounted for when 'unequals' are made to run the same race.

Chapter VII - Social Justice, Constitution and the Law

The element of conflict between the Fundamental Rights and the Directive Principles of State Policy has been the subject-matter of numerous Parliamentary debates and judicial pronouncements. In pursuance of Articles 15(4) and 16(4) a number of State Governments made reservations in Government services and educational institutions for OBCs and several petitions were filed before the High Courts and the Supreme Court against such orders. Gradually a sizeable body of case law has grown on the subject

and a gist of it is given below.

Caste is an important factor in the identification of Other Backward Classes among Hindu communities. Backwardness must be both social and educational and not either social or educational. Caste is also a class of citizens and if the caste as a whole is socially and educationally backward, reservation can be made in favour of such a caste on the ground that it is a socially and educationally backward class of citizens within the meaning of Article 15(4). The further division of backward classes into 'backward' and 'most backward' is not warranted by Article 15(4). The aggregate reservation of posts under Article 15(4) should be less than 50%. Objective criteria should be evolved on the basis of field survey, etc., for identifying OBCs.

Chapter VIII - North South Comparison of OBC Welfare

Southern States have done much more for the welfare of Other Backward Classes than Northern States. Moreover, in the South the whole operation was conducted quite smoothly whereas in the North even modest welfare measures for OBCs have given rise to sharp resistance. The Commission approached Tata Institute of Social Sciences, Bombay, to prepare a comparative study of the 4 States of Tamil Nadu, Karnataka, Bihar and Uttar Pradesh, so as to have better appreciation of this phenomenon.

Tata Institute Study formulated a number of hypotheses in this regard. They are: Reservation scheme had a much longer history in the South; forward castes were more divided among themselves in the South; OBCs were not getting along very well with SCs/STs in the North and thus divided the backward classes movement; backward classes were more politicised in the South; reservation scheme was introduced too suddenly in the North; the capacity of backward classes to retaliate depends upon their numbers, political consciousness, dominance and perceived lack of alternative opportunities; more rapid expansion of tertiary sector gave opening to forward castes in the South which was not available to the same extent in the North, etc.

Tata Institute supports the above hypotheses by citing a number of examples and historical developments in the 4 States under consideration.

Chapter IX - Evidence by Central and State Governments

Two sets of questionnaires were circulated to all State Governments, Union Territories and Ministries and Departments of Central Government for eliciting information on various aspects of our inquiry. These questionnaires were designed to obtain a comparative picture of status of backward classes in various States, steps taken for their welfare, views of various government agencies on the question of social and educational backwardness and any useful suggestions regarding the Commission's terms of reference.

Most of the State Governments favoured caste as an important criterion for determining social and educational backwardness. Some States preferred economic criterion and some a combination of caste and means-test. Eighteen State Governments and Union Territories have taken special steps for the welfare of Other Backward Classes, though there is wide variation in the quantum of assistance provided by them. For instance, reservation in government services for OBCs ranges from 50% in the case of Karnataka and Tamil Nadu and 5% in Punjab and nil in the case of Rajasthan, Orissa, Delhi, etc. Representation of OBCs in local bodies, State Public Service Commission, High Courts, etc. is also negligible. Social discrimination is still practised against OBCs. There are a number of castes and communities which are treated as untouchables though they have not been included in the list of Scheduled Castes. All the State Governments which have launched programmes for the welfare of backward classes have to fund the same from their own resources as no separate Plan allocation is made by the Centre for this purpose.

Most States have reported loss of employment by village artisans owing to the introduction of machines, change in consumption patterns, etc.

From the information supplied by the Central Government Ministries and Departments it is seen that Other Backward Classes constitute 12.55% of the total number of government employees, whereas their aggregate population is

52%. Their representation in Class I jobs is only 4.69% i.e. less than 1/10th of their proportion to the country's total population.

Chapter X - Evidence by the Public

Nearly 2/3rd of the respondents to our questionnaire for General Public felt that no material changes have taken place in the country's caste structure since Independence. Regarding criterion for identifying backwardness, nearly 3/4th of the respondents favoured caste. More than 3/4th of the respondents also complained of various disabilities suffered by backward classes and many felt that no concrete steps have been taken to remove them. They wanted job reservation quotas to be enhanced and more educational concessions to be given to the children of OBC. Ameliorative measures suggested for OBCs were: reservation in government employment and educational institutions; grant of interest free loans, free distribution of agricultural land and house sites; etc.

In their evidence before the Commission, Members of Sixth and Seventh Lok Sabha also expressed views similar to those summarised above. Some MPs warned against malicious propaganda being carried on by vested interests to create conflict between OBCs and SCs and STs. Some stated that the Commission should adopt those criteria for determining backwardness which have been tested before the Courts. They also suggested that the lists of OBCs prepared by State Governments and accepted by the Courts should be adopted by the Commission *in toto*.

During the Commission's tour to various States, a large number of representations were received for including particular castes in the list of OBCs. Most of the other respondents expressed similar views on the criterion for identifying backward classes and measures to be taken for their upliftment as already indicated above.

Chapter XI - Socio-Educational Field Survey - Criteria for Backwardness

A country-wide socio-educational survey covering 405 out of 407 Districts was conducted with the help of Bureau of Economics and Statistics of various States from February to June, 1980. Voluminous data gathered from the Survey were

computerised and 31 primary tables were generated from these data in respect of each State and Union Territory. On the basis of these tables, 11 Indicators or Criteria for social and educational backwardness were derived and they were grouped under 3 broad heads, i.e. Social, Educational and Economic. In view of their relative importance, 3 points were assigned to each one of the Social Indicators, 2 to Educational Indicators and 1 to Economic Indicators. This added up to a total score of 22 points. All these 11 indicators were applied to each one of the castes covered by the Survey in each State. Castes obtaining a minimum score of 11 points on this scale were listed as socially and educationally backward.

Chapter XII - Identification of OBCs

A large number of castes were identified as backward in each State as a result of the Socio-Educational Survey. As this Survey covered only two villages and one urban block per District, a large number of castes were naturally left out. Moreover, in some cases, the size of the sample was so small that the results were not dependable.

In view of this, two supplementary approaches were adopted to prepare complete lists of OBCs for each State. First, State-wise list of the 11 groups of primitive tribes, exterior castes, criminal tribes, etc. contained in the Registrar General of India's compilation of 1961 were culled and included in the Commission's lists of OBCs. This was done as the social and educational status of these castes and communities was more or less akin to Scheduled Castes and Scheduled Tribes. Secondly, based on the public evidence and personal knowledge of the Members of the Commission, State-wise list of those OBCs were drawn up which could not be covered by the socio-educational survey.

It was a result of this three pronged approach that State lists of OBCs (Volume III) were prepared.

From the results of the field survey it was seen that some of the well-known OBCs which were also included in the lists of backward classes notified by various State Governments were not ranked as 'backward' in the survey. This is unavoidable in any sociological survey based on

Statistical methods. Such aberrations were corrected in the light of the other field evidence available with the Commission.

The set of eleven Indicators (criteria), being caste-based, could not be applied to non-Hindu communities. In view of this, a separate set of three criteria was evolved for the identification of non-Hindu backward communities.

On the basis of the available census data, the population of Hindu and non-Hindu OBCs was estimated to be 52 per cent of the total population of India. This is in addition to the population of Scheduled Castes and Scheduled Tribes which amounts to 22.5%.

Chapter XIII - Recommendations

Reservation of SCs and STs is in proportion to their population, i.e. 22.5%. But as there is a legal obligation to keep reservations under Article 15(4) and 16(4) of the Constitution below 50%, the Commission recommends a reservation of 27% for OBCs. This reservation should apply to all Government services as well as technical and professional institutions, both in the Centre and the States.

Special educational facilities designed at upgrading the cultural environment of the students should be created in a phased manner in selected areas containing high concentration of OBCs. Special emphasis should be placed on vocational training. Separate coaching facilities should be provided in technical and professional institutions to OBC students to enable them to

catch up with students from open quota.

Special programmes for upgrading the skills of village artisans should be prepared and subsidised loans from financial institutions granted to them for setting up small scale industries. To promote the participation of OBCs in the industrial and business life of the country, a separate network of financial and technical institutions should be created by all State Governments.

Under the existing scheme of production-relations, Backward Classes comprising mainly small land-holders, tenants, agricultural labour, village artisans, etc., are heavily dependent on the rich peasantry for their sustenance. In view of this, OBCs continue to remain in mental and material bondage of the dominant castes and classes. Unless these production-relations are radically altered through structural changes and progressive land reforms implemented rigorously all over the country, OBCs will never become truly independent. In view of this, highest priority should be given to radical land reforms by all the States.

At present no Central assistance is available to any State for implementing any welfare measures for Other Backward Classes. Several State Governments expressed their helplessness in undertaking more purposeful development programmes for backward classes in view of lack of resources. It is, therefore, recommended that welfare programmes specially designed for OBCs should be financed by the Central Government in the same manner and to the same extent as done in the case of SCs and STs.

REVIEW ARTICLE*

NARENDRA DEVA AND THE SOCIALIST MOVEMENT

H. K. Paranjpe

The Birth Centenary Volume on Acharya Narendra Deva (1889-1956) published under the auspices of the Birth Centenary Celebration Committee consists of tributes paid to Acharya Narendra Deva by 46 eminent personalities in the country. These include mainly the Acharya's former colleagues in the erstwhile Socialist Party, such as Kamaladevi Chattopadhyay, Yusuf Meherally, Achyut Patwardhan, N. G. Goray, Asoka Mehta, Prem Bhasin, Madhu Dandavate, Chandrashekhar, Samar Guha, Surendra Mohan and Madhu Limaye; one-time party colleagues and later friends working in other political parties such as E.M.S. Namboodiripad, Aruna Asaf Ali, Sri Prakasa, B. V. Keskar and P. D. Tandon; and also a few others who were mainly outside politics such as G. S. Bhargava, Raghukul Tilak, D. P. Mukerji, M. Chalapathi Rau, D. G. Tendulkar, P. C. Joshi and Anil Nauriya. A tribute by the President of India, Shri R. Venkataraman, by way of a speech made in February, 1990 is also included.

Shri Madhu Limaye who was mainly responsible for preparing the volume points out that the approach of the Editorial Committee was to make the volume as comprehensive as possible so that "the various facets of Acharya Narendra Deva's many - splendoured personality could be adequately elucidated". They therefore invited Acharya's contemporaries, political colleagues, co-workers, and disciples to send their contributions. The Committee also looked for evaluations of the Acharya published in the past and included some of the significant ones among them. The contributions collected were both in Hindi and in English and are published in two separate volumes. Here, we are reviewing only the volume in English.

