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A Journal devoted to the Study of Indian Economy, Polity, and Society

## INDIAN SCHOOL OF POLITICAL ECONOMY

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# JOURNAL OF INDIAN SCHOOL OF POLITICAL ECONOMY

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Maital, Š., 1973; 'Public Goods and Income Distribution', Econometrica, Vol. XLI, May, 1973.

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## **GROWTH, POVERTY AND LEVELS OF LIVING: HYPOTHESES, METHODS AND POLICIES**

#### M.H. Suryanarayana

The present papers takes stock of the recent methodological attempts to estimate poverty and examines the scope for further improvement. As an attempt in this direction, changes in real consumption basket and its methodological and policy implications are examined. Based on the National Sample Survey data, the paper examines the changes in aggregate consumer expenditure, cereal quantity consumption and consumption patterns with the possible appropriate fractile-group and commodity specific price adjustments. The results show that poverty increased till mid-sixties and declined thereafter as a result of a decline in real income/consumption and a recovery. Cereal consumption has been virtually stagnant since 1952. With limited increases in aggregate real consumptionafter mid-1970s, the poor have gone infor quality and variety in their consumption involving changes in consumption patterns in favour of superior cereals, and marginal increases in non-cereal food items, but still below the subsistence threshold in terms of calorie intake.

Reduction in the proportion of the poor since the mid-seventies observed by almost all the recent studies has received considerable attention in the context of the ongoing economic reforms. Although studies have confirmed reduction in poverty, available data, in fact, indicate stagnation, if not decline, in cereal quantity consumption for all decile groups of population. There is an important study which has noted that there has not been any improvement in cereal quantity consumed between 1970-71 and 1989-90 [Radhakrishna, 1991]. The recent Expert Group on Estimation of Proportion and Number of Poor [Perspective Planning Division, 1993] has observed 'significant shifts' in consumption patterns involving reductions in shares of cereals and foodgrains in total consumer expenditure and takes such reductions for a shift in calorie sources from low cost to high cost items. The Expert Group explains reductions in average calorie intake across expenditure classes in terms of these shifts in consumption patterns. But the Expert Group estimates of consumer expenditure proportions are at current prices. It could be that such changes in consumer expenditure proportions are exaggerated due to associated relative price changes.

The reduction in poverty is further confirmed by estimates of distributionally sensitive poverty indices [see, for instance, Suryanarayana and Geetha, 1992, 1994; Tendulkar, Sundaram and Jain, 1993]. Apart from the strength of these findings from the fact that they are obtained from methodologically better studies, they have significant policy implications for poverty alleviation. All the evidence, based as it is on the National Sample Survey (NSS) data on consumer expenditure distribution, is sometimes taken to indicate improvements in levels of living<sup>1</sup> of the population, the poor in particular. But since the poor, both rural and urban, are heterogeneous in terms of their sources of livelihood, it is quite possible to observe decreasing poverty ratios along with a decline in the levels of living for a subset of the poor as found by Ravallion and Van de Walle [1988] in their simulations for Indonesia. However, the estimates of poverty measures, even the distributionally sensitive ones cited above, will not capture any such underlying distributional changes. While the headcount ratio, as is well known, does not take into account the magnitude of deprivation and the relative inequality among the poor, the distributionally sensitive poverty measures have not been estimated taking into account (i) the dual valuation of NSS estimates of consumption, that is, valuing consumption from home-grown stock at ex-farm prices and that from market purchases at retail prices, and (ii) the differential distributional impact of inflation. For choice of the right set of policies for the poor, a careful analysis of such underlying distributional changes in terms of entitlement and levels of living of the different poorer decile groups of the population and their

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implications is called for.

The need for such a study can be appreciated by citing the studies on (i) agricultural growth and rural poverty; and (ii) strategies for poverty alleviation. In the former context, Ahluwalia [1978] called into question the view that 'growth without radical institutional change' will not 'contribute to poverty alleviation, and indeed may even generate absolute impoverishment for the poor' on the basis of statistically significant negative trends for the Gini coefficients of NSS rural consumption distributions for India as a whole and for majority of the individual states. Similarly, the 'Growth with Redistribution' strategy of the Sixth Five Year Plan was also guided by the observed decline in the Lorenz ratios of NSS consumption distributions at 0.38 and 0.59 per cent per annum for rural and urban India, respectively, during 1960-61 to 1977-78 [Perspective Planning Division, 1981, p. 82]. But such estimates of inequality measures based on the NSS consumption data are not comparable and the observed decline is only spurious and not real. This is because published NSS data on consumer expenditure are available only in group form and Lorenz ratio estimates based on such data are subject to grouping bias involving underestimation of the convexity of the Lorenz curve. This grouping bias varied between data for different NSS rounds because of the rigid NSS expenditure class interval schemes which are not updated regularly in keeping with changing price levels [see Suryanarayana, 1991]. With appropriate statistical corrections and fractile group specific price adjustments, the Lorenz ratio estimates show even an increase in inequality particularly for the urban sector and cities [Suryanarayana, 1986].

Similarly the observed recent reductions in estimates of poverty measures, both prevalence and severity, could be due to inadequate price adjustments [Suryanarayana, 1994 and Section 1 below] and there is a need for a careful analysis of changes in real consumption basket and its policy implications. This paper, accordingly, makes an attempt in this direction by examining the available NSS data on consumer expenditure after conventional fractile-group specific price adjustments. The study is carried out further with

particular reference to the cereal basket inasmuch as cereals account for more than 80 per cent of the calorie intake and because the current poverty estimates are based on poverty lines derived using the food-energy-intake method. Its focus is only at the all-India picture. With a state level analysis, a better understanding of the underlying process and causes will emerge. That is being carried out in a separate study. The paper is organised as follows. The recent attempts to evolve methodologically better approaches to poverty estimates and their findings on poverty reductions in rural and urban India are dealt with in Section 1. Section 2 examines changes in levels of living of the five poorer decile groups of rural and urban population, with Section 2.1 which deals with the temporal changes in consumer expenditure at current and constant prices and Section 2.2 which examines the changes in the quantities consumed of cereals over time by these population groups. Next the question of changes in consumption patterns is dealt with in Section 2.3. The final section gives the conclusions of the paper.

#### 1. POVERTY RATIOS

Most of the recent important studies on poverty [see, for instance, Minhas et al., 1987, 1991; Kakwani and Subba Rao, 1991; Tendulkar et al., 1993], including those by the Planning Commission, are based on the poverty lines estimated by a Task Force on Projections of Minimum Needs and Effective Consumption Demand [Perspective Planning Division, 1979] using the food-energy-intake method. The Task Force defined the poor as 'those whose per capita consumption expenditure lies below the midpoint of the monthly per capita expenditure class having a daily calorie intake of 2,400 in rural areas and 2,100 in urban areas' [Perspective Planning Division, 1981, p. 81]. The mid-points were actually worked out using the 28th Round NSS data on household consumption both in quantity and value terms for the period October 1973 - June 1974 as follows. To begin with, applying commodity specific calorie content coefficients, the calorie content of consumption baskets corresponding to various NSS expenditure

classes were determined. And then the expenditure equivalents of the calorie norms were worked out by applying inverse linear interpolation method to the NSS data on average per capita monthly expenditure and the corresponding calorie content of food items in the expenditure class. The poverty lines so worked out are Rs. 49.09 and Rs. 56.64 per capita per month at 1973-74 prices in rural and urban areas, respectively. The majority of the recent studies are based on these poverty lines estimated by the Task Force [Perspective Planning Division, 1981]. The poverty ratios and numbers obtained by some of these studies are presented in Table 1. Broadly they show a decline in the proportion of the poor since 1973-74. They differ with respect to specific details like magnitude of changes in the size, absolute and relative, of the poor population. This is because even though the different approaches agreed on the poverty lines, they differed with respect to the data base and methodology followed in poverty estimation.

The Planning Commission adopts the poverty lines recommended by the Task Force for the year 1973-74. Estimates of poverty for the subsequent years are made by price-adjusting the poverty lines with the Central Statistical Organisation's (CSO) implicit deflator for private consumption expenditure obtained from the National Accounts Statistics. As regards the data base, the NSS consumption expenditure distributions for both rural and urban sectors are adjusted upwards by a factor given by the ratio of CSO's estimate of private consumption expenditure in the National Accounts Statistics to the NSS estimate of household consumer expenditure for the corresponding year, in order to ensure consistency between the input-output table and consumption sub-model of the overall Plan model. Planning Commission estimates of the headcount ratio show the proportion of poor to have declined continuously from 54.10 per cent in 1972-73 to 33.40 per cent in 1987-88 in rural India. In urban India the corresponding decline was from 41.20 to 20.10 per cent. The estimates for rural and urban India taken together show a decline from 51.50 to 29.90 per cent during the period. But the

number of rural poor increased from 244.22 million to 253.10 million between 1972-73 and 1977-78 and declined thereafter to 221.50 million in 1983-84 and to 195.97 million in 1987-88. The size of urban poor also increased from 47.33 million to 53.70 million between 1972-73 and 1977-78 and declined to 59.50 million in 1983-84 and to 41.70 million in 1987-88. The combined all-India poor population increased from 291.55 million to 306.80 million between 1972-73 and 1977-78 and declined to 271.00 million in 1983-84 and to 237.67 million in 1987-88.

The study by Minhas et al. [1991] is essentially the result of their efforts to overcome the methodological limitations of the Planning Commission approach. Minhas et al. [1991] estimate headcount ratios using the same all-India rural and urban poverty lines as done by the Planning Commission for the base year 1973-74. But they depend only on the NSS consumer expenditure distributions without any scalar adjustments because of the problems of comparability between the NSS and CSO private consumer expenditure data sets. They reject the Planning Commission approach of using implicit national income deflator on the ground that it ignores rural-urban differentials in prices and price movements. Their preferred approach obtains state specific poverty lines corresponding to the all-India ones using state specific cost of living indices and state specific price indices relative to all-India separately for the rural and urban middle range of population. The state specific cost of living indices and state specific price indices relative to all-India for the rural sectors are estimated using adjusted retail price relatives of the official Consumer Price Index for Agricultural Labourers (CPIAL); the adjustment being for the downward bias in the retail price index of fuel and light arising from the use of an unchanging price relative for firewood on the assumption that agricultural labourers get firewood free of cost from common property resources. As regards the urban sectors, the combined retail price relatives compiled for the Consumer Price Index for Industrial Workers (CPIIW) and Consumer Price Index of Nonmanual Employees (CPINM) for urban areas are used. The middle range of population is taken to include persons in the monthly per capita total consumer expenditure (MPCTCE) interval covering the state-specific poverty line in the base year. Next, state specific poverty ratios are worked out on the basis of state-wise NSS consumption distributions and their population weighted average gives the all-India estimate. Their estimates for rural India show a decline in the proportion of poor from 58.75 per cent in 1970-71 to 50.77 per cent in 1983 and further to 48.69 per cent in 1987-88. Their corresponding estimates for urban India show a decline from 46.17 per cent to 39.74 per cent and finally to 37.76 per cent. Their weighted average estimates for all-India show a decrease in poverty from 56.25 per cent in 1970-71 to 48.11 per cent in 1983 and further to 45.85 per cent in 1987-88. Unlike the Planning Commission estimates, their estimates show an increase in the number of poor throughout: The number of rural poor increased from 257.94 million in 1970-71 to 276.83 million in 1983 and to 283.66 million in 1987-88. The number of urban poor increased from 50.37 million to 69.18 million and finally to 77.50 million during the corresponding period. The combined rural and urban estimates show an increase from 308.32 million in 1970-71 to 346.01 million in 1983 and to 361.16 million in 1987-88.

Using the same methodology but based directly on the all-India poverty lines and all-India consumption distributions, estimates of the poverty proportions have been updated for years after 1970-71 up to 1988-89 by Tendulkar et al. [1993]. The estimates by Tendulkar et al. [1993] show similar temporal movements in poverty ratios for rural and urban India. The poverty percentage decreased from 57.33 in 1970-71 to 54.47 in 1977-78 and declined further to reach 42.23 in 1988-89. As regards the urban poor, their percentage share in total urban population increased from 45.89 in 1970-71 to 47.40 in 1972-73 and further to 49.20 in 1973-74 and declined to 42.97 in 1977-78 and 35.39 in  $SI = H [R + (1-R)G_n]$ 

1986-87; then, it increased marginally to 36.52 in 1987-88 and declined to 35.07 next year.

The estimates discussed so far relate to the headcount measure of poverty, that is, measure of prevalence of poverty. As is well known, the headcount measure does not take into account the magnitude of deprivation of the poor with respect to the subsistence minimum and the relative inequality among the poor. Tendulkar et al. [1993] have estimated measures of depth and severity of poverty. They are the Poverty Gap Index, the Sen Index [Sen, 1976] and the  $P_{\alpha}$ measure [Foster, Greer, Thorbecke, 1984]. These measures are obtained as follows. Let N be the total number of individuals in the society. Let Y  $= (y_1, y_2, \dots, y_N)$  be a vector of N individual consumption expenditures in increasing order; z be the exogenously fixed poverty line; q be the number of individuals with consumption less than z;  $y_p$  be the mean consumer expenditure of the poor; G<sub>p</sub> be the Gini coefficient of consumption distribution among the poor and  $C_p^2$  = squared coefficient of variation of consumption distribution among the poor. Let H = q/N, that is, headcount ratio;  $R = z-y_z/z$ , that is, poverty gap ratio;  $g_i = z \cdot y_i$  be the consumption shortfall of the i-th individual from the normative subsistence minimum. Then the Poverty Gap Index is given by

$$PGI = \frac{1}{NZ} \sum_{i=1}^{q} (z - y_i)$$
 (1)

That is, the Poverty Gap Index is a measure of depth of poverty given by the ratio of the aggregate consumption shortfall of all the poor to the normative consumption expenditure of the entire population. The severity of poverty can be captured by taking into account relative inequality among the poor. Two such measures considered by Tendulkar et. al. [1993] are the Sen index and the  $P_{\alpha}$  measure. The Sen index (SI) is given by

SI = 
$$\frac{2}{(q+1)NZ} + \sum_{i=1}^{q} (z-y_i)(q+1-i)$$
 (2)

which reduces to

... (3)

From equation (2), it can be seen that the Sen index is a normalized weighted sum of consumption shortfalls of the poor, obtained on the basis of 'rank order' weighting scheme. The Sen index is not decomposable in the sense that 'total poverty is a weighted average of subgroup poverty levels' [Foster, Greer and Thorbecke, 1984; p. 761]. The  $P_{\alpha}$  poverty measure, which overcomes this inadequacy, due to Foster, Greer and Thorbecke [1984] is given by

$$P_{\alpha}(\mathbf{y};\mathbf{z}) = \frac{1}{N} \sum_{i=1}^{\alpha} \left( \frac{g_i}{Z} \right)^{\alpha} \qquad \alpha \ge 0$$
(4)

where  $\alpha$  is the poverty aversion parameter. The formula for the P<sub>\alpha</sub> measure is general in the sense that it nests the Headcount ratio and Poverty Gap Index measures. That is to say, it reduces to Headcount ratio, that is a poverty prevalence measure, when  $\alpha = 0$  and to Poverty Gap Index, that is a measure of depth of poverty, for  $\alpha = 1$ . For  $\alpha = 2$ , it becomes an overall severity measure encompassing headcount ratio, poverty gap index and relative inequality among the poor. This property of the measure comes out explicitly when it is expressed as:

$$P_2(y;z) = H[R^2 + (1-R)^2 C_p^2]$$
 ...(5)

The estimates of Tendulkar *et al.* [1993] of these poverty measures are presented in Table 2. It can be seen that these estimates only corroborate the picture presented by the headcount ratio estimates: While the headcount ratio shows that all-India rural poverty declined by 26.34 per cent between 1970-71 and 1988-89, the Poverty Gap index shows a decline of 41.95 per cent, the Sen index shows a decline of 40.59 per cent and the P<sub>2</sub> measure, 51.57 per cent. As regards all-India urban poverty, the reduction between 1970-71 and 1988-89 shown by the headcount ratio is 23.58 per cent, that by the Poverty Gap index is 33.46 per cent, that by the Sen index is 32.45 per cent and that by P<sub>2</sub> measure, 40.04 per cent.

These studies and the methodological issues raised by Minhas *et al.* [1988] have considerably influenced academic thinking and led the Planning Commission to constitute an Expert Group in 1989 to reconsider methodological and computational aspects of poverty estimation. The Expert Group has gone into 'the methodology for estimation of poverty at national and state level' and also 'into the question of re-defining poverty line, if necessary' [Perspective Planning Division, 1993, p. 1]. According to the Expert Group 'the poverty line defines on an average the level of per capita per day expenditure which meets a normative minimum standard of living, deemed reasonable. Calorie intake is but one of the ingredients, though an important one, of the minimum standard, but the poverty line makes an allowance for non-food consumption needs as well on the basis of observed consumer behaviour. The Group recognises the desirability of defining the normative standard for non-food consumption and its constituents, without reference to actual behaviour, but until this is done, the existing basis seems to be the most practical and reasonable. It is this consumption basket that constitutes the minimum standard for defining the boundary between the poor and the non-poor' [Perspective Planning Division, 1993, p. 30]. The Expert Group has recommended that the all-India poverty lines and norms suggested by the Task Force on Minimum Needs and Effective Consumption Demand be the basis for further estimates of poverty.

To begin with, state-specific poverty lines for the base year 1973-74 are to be estimated applying the same living standard norm uniformly to all states so as to ensure comparability of poverty estimates across states and over time. For this purpose the 'standardised commodity basket corresponding to the poverty line at the national level' are to be valued at state specific prices in that year. This is done using Fisher's cost of living index reflecting inter-state price differentials with respect to all-India as estimated by Chatterjee and Bhattacharya [1974] for the rural sector and those by Minhas et. al. [1988]<sup>2</sup> for the urban sector. The state-sector-specific poverty lines for subsequent years are to be updated by their respective consumer price indices obtained by weighted statesector-specific prices where the weighting diagram is given by the corresponding all-India consumption basket for the base year poverty line.

Considering that reliable, comparable data in sufficient disaggregation are not readily available to researchers and take time, the Expert Group recommends the use of published commodity group indices from the CPIAL for the rural and a simple average of 'suitably weighted' indices from CPIIW and CPINM for the urban sector for purposes of consumer price indices. Given the state-specific poverty lines, the corresponding poverty ratios are to be estimated relying 'exclusively' on the NSS size distribution of per capita consumption expenditure. And, all-India poverty ratios are to be obtained as 'a ratio of the aggregate number of State-wise poor persons to the total all-India (rural and urban) population' [Perspective Planning Division, 1993, p. 34].

The estimates of poverty ratios and numbers so obtained show a gradual decline in rural poverty ratio from 56.44 per cent in 1973-74 to 53.07 per cent in 1977-78, 45.61 percent in 1983 and finally to 39.06 per cent in 1987-88 but an increase in the number of poor from 261.29 million in 1973-74 to 264.25 million in 1977-78 and a decline thereafter to 251.72 million in 1983 and to 229.40 million in 1987-88. The estimates for urban India show a gradual decline in poverty proportion from 49.23 per cent in 1973-74 to 47.40 per cent in 1977-78, to 42.15 per cent in 1983 and finally to 40.12 per cent in 1987-88; but a gradual increase in the number of poor from 60.31 million in 1973-74 to 67.74 million in 1977-78, 75.29 million in 1983 and to 83.35 million in 1987-88. The corresponding combined estimates for all rural and urban India together show a decrease in poverty from 54.93 per cent in 1973-74 to 51.81 per cent in 1977-78, 44.76 per cent in 1983 and finally to 39.34 per cent in 1987-88; but the number of poor increased from 321.60 million in 1973-74 to 331.99 million in 1977-78 and decreased thereafter to 327.01 million in 1983 and further to 312.75 million in 1987-88.

The studies by Minhas et al. essentially represent efforts at overcoming some of the methlimitations of the odological Planning Commission approach to poverty estimation. The Expert Group Report [Perspective Planning] Division, 1993] in response to the issues raised

methodology which differs from the one advocated by the latter with respect to specifics like common all-India weighting diagram for all states and larger commodity group price indices in estimating state-sector-specific cost of living indices. Its merit largely lies in ease of estimation based on readily available published data. Both the approaches have made significant contributions by bringing out the fundamental inconsistencies in the Planning Commission approach methodologically better suggesting and alternatives. In this respect, given their emphasis on appropriate weighting diagrams and price relatives so as to retrieve information about the underlying consumption basket, there seems to be scope for further improvement by taking into account the dual valuation of NSS consumption data. That is, the NSS Organisation (NSSO) values consumption from home-grown stock at ex-farm prices and the monetized part, that is those from market purchases at retail prices. Farm price is generally much lower than market retail price; for rice it used to be about 60 per cent lower in the early 1970s in a few select markets [Pal et al., 1993]. In that case the same consumption basket will be valued differently depending upon the shares of the home-grown stock and monetized consumption. This renders comparisons of inequality and poverty estimates, based on the NSS consumer expenditure data across sectors and states, difficult since the share of monetized consumption varies across households within a sector in a state and also across sectors and states. The time series estimation and comparisons of poverty and inequality measures also get affected in the context of changing institutional structures and increasing monetization of consumption [Suryanarayana, 1993]. Poverty estimates based on poverty lines updated by consumption weighted retail price indices will be distorted. This is because the use of such weighted retail price indices is valid only if either commodity items of the consumption bundle are uniformly valued at respective retail prices or ex-farm and retail prices increase at the same rate. But in fact neither of the two hold good for rural India. So updating poverty lines by weighted retail price by the studies of Minhas et al., recommends a indices will involve over-inflation of poverty

lines vis-a-vis the actual consumer expenditure data and hence overestimation of poverty. It has been shown [Suryanarayana, 1995a] that the poverty estimates, based on NSS consumer expenditure data, using consumption weighted retail price indices will be overestimates and the degree of overestimation will vary depending upon changes in the degree of monetization of the consumption basket and relative changes in exfarm and retail prices. Other things remaining the same, an increase in monetized share in consumption would result in a decline in overestimation of poverty. There is enough evidence by now [Vaidyanathan, 1986 and ILO-ARTEP, 1993] which shows increasing landlessness and casualisation of rural labour since the mid-sixties which would imply larger market dependence and increasing share of monetized part in the consumption of the poor. This may explain part of the observed reduction in poverty estimates. The degree of casualisation being different across states, the degree of distortion in poverty estimates will differ across states. This would imply that the debate on agricultural growth, trickle down, inflation and rural poverty has over emphasised problem specification and econometric procedures at the cost of verifying how far the sample data represents the postulated process

Further even though Tendulkar *et al.* [1993] have estimated distributionally sensitive poverty measures like the  $P_{\alpha}$  and Sen indices, their estimates suffer from two limitations:

[Suryanarayana, 1995a].

(i) they are based on the NSS estimates of expenditure-group-wise mean consumption because of which intra-group inequalities are not accounted for; and (ii) they do not take into account the dual valuation of NSS consumption estimates and the differential impact of inflation across expenditure groups. The question of dual valuation matters particularly for distributionally sensitive poverty measures because monetization rate (i.e., the ratio of cash to total consumption expenditure) differs across households and its distribution across groups varies between states and over time. For instance, the average monetization rate was 0.6 for rural India and 0.9 for

urban India in 1963-64. The monetization rate increased with the rise in per capita consumer expenditure in rural India as a whole and in the rural sectors of some states; it followed au-shaped pattern for rural West Bengal and a linear pattern in the case of rural Kerala. As regards the urban sector, monetization rate increased with per capita total consumer expenditure in Uttar Pradesh and a linear pattern for West Bengal and Kerala [Mukherjee et al., 1981, p. 7]. The differential impact of inflation is important because the commodity composition of consumption baskets are different across expenditure groups. With food items dominating the consumption baskets of the poor, inflation accompanied by changes in relative prices involving increases in foodgrain prices would affect the poor much more adversely than the rich. Some of the earlier studies for the 1960s and early 1970s based on wholesale price relatives have confirmed this pattern for India [Mahalanobis, 1962; Iyengar and Bhattacharya, 1965; Iyengar, 1967; Vaidyanathan, 1974; Radhakrishna and Sarma, 1976 and Suryanarayana, 1986]. A recent, methodologically better, attempt [Jain, 1989] based on retail price relatives for the years 1970-71, 1972-73, 1973-74, 1977-78 and 1983 corroborates the hypothesis about the differential impact of inflation but shows that the pattern was neither always regressive nor always progressive. Therefore, ideally such distributionally sensitive poverty measures should be estimated with appropriate adjustments for grouping bias, dual valuation of consumption estimates and differential distributional impact of inflation. While the problem of grouping bias can be tackled to a certain extent by graduating the consumption distribution by some distribution function, the latter can be handled by reconstructing the consumer expenditure distributions for different years at the base year prices of the poverty line with appropriate differential price adjustments. Such methodological aspects are yet to receive serious attention.