As the volume is meant essentially as a centenary tribute, and also contains many writings written many years ago by friends and colleagues who have themselves passed away in the meanwhile, there is little attempt at making a critical review either of the Acharya's thinking and

activities, or to relate these to the later developments in the Indian socialist movement of which he was one of the main architects. Beyond calling him the father of Indian socialism or its doyen, little critical attention has been paid in most of the contributions to such topics. There are however a few contributions which make such an attempt and these are of special interest in the light of the present situation about the left movement in the country.

By the very nature of things, there is much repetition among the different contributions about certain details regarding the Acharyaji's life, and some of the important stages in his career as well as the evolving trend of his thinking. In addition to reminiscences which bring out the Acharya's commitment to ideals like nationalism and socialism, what comes out strikingly, through contribution after contribution, are his self-effacing nature, his scholarly devotion to the study of various languages and also of history, philosophy, and religion.

Narendra Deva's deep scholarship was remarkable especially for one who, besides being a teacher, remained in active politics throughout his life. As Sri Prakasa says: "The number of subjects of which he had detailed knowledge and on which he could speak with authority was endless; and it was indeed remarkable that in an intensely busy life of a lawyer, an educationist, and a politician, he could have read as extensively as he had done". He studied various languages like French, German, Pali so as to study the original source material on Buddhism in these languages. His famous work *Bouddha Dharma Darshana* is an outstanding work on Buddhism. Raghukul Tilak says: "There is no other book in Sanskrit, Hindi, English, French or any other language of the world in which so much material has been brought together and in which the most abstruse problems of Buddhist religion, philosophy, psychology, and logic have been presented in such a lucid and interesting manner". He also translated into Hindi the French version of the

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* Acharya Narendra Deva Birth Centenary Volume, Edited by Prem Bhasin, Madhu Limaye, Hari Dev Sharma and Vinod Prasad Singh, Radiant Publishers, New Delhi, 1990.

Abhidharma Kosha, one of the most important works of *Sarvastivada*, a Sanskrit work by Vasubandhu which was at that time not traceable and the French version had been prepared on the basis of a Chinese translation.

While he was thus a Buddhist scholar who had devoted himself to a deep study of Buddhism, he did not subscribe to Buddhism or to any other religion as a faith. He did speak about the Mahayana ideal of *Bahujan Hitaya Bahujan Sukhaya*, and he also thought of Buddhism as providing a cultural base for our international relations. His lifelong interest in ancient Indian history, philosophy and culture did not make him a revivalist, Prem Bhasin has pointed out. He did speak about what he called *Bharatiya Dharma* which he treated as the source of national unity. He pointed out that from time immemorial people of different races and culture migrated to India, made it their home and were absorbed in the community here. The religion of the land assimilated their customs and ideas. "Different communities following different ways of life have lived together in amity, and religious feuds and conflicts are rare in Indian history. The Indian spirit has tried through the ages to seek unity in diversity". He does point out that Hinduism not being a credal religion does not believe that the only true way of life is the one which is professed by it. Quoting the Sanskrit proverb that truth manifests itself in many ways, he stresses that no individual religion has the monopoly of truth. The Acharya, according to Prem Bhasin, had no doubt that revivalism and separatism were temporary and that geographical nationalism and democracy, provide the basis for moving towards national integrity and unity.

His attitude to political work was quite clearly that of combining theory with action. As Madhu Dandavate mentions, at one stage in the evolution of the Socialist Party when a merger was effected between the Krishak Mazdoor Praja Party (KMPP), the Forward Block and the Socialist Party, Asoka Mehta had raised the question: Does a party need an ideology and social philosophy? "Acharyaji's reply was clear and unequivocal. He consistently held the view that, for the success of a government, programme may be adequate, but to run a party dedicated to social change that has

to motivate its cadre for a revolutionary transformation of society, ideology and social philosophy are essential". As early as 1929, he had stated in a letter to Pandit Nehru that a general belief in the interest of restructuring of our society on a new basis was not enough so long as we had no clear conception of the social and economic theories on the basis of which the society is to be remodelled and we did not know how to proceed about the business. He thought it important therefore that thought should be stimulated by providing food to the intellectual people and only then could we create "a body of earnest men of deep convictions who have a living faith in some economic programme". Thus, he believed in ideologically equipped cadres. Madhu Dandavate quotes his invaluable advice in this respect: "Let us not forget that for the success of democracy we did not need supermen, but a large number of men of average intelligence, efficiency and character. Above all let us care more for quality than for numbers...".

As a socialist, the Acharya adopted Marxism as the basic doctrine of socialism but, unlike his other colleagues like Jayprakash Narayan (JP), he continued to adhere to it till the end of his life. Probably the only other socialist leader who retained his adherence to Marxism till the end was Yusuf Meherally. Of course, as a scholar, he would not blindly accept the interpretations of Marxism by others, especially the "official Marxists like Lenin or Stalin". He accepted the dialectical method but considered himself to be a dialectical realist rather than a dialectical materialist. As Rajaram Shastri puts it, "for him, as for Marx, the world is real and not an illusion. But while Marx gave ultimate importance to matter as the final component of the world and considered consciousness an emergent quality developed in matter at a later stage of evolution, Acharya Narendra Deva believed that all matter was conscious right from the beginning". He thus stood for both moral and intellectual man and for multi-faced development of society with emphasis on transforming the economic order. Madhu Limaye in his perceptive essay attempts to show how the Acharya was able to reconcile his earlier belief in Aurobindo and the deep understanding he had later developed of the

Indian philosophy and especially of Buddhism with Marxism.

Though he was a Marxist, he insisted on adapting Marxist doctrines in accordance with changing circumstances. In support of this, he had quoted Engels: "There is no classic straight line. The masses are to be set in motion only along the road that fits each country and the prevailing circumstance, which is usually a roundabout road....I am opposed to a doctrinaire attitude which only divides us into sects and weakens our forces. The Left of every country has been a victim of this malady. It has dissipated its strength in vain disputations about minor matters like some of the religious sects of India who quarrel about the external forms and practices". He had thus not only learnt the theory of Marxism better than many other so-called and self-proclaimed Marxists but, as Prem Bhasin states, had the capacity and daring to fit his theories to prevailing circumstances.

In answer to those who thought that the democratic socialism which he advocated was un-Marxist, he categorically replied that "Marxist communism is really democratic socialism". From Marx's conception of a classless society, it is evident that he was the greatest protagonist of complete and full democracy". In fact, Narendra Deva had envisaged even in 1950 that the totalitarian system in Soviet Russia cannot continue for all time. As Madhu Dandavate has recalled, he had pointed out even then that he was not a pessimist. As technological changes took place and scientific research progressed together with cultural advancement, new classes would emerge in Soviet Russia which would demand more freedom, democracy and liberalisation in political and economic fields. In his Chairman's address to the Praja Socialist Party (PSP) Conference at Gaya (1955) he had presaged what happened in 1956 and later: "as the cultural level of the Soviet communism will be more and more liberalised; and when, as is bound to happen sooner or later, China with its ancient civilisation feels itself free to act as it likes due to changes in the international situation, new trends are bound to arise which will approximate more and more to democratic socialism....the future lies with democratic socialism". This also explains why, even though

he was unhappy with the Soviet developments and authoritarianism as happened under Stalin, he still considered that the Soviet society was a new experiment. Of course he disliked the manner in which Russia had brought under its domination the whole of Eastern Europe and he was specially perturbed about the Marxists doing this, as well as about what he perceived to be the indifference of French communists to the national independence of Vietnam. At the same time, he was quite clear about American intentions. The beginning of the American century in the post war period, he pointed out, "will not be conducive to the welfare of the world. America is supporting reaction everywhere. If democracy and freedom are really the mainstay of the American way of life, America should lead the world's progressive forces....American action, however, is in fact giving birth to a new imperialism in the name of freedom and democracy". Here again one can see how he was both clear-sighted and forthright about the situation as it was emerging in the post Second World War period, unlike many of his socialist colleagues whose anti-Sovietism almost drove them into a pro-American line.

Democratic socialism was a creed which he espoused through his whole life. And he claimed that this was basically rooted in Marxism. He emphasised that "Marxism is a science and it is entirely opposed to Romanticism" and, in that context, he stated that democratic socialism was nothing but "communism of Marx's conception". "It is impossible to conceive of socialism without democracy and there is no need of armed revolution as long as the democracy is secure and civil liberties are not crushed". He therefore supported the following mention in the Gaya policy statement of the PSP (1955): "India cannot be converted into China or Vietnam..... Where it is a question of the complete transformation of the social organisation and that of the transference of power and responsibility to the toiling masses, they themselves must grasp what is at stake and must also be in it". Narendra Deva's emphasis was that there were no short-cuts to a socialist revolution; long and persistent work among the masses is needed.

His opposition to diluting the basic philosophical content of the socialist movement was the

cause of his unhappiness about the efforts made to somehow widen the base of the party through merger first with the KMPP, and then by adopting a policy of cooperation with the Congress against communists and communalists. Not that he did not consider the then activities of communists and communalists as not dangerous; but he wanted the party to remain clearly rooted in its own philosophical and doctrinal foundations. He only wanted to ensure that Marxism must be used in a manner where the specific conditions of the society in which it is to be applied are taken into account. "Our ways of Life", he believed, "are no doubt rooted in the soil and cannot be uprooted from it. New ways of life cannot be introduced without those being acclimatised to geographical environment ... (But), much more than geographical environments, social environments and conditions mould our culture and ways of our life". He wanted the socialist movement to be not only an economic but a cultural movement also. "Marx's object and aim is Man" he stressed. Social humanism was to be the basis of India's socialist culture. "Social humanism" does not insist on uniformity in form and expressions. It will seek harmony and unity in variety. Cultural autonomy and equality in all forms shall be guaranteed to all citizens. This will ensure that the culture and religion of minorities will be fully protected. But while insisting on cultural and ethical values, he was quite clear that these had to be rooted in the social environment. "Socialist morality is really a human morality," he pointed out, "free as it is from all compromises, class antagonism, exploitation and domination. It is founded on human sentiments, on socialised humanity". This was in contrast to any appeal to religion or spiritualism as the basis for morality. His approach to life had been defined as follows: "Human ends should be defined as truth, beauty and social well-being. Towards the achievement of these all human efforts are to be directed". But these ends are being constantly redefined and revalued according to changing social conditions. In the present age what is important is to eschew the sordid selfishness of an acquisitive society and a competitive age. That is why he had stated: "True life today means to me an active participation in the movement of social reconstruction

for the common good".

A question which democratic socialists are always confronted with had apparently been discussed by the Acharya with Edward Kardelj of Yugoslavia during his visit to that country. Pradip Bose has pointed out that the question of combining socialism with democracy led to a dispute between the two. While Kardelj agreed with the Acharya that without full-fledged political democracy there could not be a true socialist democracy, he also admitted that eventually a multi-party system may also be possible in Yugoslavia if the people willed it. But this was not possible at the then stage of Yugoslavia's development. The socialist state may be disrupted from within because of the nationality differences if the political system is relaxed. Kardelj also pointed out that, as long as about 60 per cent of the people in the country were engaged in private agriculture and small business, if the political system was opened up and freedom of political activity leading to free elections permitted, the people involved in the private sectors would have a larger share of votes and can upset the present political balance which is in favour of socialism. The socialist gains already achieved may be jeopardised. The Yugoslav communists did not want to allow this to happen.

Apparently the Acharya did not agree with this analysis about the stage at which political democracy should be introduced. He also thought that the implication of Kardelj's statement was that once the majority in the country were no longer involved in the private sectors of the economy and had become participants in a socialist economy and polity, the Yugoslav Communists would consider the introduction of a full-fledged democracy including a multi-party system. But Kardelj had made it quite clear that he could not say how long this would take. One does not know from the record of the interrupted interview given by Pradip Bose as to what the Acharya's final reaction to this proposition of Kardelj was, except that he appreciated the difficulties faced by the Yugoslav leadership in the international, national and political spheres which limited their options. This dialogue is of special interest in the light of what has happened in Yugoslavia subsequently. As Pradip Bose has

pointed out, even though the percentage of people engaged in the private sector had gradually been reduced to a minority, the Yugoslav communists maintained for long their monopoly hold on power; and continued a degree of control - partial not full - on the lives of the people. But we now find that when, in the post-glasnost period, the whole of Eastern Europe underwent cataclysmic changes, and Yugoslavia also came to have a multi-party democratic system, Kardelj's fears about the nationalities question appear to be coming true; a situation nearing civil war, and a possible break-up of the Yugoslav federation is on the horizon. The unique experiment of partially liberal socialism - or socialism with a human face with workers' participation in management and almost full cultural freedom - does not appear to have created a climate where the different nationalities can live together in harmonious cooperation.

According to Ganga Sharan Sinha, the Acharya held that "the historical necessity of a basic change in a social order can be realised only through a revolution". But, he increasingly stressed the democratic way of life and the democratic character of socialism and did not think that this would come in the way of revolutionary change. He agreed with Engels that in a democracy based on universal franchise social revolution could be advanced through democratic means but, unlike constitutional socialists, he believed in the theory of class struggle.

In Prem Bhasin's view, he abjured violence but not struggle against injustice; he renounced force but not class struggle. The policy statement of the PSP, (1955), also known as the Gaya thesis, of which the Acharya was the principal author, asserted: "Any radical transformation of an economic order has never been automatic. Even when economic conditions are ripe for the change, it is resisted by the dominant class. History does not record a single case where an entire class of people in response to moral appeal so changed its outlook and attitude as to allow the liquidation of its dominance and privileges without some sort of pressure and conflict. And there is no reason to believe that Indian capitalists would prove more humane than their compeers in the rest of the world". He would not agree that Bhoodan and

such other movements could be a substitute for class struggle; they could promote public initiative and social consciousness, facilitate early legislation for fairer land distribution and, if the government is not responsive, pave the way for mass Satyagraha. But socialism would not be attained simply by the goodwill of the propertied classes. Hence, though influenced by Gandhiji and accepting the Gandhian form of peaceful struggle through Satyagraha and strikes, he refused to adapt his Marxism to Gandhian ideas. He specifically said that "no injustice is done to any Marxist principle by accepting Satyagraha.... Marxism has never been fond of violence. If the objective can be attained by using non-violent means, Marxism would give it topmost preference". But unlike Gandhiji, he did not accept unqualified non-violence. He is reported to have told Gandhiji that he had his doubt whether power could be snatched from the Britishers without violence. Later, he came to the conclusion that "in this atomic age violence has to be ruled out both in national sphere and in the international field". In 1949, he pointed out: "The atomic age will demonstrate that those who still cherish a faith in violence are living in self illusion. ... In the national sphere also the use of violence will no longer be helpful. Military strength of the ruling party has been largely augmented due to the invention of new weapons, which made nonsense of the methods of fighting which are resorted to by a populace which has risen in revolt against the constituted authority".

The Acharya always attempted to relate Marxism to the concrete conditions in India and thus suggested strategies suitable in Indian conditions. Unlike many of the 'official' Marxists, he thought that, in backward countries like India, the peasant had to be relied upon to play an important revolutionary role. Prem Bhasin has pointed out how he plunged into the peasant movement in the wake of the non-cooperation struggle. He did yeoman work for the kisan organisations because of his conviction that small peasants and landless workers, by the very nature of their economic conditions were bound to be a great revolutionary force. In this he had probably kept in view Engels' caution that "the greater the number of peasants whom we can save from actual downfall into a

proletariat and win for ourselves while they are still peasants, the more rapidly and easily (will) the social revolution take place". This approach of Acharya Narendra Deva was reinforced after his visit to China. At the same time, he was quite clear that there should be no idealisation of the peasant. While deploring the fact that many Marxists fail to appreciate the potential role of the peasantry in a socialist revolution, he also opposed "neo-peasantism" which looks at all questions from the narrow and sectional view point of the peasant, though the whole structure of our state will necessarily have to retain its specific peasant character. While emphasising opposition to forced collectivisation of land, the subsidies from agricultural economy to industrial economy and the idea of economic development at the cost of peasants, he wanted to stress the importance of industrialisation and industrial labour side by side with peasants. Only, unlike the Soviet-oriented Marxists, he did not assign a subordinate position to the peasantry in the alliance of workers and peasants in the struggle for socialist transformation.

His refusal to follow the official communist line blindly also came out clearly in his views regarding the nature of the Indian nation. Indian communists for long continued to treat India as a multinational country. Narendra Deva emphasised that a federal structure was necessary in India so as to provide adequate autonomy to the different language and cultural groups; but he also thought that there were many elements in India's long historical evolution which would enable a common feeling of nationality to be strengthened here. Pursuing this line, he also wanted steps to be taken to strengthen links such as adoption of a uniform script for all the provincial languages and a common civil code. He was afraid that provincialism could go against the unity of India and warned against it.

He emphasised that socialism not only had political and economic but also ethical and cultural aspects. Being inspired by enduring human values enshrined in the *Bharatiya Dharma*, he wanted these to be vitalised and preserved as a part of the future socialist culture. He admitted that the Indian cultural tradition could also form the basis of reactionary social and political

movements; but it could also serve to inspire radical movements. The Acharya himself had pointed out that there were many progressive trends in the various religions of the world which had helped socialism. "In India," the Acharya had pointed out, "the Buddhist school of philosophers were of that type; one has to understand and propagate their philosophy to establish socialism in the country". Thus while not subscribing to any religion including Buddhism, as a person who had deeply imbibed Indian religious thought, especially Buddhism, he could see its potential for building a new India. Perhaps there is some similarity here between his thinking and that of B. R. Ambedkar.

On the other hand, it does not appear as if he was quite clear about what approach socialists should take towards the caste system, and especially about untouchability. In fact, the Socialist leadership was not clear about how to tackle the problem. With the leadership predominantly non-Brahmin but upper caste in composition, nobody had, according to Madhu Limaye, made a serious effort to understand the caste system. Narendra Deva, while recognising that agricultural labourers mostly belong to the depressed classes, deplored efforts to organise them on a communal basis for the redressal of their economic grievances as he thought that such efforts would bring them into conflict with the peasantry and thus retard the progress of the community. The system of caste, he thought, was an antithesis of democracy. He pointed out that the evil of caste had become apparent in the elections, political groups were being formed on a caste basis and so-called lower castes had banded themselves together against the higher ones in some places. While deploring this, he admitted that "in Indian conditions, this represents the struggle of the disinherited and the oppressed against privileges of birth and wealth". As a realist, he accepted that this phase may be unavoidable. He only hoped that, if the other castes demonstrated by their conduct their desire to raise the social and economic status of the lower castes and were prepared to concede to them their just political rights, this may convince them that caste-based grouping may not be useful. He did however emphasise that merely attempting through social reform to

improve the condition of the lower castes would not be enough. "Unless the material or moral condition of his life is immediately improved, social reform movement however beneficent it may be will not go a long way to make him a valuable self-respecting member of the society". All this thinking is so akin to what is now being vigorously discussed that it shows the Acharya's deep understanding of the Indian problems. In Madhu Limaye's view, however, it was only Rammanohar Lohia among the socialists who took up the question in earnest and developed policy solutions in the matter. The Acharya's basic approach was that the primacy was to tackling economic difficulties, though the social ones also needed attention.

Another interesting point about the Acharya's thinking about Indian problems has been brought out by Madhu Limaye. On the question of Hindu-Muslim unity, Madhu Limaye thinks that the Acharya was apparently of the same view as most other socialists - and Congress nationalists - that the intractability of the communal problem was due to the existence of the third party. He had written to Nehru in 1937 that the Hindu Muslim problems did not trouble him to any great extent and that compromise with the Muslim League would mean watering down of the fundamental principles to which they subscribed. His thinking on the matter had been explained in a speech he made in 1939 to which Madhu Limaye makes a reference. The whole world of Islam had been powerfully influenced by the ideas of the West and old medieval institutions were being replaced by modern ones. "The future generations of Indian Muslims, he hoped, might come well in line with advanced Muslim thought outside and demand a uniform code of law for the whole country". As Limaye points out, this hope has remained unfulfilled. Narendra Deva apparently revised his opinion later. In 1946, he agreed that the issue should not be simplified by falsely imagining that the mere disappearance of the third party would automatically solve the problem. "Most of us do not know the Muslim mind nor do we make any effort to know it. We should know that there are unseen forces which are making Muslim history and it should be our endeavour to understand them". As Limaye says, this was a rare

insight. "But unfortunately Acharyaji failed to follow it up with concrete solutions".

He also emphasised that it was not possible to combat communalism without specific attempts to solve the economic problems facing the people. "In the atmosphere of dejection and disillusionment that is prevalent today because of growing economic difficulties," he had pointed out in 1951 when the question of co-operating with the Congress Government against the menace of communalism had come up, "communal and religious forces are bound to get an impetus". He opposed exclusive emphasis on combating communalism by itself stating that this could not be achieved by pushing economic questions to the background.

As a realist in his understanding of political developments, he was far more clear about the importance of keeping the mainstream of the Congress strong, and not permitting it to be weakened, as the main force in the national struggle. While he wanted to learn from the masses and to involve workers and peasants through class struggles in the revolutionary movement, this did not mean a mechanical inclusion of such elements in the party, he warned. "Proletarianisation does not mean flooding the party with the members of Ekka-Tonga Union, Coolie Union, Bhangi Union, etc. Such indiscriminate admission will destroy the character of the party - it will no longer be a party of steered revolutionaries offering the leadership of our national struggle". What was important was that the party must always try to get into its ranks an increasing number of conscious worker-peasant elements.