Given these constraints, one approach could be to examine the actual changes in the entitlement and levels of living of the poorer sections in rural and urban India during the post-Independence period. The entitlement of the poor are measured by their consumer expenditure given in the NSS reports. The use of the data on consumer expenditure may be justified since it is a better proxy for permanent income and is less subject to conceptual and measurement errors than income. For the poor who are already living at subsubsistence level, there may not be any difference between consumer expenditure and income. Further, so far as we are interested only in some income measure, the NSS valuation of homegrown consumption at ex-farm prices may not distort the analysis as it may be justified as a measure of opportunity cost and hence income. With this perspective, the sections below address the following questions: How far the levels of consumer expenditure of the poor have actually registered an increase as a cumulative result of different policy programmes? What is the nature and direction of changes in the consumption basket of the poor and their implications for methodology as well as policy?

#### 2. CONSUMPTION: LEVELS AND COMPOSITION

#### 2.1 Trends in Aggregate Consumer Expenditure

The NSS reports on consumer expenditure survey for each round provide data in the form of size distribution of households and population across 11 to 14 monthly per capita total consumer expenditure (MPCTCE) classes along with average MPCTCE and its breakdown into a number of broad commodity groups at current prices. For some of the rounds, the NSSO also provides commodity breakup data for the foodgrains category both in value and quantity terms. The problem in working with the NSS type distributions is that the changes in levels of consumer expenditure of different expenditure groups over time cannot be verified by direct inter-temporal comparisons of these distributions since relative population frequencies of different expenditure classes vary over time. In order to facilitate temporal comparisons of the consumer expenditure distributions, we convert the NSS distributions to obtain estimates of MPCTCE by decile groups of population ranked in ascending

order of MPCTCE. This is done by linear interpolation on the unsmoothed Lorenz curve for MPCTCE. Such distributions, besides their comparability over time, enable deflation of decile group-wise MPCTCE by decile group specific deflators to arrive at the distribution of real consumption expenditure by accounting for the differential impact of inflation.

To begin with, the estimates of MPCTCE at current prices for the bottom five decile groups of rural and urban population for the period 1961-62 to 1989-90 are presented in Tables 3 and 4, respectively. The estimates of MPCTCE are presented for years after 1961-62 because it is mainly from the 14th round (July 1958-June 1959) that the NSS methods of valuation, concepts, survey period, etc., got standardized and that relevant price indices are available for the period after 1960-61. The choice of the bottom five decile groups is dictated by the consideration that, barring the years 1966-67 and 1967-68, generally about 50 per cent of the rural population had a consumption level below the poverty line in the sixties [see Suryanarayana and Geetha, 1994]. The data at current prices reveal that, between 1961-62 and 1989-90, MPCTCE for the rural poorer decile groups increased more than nine times while that for the rural population as a whole the increase was less, that is about eight and a half times. As regards the urban poorest decile group, MPCTCE registered a more than ten-fold increase between 1961- 62 and 1989-90; it was nearly a ten-fold increase for the second and third poorest decile group and about nine and a half times increase for the other two decile groups and for the urban population as a whole. As between rural and urban sectors, the increase seems to have been higher for the urban than for the rural decile groups. These data being at current prices, a more realistic picture can be obtained only with appropriate deflation for temporal price variations.

Our interest being in recovering information about purchasing power of money incomes, price indices based on retail prices will be appropriate. In this context, one approach to price-adjust the data on consumer expenditure could be to use CPIAL for the rural [see Bhattacharya et al., 1991] and a consumption expenditure weighted average of CPIIW and CPINM, as done by Minhas et al., [1987] for updating the urban poverty lines, for the urban sector. The estimates of MPCTCE at 1960-61 prices so obtained are presented in Tables 5 and 6, respectively. These estimates show that MPCTCE of the five decile groups and also of the population as a whole in rural India declined till 1966-67; it recovered to the initial level only by 1977-78 but not for all decile groups. For the poorest and fourth poorest decile group, it was still below the initial year level. All the rural decile groups considered here experienced improvement in consumption at constant prices only after 1977-78. A comparison between MPCTCE levels in 1961-62 and 1989-90 shows the improvement, in terms of percentage increase, to be relatively more for the five poorer decile groups than for the population as a whole. As regards the urban sector, the trends are not as perceptible as that for the rural. Broadly, except for the poorest decile group, consumption expenditure declined till 1965-66, recovered by 1970-71 and improved thereafter. For the poorest decile group, consumption did not dip at all below the initial year level even though there were fluctuations around a rising trend. The improvement phase in the urban sector appears similar to that of the rural but only the poorest three decile groups fared better, in terms of the percentage increase in MPCTCE, than the population as a whole. However, the picture about the differential increases in consumer expenditure across decile groups during the improvement phase obtained for rural and urban India could be misleading as the estimates (Tables 5 and 6) are based on uniform deflation and do not account for the differences in consumption baskets and changes in relative prices. Further, these price indices are based on consumption patterns of only certain occupational groups of rural and urban population and hence they cannot capture the consumer price movements for the entire rural and urban population.

Ideally one should estimate decile group

to account for changes in relative prices along with inflation and their differential impact. But such retail price data are readily available only for the period after 1970-71 and not for the earlier years. In the absence of such information for the 1960s, we divide the period of analysis into two: (i) 1960-61 to 1977-78 and (ii) 1977-78 to 1989-90. For the first period, the only available option is to construct decile group specific deflators based on wholesale price relatives. As already noted in the previous section, this is the approach followed by many studies till retail price data became accessible. It has also been pointed out [Radhakrishna and Ravi, 1992] that the use of wholesale price relatives may not alter the results much since wholesale and retail price movements are co-linear. Yet, this approach has the limitation that it assumes uniform commodity-wise inflation rates in both rural and urban India. Keeping this limitation in mind, we make use of the available decile group specific deflators [Suryanarayana, 1986] by rural and urban sectors so as to get some approximate picture about the underlying distributional changes in real terms. These indices have been estimated following the Laspeyres rule based on all-India wholesale price indices (1961-62 as base) for 11 commodity groups and the fractile group specific weighting diagrams obtained from the NSS data from the 17th round for the period September 1961- July 1962. The eleven commodity groups are: (i) cereals and cereal substitutes; (ii) pulses and pulse products; (iii) milk and milk products; (iv) fish. eggs and meat; (v) edible oils; (vi) sugar; (vii) fruits, vegetables and nuts; (viii) other food items; (ix) clothing; (x) fuel and light; and (xi) other non-food items.

The resultant estimates of monthly per capita consumption at 1961-62 prices for the five poorer decile groups and also for the population as a whole for rural and urban India are presented in Tables 7 and 8, respectively. It can be seen that the MPCTCE of different rural decile groups decreased during 1961-62 and 1967-68 and recovered thereafter but did not reach the initial specific deflators based on retail prices in order level by 1977-78. This is consistent with the observed pattern of an increase in poverty proportion during the first period and a decline thereafter [Survanaravana and Geetha, 1994]. A comparison between MPCTCE levels in 1961-62 and 1977-78 shows consumer expenditure in 1977-78 to be lower than the initial level for rural India. A similar picture of decline and recovery in consumer expenditure is obtained for urban India but the recovery pace seems to be faster than that for rural India in that real consumption crossed the initial level by 1972-73 for some poorer groups. On the whole, these two sets of estimates reveal a decline in consumption till mid-1960s and a recovery thereafter, though not up to the base year level for all groups. This finding that there was no growth at all till 1977-78 would cast doubts on the economic validity of the debates on the role of growth versus redistribution in reducing poverty which includes the subperiod 1972-73 to 1977-78 also [see Kakwani and Subba Rao, 1990, 1991; Jain and Tendulkar, 1990; and Tendulkar and Jain, 1990].

As regards the second period, we estimate Laspeyres decile group specific deflators based on the representative rural and urban consumer retail price indices by commodity groups at the all-India level for 1970-71 to 1988-89 available in Jain and Minhas [1991], and Tendulkar and Jain [1993]. These price indices are 'representative', because unlike the CPIAL, CPIIW and CPINM, which are based on the consumption patterns for only certain sections of the rural and urban population, they are based on the consumption patterns of the entire population of the respective sector. Further, the all-India commodity group specific rural (urban) consumer price indices are obtained as weighted averages of state-wise commodity group-specific rural (urban) indices, the weights being state-wise commodity group-specific aggregate consumption expenditure of rural (urban) population in the base year. We have made use of the data available for the following 13 broad commodity group classifications for the rural sector. They are: (i) cereals and cereal substitutes, (ii) pulses and pulse products, (iii) fruits and vegetables, (iv) spices and salt, (v) edible oils and fats, (vi) milk and milk

products, (vii) meat and fish, (viii) sugar and gur, (ix) other food, (x) intoxicants, etc., (xi) fuel and light, (xii) clothing, bedding and footwear and (xii) other non-food. As regards the urban sector, the price index for 'other food' commodity group includes 'sugar and gur' also and 'other non-food' commodity group is broken up into the following sub-groups: (a) housing, (b) medical care, (c) education and recreation, (d) transport and communication, (e) personal care and effects, and (f) other non-food. While estimating the decile group-specific deflators for urban all-India, we have treated all 'other non-food' sub-groups as a single commodity group by taking a simple arithmetic average of these sub-group price indices. Since the 'other food' group includes 'sugar and gur', the number of commodity groups considered for the urban sector is 12. The decile group specific weighting diagrams are obtained from the NSS data from the 25th round for the agricultural year July 1970-June 1971.

The estimates of MPCTCE at 1970-71 prices so obtained are presented in Tables 9 and 10 for rural and urban India, respectively. The estimates do not show a sustained improvement in real consumption expenditure. MPCTCE declined in 1972-73 and 1973-74 for some decile groups in both rural and urban India. In rural India, a comparison between 1970-71 and 1988-89 shows, the poorest three decile groups to have experienced higher (in percentage terms) increases in consumer expenditure than the whole population. While the consumption expenditure for the rural population as a whole increased by 18.88 per cent, it increased by 32.02 per cent for the poorest and by 28.05 per cent for the second poorest decile group. As regards the urban sector, the increases in MPCTCE at 1970-71 prices for different decile groups seem to be broadly the same, between 16.50 and 20.25 per cent. Focusing attention exclusively on the second period, it can be seen that the available data show total real consumption expenditure increased for the poor as well as for the entire population from 1977-78. MPCTCE at 1970-71 prices increased by about seven per cent for the population as a whole in both rural and urban India between 1977-78 and

1988-89, with the rural poorest two decile groups enjoying more than 20 per cent increase and the urban poorest decile group, 16.59 per cent increase. However, this cannot be taken to mark 1977-78 as the year when recovery started since we have no information for the three years between 1973-74 and 1977-78.

From the results discussed above, the following features about the economic status of the poor and the changes therein as a result of economic development during the last forty years stand out. Since the realization of development projects takes time and serious efforts at development were made only from the Second Five Year Plan (1956-61) onwards, the estimates for the period 1961-62 to 1989-90 may be taken as measures of the cumulative impact of development efforts on the economic status, defined in terms of income/ consumer expenditure, of the poor. Our estimates show that there was hardly any improvement in the economic status of the poor till 1973-74. The estimates of household consumption available for the years from 1977-78 indicate relatively substantial improvement for the two poorest decile groups in rural India and for the poorest decile group in urban India. If so, this leads us to the questions: How significant is this increase in terms of its impact on the level of living of the poor? That is, how did the poor go about utilising the increased income and consumption? What are their policy implications ? Did it lead to an increase in their cereal consumption level so that income per se can be regarded as a major instrument in poverty alleviation and reduction in under-nourishment? Some of these issues are examined in the following sections.

# 2.2 Physical Cereal Consumption: Size and Composition

The estimates of poverty ratios based on the food-energy-intake method are not really concerned with the measurement of malnourishment and undernourishment but with the proportion of the population incapable of attaining the specified minimum living standard. Still it is important to examine the changes in real consumption levels

so as to ascertain how far there has been an improvement in real basic levels of living in response to income increase. This is also important from a methodological perspective because in spite of the refinements made by different approaches, there are a number of statistical gaps, as already seen in the first section, giving considerable scope for wrong inferences. All these factors emphasise the need for a careful analysis of the consumption basket in quantity terms also, wherever possible.

In this subsection an attempt is made to examine the consumption bundle in quantity terms for the bottom five decile groups and also for the population as a whole for different years for which data are available. To begin with, we examine the changes in the cereal consumption basket. For, the poverty line is based on the calorie norm and, on an average, cereals account for more than 85 per cent of the calorie intake of the poorer households particularly in the rural sector [see, NSS Report No. 238, Vols. I & II and Bhattacharya et al., 1991, p. 53]. Further, cereals constitute about 60 per cent of total consumption expenditure for these groups and hence cereals consumption can also be taken as an important indicator of level of living.

The estimates of average quantity of cereals consumed per person per 30 days separately for the poorest five decile groups and the population as a whole for the rural and urban sectors are presented in Tables 11 and 12, respectively. Decile group-wise estimates of cereal consumption for rural India for NSS rounds up to the 13th and for the 18th are taken from Bhattacharva et al. [1991]. In order to ensure comparability between our estimates and those form Bhattacharya et al. [1991], we have estimated decile group-wise quantities of cereal consumption following their procedure, that is, by linear interpolation. And we have defined coarse cereals to include jowar, bajra, maize, barley, small millets, ragi and gram. The estimates of physical cereal consumption for the different decile groups of the urban population are made by us using the same procedure and definition of coarse cereals. The NSSO provided estimates of quantities

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consumed measured in 'seers' up to the 17th round. We have converted them into kgs using a conversion factor of 'one seer = 0.9331 kg' as given in the NSS Report no: 184 on consumer expenditure tables for the 17th round. During most of the NSS rounds the monthly per capita cereal consumption was between 8.71 kg and 11.42 kg for the poorest decile group and between 14.05 kg and 18.06 kg for the population as whole in rural India. During the Planning period as a whole, from 1952 to 1989-90, the level of per capita cereal consumption in quantity terms did not show any perceptible trend for any decile group. But at the aggregate level there is a decline. As regards the poorest decile group cereal consumption registered an increase from 8.71 kg to 10.95 kg but marked by large fluctuations. Still the terminal year level of cereal consumption is below the subsistence requirement level - the Indian Council of Medical Research (ICMR) norm for minimum cereal consumption is 11.58 kg per month - and far below the cereal bundle (15.46 kg per month) corresponding to the class interval enclosing the poverty line for 1973-74. In fact, for the rural population as a whole and for the third and fourth poorest decile groups, monthly per capita cereal consumption declined since the early 1960s, even though they have been at levels below the poverty line cereal bundle. As regards the urban sector, available data show that the monthly per capita consumption of cereals fluctuated between 8.42 kg and 10.03 kg for the poorest decile group and between 11.04 kg and 12.65 kg for the population as a whole. Cereal consumption declined since 1958-59 for all the urban poor sections considered here except the poorest decile group. This decline has occurred in spite of the fact that barring a couple of years in the early sixties cereal consumption levels for all the decile groups concerned and the urban population as a whole have been below the ICMR norm. The general picture, therefore, is one of decline in cereal consumption in both the rural and urban sectors. But one noteworthy fact is that in all years, cereal consumption increased with 'income levels' in the poorer half of the population. What is intriguing here is the finding based

on the NSS data that per capita total cereal consumption of the entire population, both in the rural and urban areas, declined since the early sixties, when per capita availability of total cereals has actually increased as per the official estimates. The per capita total cereal consumption of the total population declined by 19.76 per cent in the rural areas and by 11.49 per cent in the urban areas between 1960-61 and 1989-90. But, as per the official estimates, the per capita daily availability of cereals has increased from 399.70 grams to 432.60 grams, that is, by 8.23 per cent during the same period [Government of India, 1992; p. 136].

What is noteworthy about the cereal consumption basket is the change in its composition in favour of superior cereals like rice and wheat (see Tables 13 and 14), which is marked during the second period, that is the period of increase in real income of the poorer groups. For instance, the average monthly per capita consumption of rice increased from 2.59 kg to 5.27 kg between 1954-55 and 1989-90 for the rural poorest decile group. Similar increases, though not of the same magnitude, occurred for the second poorest and third poorest decile groups also and not for the middle ones in rural India. Accordingly, the shares of rice in the cereal basket increased from 25.00 to 48.10, 32.30 to 52.13 and 41.40 to 53.31 per cent, for the poorest three decile groups respectively. Much more striking are the increase in the share of wheat and the decrease in that of coarse cereals, which were gradual until 1977-78, but dramatic thereafter. For the rural poorest decile group, monthly per capita wheat consumption increased gradually from 210 grams in 1954-55 to 1.57 kg in 1977-78 but sharply to 2.84 kg by 1983; the corresponding share in total cereal consumption of wheat increased from 2.00 to 16.10 per cent and then to 27.41 per cent in the same years. Coarse cereals consumption by the rural poorest decile group declined gradually from 7.57 kg per capita per month in 1954-55 to 4.44 kg in 1977-78 and then to 4.28 kg in 1983 and 2.82 kg in 1986-87; the corresponding coarse cereal shares in total cereal consumption decreased from 73.00 per cent in 1954-55 to 45.64

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have accounted for some decline in total cereal consumption of the rural poorer decile groups. For instance, the rural poor subsistence farmers opted

occurred for other poor decile groups too. The urban sector too experienced similar changes in the cereal consumption basket; but the pattern and magnitude of changes are not as striking as that for the rural sector. Both in the rural and urban sectors, the share of wheat in the cereal basket increased and that of coarse cereals decreased. Such changes in the composition of the consumption basket seems to be partly in response to changing tastes, changing relative prices and their substitution effects on consumer choices, but largely due to changing production and supply conditions. Under the new agricultural growth strategy, benefiting largely wheat and rice, crop composition of foodgrains has changed considerably in favour of superior cereals. Between 1960-61 and 1989-90 per capita daily availability of rice increased from 201.10 grams to 212.60 grams (by 5.72 per cent), that of wheat from 79.10 grams to 132.90 grams (by 68.02 per cent) while that of other cereals decreased from 119,50 grams to 87.10 grams (by 27.12 per cent) [Government] of India, 1992; p. 136]. This provides some explanation for the observed pattern of changes in the composition of the cereal consumption basket. Still the magnitude of the changes in consumption of different cereal items is not commensurate with that in the availability estimates. As per the NSS estimates, the per capita physical consumption of rice of the entire population declined between 1960-61 and 1990-91 by 12.94 per cent in the rural areas and by 8.40 per cent in the urban areas as against an increase, between the same years, shown by the estimates of rice availability. And, as per the NSS estimates, the per capita physical consumption of the entire rural population declined by 62.60 per cent for coarse cereals but increased by 52.60 per cent for wheat between 1960-61 and 1989-90 (Table 13); the corresponding estimates for the urban population are a decline of 65.67 per cent for coarse cereals and an increase of 13.88 per cent for wheat (Table 14). Such a decline in coarse cereal availability along with changing production conditions and rural labour markets seem to

per cent in 1977-78, 41.37 per cent in 1983 and

to 28.26 per cent in 1986-87. Similar changes

for superior cereals in their consumption because their prices are lower than the cost of production of some coarse grains and the farmers had either changed their cropping pattern or stopped growing foodgrains at all [Bhatia, 1988] while others had to change their preferences because coarse cereals are simply not available or not available in required quantities<sup>3</sup>. That farmers have shifted their cropping pattern out of coarse cereals can be seen from the fact that while the rate of growth of the area under superior cereals has been positive throughout, that under coarse cereals which was 0.90 per cent per annum during 1949-50 to 1964-65 became negative and was (-) 1.01 per cent per annum during 1967-68 to 1987-88 [see Techno Economic Research Institute, 1990; Pp. 394-395]. This meant increasing market dependence of the poor for rice and wheat which must have only been reinforced by the increasing landlessness and casualisation of rural labour (referred to in Section 1). Thus the reduced availability of coarse cereals, which is essentially grown for self-consumption by subsistence farmers, must have affected that part of total consumption which is met through market purchases because of higher market retail prices of superior ccreals and hence led to a decline in total cereal consumption in the rural areas. It may be noted that coarse cereals are less important and the home-grown component is negligible in consumption in the urban areas. This coupled with better availability of cereals at reasonable prices through the public distribution system (PDS) must have accounted for the observed smaller decline in total cereal consumption in the urban areas than in rural. This is the all-India picture which is an aggregated picture of predominantly rice growing states, predominantly wheat growing states, jowar growing states, etc., which also reflects the variety in the predominant cereal in the consumption pattern of different states. It is quite possible that differences in the rate of change in the poverty percentages of different states produced differences in the cereal

composition for the poor decile groups. Such a study will involve a careful disaggregated statelevel analysis which is being carried out separately.

The findings discussed above have both methodological and policy implications. The decline in total quantities of cereals consumed even after improvements in total consumer expenditure at constant prices, that is in total entitlement, implies that the decline was by choice and not due to decreased total entitlement. Therefore, a decline in per capita cereal consumption by itself cannot be taken to indicate an increase in poverty. Further, the decline in total cereal consumption seems to be dictated by changing production conditions and rural institutions involving increasing landlessness, casualisation and market dependence of the poor. This would imply that explaining fluctuations in poverty is not a simple matter of relating quantifiable variables but has to do more with production conditions and institutional variables. Methodologically the finding on changing composition of cereal consumption basket would imply that ideally trends in total consumer expenditure should be examined with appropriate price adjustments for changing relative prices and their substitution effects also. This can be done by using decile group specific true cost of living indices as deflators when relative prices change. The true cost of living index is defined as the relative cost of attaining the same reference welfare level under two different price situations. It is given by the 'ratio of the minimum cost of attaining the reference indifference curve under comparison prices to that of attaining it under base year prices.' [Philips, 1983, p. 141]. The choice of the true cost of living index as a deflator has the advantage that it can account for the substitution effects of relative price changes which the conventional Laspeyres and Paasche indices cannot capture. Further, the ability of a household to respond to changes in relative prices are considerably influenced by demographic variables which can only be taken into account by true cost of living indices with appropriate specification of the underlying cost functions.

Further, such findings on changes in poverty have to be combined with the information on consumption choices of the poor in order to choose the right set of policies for poverty alleviation. The is because from a policy point of view, there is a cause for concern: Since in terms of calorie and protein content, rice and wheat are almost as good as coarse cereals, if not better<sup>4</sup>, the near stagnation in cereal consumption would imply continuing malnourishment of the poor. In the context of ongoing economic reforms which lay emphasis on efficiency and productivity improvement, there is a clear cut case for choice of right set of policies for reduction in poverty and malnutrition after examining the problem considering consumption choices also. This can be highlighted with reference to the following studies.

The ILO-ARTEP study [1993], based on the estimates of Tendulkar et al., [1993], notes, in particular, the decline in poverty in 1987-88 and points out 'the first point to note in the results is that 1987-88 seems to represent a break from the past. Earlier, a year of drought or a year following a drought always showed an increase in the degree of social deprivation. However, the year 1987-88 came after a drought in 1986-87 and was itself a drought year... important lessons to be learned from the experience of 1987-88 about how much can be achieved through appropriate public action in containing or reducing social deprivation in the short run until the normal growth process eliminates poverty more or less permanently in the long run' [ILO-ARTEP, 1993, p. 81]. Finally, the study goes on to lay emphasis on poverty alleviation programmes oriented towards employment generation and asset creation and on viewing public distribution of foodgrains 'primarily as an instrument of price stabilisation and not as an antipoverty programme.' The Expert Group Report [Perspective Planning Division, 1993] notes the changing commodity composition of the consumption basket from coarse to superior cereals. from cereals in general to non-cereal food items, and from food as a whole to non-food items, and cites the consequent increase in calorie cost as the reason for the decline in average calorie intake in spite of income improvements. But, citing only the findings on poverty reduction of the Expert Group, Government of India points out 'The Expert Group estimates also confirm a steady decline in the proportion of population living below the poverty line. Yet a substantially high proportion of people continue to be living below the poverty line. This underscores the need for rapid growth of output and employment coupled with strengthening of the special programmes of poverty alleviation and employment generation. The problems of poverty has to be dealt in the framework of the strategy of development laying emphasis on those sectors whose growth makes a significant impact on the income levels of the underemployed' [Government of India, 1994; p. 148].

In contrast, Radhakrishna [1991] notes that per capita cereal consumption declined in rural India and 'fluctuated with no significant trend in urban India' between 1970-71 and 1988-89 in spite of amoderate improvement in the income of the poor and a decline in the relative prices of cereals. Citing taste change and weakening link between food production and entitlement, he calls for direct public intervention in the form of public distribution of food and supplementary feeding to ensure adequate nutrition for the poor.

This issue of changing consumption patterns needs a careful examination because the Expert Group has not examined the changes in the real consumption, neither size, nor composition. It is important to do so because available estimates of commodity group specific price indices [Jain and Minhas, 1991 and Tendulkar and Jain, 1993] show that the annual rate of price increase after mid-1970s was one of the least for those of cereals both in the rural and urban sectors. If so, this leads to questions like: How real has been the growth in consumption and changes in its composition in terms of cereals versus non-cereals. Does the observed increase in aggregate real consumption along with a stagnant physical cereal consumption have any policy implications particularly with respect to measures for poverty alleviation?

Does it emphasise the need for direct nutritionintervention programmes? The following section addresses some of these issues.

# 2.3. Changes in Commodity Composition of Consumption

In order to verify how far the observed changes in consumption patterns (measured in terms of data at current prices) are due to changes in relative prices, we measure commodity-wise monthly per capita consumer expenditures at current as well as at constant prices. The estimates of commodity groupwise expenditures at constant (1970-71) prices are obtained using the representative rural and urban consumer price indices by commodity groups, referred to in Section 2.1, at the all-India level for 1970-71 to 1988-89 available in Jain and Minhas [1991], and Tendulkar and Jain [1993].

Such estimates of commodity-wise consumer expenditures and expenditure proportions at current and at 1970-71 prices are presented in Tables 15 and 16 for the rural sector. It may be noted that the total expenditure obtained by adding up the commodity group-wise expenditure at 1970-71 prices in Table 15 are not equal to the MPCTCE at 1970-71 prices presented in Table 9. This is because the procedure for the former estimates is equivalent to using a current year weighted deflator (Paasche price index) while the latter estimates are obtained using base year weighted deflator (Laspeyres price index). It can be seen that much of the observed changes in consumption patterns based on data at current prices are due to changing relative prices. The proportion of consumption expenditure of the rural poorest decile group on cereals decreased from 61.73 per cent in 1972-73 to 42.50 per cent in 1988-89; a difference of 19.23 points. When the same is examined at constant prices, the decline is much less, that is from 59.47 per cent in 1972-73 to 51.16 per cent in 1988-89; a difference of only 8.31 points (Table 16). Thus, changing relative prices have exaggerated the observed decline in the proportion of consumer expenditure on cereals. The commodity groups

for which expenditure proportions both at current and constant prices registered some increase are (a) milk and milk products, (b) edible oils, (c) fruits, vegetables and nuts, (d) sugar, and (e) durables and miscellaneous goods and services. The rural poorest decile group experienced an increase in the consumption of all these commodity groups, including cereals, during the period of increase in real income. For commodity groups like (a) meat, fish and eggs, (b) pan, tobacco and intoxicants, (c) clothing and footwear and (d) fuel and light, consumption shares at current prices increased but at constant prices decreased. Per capita monthly consumer expenditure at constant prices on these items by the rural poorest decile group actually fluctuated around a stationary level. In sum, what seems to have happened is that the poor have gone in for quality and variety in their consumption basket. For instance, for the poorest decile group total consumption at constant prices increased by 27.68 per cent between 1977-78 and 1988-89. The commodities which largely accounted for this increase are (i) cereals and cereal substitutes (6.82 per cent), (ii) fruits, vegetables and nuts (4.92 per cent) (iii) durables and miscellaneous goods and services (3.25 per cent) followed by (iv) edible oils (2.93 per cent), (v) beverages and refreshments (2.30 per cent), (vi) milk and milk products (1.76 per cent), (viii) pan, tobacco and intoxicants (1.72 per cent), (ix) fuel and light (1.37 per cent), (x) pulses (1.32 per cent) and (xi) sugar (1.04 per cent) (Table 15). For items like (a) salt and spice, (b) meat, fish and eggs and (c) clothing and footwear, there was virtually no increase in consumer expenditure. A similar picture is obtained for other decile groups and also for the entire population in the rural sector but with a difference: Cereal consumer expenditure declined for all the decile groups except the poorest two. As regards the rural population as a whole, total consumption increased by 5.99 per cent. The commodities which accounted for this increase are (i) fruits and vegetables (3.31 per cent) followed by (ii) beverages and refreshments (2.07 per cent), (iii) edible oils (1.40 per cent) and (iv) milk and milk products (1.25 per cent).

The estimates of commodity-wise consumer expenditures and expenditure proportions at current and at 1970-71 prices for the urban sector are presented in Tables 17 and 18, respectively. They reveal a picture which is similar to that for the rural sector. While the proportion of expenditure on cereals at current prices by the poorest decile group decreased from 49.01 per cent in 1970-71 to 33.98 per cent in 1988-89 involving a difference of 15.97 points, that at constant prices also declined but from 49.01 per cent in 1970-71 to 39.72 per cent in 1988-89 with a difference of 9.29 points. Total consumption at constant prices increased by 14.12 per cent for this decile group during the second period. This was largely accounted for by (i) durables and miscellaneous goods and services whose consumption increased by 4.16 per cent followed by (ii) milk and milk products (2.56 per cent), (iii) edible oils (2.51 per cent) and (iv) fruits, vegetables and nuts (1.45 per cent). These four commodity groups accounted for bulk of the increases in total real consumption for other decile groups and also for the whole urban population.

Thus the broad picture that emerges from the preceding analysis is that real income/consumption of the poor started increasing only after 1977-78. With the increase in real income, the poor seem to have gone in for a diversified consumption basket rather than a narrow one consisting only of basic food items like cereals providing sufficient calories. This is very much reflected in the profile of their consumption basket. For instance, from Tables 15 and 16, it can be seen that with increase in income, there was a reallocation of budget shares: Share of total food in MPCTCE of the rural poorest decile group declined from 83.05 per cent to 79.93 per cent and that of non-food increased from 16.95 per cent to 20.07 per cent between 1977-78 and 1988-89. Within the food group, there was a reallocation involving a decline in cereal shares and increases in the shares of milk and milk products, edible oils and fruits, vegetables and nuts, and durables and services. Among the non-food items, durables and miscellaneous goods and services increased their share. This feature is perceptible urban sectors [ Tables 16 and 18].

The estimates of changes in composition of consumption baskets should be taken as approximate since we have made price adjustments using only retail price indices. We have not price-adjusted the data for dual valuation of consumption which is likely to be serious for the cereals group in the rural sector in the 1970s with an increase in the market dependence of the poor. Therefore, we examine, to the extent data availability permits, the actual changes in the consumption basket of the different poorer decile groups. This can be seen from Tables 19 and 20 which provide estimates of quantities consumed for the decile groups concerned for rural and urban India, respectively, from the available published tables for the years 1961-62 and 1987-88. It may be noted that even though 1987-88 was a drought year, the poorest three decile groups in both rural and urban areas experienced an increase in real MPCTCE and physical cereal consumption. Therefore, the comparison at least for these three groups will still be useful and may not be misleading. The tables cover food items which accounted for 80 per cent of the total food expenditure of the rural population and 70 per cent, of the urban population in 1987-88. For the rural poorest decile group, for instance, the actual improvement was only in terms of larger consumption of wheat and items like milk, fruits and vegetables, and sugar. But total cereal consumption was still below the normative level. Both milk consumption at 0.46 litres per capita per month and that of pulses at 0.46 kg were below the ICMR norms<sup>5</sup> of 3 litres per month for milk and 0.5kg per month for pulses (Table 19). A similar picture holds good for the urban poorest decile group. For this group, actual improvement in consumption was in terms of larger consumption of rice, wheat, milk, eggs, fruits, vegetables and sugar. But, monthly per capita pulse consumption declined from 0.73 kg to 0.51 kg and so is the case with gur which declined form 0.17 kg to 0.08 kg. Available evidence [NSSO, 1989] does not show any improvement in calorie intake between 1972-73

for other poor decile groups also in both rural and and 1983. The average per capita intake of calorie per diem of the rural Indian population was 2,266 in 1972-73 and 2,221 in 1983. The corresponding estimates for urban India are 2,107 in 1972-73 and 2,089 in 1983. The average intake of calorie, protein and fat per consumer unit per diem was found to be 2,781 calorie, 78 gms and 34 gms in rural India and 2,574 calorie, 70 gms and 46 gms in urban India in 1983. Thus the calorie intake in urban India was even lower than the minimum requirement of 2,700 calories per diem per consumer unit and the levels of protein and fat consumption were higher than the minimum required level in both rural and urban areas [NSSO, 1989, p. 29]. Table 21 provides decile groupwise estimates of calorie, protein and fat intake per capita per diem in the year 1983 for rural and urban India. It can be seen that the calorie intakes of all the poorer decile groups were below the ICMR recommended daily intake of 2.150 calories and the norms, 2,400 for rural India and 2,100 for urban India, considered by the Task Force [Perspective Planning Division, 1979]. The picture obtained in the discussions above is consistent with the explanation provided by Behraman, Deolalikar and Wolfe [1988] that at low income levels when an effective nutrient constraint- below which no one can survive- is binding, calories are obtained largely from low cost sources. With increases in incomes, the additional incomes are used to buy food variety involving multiple sources to meet the calorie requirements.

> What are the policy implications? The continuing dominance of food in household budgets implies that food security should be the primary focus of policies concerned with the welfare of the poor. This gets all the more emphasised when we note that the actual increases in consumption of food items during the last forty years are marginal. The findings on changing composition of consumption baskets discussed above would imply that the poor's food choices in response to income increases are concerned more with commodity characteristics than with their nutrition content. If so, then income growth per se will not solve the problem of malnutrition; instead

instruments that will also influence the commodity composition of consumption of the poor should be resorted to. In the context of the current debate on choice of the right set of policy instruments for protecting the poor during the structural adjustment programme, options like raising the incomes of the poor by employment programmes or by means of food stamps are mentioned. If the economic reform programme which is concerned so much with efficiency in resource use, has as its aim increase in labour efficiency, then raising income by itself will not be enough. Poverty alleviation should not be treated as an end in itself; it should also be treated as an instrument for improving efficiency, hence productivity and growth. Given the findings that the poor are much more responsive to prices [Suryanarayana, 1995b], the findings on food compositional changes in response to income increases discussed above would imply the need for suitable price policy measure and public intervention like the PDS so as to ensure adequate nutrition to the poor.

#### 3. CONCLUSION

That measurement matters as much as concept and theory is well known. When it comes to the studies on poverty, beginning with Sen's seminal contribution, the concept of poverty has been improved substantially culminating in the  $P_{\alpha}$ poverty measure which meets almost all the desirable theoretical requirements. However, when it comes to measurement, even a simple measure like the headcount ratio meets with great practical difficulties. The present paper has examined some of these issues and their consequences.

With the fundamental questions about data base, price indices and weighting diagrams raised and answered by Minhas, Jain, Tendulkar and colleagues, substantial improvements have been made in estimating the headcount ratio. Still there seems to be some scope for improvement. While estimating the necessary price indices, these studies have not taken into account the NSS method of data valuation and the implications of a changing institutional structure for the NSS estimates of consumption in value terms and

hence the poverty estimates based on such data sets. As regards the theoretically satisfactory, distributionally sensitive poverty measures, some attempts have been made to estimate them but not by appropriately price-adjusting for dual valuation of NSS data and the differential distributional impact of inflation. Ideally such studies should account not only for the dual valuation of NSS data and the differential distributional impacts of inflation but also for the differential consumer responses to and substitution effects of changes in relative prices. Given the constraints on data availability to develop a satisfactory method to account for all these problems, the present paper has attempted to examine the underlying changes by a direct examination of the consumption profile of the poorer decile groups in rural and urban India. The study has examined the changes in total consumer expenditures of the poorer decile groups using Laspeyres fractile group specific deflators. To this extent the attempt is not complete in that it does not account for the substitution effects of price changes. Instead, the study has examined the changes in cereal consumption, both size and composition, in physical terms and changes in consumption patterns at constant prices.

The results of the present exercise show that real incomes of the poorer sections decreased till 1967-68 and recovered thereafter. There was virtually no improvement in the economic status of the poor till mid-seventies. Real consumption improved only from 1977-78. Yet cereal consumption by all the decile groups remained either stagnant or declined till 1989-90 in both the rural and urban sectors. This was not due to any drastic change in consumption patterns in favour of non-cereal items. What seem to have happened is that even the cereal consumption basket underwent a compositional change in favour of superior cereals like rice and wheat largely due to a decline in coarse cereal availability. This, coupled with increasing landlessness and casualisation of rural labour market, must have increased their market dependence and adversely affected that part of their consumption through market purchases and hence total cereal consumption in the rural sector. The extent of decline is relatively less in the urban sector, perhaps due to regular availability of

foodgrains through the PDS which was relatively urban oriented till recently. The increases in the consumption of the non-cereal food items are only marginal in both the sectors. With improvement in entitlement, the poor have gone in for quality and variety in their consumption basket dictated by choice and availability. In the process, their dependence only on low cost sources to meet the subsistence calorie requirements has got shifted to multiple sources. Therefore, a mere decline in cereal quantity consumed cannot be taken to indicate worsening poverty. Instead, such a behaviour on the part of the poor calls for poverty alleviation policies which would also enlighten and influence the poor's consumption choices from a nutrition point of view. Such a strategy for poverty alleviation, by promoting nutritional intake, health and hence, labour efficiency, will align well with the economic policy reforms for economic efficiency, productivity and growth.

#### NOTES

1. In this paper, the term 'level of living' is used in a narrow sense covering the private consumption as defined by the NSS. It does not include State provided social services which are also important; but for want of time series and distributional data they are not considered in this paper.

2. The Expert Group Report, in a footnote to the text on page 33, states that the Fisher's urban cost of living to capture inter-state price differentials with respect to all-India urban for 1960-61 are taken from Minhas, B.S., L.R. Jain, S.M. Kansal and M.R. Saluja [1988]. This study contains no such estimates but only urban cost of living indices for different states and all-India for the years 1972-73, 1973-74, 1977-78 and 1983. And in the Table AIV.10 on page 77, the Report cites Minhas, Kansal & Jain as the source without mentioning the study and year. And a footnote on page 67 cites Minhas, B.S. Kansal and L.R. Jain [1989] as the source.

3. In a personal communication to the author, N. Krishnaji pointsout that supply side factors are more important. He gives an example: 'In Guntur district, following certain irrigation programmes, inferior cereal production has gradually disappeared...this has happened in many other formerly dry areas (where the poor normally consume inferior cereals); also that traditionally there is no across-the-district-border trade in inferior cereals. In Guntur, nobody eats Jowar or Ragi any more simply because it is not available (and rice is available at a price lower than what inferior cereals, if imported, will cost - and in any case, who will import and sell in the villages?)'.

4. As per the NSSO (1976) Report No 238 the calorie and protein content per kg, of different cereals are as follows:

Cereals	Unit	No of calories per unit	Protein per unit (in gm. 0.0)
Rice and its products	Kg.	3,400	75.0
Wheat and its products	Kg.	3,460	118.0
Jowar and its products	Kg.	3,490	104.0
Baira and its products	Kg.	3,032	97.4
Maize and its products	Kg.	3,420	111.0
Ragi and its products	Kg.	3,280	73.0
Barley and its products	Kg.	3,360	115.0
Small millets and its prod-	Kg.	2,615	97.2
Gram and its products	Kg.	3,600	171.0

5. These ICMR recommended norms are taken from Gupta [1987] cited in Techno Economic Research Institute [1992)].

#### ABBREVIATIONS

NSSO	National Sample Survey Organisation						
NSS	National Sample Survey						
CSO	Central Statistical Organisation						
CPIAL	Consumer Price Index for Agricultural						
CPIIW	Consumer Price Index for Industrial Workers						
CPINM	Consumer Price Index of Non-Manual Employees						
MPCTCE	Monthly Per Capita Total Consumer Expen- diture						
ICMR	Indian Council of Medical Research						
PDS	Public Distribution System						
ILO .	International Labour Organisation						
ARTEP	Asian Regional Team for Employment Pro- motion						

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TABLE 1. ESTIMATES OF POVERTY BY DIFFERENT METHODS: ALL INDIA

#### Planning Commission

	All India Rural		All India	All India Urban		All India Combined	
Year	Percentage	Number (million)	Percentage	Number (million)	Percentage	Number (million)	
1972-73	54.10	244.22	41.20	47.33	51.50	291.55	
1977-78	51.20	253.10	38.20	53.70	48.30	306.80	
1983-84	40.40	221.50	28.10	49.50	37.40	271.10	
1987-88	33.40	195.97	20.10	41.70	29.90	237.67	
		Minhas	, Jain and Tendulka	(1991)			
1970-71	58.75	257.94	46.17	50.37	56.25	308.32	
1983	50.77	276.83	39.74	69.18	48.11	346.01	
1987-88	48.69	283.66	37.76	77.50	45.85	361.16	
		Tendulka	ar, Sundaram and Ja	in (1993)			
1970-71	57.33		45.49	· · · · · · · · · · · · · · · · · · ·			
1972-73	57.21		47.40				
1973-74	56.17		49.20				
1977-78	54.47		42.97				
1983	49.02		38.33			·	
1986-87	45.21		35.39				
1987-88	44.88		36.52				
1000 00	42.23		35.07				

1973-74	56.44	261.29	49.23	60.31	54.93	321.60
1977-78	53.07	264.25	47.40	67.74	51.81	331.99
1983	45.61	251.72	42.15	75.29	44.76	327.01
1987-88	39.06	229.40	40.12	83.35	39.34	312.75

Source: (1) Minhas et al., [1991].

(2) Perspective Planning Division [1993].
(3) Tendulkar et al., [1993].

		Ail-Ind	ia Rural		All-India Urban			
Year	Headcount Ratio	Poverty Gap Index	Sen Index	P2 Measure	Headcount Ratio	Poverty Gap Index	Sen Index	P2 Measure
1970-71	57.33	0.1757	0.2360	0.0731	45.89	0.1339	0.1803	0.0532
1972-73	57.21	0.1793	0.2393	0.0754	47.40	0.1357	0.1821	0.0532
1973-74	56.17	0.1675	0.2239	0.0672	49.20	0.1388	0.1864	0.0531
1977-78	54.47	0.1659	0.2228	0.0688	42.97	0.1216	0.1653	0.0481
1983	49.02	0.1386	0.1882	0.0545	38.33	0.0995	0.1362	0.0366
1986-87	45.21	0.1221	0.1657	0.0460	35.39	0.0948	0.1289	0.0354
1987-88	44.88	0.1126	0.1546	0.0404	36.52	0.0934	0.1278	0.0338
1988-89	42.23	0.1020	0.1402	0.0354	35.07	0.0891	0.1218	0.0319
Decrease (per cent) in 1988-89 over 1970-71	26.34	41.95	40.59	51.57	23.58	33.46	32.45	40.04

TABLE 2. ESTIMATES OF MEASURES OF PREVALENCE, DEPTH AND SEVERITY OF POVERTY

Source: Estimates of different poverty measures are from Tendulkar et al. [1993].

TABLE 3. ESTIMATES OF PER CAPITA TOTAL CONSUMER EXPENDITURE BY SELECT DECLE GROUP: ALL INDIA RURAL

					(Rs per month	at current prices)
Decile Group	0-10	10-20	20-30	30-40	40-50	0-100
1961-62	8.24	10.65	12.95	14.95	16.38	21.73
1963-64	8.73	11.45	13.71	15.97	17.43	22.37
1964-65	10.03	13.62	16.55	19.01	21.15	26.44
1965-66	10.57	14.97	17.38	19.68	22.52	28.40
1966-67	11.22	15.91	18.88	21.91	25.18	30.90
1967-68	12.39	17.64	20.88	23.91	26.95	33.40
1968-69	12.09	17.08	19.97	23.14	25.93	33.29
1969-70	13.09	18.39	21.51	24.43	27.55	34.70
1970-71	13.81	18.61	21.89	25.60	29.34	35.31
1972-73	16.26	22.70	26.90	30.86	35.56	44.17
1973-74	21.33	29.29	34.27/	38.38	43.37	53.01
1977-78	23.91	33.88	40.83	44.98	52.01	69.01
1983	42.66	58.85	70.00	77.46	90.40	112.68
1986-87	54.42	74.64	85.24	98.78	112.16	141.44
1987-88	63.28	82.26	98.71	109.86	122.59	158.10
1988-89	71.58	94.83	108.98	122.36	136.93	175.10
1989-90	78.00	104.56	120.47	135.32	149.18	189.46

TABLE 4. ESTIMATES OF PER CAPITA TOTAL CONSUMER EXPENDITURE BY SELECT DECILE GROUPS: ALL INDIA URBAN

					(Rs per month	at current prices)
Decile Group	0-10	10-20	20-30	30-40	40-50	0-100
1961-62	9.36	13.64	16.48	19.50	22.06	30.86
1963-64	10.71	14.90	17.27	20.20	23.14	32.96
1964-65	12.03	16.32	19.46	22.48	25.98	36.03
1965-66	12.68	17.23	20.12	23.49	26.53	36.35
1966-67	14.04	19.19	23.22	26.54	30.91	41.54
1967-68	15.24	21.20	25.14	29.00	32.05	44.82
1968-69	15.75	21.36	25.55	30.11	34.30	46.04
1969-70	16.73	23.13	27.36	31.09	37.74	50.39
1970-71	17.92	24.63	29.70	33.72	38.47	52.85
1972-73	21.90	29.90	36.11	38.39	48.51	63.33
1973-74	27.15	36.64	41.00	48.91	53.42	70.77
1977-78	32.18	45.67	54.75	62.70	71.64	100.00
1983	58.14	79.64	94.57	114.48	121.91	170.46
1986-87	75.56	105.73	123.19	146.78	178.44	236.35
1987-88	85.04	115.23	135.00	154.02	178.79	249.93
1988-89	91.89	123.79	147.56	170.93	197.16	266.85
1989-90	102.05	135.84	161.77	188.65	214.15	298.00

	· .				(Rs per month at 1960-61 prices)	
Decile Group	0-10	10-20	20-30	30-40	40-50	0-100
1961-62	8.00	10.34	12.57	14.51	15.90	21.10
1963-64	7.39	9.70	11.62	13.53	14.77	18.96
1964-65	7.06	9.59	11.65	13.39	14.89	18.62
1965-66	6.82	9.66	11.21	12.70	14.53	18.32
1966-67	5.90	8,37	9.94	11.53	13.25	16.26
1967-68	6.01	8.56	10.14	11.61	13.08	16.21
1968-69	6.53	9.23	10.79	12.51	14.02	17.99
1969-70	6.78	9.53	11.15	12.66	14.27	17.98
1970-71	7.19	9.69	11.40	13.33	15.28	18.39
1972-73	6.79	9.58	11.25	12.66	14.33	17.98
1973-74	7.41	10.25	11.97	13.42	15.14	18.53
1977-78	7.37	10.49	12.64	13.93	16.07	21.33
1983	8.35	11.52	13.70	15.16	17.69	22.05
1986-87	9.42	12.91	14.75	17.09	19.40	24.47
1987-88	9.74	12.96	15.19	16.90	18.86	24.32
1988-89	9.89	13.10	15.05	16.90	18.91	24.19
1989-90	10.37	13.90	16.02	17.99	19.84	25.19

TABLE 5. ESTIMATES OF PER CAPITA TOTAL CONSUMER EXPENDITURE BY UNIFORM DEFLATION WITH CPIAL: ALL INDIA RURAL

#### TABLE 6. ESTIMATES OF PER CAPITA TOTAL CONSUMER EXPENDITURE BY UNIFORM DEFLATION WITH CPIAL: ALL INDIA URBAN

					(Rs per monul at 1960-61 prices)	
Decile Group	0-10	10-20	20-30	30-40	40-50	0-100
1961-62	9.00	13.12	15.85	18.75	21.21	29.67
1963-64	9.48	13.19	15.28	17.88	20.48	29.17
1964-65	9.55	12.95	15.44	17.84	20.62	28.60
1965-66	9.39	12.76	14.90	17.40	19.65	26.93
1966-67	9.36	12.79	15.48	17.69	20.61	27.69
1967-68	9.24	12.85	15.24	17.58	19.42	27.16
1968-69	9.48	12.87	15.39	18.14	20.66	27.73
1969-70	9.78	13.53	16.00	18.18	22.07	29.47
1970-71	10.01	13.76	16.59	18.84	21.49	29.53
1972-73	11.00	15.07	18.23	19.38	24.50	31.98
1973-74	11.69	15.78	17.67	21.09	23.01	30.51
1977-78	10.30	14.60	17.48	19.95	22.77	31.32
1983	11.63	15.93	18.91	22.90	24.38	34.09
1986-87	11.88	16.62	19.37	23.08	28.06	37.16
1987-88	12.40	16.80	19.68	22.45	26.06	36.43
1988-89	12.28	16.54	19.71	22.84	26.34	35.65
1989-90	12.82	17.07	20.33	23.70	26.91	37.44