As a part of his clear understanding of the process of struggle, he also warned the party against going in for populism. "Revolutionary courage demands the capacity to withstand popular clamour now and then," he had pointed out. "True leadership and opportunities go ill together". As a part of such a far-sighted approach to organisation and programme, he also considered it important that the party must have discipline and those who would not abide by it would have to go. A telling example of this approach of his was the fact that as the Chairman of the PSP he took the decision to expel Lohia from the party

for indiscipline. He was not happy about having to do this and tried to make amends on a personal basis. But he thought it essential that discipline must be observed. As a disciplined person, he also took the decision to resign from the Legislative Assembly of U.P. once the socialists decided to break from the Congress. He even made his other socialist colleagues do so. It is interesting to note this in the light of the refusal of legislators in subsequent years to resign from membership even after making a break with the party through which they were elected. It is also interesting to note that the Congress was not graceful enough to permit the Acharya to return to the Legislative Assembly unopposed. They put up a religious mahant as a candidate against him and carried on propaganda about the Acharya being an atheist and anti-religious so as to defeat him.

Narendra Deva was not known to be very keen on breaking with the Congress in 1946-47. The fact that Gandhiji wanted him and his socialist colleagues to remain with the Congress, and rebuild the party based on a new leadership, was indicated by his proposal that the Acharya should take over as the Congress President at that time. But Sardar Patel and other leaders did not want this to happen. Once the decision was taken for a break with the Congress and the setting up of the Socialist Party as an independent organisation finalised, he not only abided by the decision but insisted on not looking back. Unlike some of his colleagues who were initially enthusiastic about the break, but felt disheartened after the electoral defeat of 1951, he was stouthearted enough to want to continue to build up the Party in a steady way. He neither wanted the Party's ideological basis to be diluted through merger with a party like the KMPP which was Gandhian rather than socialist in its outlook, nor did he approve of the approach developed by Asoka Mehta later for cooperation with the Congress. At the same time, he thought that any obsessive antipathy to the Congress was not healthy. Opposing Lohia's approach in the matter, he pointed out, "It is one thing to oppose the Congress but quite another to seek the help of communists and communalists to destroy it. When there is an obsession all other considerations recede into the background..... Many a socialist party in Europe is obsessed with

communists, on account of which they sometimes go to the extent of supporting capitalists. Obsession is always a curse".

N.G. Goray in his brief article does specifically refer to the very important role that the Acharya played in the evolution and the working of the Socialist Party. "Acharya Narendra Deva had neither the telling phrase of Dr. Lohia nor the persuasive lucidity of Jayprakash Narayan..... But the Acharya's writings had a sustaining quality. While others wrought exquisite patterns and painted skysweeping utopian rainbows, Narendra Deva created a solid ideological base for the democratic socialist order in India". Goray points out that what came to be known as the Gaya Thesis of the Praja Socialist Party can be described as the Acharya's political testament. This is the conclusion which has been reached by many other contributors also. (On the other hand, Madhu Limaye expresses doubts about this. He points out that the Acharya was seriously ill through this whole period and also quotes J.P. to indicate that the Acharya was not the real author of that thesis. He states that it was Mukut Bihari Lal who authored it, though he had the benefit of consultations with the Acharya). The other point which Goray specially emphasises is the Acharya's attempt to integrate his plea for socialism with support for individual liberty. He quotes the Acharya who had said that the socialistic approach does not mean "the disregard of the individual or his personality. It only means that individualism, narrowly egoistic, retards the growth of personality and that individuality can attain its supreme development only in the highest common social effort".

Despite his faith in the Soviet experiment, there was no question of Narendra Deva accepting the Indian communists' approach of anti-Congressism in the thirties or of their disruptive tactics in the socialist movement. In fact, the Acharya was always a disciplinarian and emphasised that a party cannot operate effectively unless discipline was enforced. He made it clear that an individual could be loyal to only one party and had to accept its discipline. He therefore could not accept the communists' attempts to use their membership of the Socialist Party merely as a cloak to develop their own communist faction

within it.

A matter of some interest in this context that Madhu Limaye discusses is why it was that in the days when many communists were members of the Congress Socialist Party (CSP) - in fact they were at one stage welcomed by leaders like JP - they succeeded in weaning away a large number of genuine Congress Socialists to their side. Unlike Minoo Masani, Madhu Limaye's answer is that the main reason was the lack of ideological clarity in the Congress Socialist movement. After all, leaders like JP and Narendra Deva accepted Marxism and kept their criticism of the Soviet Union subdued. Madhu Limaye also points out that the character of the socialist leadership by and large was elitist, while communists were far more dedicated, simple in their life style, capable of mixing with people of all types and undertook party work and mass activities ceaselessly. That is why they were able to win over capable socialists, not to speak of ordinary rank and file workers. The lack of a proper party organisation was also a major handicap.

Narendra Deva of course was different. He remained an intellectual and, at the same time, a dedicated and disciplined party worker. As he himself pointed out, he did not possess the qualities of a leader. Limaye points out that not being ambitious was perhaps a weakness. But the Acharya always firmly held to his convictions. He emphasised the importance of building a strong opposition and not getting involved in cooperation or electoral adjustment with the ruling party. He was also not happy about the increasing emphasis of JP on spiritualism and his tendency to go away from the socialist philosophy and the Socialist Party.

While both the Acharya and JP continued to maintain friendly relations with Nehru even after they parted company politically, Narendra Deva, unlike JP, had no illusions about Nehru giving up his position in the Congress and working with the Socialists. "We must not forget that Jawaharlal's life activities are indissolubly bound up with the Congress," he pointed out in 1953. "Knowing Jawaharlal's nature," Limaye points out, "Narendra Deva could never agree to make the Socialists' fortune depend on his goodwill". On the other hand, Jawaharlal Nehru's approach to

the socialists was well brought out in the incident in 1949 when Lohia was tear-gassed and lathi-charged while taking out a procession in Delhi in support of Nepali freedom-fighters. Vallabhbhai Patel took the usual defence of a Home Minister, while Nehru pointed out that there was a large group among the Socialists who would cooperate with the Government, but have to be silent when the minority group is facing threats like imprisonment, etc. Nehru obviously wanted to take advantage of the schism among the Socialists, as he saw it, and isolate the latter group, led by Lohia, by soft-treating the former. Nehru's political sense was not far too wrong as was indicated in the subsequent history of the Socialist Party. But it is interesting to note that both JP and Narendra Deva condemned the Government for its attitude. "Lohia's case has raised a fundamental issue of great public importance", Narendra Deva pointed out (as Limaye quotes him). "The principle of peaceful Satyagraha had become an integral part of our political life.... When civil liberties were being encroached upon, it was the duty of a citizen to resist peacefully...". "Lohia had done the right thing and the Government had shown that it no longer follows Gandhian principles". "Too much capital is made out of the non-existent Communist bogey", he further stated. "The Socialist Movement in India cannot be suppressed or killed by force. It would assert itself and triumph in the end". Limaye points out that though the Acharya's body was frail, "he possessed a vigorous mind. His ringing words would have come true had the Movement not committed suicide". These words, coming as they do from a veteran of the Socialist movement, have a special poignancy and significance.

Limaye has attempted in his contribution to analyse the reasons and events which led to this denouement. The electoral defeat in the first General Elections led to wide-spread frustration. While leaders like Narendra Deva and Lohia were not much affected - after all, the Party had secured a ten per cent vote - others like Asoka Mehta were. And JP had begun to move to spiritualism and away from his socialist and materialist moorings. Narendra Deva, on the other hand, (as made clear in his famous broadcast speech - What Life means to me - which Limaye quotes), made a fervent and

moving plea for a life of willing and ungrudging sacrifice for his fellowmen without invoking religion, God or a transcending Reality. JP's dialogue with Vinoba Bhave began in 1951 and he gradually associated himself increasingly with the Bhoodan movement, and announced his Jeevandan in 1954. It was only in 1976 that JP acknowledged that the Bhoodan and Gramdan movement had reached an ineffectual state. But, in the meanwhile, JP had shifted away from the Party which was a fatal blow to its strength. Narendra Deva had a better understanding of the limitations of the Bhoodan approach.

Limaye has also delineated the events that led to the famous but finally abortive J.P. - Nehru talks and correspondence in 1953 about the possible cooperation between the Congress and the PSP. "JP argued that if the PSP members entered the Government on the basis of the definite Congress commitment to programmes and if subsequently it was that the commitments were not being honoured they would come out and then they would be having a strong hand to play". Limaye points out how the Acharya's reply to JP was a practical - and sound - one: How many people would obey the command of the Party and come out? How many were with the Party earlier, but refused to come out of the Congress? "This would be a dangerous experiment". Limaye points out that the Acharya "who was considered an academic" showed a better understanding of human nature than JP or Lohia. The talks not only proved abortive but, Limaye points out, "inflicted lasting damage on the Socialist Movement". Personality differences, mutual suspicions, factional controversies, resulted in the movement ceasing to be the fraternity that it was.

Narendra Deva had the unique position in the socialist movement that he was trusted by party workers who had increasingly begun to differ among themselves. When he was made Chairman, much against his wishes, he insisted on enforcing discipline. Madhu Limaye points out that, having supported the Acharya's becoming Chairman of the party, Lohia should have worked out with him the future plan of action. "But it was not in Lohia's nature to function in this planned and organised manner". The controversy between different leaders and groups finally led to a split

in the party. Narendra Deva had accepted the responsibility, Madhu Limaye points out, in the hope that he could be the restorer of the party unity. He was very unhappy at the developments which were leading to the disintegration of the party. Personality clashes occurred and the Acharya had to preside over the split and this probably would also have affected his health. Madhu Limaye quotes Sri Prakash as saying that on his last day Narendra Deva ceaselessly talked about nothing except the party. He was unhappy about JP going away from the party and about the split. Madhu Limaye's own conclusion now appears to be that if only Narendra Deva, Lohia and JP could have managed to work together, the history of the socialist movement - and of India - would have been different. He points out that the three were in many ways complementary to each other. Narendra Deva had integrity and clarity of thought; Lohia, originality and exuberance; but only JP had "the essential charisma which makes a leader". But JP lacked perseverance and decisiveness and was under the spell of Nehru. The acrimony especially between JP and some other colleagues on the one side, and Lohia and others on the other, led to the split and thus the reduced influence of the socialist movement.

As the editors have pointed out at the very beginning of the volume, the Congress Socialist Party which was founded in 1934 went through various phases until the Socialist Party as it emerged in 1971 merged in the Janata Party in 1977, and the socialist movement lost its separate identity. Other left parties of course continue to exist, the most prominent among them being the CPI (M).