#### (Rs per month at 1960-61 prices)

					(Rs per month a	at 1961-62 prices)
Decile Group	0-10	10-20	20-30	30-40	40-50	0-100
1961-62	8.24	10.65	12.95	14.95	16.38	21.73
1963-64	7.81	10.26	12.30	14.34	15.68	20.31
1964-65	7.61	10.35	12.62	14.54	16.27	20.88
1965-66	7.47	10.61	12.35	14.00	16.12	20.84
1966-67	6.80	9.68	11.53	13.43	15.58	19.79
1967-68	6.46	9.23	10.99	12.67	14.46	18.80
1968-69	6.67	9.47	11.11	12.94	14.64	19.49
1969-70	6.91	9.75	11.45	13.07	14.89	19.73
1970-71	7.19	9.73	11.46	13.44	15.54	19.30
1972-73	7.34	10.38	12.22	13.79	15.74	20.58
1973-74	8.10	11.23	13.15	14.74	16.81	21.51
1977-78	7.08	10.10	12.18	13.47	15.62	21.40

# TABLE 7. ESTIMATES OF PER CAPITA TOTAL CONSUMER EXPENDITURE BY DECILE GROUP SPECIFIC DEFLATION: ALL INDIA RURAL

TABLE 8. ESTIMATES OF PER CAPITA TOTAL CONSUMER EXPENDITURE BY DECILE GROUP Specific Deflation: All India Urban

	·			(Rs per month at 1961-62 prices)		
Decile Group	0-10	10-20	20-30	30-40	40-50	0-100
1961-62	9.36	13.64	16.48	19.50	22.06	30.86
1963-64	9.63	13.46	15.66	18.29	21.00	30.24
1964-65	9.26	12.71	15.28	17.70	20.59	29.51
1965-66	9.09	12.48	14.68	17.18	19.52	27.67
1966-67	8.67	12.03	14.70	16.92	19.86	27.94
1967-68	8.19	11.64	14.03	16.30	18.23	27.14
1968-69	8.91	12.24	14.84	17.57	20.20	28.58
1969-70	9.03	12.63	15.09	17.31	21.15	29.75
1970-71	9.48	13.13	15.94	18.26	20.92	30.14
1972-73	10.24	14.20	17.41	18.57	23.72	32.96
1973-74	10.55	14.42	16.31	19.58	21.55	30.60
1977-78	9.43	13.47	16.15	18.57	21.22	30.47

TABLE 9. ESTIMATES OF PER CAPITA TOTAL CONSUMER EXPENDITURE BY DECILE GROUP SPECIFIC DEFLATION: ALL INDIA RURAL

					(Rs per month at 1970-71 prices				
Decile Group	0-10	10-20	20-30	30-40	40-50	0-100			
1970-71	13.81	18.61	21.89	25.60	29.34	35.31			
1972-73	13.30	18.56	22.01	25.26	29.13	36.31			
1973-74	14.15	19.48	22.84	25.62	29.04	35.78			
1977-78	13.96	19.65	23.63	25.91	29.80	39.12			
1983	15.30	21.03	24.99	27.58	32.06	39.61			
1986-87	16.87	22.82	25.92	29.79	33.40	41.03			
1987-88	17.66	23.14	26.94	29.73	32.73	41.15			
1988-89	18.23	23.83	27.22 ·	30.35	33.57	41.98			

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		of Ben le	DETEXTION. ALL IN		(Rs per month at 1970-71 prices)				
Decile Group	0-10	10-20	20-30	30-40	40-50	0-100			
1970-71	17.92	24.63	29.70	33.72	38.47	52.85			
1972-73	17.80	24.38	29.53	31.50	39,96	53.18			
1973-74	18.46	25.05	28.14	33.71	37.00	50.28			
1977-78	18.47	26.16	31.31	35.84	40.97	57.64			
1983	20.34	27.86	33.11	40.13	42.80	60.61			
1986-87	21.29	29.47	34.17	40.52	49.03	64.38			
1987-88	22.11	29.59	34.45	39.09	45.14	62.59			
1988-89	21.54	28.79	34.21	39.52	45.47	61.62			

TABLE 10. ESTIMATES OF PER CAPITA TOTAL CONSUMER EXPENDITURE BY DECILE GROUP SPECIFIC DEFLATION: ALL INDIA URBAN

TABLE 11. MONTHLY PER CAPITA TOTAL CEREAL CONSUMPTION (KG.) BY SELECT DECILE GROUPS: ALL-INDIA RURAL

NSS Round	NSS Survey Period	0-10	10-20	20-30	30-40	40-50	0-100
4	April-Sept. 1952	8.71	12.51	13.68	15.58	16.75	17.27
5	Dec. 1952-March 1953	9.72	12.28	14.30	17.05	18.31	18.06
4 & 5	April 1952-March 1953	9.2.8	12.39	14.14	16.25	17.85	17.64
7	Oct. 1953-March 1954	11.10	13.84	14.06	14.74	16. <b>0</b> 7	16.88
8	July 1954-March 1955	10.37	12.79	14.25	17.21	16. <b>8</b> 0	16.81
9	May-Nov. 1955	11.37	13.19	15.64	17.40	16.95	17.78
8&9	July 1954-Nov. 1955	10.50	12.80	15.21	16.72	16.97	17.15
12	March-Aug. 1957	8.42	11.50	12.76	14.44	15.57	16.15
13	Sept. 1957-May 1958	9.25	12.61	14.29	14.67	15.73	16.65
14	July 1958-June 1959	9.08	12.58	13.77	15.39	16.94	17.33
15	July 1959-June 1960	10.18	12.62	14.28	15.22	16.89	17.38
16	July 1960-Aug. 1961	10.22	12.91	15.01	16.74	17.13	17.51
17	Sept. 1961-July 1962	11.42	13.31	14.88	15.64	15.83	17.55
18	Feb. 1963-Jan. 1964	11.18	14.13	13.83	16.25	16.53	17.54
19	July 1964-June 1965	9.54	12.15	14.09	15.07	16.33	16.66
27	Oct. 1972-Sept. 1973	9.08	12.03	13.32	14.35	15.15	15.46
28	Oct. 1973-June 1974	9.50	12.22	13.30	14.08	15.09	15.21
32	July 1977-June 1978	9.72	12.46	13.68	14.27	15.20	15.40
38	January-December 1983	10.35	12.45	13.38	13.94	14.78	14.90
42	July 1986-June 1987	9.96	12.08	12.90	13,68	14.16	14.40
43	July 1987-June 1988	10.78	12.63	13.46	13.95	14.41	14.54
44	July 1988-June 1989	10.97	12.70	13.46	13.98	14.41	14.62
45	July 1989-June 1990	10.95	12.35	13.28	13.30	13.98	14.05

Source: Estimates up to the 13th round and for the 18th round are from Bhattacharya et al. [1991] and for the remaining rounds are made by the Author.

TABLE 12. MONTHLY PER CAPITA TOTAL CEREAL CONSUMPTION (KG.) BY SELECT DECILE GROUPS: ALL-INDIA URBAN

NSS Round	NSS Survey Period	0-10	10-20	20-30	30-40	40-50	0-100
14	July 1958-June 1959	9.84	11.40	12.16	12.45	13.30	12.65
15	July 1959-June 1960	9.30	10.88	11.19	11.69	12.58	12.27
16	July 1960-August 1961	9.77	10.70	11.35	11.93	12.84	12.53
17	Sept. 1961-July 1962	9.12	11.27	11.69	12.38	12.85	12.50
19	July 1964- June 1965	8.42	10.51	11.13	11.93	12.19	11.78
27	Oct. 1972-Sept. 1973	8.75	10.52	11.23	11.46	11.84	11.32
28	Oct. 1973-June 1974	8.87	10.53	10.93	11.42	11.68	11.37
32	July 1977-June 1978	8.86	10.86	11.40	11.81	11.07	11.72
38	Jan. Dec. 1983	9.19	10.46	10.98	11.34	11.49	11.38
42	July 1986-June 1987	9.15	10.48	10.74	10.83	11.48	11.04
43	July 1987-June 1988	9.75	10.87	11.15	11.37	11.46	11.25
44	July 1988-June 1989	9.67	10.62	11.04	11.26	11.43	11.27
45	July 1989-June 1990	10.03	10.79	11.13	11.54	11.43	11.09

Source: Author's estimates based on various NSS reports.

	Decile Group		0-10			10-20			20-30	
NSS Round	Survey Period	Rice	Wheat	Coarse Cereals	Rice	Wheat	Coarse Cereals	Rice	Wheat	Coarse Cereals
8	July 1954-March 1955	2.59	0.21	7.57	4.13	0.48	8.18	5.90	0.35	8.00
9	May-Nov. 1955	2.65	0.43	8.29	3.55	0.91	8.73	5.06	0. <b>9</b> 9	9.59
13	Sept. 1957-May 1958	3.04	0.38	5.83	4.32	0.80	7.49	5.66	1.11	7.52
14	July 1958-June 1959	3.72	0.35	5.01	4.82	0.93	6.82	5.58	1.03	7.15
15	July 1959-June 1960	4.16	0.55	5.47	5.48	0.67	6.48	5.91	1.61	6.77
16	July 1960-August 1961	4.15	0.69	5.39	5.56	0.85	6.49	6.49	1.45	7.07
17	Sept. 1961-July 1962	4.73	0.84	5.85	5.89	1.25	6.17	7.40	1.51	5.97
18	Feb. 1963-Jan. 1964	4.14	0.88	6.17	5.48	1.45	7.20	6.13	1.88	6.81
19	July 1964-June-1965	4.33	0.92	4.29	6.00	1.26	4.89	6.81	1.69	5.59
27	Oct. 1972-Sept. 1973	3.79	1.42	3.88	5.06	2.25	4.72	5.74	2.59	4.99
28	Oct. 1973-June 1974	4.12	1.12	4.27	5.37	1.93	4.92	5.91	2.45	4.94
32	July 1977-June 1978	3.72	1.57	4.44	5.46	2.43	4.58	6.28	2.98	4.42
38	JanDec. 1983	3.23	2.84	4.28	4.58	3.59	4.28	5.57	3.81	4.00
42	July 1986-June 1987	4.29	2.85	2.82	5.61	3.73	2.74	6.25	3.97	2.69
43	July 1987-June 1988	4.58	3.13	3.07	5.96	3.84	2.83	6.68	4.15	2.63
44	July 1988-June 1989	4.95	2.60	3.42	5.91	3.30	3.48	6.55	3.58	3.33
45	July 1989-June 1990	5.27	3.20	2.49	6.44	3.30	2.61	7.08	4.16	2.04

TABLE 13: MONTHLY PER CAPITA CONSUMPTION (KG) OF CEREALS BY SELECT DECILE GROUPS: ALL-INDIA RURAL

Source: Estimates up to the 13th round and for the 18th round are from Bhattacharya et al. [1991] and for the remaining rounds are made by the Author.

TABLE 13: MONTHLY PER CAPITA CONSUMPTION (KG) OF CEREALS BY SELECT DECILE GROUPS: ALL-INDIA RURAL (CONTD.)

	Decile Group		30-40			40-50			0-100	
NSS Round	Survey Period	Rice	Wheat	Coarse Cercals	Rice	Wheat	Coarse Cereals	Rice	Wheat	Coarse Cereals
8	July 1954-March 1955	7.71	0.93	8.57	7.50	0.83	8.47	8.18	1.42	7.21
9	May-Nov. 1955	7.32	2.02	8.06	7.20	2.05	7.70	7.47	2.58	7.72
13	Sept. 1957-May 1958	6.19	1.36	7.12	6.78	1.97	6.98	7.10	2.28	7.27
14	July 1958-June 1959	6.43	1.30	7.66	7.85	1.63	7.46	7.69	2.38	7.26
15	July 1959-June 1960	6.56	1.59	7.07	8.37	1.79	6.73	7.60	2.51	7.27
16	July 1960-August 1961	7.26	2.33	7.16	8.09	2.60	6.44	7.96	3.08	6.47
17	Sept. 1961 - July 1962	8.26	1.72	5.65	8.50	1.79	5.53	8.78	2.64	6.13
18 -	Feb. 1963-Jan. 1964	7.02	2.14	7.09	7.85	2.48	6.21	8.08	2.91	6.55
19	July 1964-June-1965	7.63	1.93	5.51	8.50	2.16	5.67	8.13	2.74	5.79
27	Oct. 1972-Sept. 1973	6.33	3.03	4.99	6.82	3.41	4.92	6.59	3.88	4.99
28	Oct. 1973-June 1974	6.32	2.95	4.81	6.78	3.17	4.84	6.90	3.52	4.79
32	July 1977-June 1978	6.83	3.22	4.22	7.44	3.58	4.18	7.12	4.05	4.23
38	JanDec. 1983	6.17	3.91	3.86	7.05	4.09	3.63	6.63	4.46	3.81
42	July 1986-June 1987	6.98	4.09	2.62	7.41	4.29	2.46	7.11	4.77	2.52
43	July 1987-June 1988	7.12	4.33	2.51	7.37	4.56	2.48	7.04	4.94	2.56
44	July 1988-June 1989	6.93	4.17	2.89	7.35	4.68	2.38	7.07	4.73	2.82
45	July 1989-June 1990	6.64	4.71	1.96	7.58	4.26	2.15	6.93	4.70	2.42

Source: Estimates up to the 13th round and for the 18th round are from Bhattacharya et al. [1991] and for the remaining rounds are made by the Author.

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	Decile Group		0-10			10-20		20-30			
NSS Round	Survey Period	Rice	Wheat	Coarse Cereals	Rice	Wheat	Coarse Cereals	Rice	Wheat	Coarse Cereals	
14	July 1958-June 1959	2,72	2.01	5.11	3.88	3.51	4.01	5.07	3.05	4.04	
15	July 1959-June 1960	3.09	2.70	3.50	4.12	2.98	3.78	4.37	3.10	3.72	
16	July 1960-August 1961	3.36	2.46	3.96	4.34	3.14	3.22	5.46	3.28	2.61	
17	Sept. 1961-July 1962	3.67	2.36	3.09	4.63	3.62	3.02	5.41	3.47	2.81	
19	July 1964 - June 1965	3.31	2.90	2.21	5.15	3.21	2.15	5.17	3.70	2.26	
27	Oct. 1972-Sept. 1973	3.48	3.17	2.10	4.47	3.93	2.12	4.90	4.38	1.95	
28	Oct. 1973-June 1974	3.71	2.56	2.61	4.79	3.43	2.31	5.15	3.72	2.06	
32	July 1977-June 1978	3.77	2.77	2.32	4.85	4.09	1.92	5.26	4.51	1.62	
38	JanDec. 1983	3.48	3.67	2.04	4.73	4.20	0. <b>9</b> 7	5.13	4.35	0.90	
42	July 1986-June 1987	4.14	3.55	1.46	5.21	4.24	1.02	5.32	4.46	0.96	
43	July 1987-June 1988	4.42	3.74	1.59	5.18	4.46	1.23	5.41	4.69	1.05	
44	July 1988-June 1989	4.22	3.96	1.49	4.86	4.24	1.52	5.45	4.49	1.10	
45	July 1989-June 1990	4.69	3.88	1.45	5.40	4.25	1.13	5.56	4.64	0.93	

TABLE 14. MONTHLY PER CAPITA CONSUMPTION (KG) OF CEREALS BY SELECT DECILE GROUPS: ALL-INDIA URBAN

Source: Author's estimates based on various NSS reports.

TABLE 14. MONTHLY PER CAPITA CONSUMPTION (KG) OF CEREALS BY SELECT DECILE GROUPS: ALL-INDIA URBAN

	Decile Group		30-40			40-50			0-100	
NSS Round	Survey Period	Rice	Wheat	Coarse Cereals	Rice	Wheat	Coarse Cereals	Rice	Wheat	Coarse Cereals
14	July 1958-June 1959	5.36	3.01	4.09	5.83	3.21	4.26	5.55	3.83	3.27
15	July 1959-June 1960	4.79	3.20	3.70	5.84	3.64	3.10	5.58	3.95	2.74
16	July 1960-August 1961	5.51	3.74	2.68	6.29	4.09	2.47	5.95	4.25	2.33
17	Sept. 1961-July 1962	5.92	3.71	2.75	6.41	3.97	2.47	6.16	4.11	2.23
19	July 1964 - June 1965	5.66	4.05	2.22	5.81	4.44	1.94	5.61	4.43	1.74
27	Oct. 1972-Sept. 1973	5.02	4.56	1.88	5.16	5.01	1.67	4.94	4.82	1.56
28	Oct. 1973-June 1974	5.59	4.20	1.63	5.63	4.37	1.68	5.38	4.32	1.67
32	July 1977-June 1978	5.61	4.72	1.48	5.80	4.89	1.38	5.48	4.87	1.37
38	JanDeć. 1983	5.38	4.62	1.34	5.48	4.71	1.30	5.32	4.82	1.25
42	July 1986-June 1987	5.34	4.58	0.91	5.59	5.00	0.89	5.33	4.83	0.88
43	July 1987-June 1988	5.49	4.84	1.05	5.58	4.85	1.03	5.35	4.98	0.92
44	July 1988-June 1989	5.47	4.78	1.01	5.76	4.68	0.99	5.35	4.81	1.11
45	July 1989-June 1990	6.00	4.80	0.74	5.91	4.79	0.73	5.45	4.84	0.80

Source: Author's estimates based on various NSS reports.

	Total Consumer Expendi- ture		13.79 16.26 21.33 23.91 23.91 54.64 54.26 53.28 53.28 71.56		13.79 13.43 14.27 13.97 15.28 16.57 17.26	17.84 29.40	27.68
	Non- food: Total		2.34 2.83 3.56 5.00 9.74 13.02 16.46 18.17		2.34 2.52 2.66 3.45 3.45	3.58 9.03	6.56
	Durables & mise. Goods & Services		0.46 0.63 0.86 0.86 0.86 1.35 3.12 3.35 3.35 5.98 5.98 6.46		0.46 0.54 0.66 0.73 0.89 0.89	1.19 5.25	3.25
	Clothing & Foot- wear		0.26 0.23 0.23 0.23 0.77 0.77 0.79 0.79 1.15		0.26 0.26 0.27 0.27 0.22 0.20 0.20 0.20 0.20 0.20	0.29	0.21
	Fuel & Light		1.17 1.41 1.67 1.67 2.28 4.50 5.93 5.93 7.02 7.54	. ,	1.17 1.26 1.25 1.18 1.18 1.15 1.15 1.15	1.37 1.46	137
	Pan, Tobacco & Intoxi- cants		0.45 0.56 0.69 0.83 0.83 0.83 0.83 0.83 0.83 0.83 2.35 2.33 2.33 2.33 2.33		0.45 0.57 0.57 0.55 0.55 0.55	0.73	1.72
	Food: Total		11.45 13.42 17.77 18.91 32.89 41.40 41.40 53.39		11.45 10.92 11.56 11.31 12.28 13.61 13.61	14.26 20.37	21.12
0-10	Beve- rages & Refresh- ments	ces	0.23 0.27 0.27 0.43 0.43 0.43 1.25 1.25 2.07	ices	023 029 028 028 028 028 028 028 028	236	230
ile Group:	Salt & Spices	t current pri	0.61 0.63 0.63 0.81 0.81 1.05 1.52 2.50 2.50 3.01	1970-71 pr	0.61 0.76 0.76 0.82 0.85 0.85	0.66	60.0
Dec	Sugar	Ā	0.26 0.27 0.40 0.46 0.46 0.46 0.85 1.44 1.44 1.76	AI	0.26 0.16 0.30 0.31 0.41 0.40	0.44 1.35	1.04
	Fruits, Vege- tables & Nuts		0.64 0.79 0.79 1.06 1.06 2.60 3.88 3.88 4.55 5.37		0.64 0.68 0.68 0.68 0.98 0.98	1.32 4.99	4.92
	Mcat, Fish & Eggs		0.27 0.30 0.43 0.51 0.84 1.50 1.41 1.78	*	027 026 021 027 029 029 029	0.09	0.12
	Edible Oils		0.40 0.48 0.69 0.80 0.80 1.64 2.99 3.22 3.42		0.40 0.38 0.41 0.42 0.42 0.42 0.42 0.66	0.83 3.10	2.93
	Milk & Milk Products		0.26 0.21 0.35 0.43 0.43 0.43 0.43 0.92 1.88 1.68 2.21		0.26 0.18 0.24 0.25 0.33 0.41	0.49 1.66	1.76
	Pulses & Pulse Products		0.45 0.42 0.61 0.86 1.58 2.77 2.77 3.02 3.37		0.45 0.30 0.39 0.45 0.45 0.63 0.54 0.54	0.54	1.32
	Cercals & Cercal Substi- tutes		8.33 10.03 13.05 13.11 22.17 23.62 27.44 30.41		8.33 8.25 8.17 8.45 8.79 9.22	9.13 5.78	6.82
	Year		1970-71 1972-73 1973-74 1977-78 1983-87 1986-87 1988-89		1970-71 1972-73 1973-74 1977-78 1983 1986-87 1986-87	1988-89 Increase (per cent) in 1988-89 over 1970-71	Increase (per cent) in 1988-89 over 0ver