But what is it that finally led to the Socialist Movement destroying itself? In addition to Madhu Limaye, the best contribution in the volume for answering this and other related questions is that of Anil Nauriya. This is a little surprising in view of the fact that Nauriya is probably the youngest among the contributors and, being born in 1953, could hardly have had any personal acquaintance with Acharya Narendra Deva. However, his contribution attempts to take cognisance of the Acharya's thought in depth and, at the same time, attempts to relate it to the developments in the socialist movement and

socialist thinking in the period since the Acharya's passing away. For example, he draws attention to the Acharya's support to the USSR as a society where socialism was being organised but at the same time making it clear that the right to criticise what was happening there can never be abjured. "We also want to avoid the mistakes of Russia, and if ever we find that Russia is following a mistaken path it is our duty to point the right road...but (our) criticism obviously must not lower Russia in the eyes of the people, it must be an expression of our friendly interest in her..". This of course was written in 1938. Later on, he became more critical of what was happening in the Soviet Union but, Nauriya is careful to state, he never took the line of anti-Sovietism like many other socialists. Nauriya points out that, unlike Narendra Deva who could see in the Soviet Union, inspite of all its shortcomings, components of a higher order than capitalist societies, the larger part of the subsequent history of the organised non-communist socialists has been one of anti-Sovietism. "Indian socialists", Nauriya states, "have now developed close links with West European, particularly West German, 'social democracy,' to the virtual exclusion of other strands of thought".

While Narendra Deva never gave up the basic philosophy of Marxism, most Indian socialists since his time tended to equate Marxism with the communism of particular countries, Nauriya points out. The result has been that they have tended to ignore a great deal of non-traditional Marxist thinking which independent Marxists not associated with particular socialist countries developed. But Indian socialists have thus tended "to look at the world in compartments".

They have also not critically looked at the Western social democracies some of whom "have contentedly operated within the framework of the existing predatory international economic systems". Unlike the Acharya who had warned "of the rising menace of American imperialism and how this was leading to the propping up of reactionary policies and regimes everywhere," Indian socialists after him "have tended virtually to close themselves to this, to the nature of the Western alliance and to the progressive content in Soviet foreign policies". Lohia had himself

remonstrated in 1954 that the party organ *Janata* was not exposing the facts of the Atlantic conspiracy as carefully as those of the Communist or Soviet one. In fact, Nauriya points out, not only the Acharya but even other socialists in what he calls the CSP period, "although not explicitly adhering to the Marxist framework and often feeling closer to the later European social democratic tradition thought, wrote and functioned in affinity with the Marxist tradition". Unfortunately, he continues, that tradition, in fact, the whole analytical tradition of which the Acharya "was the most brilliant exponent is not very conspicuous in the leftist movement today". The communists, with all their respect for the Acharya, "have little use for a tradition which is too intellectually honest and too fearlessly independent to coexist comfortably with the opportunism of present-day party lines". On the other hand, the socialists who organisationally are the heirs to the Acharya's tradition "have long since strayed into grooves from which they would have to break out completely if they were to be true to the Acharya's precepts". Nauriya goes further and says, "Once Indian socialists had settled their accounts with Marxism (by giving it up), they ceased to bother about either fresh developments within this intellectual tradition or the increased accessibility of the other earlier developments that came about through translations or through more intensive study".

Other areas where the lack of theoretical foundation is leading to a very *ad hoc* approach on the part of the socialists are those relating to the attitude to backward castes, the nationality problem as well as the questions affecting the peasantry. With all his sympathy for the untouchables and the backward classes, use of caste as the basis for building up economic or political organisations was not at all appreciated by Narendra Deva. The Lohia approach of organising the backward castes, while it has definitely a certain sociological foundation in the Indian context as well as providing a tactical advantage, can cut deeply into the attempt at building up class-based organisations. In the case of the nationality question, while the support to restructuring Centre-State relations and decentralisation is in the old tradition of socialist

thinking, little attention has been paid to the necessary measures for strengthening national cohesion. Narendra Deva had always emphasised the importance of Indian unity though this was to be based on "inter-provincial amity and accord". Nauriya also brings out how the lack of an attempt at keeping up an ideological tradition has resulted in the socialists not being able to come to grips with the situation after the abolition of Zamindari. Many of them have almost accepted, covertly if not overtly, the trickle-down approach as far as the agricultural labourers and marginal farmers are concerned. With the leadership of the backward castes being mainly in the hands of better-off peasant proprietors, the demands of this class have come to be prominent and the socialists have hardly been in the forefront of opposing this. Narendra Deva had said even in 1939: "Class division within the peasantry will slowly mature, and if we are not forewarned, landless peasants may come often into hostility with the agrarian movement". Sections of present day socialists have not only ignored Narendra Deva's warning against peasantism but, as Nauriya points out, have gone along with Lok Dal type strategies. This may also possibly be related to the socialist withdrawal "from a deep class-based analysis of the forces at work".

Even in a matter as vital as the theory of the state, Nauriya argues, the socialists have taken no big part in whatever discussion has gone on in this subject. They have generally been content with supporting democracy but have hardly continued to raise searching questions regarding whose ends the democracy established in India is serving and why. The socialists have also been in the forefront in insisting on certain ethical standards in public and political behaviour. This is all to the good and, at least a few well-known among them, are respected throughout the country for their transparent honesty, integrity and moral behaviour. But can ethical standards remain unrelated to the surrounding circumstances in the society, especially the economic ones as well as the social ones? Have not production relations in a given society any role to play in affecting the ethical standards that actually prevail in a given society? Mere antipathy to amoral if not immoral behaviour of those who belong to other political parties

-and even other streams of socialism - is not enough. Moreover, as Nauriya asks, is it not true that "sections of Indian socialists over the years have come to adopt a cheap rowdyism as a political style?". How is this to be explained? Narendra Deva, Nauriya points out, used to make a healthy distinction between opposition to personalities and opposition to policies. "We shall always try to avoid personal criticism and we will not enter into such discussion", he had said on resigning from the Congress in 1949. Madhu Limaye has also stated that "Acharyaji's manner of speaking was very restrained and it had an academic flavour". As against this, Lohia used colourful expressions and was hardhitting in his utterances. Moreover, "after Gandhi's death, he became increasingly unrestrained". It is the Lohia tradition that has been responsible for the 'rowdyism' of certain socialist groups which Nauriya deplores.

The socialists' neglect of economic theory is another example cited by Nauriya to indicate their gradual lapse from any genuine intellectual effort. There was hardly an effort to examine the contemporary debates on economic theory - Marxist, or non-Marxist - and see where they stood in this debate. Nauriya rightly draws attention to the fact that Narendra Deva always emphasised the importance for any movement to build up "clear conceptions of the social and economic theories on the basis of which the society is to be remodelled".

One approach that many socialists appear to have adopted is that what was important was work in the field; ideology and related questions could be ignored. Nauriya argues that, while such work is of great value, care should be taken to ensure that "it does not unduly inject ideological biases against particular sections of the organised Left in the country-side". Unfortunately, many voluntary organisations that are formed are specifically anti-communist, even anti-Marxist, and are funded in dubious ways.

Nauriya therefore legitimately raises the question as to why celebrating Acharya Narendra Deva's birth centenary is of special importance at this time. His answer is that Narendra Deva represented probably the best of the intellectual tradition in the socialist movement and, unless

this tradition is again picked up and further developed, it is not likely that the socialist movement will genuinely gather strength and momentum. It is true that even communists who have always sworn by Marxism have hardly applied their minds to developing a genuinely independent Marxist approach on the basis of India's specific conditions, experiences and problems. But many of them at least appear to accept the importance of ideology. Many socialists have almost come to being believers in sheer pragmatism. To some extent one could even say that the readiness with which the Socialist Party agreed to follow JP's advice of dissolving itself in the Janata Party - a conglomeration of very diverse groups from the very right to the left and even including communalists as well as casteists - was facilitated by this scepticism about the importance of keeping to the firm ideological moorings of socialism. It is in that context that going back to both Narendra Deva's writings and his technique and tradition is so important if the socialist movement is to again renew itself.

Nauriya then brings up the very pertinent question: "Why is it that even so broad-minded and non-sectarian an intellectual tradition as that of Acharya Narendra Deva should have all but disappeared from the Indian Socialist movement?" Was it only an accident? Or was it due to the ideological biases of the non-Marxist strand in the movement, and Narendra Deva's ideas remaining firmly rooted in Marxism? "Specifically, did these strands get consciously or semi-consciously committed to ideologies born of the Cold War?" Or, may be, once the mainstream socialists gave up Marxism, "the ideological positions of Narendra Deva became an embarrassment to them". As Nauriya suggests, the legatees of the socialist tradition need to apply their minds to this whole question.

The important point made by Nauriya is: is the celebration of the Narendra Deva birth centenary to be treated as merely another ritual - of which we have quite a number these days - or should it be used as an occasion "to collect our thoughts on contemporary socialism and to renew our commitment to and understanding of its future"? He suggests important reasons why not only the socialists but the Left as a whole should use the

occasion more purposefully.

First, Narendra Deva was a persistent Marxist who did not join the communist movement. That is perhaps why his work has not received much attention from the Indian communists. He always remained a Marxist - witness his statement in 1952 quoted from Limaye's *Age of Hope*.. ".....if I have to abjure Marxism, I would rather leave the new party (i.e. the PSP as it was being formed then) than be in it". But he was also quite clear that he accepted Marxism because it was not a dogma or a creed. He was one of the few Indian Marxists who tried to apply Marxism creatively and even adapt it to the India's specific circumstances. While believing in the theory of class struggle, he linked the process of social change to the cultivation of moral values. As Bhuvanesh Chandra Mishra points out, "(h)e was definitely opposed to the amoralistic trend developed in the Bolshevik tradition of Marxism". This emphasis on ethical outlook and behaviour in socialist methodology was Narendra Deva's singular contribution. As many contributors have mentioned, in this one can see the influence not only of Gandhiji's ideas but also of the actual *satyagraha* struggles to which Narendra Deva was a witness and in which he was a participant. He emphasised that if the objective could be attained by using non-violent means, Marxism would give it top-most preference. Mishra suggests that "(t)he experience of Bolshevik politics in Russia, the fascist techniques and the spineless behaviour of social democrats in the Western countries led him to put stress on the deeper roots of socialism". Ethical foundations of socialism had been ignored not only by socialist politicians but even by socialist theoreticians. Narendra Deva emphasised the moral mission of socialist revolution. Mishra states, "(Narendra Deva) decried and refuted the cynical belief among a section of socialists that all traditional norms of moral behaviour ran counter to revolutionary practices. He pointed out that while it was true that a true socialist morality would emerge in the new (post-revolutionary) social conditions, it would none the less assimilate the progressive, democratic and human features of cultural heritage, evolved and accumulated during the course of human history". Comrade Gorbachev should

find an echo to this sentiment in the approach which he has been advocating!

With all the changes which have been taking place in the USSR and the other countries of the communist world, and with the bankruptcy resulting from our own puny attempts at 'socialist planning' in the last forty years, the country badly needs the growth of a united Left movement. Narendra Deva, with his firm ideological Marxist base and also his originality and understanding of the Indian tradition as well as current reality, can provide an excellent starting point for the ideological coming together of the socialist and

communist streams of the Indian Left. As Nauriya suggests, "Narendra Deva is....the necessary dialogue of India's socialist century, whose importance is bound to become critical when the Left movement itself arrives at a decisive moment". The present volume, by bringing together not only so many tributes to the Acharya but by forcefully projecting the contemporary relevance and importance of his ideas, serves this critical purpose. The editors must therefore be complimented for bringing out this volume even if one cannot commend all the articles included as making a worthwhile contribution.

Book Review

"Industrial Relations and Participative Management", Bhabani P. Rath, Deep and Deep Publications, New Delhi, 1989, Pp. 264, Price Rs 230/-.

In all spheres of human activity, with the increasing acceptance of tenets of democracy, demand for more participation has become forceful particularly by those who are subject to the authority of others. This applies to employees of various establishments also. Simultaneously with this demand from the workers, managers of many establishments are increasingly appreciating that the effectiveness of their organisation depends more on group efforts than on mere excellence of individual performance. This has led to the emerging acceptance of the concept of workers' participation in the establishments in which they work.

The present Study relates to an examination of the actual experience with the working of a similar scheme in a major public sector steel unit in India, viz., Rourkela Steel Plant. The context, the content and the impact of the scheme are sought to be analysed on the basis of the information collected by the author from the management and the participants in the scheme.

Emergence of the Concept

Participative management is an extension of democracy to the industrial field. The author points out that "In essence, democratic management of an organisation means participation by intelligent, informed employees and their voluntary co-operation" (p. 10). Further, "A worker is not a marketable commodity but a self-respecting human being" (p. 10). He seeks satisfaction and meaning in his working life as he does in his life as a citizen. The author, therefore, suggests that just as a citizen has certain inherent rights and a voice in determining and exercising those rights, the worker as a part of the enterprise in which he is employed and for whose benefit and prosperity he works, is entitled to a right to have a voice in its running. Two sets of approaches to participative management are possible - one emphasizing complete control by workers and the other emphasizing association of and participation by the workers. The author finds

that the second approach has been gaining currency in the context of the emergence of democracy and concept of a welfare state. Further, the separation of management from ownership and its emergence as a professional class have made participation a part of managerial technique.

Similarly, two models, viz. the human relations model and human resources model are suggested for workers' participation. In the first model, the basic objective of participation is to increase subordinates' satisfaction and morale as compared to improving decision-making process and the total performance and efficiency of the organisation as in the second model.

The implications of the policy are also considered. It is brought out that participative management both as an ideology and a management technique not only emphasises sharing of information and problems between superiors and subordinates but also creating a climate of mutual trust and confidence. Its effectiveness is reflected in cordial superior subordinate relationship, reduction in employees' grievances, absenteeism and turnover, and higher output (p. 12). In the absence of a participative climate, work becomes impersonal, an individual's initiative is lost and he feels alienated. He, therefore, gets more involved with items like pay, hours of work, facilities and other benefits, etc. This does lead to some stress and strain in worker-management relations. Workers' participation aims at avoiding precisely these.

The movement in India

Participative management movement first got a momentum in the Western world. The forms, objectives and nature of working differed from country to country. The author lists out the prominent features of the scheme as it is implemented in various countries and concludes that while it was successful in West Germany, USA, Yugoslavia and Sweden, it was not so successful in UK and Israel. He then proceeds to outline the evolution and the present status of the scheme in India and points out that the idea is traceable to Gandhiji's 'Trusteeship' concept. He mentions that while the scheme in its formal shape is of recent origin, there were some experiments in that direction in the second decade of the

present century in the cotton textile industry in the form of 'mill committees' which were merely to ascertain and represent the grievances of workers. The Ahmedabad mill workers, drawing their inspiration from Mahatma Gandhi accepted the principle of mutual discussion for solution of problems, failing which arbitration was to be accepted. This is considered to be a significant milestone in the movement in India. After the First World War, similar efforts were made in government printing presses, the Railways, Tata Iron and Steel Company and some others. From 1922 onwards, joint committees were formed in Bengal, Madras and other states. However, the Royal Commission on Labour found that in spite of some success in some cases, the results were disappointing. But the Commission suggested the adoption of the scheme on a larger scale and with proper clarity since it can play a useful part in the industrial relations system. Yet, the depression of the 30's and later the Defence of India Rules which banned strikes, lockouts, etc., gave a setback to these efforts.

The real momentum came only after the enactment of the Industrial Disputes Act, 1947 which provided for setting up of Works Committees to act as a forum for joint consultation and as a dispute prevention measure. The Indian Labour Conference also urged the formation of such committees with the objectives of promoting efficiency, increased production and developing harmonious industrial relations. The author traces the history of the movement in the subsequent years and comes to the conclusion that on the whole, the Works Committees have not been a successful experiment in India (p. 53). It was in 1957 that the Indian Labour Conference recommended the setting up of Joint Management Councils (JMC) and the scheme was started on an experimental basis with a coverage of 53 enterprises from public and private sectors. From the beginning, its pace of development was slow. The Third and the Fourth Plans emphasised the importance of these Councils, but it made only a limited impact with hardly 6 to 7 per cent of the large establishments (i.e. those employing more than 500 workers) being covered by them (p. 55). In the words of the author, "In toto the JMC was an even more resounding failure than the works

committee had been" (p. 55). In his review of the literature on the subject also, the author finds that almost all the studies came to the conclusion that these Councils had achieved only a limited success. In general, this could be attributed to a lack of seriousness on the part of both the parties and absence of a conducive industrial relations climate.

In 1970, the scheme of worker directors in some public enterprises was introduced. But that really did not make any headway. Inclusion of the principle as an item in the 'Twenty Point Programme' and even the amendment of the Constitution during the Emergency to include active 'worker participation' in the Directive Principles of State Policy, did not alter the situation. The Janata government did try to introduce a new scheme, but crumbled before it could do so. The return to power of the Congress government also did not help much. Thus, on the whole, all schemes of this nature have met with only limited success. Surprisingly, even the Trade Unions have shown no enthusiasm towards the idea. Perhaps the explanation is to be found in the fact that while the purpose of the scheme is to achieve increased productivity, the workers have shied away from it in the absence of clarity about sharing of the gains of such increase (p. 60).

Selection of the Rourkela Steel Plant for study

Having covered the development of the movement in India and the theoretical base for workers' participation, the author moves on to a detailed review of the experience in Rourkela Steel Plant (RSP).

The author has selected RSP as a case study on the following grounds:

- i) No study has yet been made on the working of the participative scheme of RSP.
- ii) As a public sector unit, it is supposed to be a model employer.
- iii) As a steel producing unit in the public sector, RSP plays a vital role in the national economy.
- iv) The scheme of participative management is institutionalised and management claims that the scheme is working successfully (p. 13).

The Objectives of the study as set out by the

author are as follows: "i) to inquire into the management's philosophy with regard to human resources management so as to determine the management's participative disposition; ii) to study the union situation to find out the nature of industrial relations in general and their role in participative management in particular; iii) to study the way that the participative management scheme is institutionalised; iv) to evaluate the working of the scheme in terms of frequency of meetings held, recommendations passed and implemented by the management; v) to study the impact of the participative scheme on production and productivity and in general the industrial relations situation" (p. 14).

These have been chosen because the author emphasises that the environment within which participative management can succeed is material. Further, in the words of the author, the scope of the subject covers the context, the content and the impact of the scheme in RSP.

Details of the Arrangements in RSP

In order to gauge the conduciveness of industrial relations climate in RSP, the author discusses the management policy and practices relating to different aspects of personnel functions and the trade union culture and activities in RSP.

It is pointed out that initially RSP had no formal policy for personnel matters, and in fact, a regular personnel department as such was set up only after almost five years of its functioning. Increase in the number of employees from just 318 in 1955 to 39,879 in 1984, raised the need for laying down a formal policy. Accordingly, the RSP now has a declared policy enumerating the procedural details regarding specific areas of personnel functions. These are described in detail by the author, covering items like manpower procurement, manpower forecasting, recruitment, selection, placement, development of human resources, wage and salary administration, communication, labour welfare measures which deal with benefits like medical, educational, fringe benefits, and social security, etc. The most important point noted is that the company wishes to be a model employer. The author recognises that however formalised the management policies

and sound the practices may be, and however positive the union culture may be, an ideal situation where employees have never any grievances or the company has no complaint against the employees never exists. In every organisation, differences of opinion between the two are bound to arise and can lead to absenteeism, indiscipline, conflicts, strikes, labour turnover, lockouts and the like.

Trade Unionism in RSP

After covering this ground, the author considers aspects of Trade Unionism in RSP. He identifies two phases in the movement in the RSP distributed over the first period of 1954 to 1967 and the second period thereafter. Right from its inception in 1954, various unions were formed and by 1959, there were as many as five trade unions in the Plant. They concentrated their attention on the problems of the contract labour and none of them was recognised till 1964 when the Rourkela Mazdoor Sabha (RMS) staked its claim for recognition, but failed on grounds of violation of the Code of Discipline. Consequently, the Hindustan Steel Workers' Association (HSWA) secured recognition. After 1967, five more unions were formed, but RMS was accorded, in 1967, recognition which it retains till to-day. This became possible because HSWA, an affiliate of INTUC, gave up its moderate approach and resorted to militancy and in the process, lost its popularity. This enabled the RMS to snatch away the recognition from HSWA. As at the time of the Study, there were as many as ten unions in RSP, with affiliation to all major central organisations in the country. But the RMS, with its moderate and constructive approach, maintained its strength even in the midst of so many unions. It has, accordingly, the largest following though the management keeps up a dialogue with other non-recognised unions as well.

Industrial Relations in RSP

This is described at length and covers items like the disciplinary procedure in the RSP, grievance handling, accidents, absenteeism, labour turnover, collective bargaining and other related

items. The author finds that the management has made institutional arrangements to deal with cases of disputes, grievances, disciplinary cases, etc., and that, because of preventive steps taken, the cases relating to above factors were very few. The rate of accidents and labour turnover were also not alarming. Moreover, because collective bargaining has been institutionalised, and the recognised union has adopted a positive approach in bargaining, the disputes are first discussed and settled at the plant level and referred to the third party only as a last resort. He also goes into the details of grievance handling machinery, safety aspects and industrial situation in general.

These two aspects, viz., Trade Unionism and Industrial Relations, have been discussed by the author in order to provide the 'prevalent climate' within which participative management is working in RSP.

According to him, by and large, the industrial climate in RSP was healthy and quite peaceful and during 1973 - 1984, except in respect of contractors' labour, there was no major general strike. Small disputes, of course, arose from time to time, but involved only a limited number of workers on any single occasion. This conducive atmosphere he keeps at the back of his mind while examining the participative forums available in RSP and their efficacy.