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TALE IS FILENCI S oF MONTLY PER CATTA CONSUME EXPERIENCY DECLIG GROUPS. ALL-ROUA RUPAL, GOND.)           Value State St	1 1	di- ner		20	<u>م</u> ۵	o m	4 v			~ -	<b>v</b> 0 -	۰. م	<b>.</b>	-	2		4
TAL STRATTS OF MONTHLY PER CAPTIA CONSTINUER EXTENDITE IN STREET DECILE GROUPS. ALL. STOLIK RUM. (CONTD.)           A TALL STLATTS OF MONTHLY PER CAPTIA CONSTINUER EXTENDITE IN STREET DECILE GROUPS. ALL. STOLIK RUM. (CONTD.)           Verter Street Ruman,		Tota Consur Expen ture		18.6 22.7	29.29	000 000 000	74.6 84.2	98.9		18.6	19.50	20.99	22.4	24.2	n.uc		22.9
TABLE IN SELICE OF DECLIG GROUPS. ALL-ODDA RUDAL (CONTD.)           A TABLE IN SETUATING OF MONTLAY DER CONTDA RUPE REGISTIONE ALL-ODDA RUDAL (CONTD.)           Decline Constrained Rulate Rubble Mills         Clile Fights         Planter         Mills         Clile Fights         Planter         Numble Constrained Rupes Rupes RL         Planter Rubble Mills         Clile Fights         Planter         Planter         Mills         Clile Fights         Planter		Non- food: Total		3.33 4.02	4.89	14.23	18.31 21.91	28.37		3.33 3.55	3.70	4.44	4.19 4.62	5.56	• <b>6.11</b>		8.59
TABLE IS ESTEMATES OF MONTHLY PER CAPTIA CONSTINUER EXPENDITINE BY SELECT EGROUPS. ALL, DRUM RURAL (CON	(A	Durables & misc. Goods & Services		0.83 1.04	1.34	5.10	6.27 8.49	13.16		0.83 0.90	1.02	1.60	1.71	2.42	70.0		6.09
TABLE IS ETIMATES OF MONTHLY PER CAPTIA CONSUMER ROFENDTURE BY SELECT DECLIE GROUPE. ALL-BUDIA R.           Decile Group: 10.20           Year         Certail & Pulses & Milk & Ekhlib         Pulse         Food:         Pan.         Pile         Food:         Pan.         Pile           Vear         Certail & Pulse & Milk & Dils         Finik & Vege.         Sugar         Sugar         Sugar         Sugar         Sugar         Finik & Vege.         Food:         Pan.         Finik & Finik & Vege.         All and the food of the finik & Finik & Vege.         All and the food of the finik & Finik & Vege.         All and the food of the finik & Finik & Vege.         All and the food of the finik & Finik & Vege & F	URAL (CON	Clothing & Foot- wear		0.46 0.49	0.66	1.63	1.86 2.01	2.23		0.46 0.41	0.44	0.56	0.51	0.53	0.41		0.11
TABLE IS ESTEMATES OF MONTHLY PER CAPTA CONSIDIER EXPENDITURE BY SELECT DECILE GROUPE: A)           Decile Group: 10.20           Year         Cereals & Pulses & Milk & Edible         Mean, Fluits, Sugar & Sait & Beve.         Pool         Pan.           Year         Cereals & Pulses & Milk & Dils         Milk & Dils         Fish & Vege.         Solics         Tages & Total         Pan.           Year         Cereals & Pulses & Milk & Dils         Milk & Dils         Fish & Vege.         Solics         Tages & Total         Pan.           Yours         Subsit         Poolucus         Data         0.05         0.04         10.20         Data         Carals         Pan.           Yours         Subsit         10.47         0.77         0.83         0.83         0.93         1.73         Solid         1.92         1.93         2.74           Yours         2.230         1.27         0.85         1.81         0.79         0.64         1.93         1.93         3.00         3.63         3.00         3.63         3.00         3.63         3.00         3.63         3.00         3.63         3.00         3.63         3.00         3.63         3.00         3.63         3.00         3.74         3.74         3.74         3.7	LL-INDIA R	Fuel & Light		1.43 1.74	2.05 2.83	5.58	7.44 8.40	9.31		1.43 1.55	1.54	1.49	1.45 1.56	1.69	101		1.18
TABLE IS, EFTMARTES OF MONTHLY PER CAPTIA CONSUMER EXCENDITURE BY SELECT DECLE           TABLE IS, EFTMARTES OF MONTHLY PER CAPTIA CONSUMER EXCENDITURE BY SELECT DECLE           Transmission           Transmission           Year         Cereals & Pulses & Milk & Edible         Mean, Fish & Vege, Substi-         Decile Group: IO-20           Year         Cereals & Pulses & Milk & Edible         Mail & Vege, Substi-         Superior         Superior         Superior         Superior         Superior         Food:           70-71         1047         0.70         0.52         0.49         0.87         0.43         0.37         152.9           772-73         132.8         0.77         0.32         0.73         0.49         106         0.37         103         186           777-78         17.57         1.40         0.34         1.27         0.35         1.44         0.37         244.00           977-78         17.57         1.40         0.34         1.41         0.35         244.00           977-78         17.57         1.40         0.35         1.43         0.37         244.00           977-78         17.57         1.41         1.35         0.34         1.37         2.44.00	Groups: A	Pan, Tobacco & Intoxi- cants		0.61 0.75	0.84	1.92	2.74 3.00	3.66		0.61 0.70	0.70	0.78	0.82 0.84	16.0	co.1		121
TABLE 15. ESTIMATES OF MONTHLY PER CAPTIA CONSUMBR BX RELEATIONER BY SELE           Decide Group: 10.20           Year         Carrents & Pulses & Milk         Oils         Final & Vege         Bene- Spice           97-73	CT DECILE	Food: Total		15.29 18.68	24.40 26.62	44.60	56.33 62.35	70.60		15.29 15.16	15.86	16.55	18.27 18.12	18.65	19:00		14.35
TABLE IS ESTIMATES OF MONTHLY PER CAPTIA CONSUMER EXPENDITU TABLE IS ESTIMATES OF MONTHLY PER CAPTIA CONSUMER EXPENDITU Nues           Decile Group: II           Year         Cereal Philes         Milk         Oils         Fish & Vege- sibles         Sugar         Saft & Sites           700-71         10.47         0.70         0.62         0.64         0.40         0.87         0.43         0.79           772-73         13.28         0.77         0.52         0.74         1.20         0.84         1.45         Spices           772-73         13.28         0.77         0.52         0.74         0.79         0.79         0.79           772-73         13.28         0.77         0.52         0.74         1.39         1.90           773         17.27         1.06         0.81         1.20         0.84         1.43           975-73         13.28         0.77         0.52         0.74         1.39         1.93           975-71         10.47         0.77         0.52         0.74         1.39         1.93         3.71           975-81         30.10         0.37         4.44         2.41         1.36         2.47         3.71         3.71         3.71	RE BY SELE )-20	Beve- rages & Referesh- ments	cs	0.37 0.43	0.48	128	1.73 2.41	2.80	ces	0.37 0.39	0.38	0.47	0.53	0.75	C0.7		2.02
TABLE 15. ESTIMATES OF MONTHLY PER CAPTIA CONSUMER           Decil           Year         Cereals & Pulses & Milk & Oils         Fish & Vege.         Dugar           Year         Cereals & Pulses & Milk & Oils         Fish & Vege.         Nuss         Ait           Yop71         1047         0.70         0.62         0.64         0.40         0.87         0.43           Yop71         1047         0.70         0.62         0.64         0.40         0.87         0.43           Yop71         1047         0.70         0.62         0.64         0.40         0.87         0.73           Yop771         1047         0.70         0.62         0.64         1.06         0.73           Yop71         1047         0.70         0.62         0.64         1.06         0.73           Yop71         1047         0.77         0.23         2.07         2.22         2.20           Yop773         10.23         1.05         0.64         1.06         0.73         2.21           Yop773         10.24         2.07         2.24         2.22         2.21         2.21           Yop773         10.28         0.46         0.40         0.86	EXPENDITU e Group: 10	Salt & Spices	current pric	0.79 0.84	1.00	1.93	2.67 3.07	3.71	1970-71 pri	0.79 1.00	0.93	1.05	60 T	0.81	0.14		(-)0.43
TABLE 15. ESTIMATES OF MONTHLY PER CAPTRA Tear           Year         Cereals & Pulses & Milk & Edible         Mean, Fish & Vege- Sust:         Funder, Products         Funder, Milk         Funder, Giss & Vege- Sust:         Funder, Products         Funder, Pros         Funder, Sust	Consumer	Sugar	At	0.43 0.53	0.69	1.39	2.20 2.11	2.71	At	0.43 0.31	0.41	0.53	0.58	0.68	сс <b>.</b> I		1.04
Table is. Estimates of MONTHLY P           Year         Cereals & Pulses & Milk & Edible         Meat, Bubsii-           Year         Cereals & Pulses & Milk & Edible         Meat, Fish & 0018           Year         Cereal Pulses & Milk & Edible         Meat, Fish & 0018           Yours:         Products         Products         Products           970-71         10.47         0.70         0.62         0.64           977-73         13.23         0.77         0.52         0.64           977-73         13.23         0.77         0.52         0.64           977-73         13.23         0.77         0.52         0.64           977-73         13.23         0.77         0.52         0.64           977-73         13.23         0.77         0.52         0.64           977-73         10.24         0.77         0.52         0.64           977-73         10.23         3.53         4.49         2.77           988-87         37.78         4.69         4.64         2.77           988-88         37.73         10.84         0.46         0.40           977-73         10.84         0.54         0.66         0.46           977-73 <td>ER CAPITA</td> <td>Fruits, Vege- tables &amp; Nuts</td> <td></td> <td>0.87 1.06</td> <td>1.45</td> <td>3.74</td> <td>5.52 6.18</td> <td>7.32</td> <td></td> <td>0.87 0.86</td> <td>0.92</td> <td>121</td> <td>1.39 1.39</td> <td>1.80</td> <td>10.0</td> <td></td> <td>4.52</td>	ER CAPITA	Fruits, Vege- tables & Nuts		0.87 1.06	1.45	3.74	5.52 6.18	7.32		0.87 0.86	0.92	121	1.39 1.39	1.80	10.0		4.52
Table is. Estimates of M           Year         Cereals & Pulses & Milk & Edible           Vear         Cereals & Pulses & Milk & Edible           Substi-         Products         Milk & Edible           970-71         10.47         0.70         0.62         0.64           972-73         13.28         0.77         0.52         0.75           973-73         13.28         0.77         0.52         0.75           973-73         13.28         0.77         0.52         0.75           973-73         13.28         0.77         0.52         0.75           973-73         13.28         0.77         0.52         0.76           985-87         37.78         4.69         4.19         4.64           977-78         10.58         0.54         0.66         0.66           972-73         10.58         0.58         0.54         0.67           972-73         10.58         0.56         0.71         0.80           972-73         10.58         0.53         0.419         4.64           972-73         10.58         0.56         0.66         0.106           972-73         10.58         0.58         0.54         0.	ONTHLY PI	Meat, Fish & Eggs		0.40 0.49	0.64	1.36	2.42	2.77		0.40 0.43	0.46	0.38	0.40	0.44	+ <i>7</i> °0		(-)0.01
TABLE IS. ESTID           Year         Ccreals & Pulses & Milk & Coreals & Pulses & Milk & Coreal Pulses & Milk & Mi	MATES OF M	Edible Oils		0.64 0.75	1.05	2.41	4.17 4.48	4.64		0.64 0.60	0.61	0.80	0.91 0.91	1.12	07:7		2.32
TAB Year Cereals & Puises & Cereals & Puises & Cereal Pulses & Correal Purces & Correal Pulses & Poises & Poises & Poises & Correal Pulses & Correal Purces & Correal Pulses & Correal Pulses & Correal Pulses & Poises & Poises & Correal Pulses & Correal Pulses & Correal Pulses & Poises & Correal Pulses & Poises	ILE 15. ESTR	Milk & Milk Products		0.62 0.52	0.81	1.97	3.90 3.53	4.19		0.62 0.46	0.57	0.71	1.09 0.85	0.94	t/.1		2.04
Year Cereals & Jubsti- 270-71 1047 272-73 13.28 273-73 13.28 273-74 17.57 973-74 17.57 973-74 17.57 985-87 33.10 987-88 34.23 987-88 34.23 970-71 10.47 972-73 10.58 973-74 10.95 973-74 10.95 973-74 10.95 973-74 10.95 973-74 10.95 973-74 10.95 973-74 10.95 973-74 10.95 973-77 10.98 973-74 10.95 973-74 10.95 973-77 10.98 973-77 10.98 974-77	TAB	Pulses & Pulse Products		0.70 0.77	1.06	2.30	3.62 4.10	4.69		0.70 0.54	0.68	0.66	0.83	0.76	cc.v		0.88
Year ( 970-71 973-73 973-73 973-74 973-74 973-74 973-74 973-74 973-74 973-74 973-74 973-74 973-74 973-77 973-77 973-77 973-77 973-77 972-773 972-775 9720 972-775 9720 9720 9720 9720 9720 9720 9720 9720		Cereals & Cereal Substi- tutes		10.47 13.28	17.23	28.22	30.10 34.23	37.78		10.47 10.58	10.89	10.75	11.20	11.34	for t		1.96
		Year (		1970-71 1972-73	1973-74	1983	1986-87 1987-88	1988-89		1970-71 1972-73	1973-74	1983	1980-87 1987-88	1988-89	underse (per cent) in 1988-89	over 1970-71	Increase (per cent) in 1988-89 over 1977-78

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(Contd.)

	Total Consumer Expendi- ture		21.90 26.90 34.31	40.83 69.98 85.25 98.71 114.28		21.90 22.16 23.61 24.89 26.42 26.42 26.42	26.64	17.51	(Contd.)
	Non- food: Total		4.01 4.96 5.92	9.29 17.58 21.52 26.77 33.84		4.01 4.48 4.48 4.94 5.51 4.96 5.69 6.65	12.04	724	
	Durables & misc. Goods & Services		1.03 1.37 1.71	3.10 6.61 7.53 10.88 16.40		1.03 1.18 1.18 1.31 1.68 2.08 2.19 2.19 3.01	9.0	5.64	
	Clothing & Foot- wear		0.59 0.75 0.94	1.63 2.46 3.03 3.19		0.59 0.63 0.63 0.80 0.85 0.78 0.78 0.76	0.81	(-)0.15	
	Fuel & Light		1.62 1.95 2.27	320 626 823 931		1.62 1.74 1.70 1.65 1.67 1.73 1.82	0.91	0.73	ļ
	Pan, Tobacco & Intoxi- cants		0.77 0.90 1.00	1.37 2.24 3.14 3.55 4.21		0.77 0.83 0.83 0.81 0.91 0.94 0.99	1.28	1.02	
	Food: Total		17.89 21.93 28.39	31.54 52.40 63.73 71.95 80.44		17.89 17.78 18.47 18.66 19.37 20.56 20.73 21.09	14.61	10.28	
0-30	Beve- rages & Referesh- ments	ses	0.46 0.54 0.59	0.87 1.76 3.02 3.33	sec	0.46 0.48 0.48 0.48 0.65 0.68 0.86 0.89	1.98	1.77	
ile Group: 2	Salt & Spices	current pri	0.93 0.95 1.13	1.61 2.95 3.44 4.14	1970-71 pri	0.93 1.13 1.05 1.04 1.18 1.18 1.18 0.91	(-)0.13	(-)0.55	
Dec	Sugar	Ψ	0.55 0.72 0.92	0.96 1.77 2.52 2.61 3.19	At	0.55 0.43 0.55 0.55 0.67 0.71 0.71 0.81	1.19	0.79	
	Fruits, Vege- tables & Nuts		1.02 1.28 1.73	222 452 622 838		1.02 1.04 1.12 1.12 1.46 1.57 2.07 2.07	4.78	4.01	
	Meat, Fish & Eggs		0.51 0.61 0.81	1.09 1.79 2.76 3.45		0.51 0.53 0.53 0.57 0.57 0.53 0.53 0.55	0.19	80.0(-)	
	Edible Oils		0.77 0.94 1.30	1.60 2.97 5.36 5.28		0.77 0.74 0.76 0.84 0.98 1.19 1.09 1.09	2.30	1.84	
	Milk & Milk Products		0.90 0.89 1.31	1.62 3.08 5.45 6.15 6.15		0.90 0.78 0.92 0.92 0.92 1.11 1.11 1.18 1.18 1.37	2.17	1.92	
	Pulses & Pulse Products		0.85 0.99 1.33	1.78 2.75 4.05 5.42		0.85 0.69 0.74 0.79 0.93 0.84 0.88	0.12	0.56	
	Cereals & Cereal Substi- tutes		11.90 15.03 19.29	19.78 31.58 32.86 37.80 41.11		11.90 11.96 12.33 12.33 12.33 12.23 12.23 12.23	2.00	0.02	
	Year		1970-71 1972-73 1973-74	1977-78 1983 1986-87 1987-88 1988-89		1970-71 1972-73 1973-74 1977-78 1983-87 1986-87 1988-89 1988-89	Increase (per cent) in 1988-89 over 1970-71	Increase (per cent) in 1988-89 over 1977-78	

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	Total Consumer Expendi- ture		25.60 30.86 38.48 44.98 77.42 98.80 109.87 1122.35		25.60 25.42 25.72 25.93 29.36 29.38 29.18 29.84 16.55	15.04							
	Non- food: Total		5.00 5.94 6.83 6.83 10.54 19.96 19.96 33.08 33.08		5.00 5.13 5.15 5.15 5.15 5.26 5.29 6.51 6.51 6.51 6.51	3.87							
	Durables & misc. Goods & Services	1	1.39 1.76 2.02 3.63 7.66 9.33 9.33 12.99 13.38		139 151 154 197 241 2.10 2.61 2.61 2.61 2.46 2.46 2.46	1.88							
	Clothing & Foot- wear		1.01 1.07 1.07 1.20 3.12 3.12 3.73 3.73 3.73		1.01 0.90 0.99 0.96 0.96 0.04 0.02	0.10							
	Fuel & Light		1.76 2.11 2.45 3.39 6.70 9.08 9.94 10.74		1.76 1.89 1.83 1.75 1.77 1.77 1.95 0.74	0.77							
	Pan, Tobacco & Intoxi- cants		0.84 1.00 1.16 1.49 2.48 3.70 3.93 4.70		0.84 0.93 0.97 0.89 1.01 1.10 1.11 1.17 1.17	1.11							
	Food: Total		20.60 24.92 34.44 57.46 73.08 73.08 79.29 89.27		20.60 20.19 20.19 20.34 21.21 23.40 23.24 10.30	11.18							
0-40	Beve- rages & Referesh- ments	so	0.60 0.64 0.68 0.68 2.05 2.05 3.51 3.89	કર	0.60 0.55 0.55 0.75 0.75 0.75 1.04 1.72	1.90							
le Group: 3	Salt & Spices	current pric	104 1105 1105 1123 233 233 233 233 233 233 245	ر 1970-71 pri	1.04 1.25 1.14 1.10 1.26 1.28 1.23 0.98 (-)0.25	(-)0.50							
Deci	Sugar	Ψ	Aı	Ā	0.68 0.90 1.14 1.14 2.03 3.09 3.04 3.61	Υ	0.68 0.54 0.70 0.77 0.77 0.85 0.84 0.91 0.91	0.79					
	Fruits, Vege- tablés &		1.18 1.48 1.97 2.45 5.03 7.13 8.05 8.05 9.28		1.18 1.26 1.26 1.63 1.63 1.80 1.81 1.80 1.81 2.29 2.29	4.05							
	Meat, Fish & Eggs		0.65 0.73 0.73 0.95 1.25 2.05 3.35 3.35 3.46 4.10		0.65 0.65 0.65 0.65 0.65 0.66 0.66 0.66	0.01							
	Edible Oils		0.94 1.11 1.54 1.79 1.79 3.36 5.34 6.02 5.32 5.92		0.94 0.88 0.90 0.94 1.11 1.35 1.35 1.23 1.43 1.92	1.90							
	Milk & Milk Products									1.28 1.26 1.74 2.08 3.93 7.52 6.44 8.41		128 1.10 1.23 1.41 1.41 2.11 1.55 2.11 2.36 2.36	2.69
	Pulses & Pulse Products		0.99 1.21 1.55 1.99 3.02 5.16 5.16 6.09		0.99 0.85 0.87 0.87 0.87 0.93 0.93 0.93 0.93	620							
	Cercals & Cercal Substi- tutes		13.24 16.54 20.85 21.06 33.66 33.93 33.93 33.93 33.93		13.24 13.17 13.18 13.18 13.18 13.18 13.28 13.28 13.28 13.28 13.28 13.26 (-)0.69	(-)0.26							
	Ycar		1970-71 1972-73 1973-74 1977-78 1983 1983-87 1987-88 1988-89		1970-71 1972-73 1973-74 1977-78 1977-78 1986-87 1986-87 1986-87 1988-89 1988-89 1988-89 1988-89 1988-89 1988-89 1988-80 1988-8	1988-89 over 1970-71 Increase (per cent) in 1988-89 over							

(Contd.)

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							Dec	ile Group: •	t0-50							
Ycar	Cercals & Cercal Substi- tutes	Pulses & Pulse Products	Milk & Milk Products	Edible Oils	Mcat, Fish & Eggs	Fruits, Vege- tables & Nuts	Sugar	Salt & Spices	Beve- rages & Referesh- ments	Food: Total	Pan, Tobacco & Intoxi- cants	Fuel & Light	Clothing & Foot- wcar	Durables & misc. Goods & Services	Non- food: Total	Total Consumer Expendi- ture
							¥	t current pri	ces							
1970-71 1972-73 1973-74	14.13 17.98 22.60	1.18 1.43 1.74	1.95 1.84 2.41	1.10 1.31 1.72	0.82 0.93 1.10	1.38 1.71 2.19	0.86 1.15 1.34	1.14 1.15 1.34	0.72 0.76 0.85	23.28 28.26 35.28	0.98 1.15 1.31	1.93 2.30 2.67	1.35 1.56 1.65	1.80 2.28 2.51	6.06 7.29 8.14	29.34 35.55 43.42
1977-78 1983 1986-87 1987-88	22.80 36.91 38.14 41.62	2.32 3.46 5.19 5.44	3.03 5.61 9.72 8.60	2.11 3.85 6.13 6.13	1.53 2.65 4.15	2.83 5.78 8.18 0.02	1.32 2.45 3.60	1.89 2.54 3.48	122 357 357	39.08 65.88 82.16 87.33	1.70 2.84 4.11	3.70 7.24 9.63	2.90 4.70 8.81	4.04 9.75 11.56 15 54	12.94 24.48 30.00 35.27	90.36 90.36 112.16
1988-89	46.05	6.36	10.31	6.46	2:00	10.33	4.03	4.75	4.76	98.04	4.92	11.63	5.98	16.36	38.89	136.93
				i			At	1970-71 pr	ices							
1970-71	14.13	1.18	1.95	1.10	0.82	1.38	0.86	1.14	0.72	23.28	98.0	1.93	1.35	1.80	6.06	29.34
1972-73	14.32 14.29	1.10	1.70 1.70	1.03	0.81 0.79	1.38	0.69	137	0.69 0.68	22.89 23.01	8.6	2.05	1.12 1.12	1.96 1.92	6.39 6.12	29.28 29.13
81-7761	14.22	0.97	1.73	1.11	0.80	1.43	0.86	121	0.67	22.99	1.01	1.91	1.42	2.52	6.86	29.85
1986-87	14.00	00.1	2.02	1.27	0.74	1.87 2.06	0.93	1.37	0.97	24.23 76.04	1.16	1.93	1.61	3.06 2.61	9/./ 1001	31.99 33.03
1987-88	13.99	1.02	2.08	136	0.71	2.03	66.0	138	120	24.74	1.19	1.98	1.24	3.12	7.53	32.27
Increase	70°C1	(-)0.52	1.22	1.57	0.0(-)	3.96	0.53	1.04 (-)0.34	1.9	721	0.85	0.60	0.29	4.11	5.84	13.06
(per cent) in 1988-89																
over 1970-71																
Increase	(-)1.33	0.19	1.94	1.52	(-)0.01	3.74	0.54	(-)0.58	2.05	8.06	0.74	0.67	0.04	1.63	3.08	11.14
cent) in																
OVET 0																
1711-10																

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		stal sumer endi- re		5.29	101		4 0	01.0		29	48	68 E	48	53	42	50 <u>3</u> 9		66		
		EXP EXP		<i></i> е,4	57 V	1	15	17,		35.	36	£ 8	6. 6.	40	40	141.		Ś		
		Non- food: Total		9.33 12.01	13.31	38.93	48.89	63.30		9.33	10.44	9.88	12.51	11.64	12.41	9.89		(-)0.70		
(ID.)		Durables & misc. Goods & Services		3.26 4.84	4.98	16.88	21.14 28.42	29.81		3.26	4.17	3.80	5.30	4.77	5.71	5.48 6.28		(-)2.86		
JRAL (CON		Clothing & Foot- wear		2.80 3.32	3.84 6.50	10.77	12.15	14.83		2.80	2.79	2 10	3.72	3.34	3.10	2.13 2.13		0.94		
L-INDIA RI	·	Fuel & Light		2.13 2.49	2.96 4 13	7.92	10.72 11.77	12.71		2.13	2.23	27.7	2.12	2.09	2.19	0.49		0.45		
GROUPS: AI		Pan, Tobacco & Intoxi- cants		1.14 1.36	1.53	3.36	4.88 5.03	5.95		1.14	1.26	87.1	1.37	1.45	1.40	1.49 0.98		0.77		
CT DECILE		Food: Total		25.96 32.16	39.70 44 33	73.72	92.55 100.81	111.80		25.96	26.04	26.01	26.97	28.89	28.02	7.31		69.9		
RE BY SELB	opulation	Beve- rages & Referesh- ments	ses	0.94 1.07	1.18	3.72	4.95 6.18	6.49	SS	0.94	0.96	66.0 10 0	137	1.50	1.76	1.74 2.27		2.07		
Expenditu	oup: Entire I	Salt & Spices	current pric	121 123	1.44 2.00	2.83	3.91 4.52	5.26	1970-71 pri	121	1.47	45.1 1 24	151	1.59	1.56	<1.1 (-)0.16	:	(-)0.48		
Consumer	Decile Gro	Sugar	۹ı	1.12 1.66	1.67	3.16	4.30 4.51	5.20	Υ	1.12	0.99	1.00	120	1.22	1.25	131		0.35		
ER CAPITA (		Fruits, Vege- tables & Nuts		1.70 2.04	2.61 3.37	6.86	9.75 10.80	12.15		1.70	1.65	1.0/	2.22	2.46	2.43	3.00 3.67		3.31		
fonthly P		Mcat, Fish & Eggs		60 <sup>-1</sup>	1.37	3.40	5.25	6.12		1.00	0.94	0.99 0 06	0.95	1.00	16.0	90.0(-)		0.04		
MATES OF N		Edible Oils		1.26 1.55	1.99 2 16	4.53	6.89 7.87	7.59		1.26	1.22	1.1/	150	I.74	1.60	1.64		1.40		
ЫЕ 15. ESTI		Milk & Milk Products		3.03 3.22	3.82 5.20	8.45	13.48 13.63	15.65		3.03	2.81	7.70	3.04	3.78	3.29	350 133		1.25		
TAI		Pulses & Pulse Products	- - - -	1.33 1.89	1.99 7 63	3.96	5.53 6.27	7.14		1.33	1.32	1.10	1.14	1.26	1.13	1.15 (-)0.50		0.14		
		Cercals & Cercal Substi- tutes		14.37 18.41	23.63	36.81	38.49 41.92	46.20		14.37	14.66	14.94	14.02	14.33	14.09	13.87 (-)1.43		(-)1.39		
		Year		1970-71 1972-73	1973-74 1077 78	1983	1986-87 1987-88	1988-89		1970-71	1972-73	19/3-74	1983	1986-87	1987-88	1988-89 Increase	(per cent) in 1988-89 over	17/0-71 Increase	(per cent) in 1988-89	over 1977-78