Participative Forums available in RSP

The important Committees set up by the management which serve as participative forums include the following: 1. Canteen managing committee 2. Works committee 3. Safety committees 4. Plant level committee 5. Grievance committees 6. Joint production committees 7. Joint implementation committee 8. Township welfare and amenities committee 9. Suggestion committee.

At the time of the Study, there were 82 Joint Committees and one Suggestion Committee in RSP. These committees provided opportunities to the workers to participate in areas like administration of welfare and safety measures, redressal of employee grievances, improving production and productivity, reducing cost and eliminating wastage and improve overall efficiency. The

composition, the functions, the method of working and decision making in these committees, etc., have been described in great detail and the analysis includes information such as the number of meetings expected in a year, the meetings actually held, the number of recommendations made, accepted and acted upon. On the basis of this information, the author concludes that RSP virtually pioneered the formation of joint committees in some areas like production and productivity much ahead of the government initiative.

Status of Workers' Participation in RSP

After presenting these statistics about the functioning of the various committees, the author takes up the question of their effectiveness. He employs what he terms as objective criteria and subjective judgement to come to certain conclusions. He takes into account such items as the total number of meetings held, recommendations passed and implemented.

For assessing the working efficacy, the author considers the number of meetings held in comparison with the number of meetings expected to be held. He finds that the number of meetings actually held fell short of the number expected in most of the years and finds that on this basis, the working efficacy was 'moderate'. He then uses the index of activeness of the participants with reference to the number of recommendations made and implemented. On this basis, he finds the performance 'high'. The other indicators which he uses include the following: target fulfilment and capacity utilisation; labour productivity rate; correlation between capacity utilisation and index of number of recommendations implemented.

His own objective findings are sought to be supplemented by opinion surveys. This latter comprised items such as: awareness about the scheme, objectives achieved, forms of participation, attitude of the parties, barriers in participation, and overall effectiveness of the scheme etc.

Conclusions of the Study

On an examination of these various items, the author first discusses the working efficacy of the individual forums and then does so for the scheme as a whole. About the scheme as a whole, the author's major finding seems to be that on the whole, the scheme of workers' participation in RSP has been a success. After reading the analysis, one wonders whether the facts support such a conclusion. One gets the feeling that somehow the author has first reached a favourable conclusion and then is at pains to find out supporting evidence. One even gets the impression that because the author finds that the management intends to do something positive and has a positive outlook, he believes that the outcome has to be positive and is so in point of fact. Such an assumption is questionable and is in any case, not a proof.

For example, he finds that the meetings of the various committees were not regularly held and yet he concludes that they were effective because of the management's attitude and also because of the fact that a majority of the recommendations were implemented. There is no attempt to analyse as to what was the nature of the recommendations accepted and that of the ones not acted upon. Mere numbers cannot tell the full story.

Or again, the capacity utilisation and productivity rate showed a declining trend (p. 199) and even the author concedes that the correlation between working of Production Committees and the capacity utilisation does not give evidence of a positive impact of participation on productivity (p. 202). He still maintains: "However, the working of the production committees shows a satisfactory trend in terms of recommendations passed and implemented" (p. 235).

These appear to be contrary to the author's own earlier assessment that the scheme, as initially formulated, suffered from some shortcomings, arising mainly from the fact that it was introduced without adequate discussion and preparation.

Further, the relationship between the Joint Management Councils and other Committees was not spelt out and no clear-cut guidelines were laid down regarding the selection of worker representatives (p. 57). It would have been useful if the author had suggested how these shortcomings could have been corrected. As the author himself has pointed out elsewhere, the claim of the government that the scheme had really been a grand success was proved wrong by subsequent developments (p. 58). In the light of this, he concludes that at the national level, the scheme of participative management is yet to consolidate, but at the level of RSP, it has succeeded.

Grounds for holding such a view seem rather weak. Even the subjective opinion gathered from workers, managers and trade union leaders and office-bearers gives no room for satisfaction as claimed by the author. He reports that the perceptions of the management and workers differ widely on many issues, including the awareness of the scheme, participation in the participative forums by the concerned parties and who is responsible for the shortcomings noticed, etc. (pp. 208-218).

From the statistics relating to the situation in RSP, presented by the author, it seems there was a general improvement in the situation during the Emergency. Would it not show that discipline was brought about more by coercion than voluntarily? How can it still be held that the scheme has succeeded? In any case, as the author himself has pointed out in another context, collective bargaining is not the same thing as participation and participation is not a negative concept; absence of disputes does not automatically mean that the relations are cordial. The crucial point really is as to what extent there is enthusiastic and active participation on both the sides. This aspect has not been given enough importance and no evidence is produced to justify the author's enthusiasm about the success of the scheme in RSP.

P.S. Palande

Indian School of Political Economy

ANNOTATED INDEX OF BOOKS AND ARTICLES IN INDIA

EDITOR'S NOTE

These abstracts are prepared by the author of each book/article sent to us voluntarily in response to our invitation through the Economic and Political Weekly. These cover publications after 1st January 1986. Only abstracts of books/articles so received are published. The index therefore is not exhaustive and complete.

The limit of 250 words and 100 words for abstracts of books and articles respectively is strictly enforced. Only a minimum amount of copy editing is done in order to bring the abstracts within the prescribed limits. The readers should approach the author of the abstract, not this Journal, for any clarifications.

ARTICLES

1987

Samal, Kishor C. 'Taxation Policy in the Frame-work of L F P', *Orissa Economic Journal*, Vol. XX No. 1 and 2, 1987.

The paper first analyses the nature of the Long Term Fiscal Policy issued in December, 1985 by the Government of India. The historical review of the budgetary trends by L T F P does not go into the analysis of the dominance of interest groups on the budgets of the Central Government. Though it realises the mistake of over-dependence on indirect tax, its thrust is on stability in the tax structure which is regressive and inequitable. Instead of introducing new direct taxes or raising the existing rate of direct taxes, the L F P pins its hope on a doubtful proposition of expenditure tax. After critically examining the L F P, the paper concludes that what is needed is, to bring the tax structure to an equitable and progressive level and then maintain the stability and ensure the full collection of taxes levied, if needed, by force.

Samal, Kishor C. 'New Industrial Policy and Industrialisation of Orissa', *Orissa Economic Journal*, Vol. XX No. 1 & 2, 1987.

The paper discusses the major features of the New Industrial Policy of Orissa announced on April 25, 1986. By analysing different types of incentives such as (i) incentives to particular regions (ii) general tax incentives and (iii)

incentives to small scale units, it finds out the problem of SSI units and informal sector units in Orissa. The problems of SSI Units are: (i) inadequate and irregular supply of some controlled raw materials, (ii) marketing of their products and (iii) problem of finding sufficient amount of working capital.

The external factors such as difficulties in access to product market, technology, raw material, credit, etc., are the major constraints of expansion of informal sector units. But instead of special help, the informal sector units need the removal of prevailing negative discrimination against them.

Samal, Kishor C. 'Financial Innovation and Credit Market Evolution', *Economic and Political Weekly*, Vol. XXII No. 31, Aug. 1, 1987.

This paper is a rejoinder to an article by V.V. Bhat. The paper has mentioned more recent trends in financial innovations in the 1970s and 1980s particularly the important innovative financial instruments that have emerged. It concludes that there is no need for some preconditions to be satisfied for the emergence of financial innovation; it is the result of the compulsions of circumstances and the inter-action of various forces. The paper has also discussed financial innovation in the informal credit market and non-banking institutions in India. It has also cites the findings of a case study of informal finance in Sambalpur (Orissa).

1988

Samal, Kishor C. 'Administered Prices of Commodities Produced in Public Sector', *Orissa Economic Journal*, Vol. XXI No. 1 & 2, January-June & July-Dec. 1988.

The paper analyses the pricing policies of commodities produced in public sector in India and gives an alternative view. It deals with re-allocation of public sector profit with reference to excise - vs - administered prices. The hikes in administered prices help in raising the resources of public sector units but reduce the net resources of the state sector units by raising their operating costs. So, it has implications for inflation as well as federal finance relation.

The paper suggests that the best principle is to fix the price of public sector goods in line with socially necessary labour. There is no harm in public sector earning profit. But instead of handing over the whole profit to the Central Government, some portion of the profit should be left at the enterprise level for re-investment and the rest be taken by the Central Government by way of revenue from excise duties only which is shared with the States. This will not only provide autonomy to public sector units, increasing their efficiency and profits but also financial autonomy to the States.

Samal, Kishor C. 'Case Against Privatisation', *Mainstream*, Vol. XXVI No. 40, July 16, 1988.

The paper explains how multilateral agencies like IMF and IBRD are putting pressure on developing countries like India to privatise their public sector. After presenting and analysing the trend of privatisation and liberalisation in India, it puts forth the argument against privatisation in India. The paper comes to the conclusion that arguments in favour of privatisation in India are found to be baseless. Rather, in India, there are valid grounds for bringing more private sector units, particularly in sugar, jute, engineering and textile industries under public sector control. To increase the efficiency of public sector units, steps may be taken to remove loopholes, if any, in their working and not to sell them to private sector as is being proposed.

1989

Samal, Kishor C. 'Poor Hit by Inflationary Budget', *Mainstream*, Vol. XXVII No. 27, April 15, 1989.

The paper analyses critically the 1989-90 budgetary measures of the Central Government of India. Though the major initiative in the 1989-90 budget is claimed to be in the rural sector, the steps suggested in the 1989-90 budget will in no way help in reducing rural poverty, rather it will perpetuate rural poverty. It predicts that the large deficit with huge unproductive expenditure, the rise in indirect taxes on basic inputs, the pre-budget hikes in administered prices of key items and increase in railway freight will push up the general price level which will hurt the common people most. It concludes that the doles in anti-poverty measures will be robbed through the instrument of cost - push inflation. It suggests mobilisation of additional revenue by taxing agricultural income.

Samal, Kishor C. 'Third World Debt Crisis: Legacy of Neocolonialism' *Orissa Economic Journal*, Vol. XXII No. 1 & 2, January - June, July-December 1989.

This paper shows, how, as neocolonialism develops, changes occur in the relative strength of capital exporting countries; the volume, pattern, forms and specific purpose of the export of capital - both functional capital and loan capital and its geographical distribution. It shows the trend and volume of external debt of developing countries, particularly during 1980s. Then the paper analysis how the neocolonialism forces practised by IMF, IBRD, multinationals and bilateral aid in developing countries particularly in India, are able to appropriate the surplus value produced in India and thereby making the country unable to find sufficient fund to repay the outstanding debt. It concludes that as neocolonialism practised by advanced countries with monopoly domination develops, the volume of the external debt in the various forms of export capital grows in developing countries drawing them into the debt trap.

1990

Demian, Suresh; 'Comparison of Regional, Structures of Production: A Study in Development Strategy', *The Review of Regional Studies*, Vol. 20, No. 2, 1990.

The empirical focus of the present study is to compare the structures of production found in two regional economies of India. The basis of such a comparison is attributable to specific and fundamental technical elements that may be found in the productive structure of any economy irrespective of the nature of its economic system.