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Meat ish & Vge- Nus         Suger Vge- Nus         Salt & stresh- spices         Beve- reges & reges & neurs         Food         Pan. Refresh- ments         Fuel (nooi: cans         Nooi         Nooi         Nooi         Nooi         Total           işh & Vge- Nus         Vge- Nus         Spices         reges & reges & neurs         Total         Tobacco         Light         & Food         & misc. food         food         Consume food         food         food         Consume food         food         Consume food         food         Consume food         food         Consume food         food         Consume food         food								Dec	ile Group:	0-10							
197         4.61         1.87         4.40         1.67         8.305         3.24         8.46         1.89         3.36         16.95         10000           1.87         4.40         1.67         8.305         3.24         8.46         1.89         3.36         10.00           1.88         4.86         1.87         4.40         1.67         8.305         3.24         8.45         1.44         3.89         100.00           2.13         5.26         1.87         3.82         1.81         77.15         3.19         1056         1.80         7.31         2.89         100.00           2.13         5.26         1.81         77.15         3.19         1056         1.82         3.89         100.00           2.75         2.86         1.81         77.15         3.19         1056         1.82         2.95         100.00           2.75         2.86         1.81         77.15         3.19         1056         1.87         2.55         2.560         100.00           2.75         2.86         1.81         77.15         3.19         1056         1.87         2.55         2.560         100.00           2.75         2.86 <td< th=""><th>creals &amp; Pulses &amp; Milk &amp; Edible Ccreal Pulse Milk Oils Subsu- Products Products tutes</th><th>Pulses &amp; Milk &amp; Edible Pulse Milk Oils Products Products</th><th>Milk &amp; Edible Milk Oils Products</th><th>Edible Oils</th><th>1</th><th>Meat, Fish &amp; Eggs</th><th>Fruits, Vege- tables &amp; Nuts</th><th>Sugar</th><th>Salt &amp; Spices</th><th>Beve- rages &amp; Referesh- ments</th><th>Food: Total</th><th>Pan, Tobacco &amp; Intoxi- cants</th><th>Fuel &amp; Light</th><th>Clothing &amp; Foot- wear</th><th>Durables &amp; misc. Goods &amp; Services</th><th>Non- food: Total</th><th>Total Consume Expendi- ture</th></td<>	creals & Pulses & Milk & Edible Ccreal Pulse Milk Oils Subsu- Products Products tutes	Pulses & Milk & Edible Pulse Milk Oils Products Products	Milk & Edible Milk Oils Products	Edible Oils	1	Meat, Fish & Eggs	Fruits, Vege- tables & Nuts	Sugar	Salt & Spices	Beve- rages & Referesh- ments	Food: Total	Pan, Tobacco & Intoxi- cants	Fuel & Light	Clothing & Foot- wear	Durables & misc. Goods & Services	Non- food: Total	Total Consume Expendi- ture
197         4.61         1.87         4.40         1.67         83.05         3.24         8.46         1.89         3.36         16.95         100.00           1.88         4.86         1.68         3.89         1.66         8.257         3.45         8.65         1.44         3.89         17.43         100.00           2.00         4.97         1.87         3.82         1.70         83.33         3.23         7.82         1.44         3.89         17.43         100.00           2.01         1.87         3.82         1.80         79.09         3.46         9.54         2.55         5.65         100.00           2.13         2.20         3.87         1.81         7.15         3.19         10.56         100.00           2.75         3.95         1.81         7.71         3.55         9.46         1.80         7.31         2.553         100.00           2.75         2.99         7.31         2.95         1.71         9.05         10.00         100.00           2.75         2.99         7.31         7.35         2.99         10.00         10.00           2.75         2.95         2.85         1.41         1.05 <t< td=""><td></td><td></td><td></td><td></td><td>1</td><td></td><td></td><td>AI</td><td>current pr</td><td>ices</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>					1			AI	current pr	ices							
1.88         4.86         1.68         3.89         1.68         8.2.57         3.45         8.65         1.44         3.89         17.43         10000           2.00         4.97         1.87         3.82         1.70         83.30         3.23         7.82         1.63         4.03         16.70         10000           2.13         5.26         1.94         4.38         1.80         79.09         3.46         9.54         2.25         5.65         20.90         10000           2.76         7.13         2.66         3.83         2.30         76.08         4.10         10.56         1.80         7.31         2.285         10000           2.76         7.13         2.65         3.83         2.30         76.08         4.10         10.50         1.71         9.03         10.00           2.72         2.35         2.46         7.319         3.65         1.71         9.03         25.39         100.00           2.73         2.46         7.39         2.760         7.31         2.25         2.601         100.00           2.74         7.50         2.84         7.10         10.54         1.71         9.03         2.539         100.00	60.42 3.28 1.92 2.92	3.28 1.92 2.92	1.92 2.92	2.92	1	1.97	4.61	1.87	4.40	1.67	83.05	3.24	8.46	1.89	3.36	16.95	100.00
200         497         187         382         1.70         83.30         323         7.82         1.63         4.03         16.70         1000           213         526         1.94         4.38         1.80         79.09         3.46         9.54         2.25         5.65         20.90         100.00           276         1.94         4.38         1.80         79.09         3.46         9.54         2.25         5.65         20.90         100.00           277         2.05         3.83         2.30         7.81         7.115         3.19         10.56         1.80         7.31         2.353         100.00           2722         7.20         2.373         2.395         7.46         7.39         3.65         10.00         100.00           2732         2.46         7.39         2.36         1.00.00         1.45         7.25         2.395         100.00           248         7.50         2.46         7.39         2.36         1.00.00         10.00         10.00         10.00         10.00         10.00         10.00         10.00         10.00         10.00         10.00         10.00         10.00         10.00         10.00         10.00<	61.73 2.60 1.30 2.94	2.60 1.30 2.94	1.30 2.94	2.94		1.88	4.86	1.68	3.89	1.68	82.57	3.45	8.65	1.44	3.89	17.43	100.00
2.13         5.26         1.94         4.38         1.80         79.09         3.46         9.54         2.25         5.65         20.90         100.00           2.76         7.13         2.65         1.81         77.15         3.19         10.56         1.80         7.31         22.85         100.00           2.76         7.13         2.65         3.83         2.30         76.08         4.31         10.90         1.45         7.25         23.92         100.00           2.720         2.720         2.765         1.305         74.61         4.10         1.65         100.00         1.45         7.25         23.92         100.00           2.48         7.450         73.95         2.46         73.95         3.45         1.71         9.03         25.39         100.00           2.48         7.450         7.450         7.450         7.450         1.71         9.03         25.39         100.00           2.48         7.450         7.450         7.450         7.450         1.71         9.03         25.39         100.00           2.48         7.450         1.71         9.03         25.4         9.00         9.00           2.41	61.20 2.87 1.62 3.24	2.87 1.62 3.24	1.62 3.24	3.24		2.00	4.97	1.87	3.82	1.70	83.30	3.23	7.82	1.63	4.03	16.70	100.00
197         6.10         2.00         3.56         1.81         77.15         3.19         10.56         1.80         7.31         2.2.85         100.00           2.76         7.13         2.65         3.83         2.30         76.08         4.31         10.90         1.45         7.25         23.92         100.00           2.72         2.27         3.95         2.46         73.99         3.65         11.09         1.82         9.45         26.01         100.00           2.48         7.50         2.27         3.95         74.61         4.10         10.54         1.71         9.03         25.39         100.00           2.48         7.50         2.46         73.95         3.46         140         167         8.05         140         171         9.03         25.39         100.00           2.49         4.61         1.87         4.40         1.67         8.305         3.24         8.46         1.89         3.36         160.00           2.16         4.77         1.87         4.40         1.67         8.305         3.24         8.46         1.89         3.36         16.95         100.00           2.16         4.77         1.87	54.83 3.60 1.81 3.34	3.60 1.81 3.34	1.81 3.34	3.34		2.13	5.26	1.94	4.38	1.80	79.09	3.46	9.54	2.25	5.65	20.90	100.00
2.76         7.13         2.65         3.83         2.30         7.608         4.31         10.90         1.45         7.25         2.392         10000           2.21         2.27         3.95         2.46         73.99         3.65         11.09         1.82         9.45         23.92         100.00           2.48         7.50         2.46         4.20         2.89         74.61         4.10         10.54         1.71         9.03         25.39         100.00           2.48         7.50         2.40         2.89         74.61         4.10         10.54         1.71         9.03         25.39         100.00           2.49         2.40         2.89         74.61         4.16         10.54         1.71         9.03         25.39         100.00           1.97         4.61         1.87         4.40         1.67         83.05         32.4         84.6         1.89         33.6         16.95         100.00           1.97         4.77         1.21         5.63         1.84         84.6         1.84         4.05         18.74         100.00           1.97         4.77         1.21         5.36         1.84         4.05         18.74	52.00 3.70 2.16 3.85	3.70 2.16 3.85	2.16 3.85	3.85		1.97	6.10	2.00	3.56	18.1	77.15	3.19	10.56	1.80	7.31	22.85	100.00
222         720         227         395         246         7399         365         1109         182         945         26.01         100.00           248         750         246         420         289         74.61         4.10         10.54         1.71         9.03         25.39         100.00           246         420         2.89         74.61         4.10         10.54         1.71         9.03         25.39         100.00           197         461         1.87         440         1.67         83.05         324         846         1.89         336         16.95         100.00           197         4.61         1.87         440         1.67         83.05         324         846         1.89         336         16.05           197         4.71         121         5.63         183.05         324         846         1.89         336         16.05         100.00           191         4.74         121         5.63         183.05         3.26         8.74         1.65         100.00           191         4.53         1.816         80.33         3.52         8.42         1.89         100.01         100.01	43.40 5.08 3.45 5.49	5.08 3.45 5.49	3.45 5.49	5.49		2.76	7.13	2.65	3.83	2.30	76.08	4.31	10.90	1.45	7.25	23.92	100.00
2.48         7.50         2.46         4.20         2.89         74.61         4.10         10.54         1.71         9.03         25.39         100.00           197         4.61         1.87         4.40         1.67         83.05         3.24         8.46         1.89         3.36         16.95         100.00           197         4.61         1.87         4.40         1.67         83.05         3.24         8.46         1.89         3.36         100.00           197         4.77         1.21         5.63         1.83         81.26         3.86         9.36         1.47         4.05         18.74         100.00           191         4.77         1.21         5.63         1.83         81.26         8.74         1.65         1.9.07         100.00           191         4.53         2.13         81.26         3.86         9.36         1.47         4.05         18.74         100.00           154         5.53         2.18         80.03         3.52         8.42         1.89         5.34         19.07         100.00           154         5.53         2.41         1.65         5.47         1.45         10.67         100.00 <td>43.36 4.77 2.65 5.09</td> <td>4.77 2.65 5.09</td> <td>2.65 5.09</td> <td>5.09</td> <td></td> <td>2.22</td> <td>7.20</td> <td>2.27</td> <td>3.95</td> <td>2.46</td> <td>73.99</td> <td>3.65</td> <td>11.09</td> <td>1.82</td> <td>9.45</td> <td>26.01</td> <td>100.00</td>	43.36 4.77 2.65 5.09	4.77 2.65 5.09	2.65 5.09	5.09		2.22	7.20	2.27	3.95	2.46	73.99	3.65	11.09	1.82	9.45	26.01	100.00
At 1970-71 prices         197       4.61       1.87       4.40       1.67       83.05       3.24       8.46       1.89       3.36       16.95       100.00         197       4.77       1.21       5.63       1.83       81.26       3.86       9.36       1.47       4.05       18.74       100.00         2.16       4.74       1.21       5.63       1.83       81.26       3.86       9.36       1.47       4.05       18.74       100.00         1.91       4.55       2.15       4.81       1.68       80.93       3.52       8.42       1.89       5.24       19.07       100.00         1.31       5.31       2.11       5.38       1.65       7.87       1.74       6.41       19.67       100.00         1.33       5.90       2.47       5.12       2.29       8.2.13       4.22       6.97       1.74       6.41       19.67       100.00         1.45       5.31       4.99       2.57       80.02       3.73       7.56       1.787       100.00         1.45       5.93       2.31       4.22       6.97       1.31       7.56       1.978       100.00         1.45	42.50 4.71 3.08 4.78	4.71 3.08 4.78	3.08 4.78	4.78		2.48	7.50	2.46	4.20	2.89	74.61	4.10	10.54	1.71	9.03	25.39	100.00
At 1970-71 prices         197       4.61       1.87       4.40       1.67       83.05       3.24       8.46       1.89       3.36       16.95       100.00         1.97       4.77       1.21       5.63       1.83       81.26       3.86       9.36       1.47       4.05       18.74       100.00         2.16       4.74       1.21       5.63       1.83       81.26       3.86       9.36       1.47       4.05       18.74       100.00         1.91       4.57       1.21       5.63       1.83       81.26       3.86       9.36       1.47       4.05       18.74       100.00         1.91       4.53       1.81       81.00       4.02       8.74       1.65       4.59       19.07       100.00         1.54       5.51       2.11       5.38       1.68       80.37       3.52       7.87       1.74       6.41       19.67       100.00         1.73       5.99       2.41       5.37       1.787       10.67       100.00         1.45       5.93       2.31       4.22       6.97       1.31       7.56       19.67       100.00         1.45       5.93       2.41																	
17         4.61         1.87         4.40         1.67         83.05         3.24         8.46         1.89         3.36         16.95         100.00           1.97         4.77         1.21         5.63         1.83         81.26         3.86         9.36         1.47         4.05         18.74         100.00           1.16         4.77         1.21         5.63         1.83         81.26         3.86         9.36         1.47         4.05         18.74         100.00           1.16         4.74         1.68         5.29         2.04         81.00         4.02         8.74         1.65         4.59         19.07         100.00           1.91         4.55         2.15         4.81         1.68         80.93         3.52         8.42         1.89         5.24         19.07         100.00           1.73         5.90         2.47         5.12         2.29         82.13         4.22         6.97         1.74         6.41         19.63         100.00           1.75         5.93         2.31         4.99         3.73         7.56         1.72         6.96         19.67         100.00           1.45         5.93         2.11								At	1970-71 pr	ices							
197         4.77         1.21         5.63         1.83         81.26         3.86         9.36         1.47         4.05         18.74         100.00           2.16         4.74         1.68         5.29         2.04         81.00         4.02         8.74         1.65         4.59         19.00         100.00           1.91         4.55         2.15         4.81         1.68         80.93         3.52         8.42         1.89         5.45         19.07         100.00           1.91         4.55         2.15         4.81         1.68         80.93         3.52         8.42         1.89         5.24         19.07         100.00           1.54         5.51         2.11         5.38         1.86         80.37         3.62         7.87         1.74         6.41         19.07         100.00           1.73         5.90         2.47         5.12         2.29         82.13         4.22         6.97         1.74         6.41         19.67         100.00           1.73         5.93         2.31         4.99         2.57         8.02         1.75         6.96         19.69         100.00           1.45         5.93         2.11	60.42 3.28 1.92 2.92	3.28 1.92 2.92	1.92 2.92	2.92		1.97	4.61	1.87	4.40	1.67	83.05	3.24	8.46	1.89	3.36	16.95	100.00
2.16       4.74       1.68       5.29       2.04       81.00       4.02       8.74       1.65       4.59       19.00       100.00         1.91       4.55       2.15       4.81       1.68       80.93       3.52       8.42       1.89       5.24       19.07       100.00         1.54       5.51       2.11       5.38       1.86       80.93       3.52       7.87       1.74       6.41       19.63       100.00         1.73       5.90       2.47       5.12       2.29       82.13       4.22       6.97       1.31       5.37       100.00         1.73       5.90       2.31       4.99       2.57       80.02       3.73       7.56       1.74       6.41       19.63       100.00         1.45       5.93       2.31       4.99       2.57       80.02       3.73       7.56       1.72       6.96       19.98       100.00         1.45       5.93       2.49       3.69       3.11       7.93       4.11       7.61       1.76       6.96       19.98       100.00         1.45       5.93       2.49       3.69       3.11       7.91       7.61       1.72       6.96       19.98	59.47 2.21 1.37 2.81	2.21 1.37 2.81	1.37 2.81	2.81		1.97	4.77	121	5.63	1.83	81.26	3.86	9.36	1.47	4.05	18.74	100.00
191         455         2.15         4.81         1.68         80.93         3.52         8.42         1.89         5.24         19.07         100.00           154         5.51         2.11         5.38         1.86         80.37         3.62         7.87         1.74         6.41         19.63         100.00           1.73         5.90         2.47         5.12         2.29         82.13         4.22         6.97         1.31         5.37         10.00           1.45         5.93         2.31         4.22         6.97         1.31         5.37         10.00           1.45         5.93         2.31         7.56         1.72         6.96         19.98         100.00           1.45         5.93         2.31         7.90         3.73         7.56         1.72         6.96         19.98         100.00           1.59         7.42         3.11         7.91         7.67         1.75         6.96         19.98         100.00           1.59         7.42         8.11         7.67         1.65         6.96         19.98         100.00	57.82 2.72 1.72 2.84	2.72 1.72 2.84	1.72 2.84	2.84		2.16	4.74	1.68	5.29	2.04	81.00	4.02	8.74	1.65	4.59	19.00	100.00
154         551         2.11         5.38         1.86         80.37         3.62         7.87         1.74         6.41         19.63         100.00           1.73         5.90         2.47         5.12         2.29         82.13         4.22         6.97         1.31         5.37         17.87         100.00           1.45         5.93         2.31         4.99         2.57         80.02         3.73         7.56         1.72         6.96         19.98         100.00           1.45         5.93         2.31         7.90         3.73         7.56         1.72         6.96         19.98         100.00           1.59         7.42         2.49         3.69         3.11         79.93         4.11         7.67         1.65         6.05         20.07         100.00	58.49 2.57 1.77 3.01	2.57 1.77 3.01	1.77 3.01	3.01		16.1	4.55	2.15	4.81	1.68	80.93	3.52	8.42	1.89	5.24	19.07	100.00
1.73     5.90     2.47     5.12     2.29     82.13     4.22     6.97     1.31     5.37     17.87     100.00       1.45     5.93     2.31     4.99     2.57     80.02     3.73     7.56     1.72     6.96     19.98     100.00       1.59     7.42     2.49     3.69     3.11     79.93     4.11     7.67     1.65     6.65     20.07     100.00	55.27 2.97 2.17 3.55	2.97 2.17 3.55	2.17 3.55	3.55		1.54	5.51	2.11	5.38	1.86	80.37	3.62	7.87	1.74	6.41	19.63	100.00
1.45         5.93         2.31         4.99         2.57         80.02         3.73         7.56         1.72         6.96         19.98         100.00           1.59         7.42         2.49         3.69         3.11         79.93         4.11         7.67         1.65         6.65         20.07         100.00	53.07 3.82 3.17 4.57	3.82 3.17 4.57	3.17 4.57	4.57		1.73	5.90	2.47	5.12	2.29	82.13	4.22	6.97	131	5.37	17.87	100.00
1.59 7.42 2.49 3.69 3.11 79.93 4.11 7.67 1.65 6.65 20.07 100.00	53.46 3.15 2.35 3.81	3.15 2.35 3.81	2.35 3.81	3.81		1.45	5.93	2.31	4.99	2.57	80.02	3.73	7.56	1.72	6.96	19.98	100.00
	51.16 3.05 2.77 4.65	3.05 2.77 4.65	2.77 4.65	4.65		1.59	7.42	2.49	3.69	3.11	79.93	4.11	7.67	1.65	6.65	20.07	100.00

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## VOL. 7 NO. 2 GROWTH, POVERTY AND LEVELS OF LIVING

							Deci	le Group:	10-20							
Year	Cercals & Cercal Substi- tutes	Pulses & Pulse Products	Milk & Milk Products	Edible Oils	Mcat, Fish & Eggs	Fruits, Vege- tables & Nuts	Sugar	Salt & Spices	Beve- rages & Referesh- ments	Food: Total	Pan, Tobacco & Intoxi- cants	Fuel & Light	Clothing & Foot- wear	Durables & misc. Goods & Services	Non- food: Total	Total Consumer Expendi- ture
							At	current pri	ices				I			
1970-71	56.25	3.74	3.30	3.45	2.14	4.68	2.32	4.22	2.00	82.10	3.29	7.70	2.46	4.46	17.90	100.00
1972-73	58.52	3.38	2.30	3.32	2.18	4.68	2.31	3.69	1.92	82.30	3.32	7.64	2.16	4.59	17.70	100.00
1973-74	58.83	3.63	2.75	3.58	2.18	4.94	2.35	3.41	1.62	83.31	2.87	7.02	2.25	4.56	16.69	100.00
1977-78	51.86	4.12	2.78	3.74	2.51	5.34	2.19	4.12	1.92	78.59	3.35	8.35	3.09	6.63	21.41	100.00
1983	47.96	3.91	3.35	4.10	2.31	6.35	2.36	3.29	2.18	75.81	3.26	9.49	2.77	8.67	24.19	100.00
1986-87	40.32	4.85	5.23	5.59	3.25	7.40	2.95	3.58	2.32	75.48	3.68	9.97	2.49	8.40	24.52	100.00
1987-88	40.62	4.86	4.20	5.31	2.67	7.34	2.50	3.64	2.86	74.00	3.56	76.9	2.39	10.08	26.00	100.00
1988-89	38.17	4.73	4.24	4.68	2.80	7.39	2.74	3.74	2.83	71.34	3.70	9.41	2.26	13.30	28.66	100.00
							At	1970-71 pi	ices							
1970-71	56.25	3.74	3.30	3.45	2.14	4.68	2.32	4.22	2.00	82.10	3.29	7.70	2.46	4.46	17.90	100.00
1972-73	56.52	2.87	2.44	3.18	2.29	4.60	1.68	5.34	2.09	81.00	3.73	8.29	2.20	4.79	19.00	100.00
1973-74	55.68	3.45	2.92	3.14	2.35	4.72	2.11	4.74	1.96	81.07	3.58	7.86	2.27	5.21	18.93	100.00
1977-78	55.62	2.96	2.72	3.38	2.26	4.64	2.43	4.55	1.80	80.38	3.43	7.40	2.60	6.19	19.62	100.00
1983	51.21	3.15	3.37	3.80	1.82	5.77	2.51	4.99	2.25	78.86	3.72	7.10	2.68	7.64	21.14	100.00
1986-87	49.89	3.68	4.87	4.70	2.06	6.20	2.77	4.84	2.35	81.35	3.64	6.45	2.27	629	18.65	100.00
1987-88	50.58	3.24	3.75	4.01	1.76	6.11	2.57	4.64	3.02	79.68	3.68	6.87	2.28	7.50	20.32	100.00
1988-89	46.84	3.13	3.88	4.64	1.83	7.45	2.83	3.35	3.11	77.05	3.78	6.97	2.21	66.6	22.95	100.00
																(Contd.)

							Deci	ile Group: :	20-30							
Year	Cereals & Ccreal Substi- tutes	Pulses & Pulse Products	Milk & Milk Products	Edible Oils	Meat, Fish & Eggs	Fruits, Vege- tables & Nuts	Sugar	Salt & Spices	Beve- rages & Referesh- ments	Food: Total	Pan, Tobacco & Intoxi- cants	Fuel & Light	Clothing & Foot- wear	Durables & misc. Goods & Services	Non- food: Total	Total Consumer Expendi- ture
							۲. Al	t current pr.	ices					•		
1970-71	54.32	3.88	4.11	3.53	2.33	4.65	2.49	4.27	2.10	81.68	3.53	7.40	2.68	4.72	18.32	100.00
1972-73	55.87	3.67	3.32	3.50	2.27	4.76	2.66	3.52	1.99	81.55	3.33	725	2.79	5.08	18.45	100.00
1973-74	56.21	3.87	3.81	3.79	2.35	5.03	2.67	3.29	1.71	82.73	2.91	6.62	2.74	5.00	17.27	100.00
1977-78	48.44	4.36	3.96	3.93	2.67	5.43	2.35	3.95	2.14	77.24	3.35	7.83	3.99	7.59	22.76	100.00
1983	45.12	3.93	4.41	4.24	2.56	6.46	2.53	3.11	2.51	74.88	3.20	8.95	3.52	9.45	25.12	100.00
1986-87	38.54	4.75	6.39	5.50	3.23	7.30	2.96	3.46	2.62	74.76	3.69	9.65	3.07	8.83	25.24	100.00
1987-88	38.29	4.75	4.97	5.43	2.96	7.30	2.64	3.48	3.06	72.89	3.60	9.43	3.07	11.02	27.11	100.00
1988-89	35.97	4.74	5.38	4.62	3.02	7.33	2.79	3.62	2.91	70.38	3.69	8.78	2.79	14.35	29.62	100.00
							At	1970-71 pi	rices							
1970-71	54.32	3.88	4.11	3.53	2.33	4.65	2.49	4.27	2.10	81.68	3.53	7.40	2.68	4.72	18.32	100.00
1972-73	53.99	3.12	3.51	3.35	2.38	4.68	1.93	5.10	2.17	80.24	3.74	7.86	2.85	5.31	19.76	100.00
1973-74	53.13	3.67	4.03	3.32	2.53	4.80	2.40	4.57	2.05	80.50	3.63	7.41	2.76	5.70	19.50	100.00
1977-78	52.24	3.15	3.90	3-57	2.42	4.75	2.63	4.39	2.02	70.07	3.44	6.98	3.38	7.13	20.93	100.00
1983	48.33	3.18	4.45	3.95	2.02	5.88	2.69	4.74	2.60	77.84	3.67	6.72	3.42	8.35	22.16	100.00
1986-87	47.94	3.63	5.99	4.65	2.06	6.15	2.80	4.70	2.66	80.58	3.67	6.28	2.82	6.65	19.42	100.00
1987-88	48.10	3.19	4.48	4.14	1.96	6.13	2.74	4.48	326	78.48	3.75	6.56	2.94	8.27	21.52	100.00
1988-89	44.47	3.16	4.96	4.61	1.99	7.45	2.91	3.27	3.22	76.03	3.79	6.56	2.75	10.86	23.97	100.00
																(Contd.)

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#### GROWTH, POVERTY AND LEVELS OF LIVING

Consumer Expendi-ture (Contd.) 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 Total 20.31 17.75 23.13 25.78 22.86 22.32 26.03 20.56 20.00 21.58 22.12 food: Total 19.53 19.25 27.83 27.04 19.53 -uoN . Goods & Durables & misc. Services 11.82 5.70 525 8.07 9.89 9.44 10.94 5.96 5.98 7.59 8.76 7.16 5.42 5.42 8.94 8.24 Clothing & Footwear TABLE 16. CONSUMER EXPENDITURE PROPORTIONS (PER CENT) BY SELECT DECILE GROUPS: ALL-INDIA RURAL (CONTD.) 3.12 4.51 3.65 3.39 3.28 3.42 3.47 4.03 3.48 3.54 3.15 3.84 3.92 3.37 3.94 3.94 Fuel & Light 9.19 7.42 7.12 6.73 6.37 8.65 9.05 6.51 6.02 7.54 8.78 6.84 6.86 6.34 6.53 6.86 Tobacco & Intoxi-cants Pan, 3.64 3.75 3.42 3.67 3.76 3.75 3.24 3.01 3.31 3.20 3.75 3.57 3.84 3.30 3.94 3.30 72.96 77.14 79.69 77.68 80.75 82.25 76.57 74.22 73.97 72.17 79.44 80.00 78.42 77.88 Food: Total 80.47 80.47 Beve-rages & Referesh-ments 2.65 2.99 3.19 3.18 2.26 2.12 2.12 2.75 3.06 3.43 2.07 1.77 2.25 2.36 3.50 2.36 Decile Group: 30-40 At 1970-71 prices At current prices Salt & Spices 3.40 3.20 3.30 4.43 4.26 4.59 4.52 4.37 3.82 3.01 3.37 3.64 4.94 3.27 4.06 4.06 Sugar 2.62 3.03 2.77 2.95 2.12 2.92 2.96 2.42 2.65 2.72 2.80 2.89 2.89 3.05 2.64 2.64 Fruits, Vege-tables & Nuts 6.50 6.12 6.20 5.12 5.45 4.80 7.22 7.33 7.58 4.88 4.77 5.93 4.71 7.67 4.62 4.62 Meat, Fish & Eggs 2.65 3.39 2.49 2.66 2.09 2.18 2.11 2.52 2.37 2.47 2.78 3.15 3.35 2.52 2.52 2.20 Edible Oils 3.60 4.00 3.98 4.34 5.40 5.48 4.84 3.45 3.50 3.63 4 10 4.60 4.20 4.80 3.68 3.68 Milk & Milk Products Products 4.08 4.52 4.62 5.08 5.86 6.88 4.33 4.78 4.57 5.14 7.17 5.33 7.61 4.99 6.31 4.99 Cereals & Pulses & Cereal Pulse 4.03 4.42 3.90 4.65 4.70 3.82 3.21 3.16 3.58 3.18 3.30 3.92 4.97 3.33 3.88 3.88 Substí-54.18 51.16 50.63 46.65 45.56 53.60 46.82 43.48 36.37 36.32 35.58 45.97 51.81 43.78 tutes 51.73 51.73 1972-73 1973-74 1977-78 1986-87 1987-88 1988-89 1970-71 1987-88 1988-89 1972-73 1973-74 1986-87 1977-78 1970-71 1983 1983 Year

	Total onsumer Xpendi- ture		100.00	100.00	100.00	100.00	00.001	100.00	100.00	100.00		100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	Non- food: C. Total E		20.65	20.51	18.75	24.88	27.09	26.75	28.77	28.40		20.65	21.83	21.01	22.97	24.26	21.18	23.34	23.44
	Durables & misc. Goods & Services		6.13	6.42	5.79	8.92	10.79	10.31	12.68	11.95		6.13	6.71	6.58	8.44	9.58	7.89	89.6	90.6
	Clothing I & Foot- wear (		4.59	4.39	3.80	5.57	5.14	4.19	3.93	4.37		4.59	4.48	3.83	4.76	5.02	3.91	3.83	4.32
	Fuel & Light		6.59	6.46	6.14	7.12	10.8	8.59	8.67	8.50		629	10.7	6.85	6.39	6.04	5.68	6.13	6.36
	Pan, Tobacco & Intoxi- cants		3.34	3.23	3.02	3.26	3.15	3.66	3.49	3.59		3.34	3.63	3.75	3.38	3.62	3.71	3.70	3.70
	Food: Total		79.35	79.49	.81.25	75.12	12.91	73.25	71.23	71.60		79.35	78.17	78.99	77.03	75.74	78.82	76.66	76.56
0-50	Beve- rages & Referesh- ments	sa	2.46	2.15	1.95	2.35	2.91	3.18	3.42	3.48	ces	2.46	2.34	2.34	2.23	3.03	3.28	3.70	3.85
ile Group: 4	Salt & Spices	current pri	3.88	3.23	3.08	3.64	2.81	3.10	3.26	3.47	1970-71 pri	3.88	4.68	4.26	4.07	4.30	4.29	4.26	3.13
Deci	Sugar	At	2.93	3.24	3.08	2.55	2.71	3.21	2.90	2.94	Αt	2.93	2.35	2.75	2.87	2.90	3.09	3.06	3.06
	Fruits, Vege- tables & Nuts		4.72	4.80	5.05	5.44	6.40	729	7.36	7.54		4.72	4.72	4.80	4.78	5.86	6.24	6.29	7.67
	Mcat, Físh & Eggs		2.79	2.62	2.53	2.95	2.93	3.70	3.27	3.65		2.79	2.75	2.71	2.69	2.32	2.40	2.21	2.41
	Edible Oils		3.76	3.69	3.96	4.06	426	5.47	5.46	4.72		3.76	3.53	3.46	3.72	3.97	4.70	4.22	4.71
	Milk & Milk Products		6.64	5.18	5.54	5.83	6.21	8.67	10.7	7.53		6.64	5.49	5.85	5.79	6.30	825	6.43	6.96
	Pulses & Pulses Products		4.02	4.02	4,00	4.47	3.83	4.63	4.60	4.64		4.02	3.42	3.78	3.25	3.11	3.59	3.15	3.10
	Cercals & Cercals Substi- tutes		48.14	50.58	52.06	43.84	40.85	34.00	33.94	33.63		48.14	48.89	49.04	47.63	43.95	42.99	43.34	41.66
	Year		1970-71	1972-73	1973-74	1977-78	1983	1986-87	1987-88	1988-89		1970-71	1972-73	1973-74	1977-78	1983	1986-87	1987-88	1988-89

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	ables Non- Total mise. food: Consumer ds & Total Expendi- vices ture		24 26.44 100.00	196 27.19 100.00	139 25.11 100.00	.58 35.85 100.00	.98 34.56 100.00	.95 34.57 100.00	'.98 36.24 100.00	1.02 36.15 100.00		1.24 20.44 IUUU	1.42 28.62 100.00	.58 27.54 100.00	5.89 33.55 100.00	3.44 31.69 100.00	1.76 28.72 100.00	1.13 30.69 100.00	30 00 100 100 00
	Clothing Du & Foot- & 1 wear Go		7.93 9	7.52 10	7.24 5	9.41 17	9.56 14	8.59 14	7.63 17	8.47 17		( cf.)	1.00.1	7.23 1(	8.17 16	9.43 15	8.23 11	7.68 14	5 U U U
	Fuel & Light		6.04	5.64	5.58	5.98	7.03	7.58	7.44	7.26		to :0	6.10	6.17	5.45	5.36	5.15	5.42	5 5 2
	Pan, Tobacco & Intoxi- cants		323	3.08	2.89	2.88	2.98	3.45	3.18	3.40		(7°	3.45	3.55	3.03	3.47	3.59	3.47	7 5 0
	Food: Total		73.56	72.81	74.89	64.15	65.44	65.43	63.76	63.85		00.61	71.38	72.46	66.45	68.31	71.28	69.31	10.02
population	Beve- rages & Referesh- ments	ces	2.66	2.42	2.23	2.49	3.30	3.50	3.91	3.71	ce	00.7	2.64	2.65	2.40	3.47	3.71	436	101
oup: Entire	Salt & Spices	t current pri	3.43	2.78	2.72	3.02	251	2.76	2.86	3.00	1970-71 pr	5.43	4.03	3.72	3.44	3.88	3.92	3.85	170
	Sugar	AI	3.17	3.76	3.15	2.63	2.81	3.04	2.85	2.97	At	11.6	2.72	2.79	3.01	3.03	3.00	3.09	217
	Fruits, Vege- tables & Nuts		4.82	4.62	4.92	4.88	60.9	6.89	6.83	6.94		4.87	4.53	4.64	4.36	5.63	6.07	6.01	7 C C
	Meat, Fish & Eggs		2.83	2.47	2.58	2.66	3.02	3.71	3.23	3.50		2.83	2.59	2.75	2.47	2.41	2.47	2.24	727
	Edible Oils		3.57	3.51	3.75	3.56	4.02	4.87	4.98	4.33		105	3.35	3.25	3.31	3.79	4.30	3.97	VVV
	Milk & Milk Products		8.59	729	721	7.66	7.50	9.53	8.62	8.94		60.8	11:1	7.53	7.72	7.69	9.32	8.14	2 47
	Pulses & Pulses Products		3.77	4.28	3.75	3.81	3.52	3.91	3.97	4.08		3.11	3.63	3.52	2.82	2.89	3.12	2.79	01.0
	Cereals & Cereals Substi- tutes		40.72	41.68	44.58	33.44	32.68	27.21	26.51	26.38		40.72	40.18	41.62	36.92	35.52	35.36	34.86	22 57
	Year		1970-71	1972-73	1973-74	1977-78	1983	1986-87	1987-88	1988-89		1/-0/61	1972-73	1973-74	1977-78	1983	1986-87	1987-88	1028_80

ECT DECILE GROUPS: ALL-INDIA URBAN DV SCI ĥ A CONCIDUED FYI ļ Č,

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	Total Con- sumer Expendi- ture		23.49 29.91 36.64	45.67 79.64 105.73 115.25 123.03		23.49 24.88 25.58 26.81 28.63 29.47 29.47 22.51	7.34
	Non-food: Total		5.56 6.54 7.62	12.00 22.91 30.20 34.37 35.30		5.56 5.73 5.76 5.76 5.76 6.92 7.98 7.88 7.82 7.82 7.82	3.37
	Durables & misc. Goods & Services		2.53 2.96 3.44	6.10 11.84 15.32 17.37 17.19		2.53 2.73 3.86 3.86 4.52 4.66 8.00 8.00	2.02
	Clothing & Foot- wear		0.41 0.46 0.59	0.88 1.75 2.48 2.38		0.41 0.33 0.34 0.51 0.53 0.53 0.53 0.53 0.53	0.74
	Fuel & Light		1.87 2.21 2.68	3.74 7.27 9.72 10.84 11.54		1.87 1.96 1.97 1.97 1.88 2.36 2.02 2.02 0.65	0.27
	Pan, Tobacco & Intoxi- cants		0.75 0.90 0.91	128 2.05 3.23 3.68 4.19		0.75 0.79 0.71 0.77 0.77 0.77 0.77 0.77 0.27	0.34
	Food: Total		17.93 23.37 29.02	33.67 56.73 75.53 80.88 87.73		17.93 19.14 19.82 19.89 20.65 21.63 21.63 21.05 20.95 12.86	3,96
oup: 10-20	Sugar Beve- rages & Referesh- ments	nt prices	2.04 2.47 2.84	3.39 6.23 9.38 9.31 10.86	71 prices	2.04 1.91 2.02 2.02 2.34 2.34 2.34 2.34 2.34 2.34 2.34	1.53
Decile Gro	Salt & Spices	At currer	1.07 1.07 1.32	1.79 2.43 3.47 4.01 4.58	At 1970-	1.07 0.94 0.80 0.80 0.90 0.90 (-)0.73	0.37
	Fruits, Vege- tables & Nuts		0.27 1.76 2.12	2.83 5.55 8.29 9.21 10.01		0.27 1.77 1.77 1.79 1.90 2.22 2.15 2.15 2.20 2.20 8.62	1.45
	Meat, Fish & Eggs		0.80 0.90 1.11	1.50 2.62 4.64 5.00		0.80 0.71 0.71 0.73 0.94 0.83 0.83 0.83 0.83	0.51
	Edible Oils		1.18 1.52 1.97	2.27 4.18 6.78 7.16 7.04		1.18 1.02 1.02 1.03 1.12 1.63 1.63 1.65 2.03	2.01
	Milk & Milk Products		1.31 1.61 2.11	2.53 4.92 8.57 8.15 9.09		1.31 1.72 1.79 1.79 2.29 2.52 2.14 2.14 2.13 3.72	1.47
	Pulses & Pulses Products		1.02 1.26 1.46	2.11 3.30 5.41 5.11		1.02 0.85 0.93 0.96 0.96 0.96 0.96 (-)0.93	(-)0.35
	Cereals & Cereals Substi- tutes		10.25 12.78 16.10	17.24 27.52 33.26 33.26		10.25 10.21 10.60 10.74 10.28 10.08 10.43 9.93 9.93 (-)1.37	(-)3.02
	Ycar		1970-71 1972-73 1973-74	1977-78 1983 1986-87 1987-88 1988-89		1970-71 1972-73 1972-73 1973-74 1977-78 1986-87 1986-87 1986-87 1988-89 1988-89 1988-89 1988-89 1988-89 1988-89 1988-89 1988-89	1988-89 Over 1970-71 Increase (per cent) In 1988-89 Over 1977-78

	fotal Con- sumer Expendi- ture		28.28 36.11 41.00 54.75 94.57	123.19 135.01 147.48		28.28 30.19 32.15 34.05 34.03 34.33 34.33 21.45	6.81
	Non-food: Total		7.13 8.36 8.95 15.49 79.19	37.77 42.60 43.69		7.13 7.33 6.76 8.92 9.72 10.52 10.52 9.81 9.81	2.76
	Durables & misc. Goods & Services		3.41 4.05 4.20 8.19 8.19	20.17 22.29 22.34		3.41 3.45 3.46 5.19 5.95 5.93 8.19 8.19	1.66
	Clothing & Foot- wcar		0.69 0.73 0.79 1.55 2.83	2.78 3.98 3.72		0.69 0.53 0.45 0.45 0.77 0.77 0.77 0.77 0.77 0.77	0.73
	Fuel & Light		2.15 2.53 2.93 4.27	11.02 12.12 13.00		2.15 2.15 2.15 2.14 2.14 2.14 2.14 0.45	0.16
	Pan, Tobacco & Intoxi- cants		0.89 1.04 1.02 1.47 1.47	3.79 4.21 4.63		0.89 0.91 0.79 0.90 0.87 0.88 0.90 0.90 0.06	0.21
	Food: Total		21.15 21.15 32.06 39.26 39.26	85.42 85.42 92.41 103.79		21.15 22.86 21.97 21.97 23.35 23.35 24.30 24.53 24.53 24.53 24.53	4.05
oup: 20-30	Sugar Beve- rages & Referesh- ments	nt prices	2.54 3.07 3.23 4.23 5.2	11.19 12.91	71 prices	2.54 2.37 2.29 2.59 2.59 2.59 2.59 0.84	1.17
Decile Gro	Salt & Spices	Атсипе	1.22 1.20 2.00 2.00	3.96 3.96 5.26 5.26	At 1970-	1.22 1.05 0.95 0.89 0.89 0.93 1.03 (-)0.67	0.44
	Fruits, Vege- tables & Nuts		0.34 2.17 2.44 3.42	9.88 9.88 10.91 12.26		0.34 2.18 2.06 2.67 2.61 2.61 2.61 8.72	1.60
	Meat, Fish & Eggs		1.03 1.14 1.27 1.87	531 531 655		1.03 0.90 0.81 0.81 0.81 0.81 0.81 0.81 1.07 1.13 0.37 0.37	0.71
	Edible Oils		1.49 1.95 2.28 2.82	8.45 8.45 8.45		1.49 1.32 1.30 1.51 1.92 1.92 1.75 1.98 1.73	1.84
	Milk & Milk Products		1.89 2.47 2.66 3.86	11.34 10.87 12.73		1.89 2.65 2.72 3.34 3.34 3.35 3.35 3.35 4.12	1.03
	Pulses & Pulses Products		1.25 1.57 1.63 2.48	5.31 6.14 6.92		1.25 1.06 1.05 1.05 1.12 1.12 1.21 1.20 (-)0.60	0.11
	Cereals & Cereals Substi- tutes		11.39 14.19 17.13 18.60	35.13 38.74		11.39 11.33 11.29 11.29 11.28 11.08 10.67 (-)2.53	(-)2.84
	Year		1970-71 1972-73 1973-74 1977-78	1986-87 1987-88 1988-89		1970-71 1972-73 1973-74 1977-78 1977-78 1986-87 1986-87 1987-88 1988-89 1988-89 1988-89 1088-89 Increase	1988-89 over 1970-71 Increase (per cent) in 1988-89 over 0ver

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T) BY SELECT DECLE GROUPS: ALL-INDIA URBAN (CONTD.) 1p: 30-40	Sugar Food: Pan, Fuel & Clothing Durables Non-food Beve- Total Tobacco Light & Foot- & mise. Total rages & & Intoxi- wear Goods & Referesh- cants services ments	t prices	2.98         2.3.49         1.03         2.39         0.94         4.26         8.61           3.30         29.35         1.09         2.65         0.83         4.47         9.04           3.99         37.34         1.27         3.32         1.21         5.77         11.57           4.97         43.90         1.67         4.77         2.11         10.24         18.80	9.31         16.15         5.15         9.42         4.35         20.64         5.17           12.36         97.79         4.74         12.23         4.40         27.61         48.98           12.34         102.64         4.72         13.24         5.47         27.90         51.33           15.38         116.23         5.20         14.42         5.16         29.93         54.70	1 prices	2.98         23.49         1.03         2.39         0.94         4.26         8.61           2.55         24.23         0.96         2.27         0.60         4.10         7.92           2.83         25.76         0.98         2.34         0.69         4.74         8.75           2.82         25.98         0.95         2.49         0.91         6.49         10.84	3.15     28.08     1.07     2.56     1.26     8.45     1.34       3.08     27.65     1.09     2.37     1.22     8.14     12.82       3.00     26.30     0.99     2.89     1.39     7.48     12.76       3.31     27.37     1.01     2.53     1.25     7.67     12.46       1.02     12.07     (-)0.04     0.43     0.99     10.60     11.98	1.32 3.76 0.18 0.10 0.93 3.20 4.42
RTIONS (PER CENT Decile Grou	salt & Spices &	At current	131 124 159 159 2.15	5.51 5.51	At 1970-71	1.31 1.09 0.96 0.96	1.09 1.15 1.02 1.08 (-)0.71	0.33
XPENDITURE PROPO	Meat, Fish Fruits, & Eggs vege- tables d Nuts		1.21 0.41 1.23 2.32 1.58 3.03 2.21 3.99	4.15 6.07 5.98 7.06 13.86 7.06		1.21 0.41 0.97 2.34 1.00 2.568	1.13 5.28 1.23 3.04 1.14 3.00 1.22 3.18 0.02 8.62	0.41 1.35
17. CONSUMER E	c Edible I Oils		1.77 2.11 3.32 3.32	9.70 9.70 10.10		1.77 1.42 1.48 1.63	1.91 2.29 2.37 1.88	2.01
TABLE	ses & Milk & Ises Milk & Jucts Product		40 2.51 68 2.81 97 3.72 85 4.95	07 15.00 07 15.00 91 13.42 81 16.13		40 2.51 13 3.01 26 3.28 20 3.50	31 4.49 39 4.42 23 3.52 22 3.87 0.54 4.25	.05 1.02
	Cercals & Puls Cercals & Pu Substi- Prov tutes		11.91 1. 14.66 1. 18.63 1. 19.46 2.	31.54 4. 32.60 6. 36.31 6. 40.36 7.		11.91 11.71 12.27 1. 12.13	11.71 1. 11.06 1. 11.38 1. 11.12 1. (-)2.47 (-)(	(-)2.74 0.
	Ycar		1970-71 1972-73 1973-74 1977-78	1985-87 1986-87 1988-89		1976-71 1972-73 1973-74 1977-78	1983 1986-87 1987-88 1988-89 Increase (per cent)	in 1988-89 over 1970-71 Increase (per cent) in 1988-89