This article is divided into four parts: Section I serves as an introduction and also presents the paper's main hypothesis. Section II briefly reviews the theoretical and empirical literature pertaining to the study of production structures. The study's results, conclusions and limitations are discussed in Section IV.

Demian, Suresh; 'A Study of the Distribution of Land Assets and Level of Productivity in India: A Regional Analysis', *The Review of Regional Studies*, Vol. 20, No. 3, 1990.

This paper conducts a regional study of inequalities in the ownership of land assets among the households and the productivity levels in rural communities in India. Spatial analysis based on Gini-coefficients and Productivity Levels reveals that the exaggerated notion regarding achievement and overly optimistic assessment of the future possibilities of "Green-Revolution" are yet to be realised to meet the objectives of combining economic growth with social justice. Steps need to be taken to carry out institutional changes leading to serious land reform, so that the Great dream of Garibi Hatao can be fulfilled and the fruits of the socio-economic development be reached to the rural masses. The layout of the paper is as follows: Section I sets the debate on the issues in the proper context. Methodology is discussed in Section II. Section III discusses the main results of the paper, and conclusions are set forth in Section IV.

Samal, Kishor C. 'Urban Informal Manufacturing Sector: Its Structure and Operation (A Case Study)', *Urban India*, December 1990.

The informal manufacturing units are usually proprietary firms characterised by small scale operation and labour-intensive technology. It is further observed that there is a petty mode of production, particularly in the informal manufacturing sector and it differs from the formal sector because it represents a different mode of production and there are also important differences between the relationships of these modes of production to the superstructure.

In view of these general observations, the study shows the difference between the informal and formal manufacturing sectors. Is the labour productivity in the former comparable to the latter? What is the difference in capital intensity between these sectors? In the course of the description of the structure and operation of the informal sector in Sambalpur, Orissa, all these issues relating to differences in employment, size, turn over, capital structure and value added have been analysed to determine whether there is any noticeable difference between the informal and formal manufacturing sector in an urban economy.

Samal, Kishor C. 'Budget: Is it Consistent with the Election Manifesto?' *Mainstream*, Vol. XXVIII No. 26, April 21, 1990.

This paper analyses the 1990-91 Central Budget - which is the first budget of the new National Front government supported by BJP, CPI(M) and CPI. It has picked up the issues relating to fiscal measures mentioned in the 1989 Election Manifestoes of National Front, the BJP and the CPI(M) and have tried to see how far these are consistent with the fiscal measures taken in this budget. Mainly it deals with black money, Centre-State finance, industry and employment, public sector and agriculture. It concludes that the measures proposed in the 1990-91 budget fulfills some of the important promises of the election manifestoes.

Samal, Kishor C. 'VAT - How to Administer?'
Yojana, Vol. 33. No. 24, January 1 - 15, 1990.

The paper has discussed the origin of Value Added Tax in the world, as well as in India, since Kaldor Committee's recommendations. It has brought the distinction between VAT and

Modified Value Added Tax (MODVAT). It explains the concept and features of MODVAT as introduced in Long-term Fiscal Policy (LTFP) and then in 1986-87 Central Budget. After citing the merits and demerits of VAT and MODVAT; it has explained how efficiently MODVAT can be administered in India.

The Journal will publish in each issue Annotated Bibliography of Books and Articles on Indian Economy, Polity and Society, published after January 1, 1986. Authors are requested to send their entries with full details of publication and annotation not exceeding 250 words for books and not exceeding 100 words for articles. Use separate sheet for each entry.

BOOKS RECEIVED IN INDIAN SCHOOL OF POLITICAL ECONOMY

1. Aggarwal Pawan K. - *Stimulative Effects of Tax Incentive for Charitable Contributions - A Study of Indian Corporate Sector*; National Institute of Public Finance & Policy, New Delhi 110 - 067, 1989

The choice of an appropriate tax policy as stimulus to some activities involve value judgements and issues that are complex and wide-ranging. The present study evaluates the alternative schemes of subsidy as stimulus to charitable contributions, such as direct subsidy (block grant), scheme of deductions under the income tax law and schemes of tax credit for charitable contributions. It emphasises the empirical effects of the alternative tax treatments of charitable contributions. The study shows that the scheme of deductions for charitable contributions has led to a substantial increase in the charitable contributions by the companies.

2. Agarwal S.P., and J.C. Aggarwal (Editors) - *Nation in Crisis - Achievements, Failures and Non-function of the Government*; Concept Publishing Company, New Delhi - 110 059, 1991

An attempt is made in this volume to present in an objective manner, the achievements and failures of governmental system with special reference to the National Front Government *vis-a-vis* their election manifesto.

3. Maheshwari S.R. - *The Mandal Commission and Mandalisation - A Critique*; Concept Publishing Company, New Delhi - 110 059, 1990

The present work discusses the policy of job reservation in the public services under the Government of India, and focuses particularly on the Mandal Commission (The Backward Classes Commission, 1978-80), its report, the governmental decisions and the social and political implications flowing from them. To impart a historical perspective, the report of the first Kaka Kalelkar Backward Classes commission (1953-55) is freely referred to. The work examines the major emerging trends, and makes a few policy

recommendations. The book contains the recommendations made by both the Kaka Kalelkar and the Mandal Backward Classes Commissions, which, it is hoped, would further enhance its utility.

4. Dr. Mukherjee Amitava - *The Central Problem of Economics - (Economics Redefined)*; Concept Publishing Company, New Delhi - 110 059, 1991.

This book impugnes the scarcity element of economics as the dominant theme and puts forth the case of economics being a study of the problem of managing surplus. The central problem of Economics is seen as the problem of coordinating men, material and technology into the tool process.

5. Ramachandran H. (Editor) - *Environmental Issues in Agricultural Development*; Concept Publishing Company, New Delhi - 110 059, 1990

The volume is a collection of articles on various issues involved in sustainability of Indian agricultural growth. The social, economic and political aspects of ecological questions have to be increasingly added to the ones dealing with environmental aspects of ecology. The message that is conveyed by the authors of the papers-irrespective of whether they deal with conceptual or empirical issues - is the necessity to look at the linkage between one resource use and another, and understand the implications of programmes and policies relating to one resource/region for others. The volume would be of use to all those interested in India's development and Indian agriculture.

6. Ramachandran H. and J.P. De Campos Guimaraes (Editors) - *Integrated Rural Development in Asia - Learning from Recent Experience*; Concept Publishing company, New Delhi 110 059, 1991

Over the past two decades, Asian countries have accumulated considerable experience with Integrated Rural Development. The question at the core of this book is what has

been learnt from the past experience with - and past criticism of the - IRD approaches. With the intention of providing an opportunity for professionals and scholars working in the field of rural development and particularly of IRD in Asia, to meet and address this question, an International Seminar was organised during July, 1988. This volume includes edited versions of the papers presented at the Seminar.

7. Ramesh Chand - *Agricultural Development, Price Policy and Marketed Surplus in India - Study of Green Revolution Region*, Concept Publishing Company, New Delhi 110059, 1991

The book presents the systems of output supply and factor demand equations for major crops in Punjab. The systems of equations have been estimated simultaneously within the framework of profit function approach using flexible functional forms. A critical and exhaustive review of studies on farmer's response to changes in input-output prices and non-price variables is provided and the merits and demerits of the methodologies used in such studies are discussed. The uses and limitations of profit function approach and its functional forms in empirical analysis are demonstrated. The models of growth in output supply, factor demand, marketed surplus and farmers income have been developed and used to analyse the effect of price and non-price variables on the endogenous variables. The effectiveness of prices in boosting agriculture output, employment, etc., under green revolution is empirically studied.

8. Sarangi Prakash - *Political Exchange and Public Policy - A Cross-National Analysis*; Concept Publishing Company, New Delhi - 110 059, 1990

The study discusses the changes in public policy in democratic systems. It argues that there is an interdependent or exchange relationship between the choices of the policy-makers and the policy-takers. Periodic elections and the political parties are important institutional mechanisms which make the exchange relationship possible. The policy-makers use the policy as an instrument to provide inducements to their own supporters. The structure of the market for political exchange is characterised as monopolistic competition. The policy-makers are assumed to maximise the probability of re-election while the policy-takers are assumed to maximise the benefit and minimise the costs from a policy. These assumptions lead to a number of propositions about the conditions of a policy change. These propositions along with those emerging from the socio-economic and the political factors are tested using data from twenty-one contemporary democratic regimes between 1952-1980.

9. Swaminathan M.S., *Science and Integrated Rural Development*; Concept Publishing Company, New Delhi - 110 059, Reprint, 1991

The book presents a comprehensive picture of Integrated Rural Development and offers suggestions on the specific areas in which programmes for development can be initiated and successfully implemented. Some of the more important themes dealt with in this book are irrigation, rainfall and dry-land agriculture, agricultural evolution and productivity, employment, drought management and the scientific utilisation of natural resources. Apart from general chapters on India's agricultural future and rural regeneration, there are also chapters devoted to adult education for agricultural progress, non-monetary inputs in education and the role of science in Integrated Rural Development.

10. Tarlok Singh (Editor) - *Social Science Research and Problem of Poverty*; Concept Publishing Company, New Delhi - 110 059, (1990)

This volume has emerged from a large collection of papers prepared by social scientists from different disciplines who met in January 1981 to take a view of social science

research in relation to the problem of poverty. The 27 papers included in the volume are divided into three groups: Poverty as a Multi-disciplinary Study, Survey and Measurement of Poverty, and Social Research and Policy Issues. The selected papers constitute an agenda for social scientists and for the study of different facets of the problem of poverty.

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JOURNAL OF INDIAN SCHOOL OF POLITICAL ECONOMY

FORM IV

(See rule 8)

Statement about ownership and other particulars about newspaper (Journal of Indian School of Political Economy) to be published in the first issue every year after the last day of February.

- | | |
|---|--|
| 1. Place of Publication: | 'Arthabodh'
968/21-22, Senapati Bapat Road,
Pune 411 016 |
| 2. Periodicity of its publication: | Quarterly |
| 3. Printer's Name
Nationality:
Address: | P.S. Palande
Indian
'Arthabodh',
968/21-22, Senapati Bapat Road,
Pune 411 016 |
| 4. Publisher's Name
Nationality:
Address: | P.S. Palande
Indian
'Arthabodh',
968/21-22, Senapati Bapat Road,
Pune 411 016 |
| 5. Editor's Name
Nationality:
Address: | V.M. Dandekar
Indian
'Arthabodh',
968/21-22, Senapati Bapat Road,
Pune 411 016 |
| 6. Names and addresses of individuals who own the newspaper and partners or shareholders holding more than one per cent of the total capital: | Indian School of Political Economy,
'Arthabodh',
968/21-22, Senapati Bapat Road,
Pune 411 016 |

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