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	Total Con- sumer Expendi- ture		36.59 36.59 53.42 71.64 121.91 178.35 178.55 197.16		36.59 40.91 37.82 42.08 42.08 42.08 42.08 45.90 25.43	9.08
	Non-food: Total		10.45 13.05 13.18 22.86 41.24 62.21 63.43 67.24		10.45 11.42 13.17 14.62 14.62 16.41 15.86 15.86 15.46 13.69	5.43
	Durables & misc. Goods & Services		5.35 6.97 6.71 12.78 23.11 34.60 35.85 36.62		5.35 5.39 5.52 9.37 9.37 9.61 9.61 9.61	3.07
	Clothing & Foot- wear		1.22 1.51 1.51 2.94 2.94 5.07 7.92 7.92 7.45 8.60		1.22 1.09 1.28 0.18 0.12 1.48 2.19 2.19 2.09 2.09 2.38	1.95
	Fuel & Light		2.67 3.21 3.60 5.29 9.80 14.07 14.65 15.63		2.67 2.75 2.75 2.75 2.75 2.73 3.19 2.74 0.19	(-)0.04
	Pan, Tobacco & Intoxi- cants		1.21 1.36 1.35 1.86 3.26 5.62 5.62 5.49 5.49 5.49 5.49		121 119 1115 1129 115 124 115 124 124	0.45
	Food: Total		26.14 35.45 40.24 48.78 80.67 116.14 115.22 115.22 129.91		26.14 29.49 27.86 28.90 29.53 32.57 29.30 30.44 11.74	3.65
oup: 40-50	Sugar Beve- rages & Referesh- ments	nt prices	3.51 4.54 4.48 5.78 5.78 10.07 15.23 15.08 17.59	71 prices	3.51 3.51 3.18 3.28 3.28 3.39 3.39 3.49 3.78 3.78 3.78	1.19
Decile Gr	Salt & Spices	At curre	1.39 1.38 1.64 1.64 2.31 3.20 4.90 5.38 6.14	At 1970-	139 121 139 1.09 1.09 1.03 1.12 1.14 1.14 1.20 (-)0.52	0.41
	Fruits, Vege- tables & Nuts		0.48 3.09 3.35 4.61 8.79 14.57 14.57 14.77 16.13		0.48 3.12 3.51 3.51 3.51 3.53 3.53 3.53 3.53 3.53	1.43
	Mcat, Fish & Eggs		1.44 1.63 1.78 2.61 4.46 8.08 8.08 6.80 8.50 8.50		1.44 1.13 1.13 1.25 1.22 1.63 1.63 1.63 1.63 1.63 1.63 1.63	0.49
	Edible Oils		2.11 2.78 3.11 3.82 6.79 11.52 11.52 11.28		2.11 1.88 1.63 1.88 1.88 2.02 2.02 2.33 2.58 2.58 2.58	1.68
	Milk & Milk Products		3.29 4.21 4.41 6.24 10.58 19.61 19.61 19.64		3.29 4.51 3.89 3.89 4.71 8.77 8.77 3.89 3.89	0.73
	Pulses & Pulses Products		1.53 2.08 2.13 3.17 4.74 6.99 6.99 8.68	Þ	153 140 136 136 136 136 136 (-)047	0.04
	Cereals & Cereals Substi- tutes		12.39 15.74 15.74 19.35 2024 35.24 35.24 37.39 42.24		12.39 12.57 12.57 12.61 11.95 11.96 11.72 11.72 (-)2.06	(-)2.31
	Year		1970-71 1972-73 1973-74 1977-78 1983 1986-87 1987-88 1988-89		1970-71 1972-73 1973-74 1973-74 1973-78 1983-87 1988-89 1988-89 1988-89 Interase	1988-89 over 1970-71 Increase (per cent) in 1988-89 over 1977-78

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			TABLE 17. C	ONSUMER F	ZXPENDITURE	PROPORTIO	NS (PER CEN	T) BY SELEC	T DECILE G	ROUPS: ALL-I	NDIA URBA	N (CONCID.)			
							Entire p	opulation							
Ycar	Cereals & Cereals Substi- tutes	Pulses & Pulses Products	Milk & Milk Products	Edible Oils	Mcaı, Fish & Eggs	Fruits, Vege- tables & Nuts	Salt & Spices	Sugar Beve- rages & Referesh- ments	Food: Total	Pan, Tobacco & Intoxi- cants	Fuel & Light	Clothing & Foot- wear	Durables & misc. Goods & Services	Non-food: Total	Total Con- sumer Expendi- ture
							At curre	ent prices							
1970-71	12.24	1.64	5.01	2.41	1.90	3.35	1.49	6.00	34.04	1.58	3.15	3.10	10.98	18.81	52.85
1972-73	15.05	2.16	5.91	3.07	2.07	4.04	1.44	7.10	40.84	1.75	3.57	3.60	13.57	22.49	63.33
1973-74	20.00	2.36 3.43	9.16	3.70 4.46	2.43 3.33	4.54 6.11	2.55	7.41 8.63	41.93 57.67	1.83 2.34	6.17 6.17	3.65 7.37	13.13 26.45	22.84 42.33	100.001
1983	32.29	5.29	15.15	7.94	5.92	11.63	3.51	15.24	96.97	4.01	11.36	14.32	43.80	73.49	170.46
1986-87	34.32	7.13	23.32	11.95	9.25 8.85	17.08	5.09 5.78	20.85 77 68	128.99	6.16 6.33	15.26	17.27	68.67 69.74	107.36	236.35 749 93
1988-89	42.02	929	26.74	12.61	10.59	20.23	6.47	24.54	152.49	7.06	17.58	19.13	70.57	114.34	266.83
							At 1970	-71 prices							
1970-71	12.24	1.64	5.01	2.41	1.90	3.35	1.49	6.00	34.04	1.58	3.15	3.10	10.98	18.81	52.85
1972-73	12.02	1.46	6.33	2.07	1.64	4.07	127	5.49	34.34	1.53	3.06	2.60	12.44	19.63	53.97
1973-74	12.69	151	5.73	1.94 2.19	154	3.84	1.16	5.26 4.90	33.66 34.32	1.41	3.00	2.06 3.19	10.79	17.26 24.48	50.93 58.80
1983	12.06	1.54	7.05	2.36	1.62	4.65	123	5.13	35.64	1.37	3.08	4.17	17.75	26.38	62.01
1986-87	11.65	1.63	6.87	2.87	1.87	4.42	132	5.20	35.82	1.41	2.96	4.78	20.25	29.40	65.23
1988-89	11.11	145	0770 0770	2.96	1.83	4.04	771	5.28	35.42	138	6.67 808	4.51 4.65	12.81	28.10	61.50 67.61
Increase (per cent)	(-)1.26	(-)0.35	2.66	1.04	(-)0.13	2.43	(-)0.42	(-)1.37	2.60	(-)0.39	(-)0.13	2.93	13.44	15.86	18.46
in 1988-89															
over 1970-71															
Increase	(-)1.51	0.01	60.0(-)	1.31	0.37	06.0	0.23	0.64	1.86	0.09	(-)0.23	2.49	2.26	4.60	6.46
(per cent) in	•														
1988-89															
over 1977-78															

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							Decile G	iroup 0-10							
Year	Cereals & Cereals Substi- tutes	Pulses & Pulses Products	Milk & Milk Products	Edible Oils	Meat, Fish & Eggs	Fruits, Vege- tables & Nuts	Salt & Spices	Sugar Beve- rages & Referesh- ments	Food: Total	Pan, Tobacco & Intoxi- cants	Fuel & Light	Clothing & Foot- wear	Durables & misc. Goods & Services	Non-food: Total	Total Con- sumer Expendi- ture
							At curre	ant prices							
1970-71.	49.01	4.21	3.91	4.58	2.88	76.0	4.92	7.33	6L.TT	3.16	8.39	1.19	9.48	22.21	100.00
1972-73	46.61	3.77	3.94	4.53	2.64	5.72	3.93	8.22	79.36	3.00	8.04	0.98	8.62	20.64	100.00
1973-74	47.63	3.77	3.97	4.80	3.06	5.48	3.93	7.72	80.37	2.72	7.56	1.29	8.05	19.63	100.00
1977-78	42.22	4.27	3.88	4.49	2.79	5.91	4.27	7.57	75.38	2.83	8.72	1.58	11.49	24.62	100.00
1983	38.14	4.31	4.71	5.00	2.93	6.72	3.39	7.49	72.70	2.75	76.6	1.29	13.29	27.30	100.00
1986-87	32.48	5.39	6.95	6.43	4.22	7.42	3.48	7.96	74.32	3.17	6.6	0.99	11.53	25.68	100.00
1987-88	32.76	4.97	5.53	60.9	3.40	7.80	3.80	7.62	71.96	3.21	10.10	1.39	13.34	28.04	100.00
1988-89	33.98	4.53	6.22	5.51	3.58	7.40	4.06	7.63	72.91	3.18	9.54	1.02	13.34	27.09	100.00
							A1 1970	-71 prices							
1970-71	49.01	4.21	3.91	4.58	2.88	76.0	4.92	7.33	<i>91.17</i>	3.16	8.39	1.19	9.48	22.21	100.00
1972-73	44.94	3.07	5.10	3.69	2.52	6.95	4.18	7.67	78.12	3.18	8.32	0.85	9.54	21.88	100.00
1973-74	45.29	3.47	5.06	3.63	2.81	69.9	3.79	16.7	78.65	3.03	17.1	1.06	9.55	21.35	100.00
1977-78	44.83	3.08	4.67	3.77	2.29	6.76	3.23	7.33	75.95	2.73	7.75	1.17	12.40	24.05	100.00
1983	39.82	3.50	6.13	4.16	2.24	7.50	3.33	7.04	73.71	2.63	7.56	1.05	15.05	26.29	100.00
1986-87	39.58	4.42	7.35	5.56	3.06	6.90	3.24	7.13	77.24	2.61	6.96	0.98	12.21	22.76	100.00
1987-88	39.88	3.43	5.63	4.89	2.50	725	3.12	6.86	73.56	2.62	8.55	1.37	13.89	26.44	10(-00
1988-89	39.72	3.01	6.34	5.50	2.63	7.19	3.37	6.96	74.71	2.63	60.7	1.05	14.51	25.29	100.00
															(Contd.)

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							Decile G	roup 10-20							
Ycar	Cercals & Cercals Substi- tutes	Pulses & Pulses Products	Milk & Milk Products	Edible Oils	Mcat, Fish & Eggs	Fruits, Vege- tables & Nuts	Salt & Spices	Sugar Beve- rages & Referesh- ments	Food: Total	Pan, Tobacco & Intoxi- cants	Fucl & Light	Clothing & Foot- wear	Durables & misc. Goods & Services	Non-food: Total	Total Con- sumer Expendi- ture
							At curre	ent prices							
1970-71	43.65	4.34	5.57	5.01	3.41	1.14	4.54	8.68	76.35	3.21	7.95	1.74	10.76	23.65	100.00
1972-73	42.74	4.21	5.39	5.08	3.01	5.88	3.58	8.25	78.14	3.00	7.40	1.55	16.6	21.86	100.00
1973-74	43.93	3.97	5.77	5.38	3.03	5.77	3.59	7.75	79.20	2.50	731	1.61	9.38	20.80	100.00
1977-78	37.74	4.63	5.55	4.97	3.29	6.21	3.92	7.43	73.73	2.81	8.18	1.93	13.36	26.27	100.00
1983	34.55	4.14	6.17	525	3.29	6.97	3.05	7.82	71.24	2.58	9.13	2.19	14.87	28.76	100.00
1986-87	28.08	4.45	8.11	6.41	4.39	7.84	3.28	8.87	71.44	3.05	9.19	1.82	14.49	28.56	100.00
1987-88	28.86	4.70	7.07	621	3.78	7.99	3.48	8.08	70.18	3.19	9.41	2.15	15.07	29.82	100.00
1988-89	29.30	4.15	7.39	5.72	4.07	8.14	3.72	8.83	71.31	3.41	9.38	1.93	13.97	28.69	100.00
							At 1970	∽71 prices							
1970-71	43.65	4.34	5.57	5.01	3.41	1.14	4.54	8.68	76.35	3.21	7.95	1.74	10.76	23.65	100.00
1972-73	41.04	3.41	6.93	4.12	2.86	7.12	3.80	7.67	76.95	3.16	7.63	1.34	10.92	23.05	100.00
1973-74	41.46	3.63	7.29	4.04	2.76	6.99	3.44	7.88	77.49	2.76	7.39	131	11.04	22.51	100.00
1977-78	40.06	3.33	6.67	4.16	2.71	7.10	2.97	7.18	74.19	2.71	126	1.42	14.42	25.81	100.00
1983	35.90	3.34	66'1	4.34	2.50	7.75	2.98	7.32	72.12	2.45	6.89	1.78	16.76	27.88	100.00
1986-87	34.38	3.67	8.62	5.56	3.20	7.33	3.06	7.98	73.80	2.53	6.43	1.82	15.42	26.20	100.00
1987-88	35.38	3.27	7.25	5.03	2.80	7.47	2.88	7.32	71.41	2.62	8.02	2.14	15.81	28.59	100.00
1988-89	34.51	2.78	7.58	5.75	3.00	7.97	3.11	8.12	72.81	2.84	7.02	2.01	15.31	27.19	100.00
															(Contd.)

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							Decile G	roup 20-30							
Year	Cereals & Cereals Substi- tutes	Pulses & Pulses Products	Milk & Milk Products	Edible Oils	Meat, Fish & Eggs	Fruits, Vege- tables & Nuts	Salt & Spic <del>cs</del>	Sugar Bcvc- rages & Referesh- ments	Food: Total	Pan, Tobacco & Intoxi- cants	Fuel & Light	Clothing & Foot- wcar	Durables & misc. Goods & Services	Non-food: Total	Total Con- sumer Expendi- ture
							At curr	ent prices							
1970-71	40.27	4.43	6.68	5.26	3.63	122	4.31	8.98	74.78	3.13	7.60	2.43	12.06	25.22	100.00
1972-73	39.29	4.35	6.84	5.40	3.17	6.00	3.31	8.50	76.86	2.88	7.02	2.02	11.23	23.14	100.00
1973-74	41.78	3.97	6.48	5.57	3.09	5.94	3.47	7.88	78.18	2.49	7.15	1.93	10.25	21.82	100.00
1977-78	33.96	4.53	7.04	5.15	3.41	6.24	3.65	7.72	71.71	2.69	7.80	2.83	14.97	28.29	100.00
1983	31.36	4.07	6.90	5.36	3.51	7.07	2.89	7.96	69.13	2.78	8.66	2.99	16.43	30.87	100.00
1986-87	25.19	4.31	9.21	6.49	4.31	8.02	3.22	8.59	69.34	3.08	8.95	2.26	16.37	30.66	100.00
, 1987-88	26.02	4.55	8.05	6.26	3.94	8.08	3.27	8.29	68.45	3.12	8.98	2.95	16.51	31.55	100.00
1988-89	26.27	4.69	8.63	5.71	4.44	8.31	3.57	8.75	70.38	3.14	8.81	2.52	15.15	29.62	100.00
							At 1970-	71 prices							
1070-71	40.77	2 4 23	668	963	1.63	1 22	1.21	8 0 8	74 78	3 13	760	243	12.06	25.22	100
1972-73	37.53	3.50	8.76	4.36	3.00	723	3.49	7.86	75.73	3.02	7.19	1.74	12.32	24.27	100.00
1973-74	39.28	3.62	8.15	4.17	2.81	7.17	3.31	7.98	76.47	2.73	7.20	1.57	12.02	23.53	100.00
1977-78	36.03	3.26	8.47	4.31	2.81	7.14	2.76	7.47	72.25	2.59	6.92	2.08	16.15	27.75	100.00
1983	32.53	3.28	8.92	4.43	2.67	7.85	2.82	7.44	69.93	2.64	6.52	2.42	18.49	30.07	100.00
1986-87	30.94	3.57	9.82	5.65	3.15	7.52	3.02	7.75	71.42	2.56	6.28	2.26	17.48	28.58	100.00
1987-88	32.04	3.18	8.29	5.09	2.93	7.59	2.72	7.55	66.39	2.57	7.69	2.95	17.39	30.61	100.00
1988-89	31.08	3.15	8.90	5.76	3.29	8.18	3.00	8.08	71.44	2.63	6.63	2.63	16.67	28.56	100.00
							· .								(Contd.)

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TABLE 18. CONSUMER EXTENDITURE PROPORTIONS (PER CENT) BY SELECT DECILE GROUPS: ALL-INDIA URBAN (CONTD.)

Decile Group 30-40

Durables Non-food: Total Con-& misc. Total sumer Goods & Expendi-Services ture

Clothing & Foot-

Fuel & Light

Pan, Tobacco & Intoxicants

Food: Total

Salt & Spices

Meat, Fish & Eggs

Edible Oils

Milk & Milk Products

Cereals & Pulses & Cereals Pulses Substi- Products

Year

tutes

Sugar Beve-rages & Referesh-

Fruits, Vege-tables & Nuts

ments

At current prices

17-0761 1972-73 1973-74 81-778 1986-87

1983

1987-88

988-886

17-0701 1972-73 1973-74 1977-78 1986-87 1987-88 1988-89

1983

wcar

#### GROWTH, POVERTY AND LEVELS OF LIVING

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100.00 100.00 100.00 100.00 100.00 100.00 100.00 100.00 23.55 23.66 29.98 32.96 26.83 33.37 11.80 18.20 13.28 11.64 16.34 18.81 2.16 3.36 3.78 3.00 2.92 2.47 6.79 7.43 6.90 7.62 8.23 8.33

								1								
26.83	23.55	23.66	29.98	32.96	33.37	33.34	32.00		26.83	24.65	25.36	29.43	32.20	31.67	32.66	31.29
13.28	11.64	11.80	16.34	18.20	18.81	18.12	17.51		13.28	12.75	13.74	17.63	20.39	20.12	19.16	19.26
2.92	2.16	2.47	3.36	3.78	3.00	3.55	3.02		2.92	1.86	1.99	2.47	3.05	3.01	3.57	3.15
7,43	6.90	6.79	7.62	8.23	8.33	8.60	8.43		7.43	7.06	6.79	6.76	6.17	5.86	7.39	6.34
3.20	2.84	2.60	2.67	2.74	3.23	3.07	3.04		3.20	2.97	2.84	2.57	2.59	2.68	2.54	2.55
73.17	76.45	76.34	70.02	67.04	66.63	66.66	68.00		73.17	75.35	74.64	70.57	67.80	68.33	67.34	68:71
9.28	8.60	8.16	7.93	8.18	8.42	8.40	9.00	71 prices	9.28	7.93	821	1.67	19.7	7.61	7.68	8.31
4.07	3.23	3.25	3.43	2.70	3.01	3.14	3.22	At 1970-	4.07	3.40	3.08	2.60	2.63	2.83	2.62	2.71
127	6.04	6.20	6.36	7.18	<i>1</i> .99	8.15	8.11		127	7.27	7.42	7.27	7.93	7.50	1.69	T.97
3.78	3.20	3.23	3.53	3.62	4.13	3.89	4.13		3.78	3.02	2.91	2.90	2.74	3.03	2.91	3.06
5.51	5.50	5.79	5.29	5.60	6.50	6.30	5.91		5.51	4.43	4.30	4.43	4.61	5.67	5.14	5.95
7.81	7.32	7.61	7.90	8.44	10.22	8.71	9.44		7.81	9.36	9.51	9.50	10.85	۵.92 ×	9.01	9.72
4.35	4.38	4.03	4.54	3.94	4.14	4.49	4.57		4.35	3.52	3.64	3.27	3.16	3.43	3.15	3.07
37.10	38.19	38.09	31.04	27.37	22.21	23.58	23.61		37.10	36.42	35.57	32.93	28.27	27.33	29.14	27.92

100.00 100.00 100.00 100.00

100.00 100.00 100.00 100.00 251

(Contd.)

							Decile G	roup 40-50							
Year	Cereals & Cereals Substi- tutes	Pulses & Pulses Products	Milk & Milk Products	Edible Oils	Meal, Fish & Eggs	Fruits, Vege- tables & Nuts	Salt & Spices	Sugar Bevc- rages & Referesh- ments	Food: Total	Pan, Tobacco & Intoxi- cants	Fuel & Light	Clothing & Foot- wear	Durables & misc. Goods & Services	Non-food: Total	Total Con- sumer Expendi- ture
							At curr	ent prices							
1970-71	33.86	4.18	8.99	5.77	3.94	1.32	3,80	9.59	71.44	3.31	7.30	3.33	14.62	28.56	100.00
1972-73	32.45	4.28	8.68	5.74	3.35	6.38	2.84	9.36	73.10	2.80	6.61	3.12	14.37	26.90	100.00
1973-74	36.22	3.99	8.25	5.82	3.33	6.27	3.07	8.38	75.33	2.53	6.74	2.83	12.57	24.67	100.00
1977-78	28.25	4.42	8.71	5.33	3.65	6.43	3.23	8.07	68.09	2.60	7.38	4.10	17.83	31.91	100.00
1983	26.29	3.89	8.68	5.57	3.66	7.21	2.62	8.26	66.17	2.67	8.04	4.16	18.96	33.83	100.00
1986-87	19.76	3.92	11.00	6.46	4.53	8.17	2.75	8.54	65.12	3.15	7.89	4.44	19.40	34.88	100.00
1987-88	20.93	4.29	9.44	6.31	3.81	8.27	3.01	8.44	64.49	3.07	8.20	4.17	20.07	35.51	100.00
1988-89	21.42	4.40	96.6	5.58	4.31	8.18	3.11	8.92	65.89	3.24	7.93	4.36	18.57	34.11	100.00
							Ai 1970	-71 prices							
1970-71	33.86	4.18	8.99	5.77	3.94	1.32	3.80	9.59	71.44	3.31	7.30	3.33	14.62	28.56	100.00
1972-73	30.73	3.42	11.02	4.59	3.14	7.62	2.97	8.58	72.08	2.91	6.72	2.67	15.63	27.92	100.00
1973-74	33.70	3.60	10.28	4.31	2.99	7.49	2.89	8.41	73.66	2.76	6.72	2.28	14.59	26.34	100.00
1977-78	29.97	3.19	10.47	4,46	3.00	7.35	2.44	7.80	68.69	2.50	6.55	3.02	19.24	31.31	100.00
1983	27.12	3.11	11.15	4.57	2.76	7.96	2.54	7.67	66.89	2.53	6.02	3.34	21.21	33.11	100.00
1986-87	24.41	3.26	11.79	5.65	3.33	7.70	2.59	7.75	66.49	2.63	5.57	4.47	20.83	33.51	100.00
1987-88	25.96	3.02	9.79	5.17	2.86	7.82	2.52	7.74	64.88	2.55	7.07	4.20	21.29	35.12	100.00
1988-89	25.35	2.96	10.27	5.63	3.20	8.05	2.62	8.24	66.32	2.71	5.97	4.56	20.45	33.68	100.00
															(Contd.)

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## GROWTH, POVERTY AND LEVELS OF LIVING

							Entire p	opulation							
Ycar	Cerceals & Cerceals Substi- tutes	Pulses & Pulses Products	Miik & Milk Products	Edible Oils	Meat, Fish & Eggs	Fruits, Vege- tables & Nuts	Salt & Spices	Sugar Bevc- rages & Referesh- ments	Food: Total	Pan, Tobacco & Intoxi- cants	Fuel & Light	Clothing & Foot- wear	Durables & misc. Goods & Services	Non-food: Total	Total Con- sumer Expendi- ture
							At curre	ent prices							
1970-71	23.16	3.10	9.48	4.56	3.60	6.34	2.82	11.35	64.41	2.99	5.96	5.87	20.78	35.59	100.00
1972-73	23.76	3.41	9.33	4.85	3.27	6.38	227	11.21	64.49	2.76	5.64	5.68	21.43	35.51	100.00
1973-74	27.21	3.33	9.18	5.23	3.43	6.42	2.44	10.47	67.73	2.59	6.01	5.13	18.55	32.27	100.00
1977-78	20.00	3.43	9.16	4.46	3.33	6.11	2.55	8.63	57.67	2.34	6.17	7.37	26.45	42.33	100.00
1983	18.94	3.10	8.89	4.66	3.47	6.82	2.06	8.94	56.89	2.35	6.66	8.40	25.70	43.11	100.00
1986-87	14.52	3.02	9.87	5.06	3.91	7.23	2.15	8.82	54.58	2.61	6.46	7.31	29.05	45.42	100.00
1987-88	15.02	3.38	9.53	529	3.54	7.76	2.31	9.07	55.92	2.61	69.9	7.08	27.70	44.08	100.00
1988-89	15.75	3.48	10.02	4.73	3.97	7.58	2.42	9.20	57.15	2.65	6.59	7.17	26.45	42.85	100.00
							0.01.14								
							AI 19/0	-/1 prices							
1970-71	23.16	3.10	9.48	4.56	3.60	6.34	2.82	11.35	64.41	2.99	5.96	5.87	20.78	35.59	100.00
1972-73	22.27	2.70	11.72	3.84	3.03	7.54	2.35	10.17	63.62	2.84	5.67	4.81	23.06	36.38	100.00
1973-74	24.91	2.96	11.25	3.81	3.03	7.54	2.27	10.33	66.10	2.77	5.89	4.05	21.19	33.90	100.00
1977-78	21.19	2.47	11.00	3.73	2.74	6.98	1.93	8.33	58.36	2.25	5.47	5.42	28.50	41.64	100.001
1983	19.45	2.48	11.37	3.81	2.61	7.49	1.99	8.27	57.47	2.21	4.97	6.73	28.62	42.53	100.00
1986-87	17.85	2.50	10.53	4.41	2.86	6.78	2.02	16.T	54.92	2.17	4.53	7.33	31.05	45.08	100.00
1987-88	18.64	2.38	06.6	4.34	2.66	7.35	1.94	8.32	55.51	2.17	5.77	7.14	29.41	44.49	100.00
1988-89	18.49	2.32	10.25	4.73	2.92	7.40	2.02	8.43	56.57	2.20	4.92	7.43	28.89	43.43	100.00
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	Decile Group	0-1	0	10	20	5	30	30-	40	40-	50	0-10	0
	Commodity	1961-62	1987-88	1961-62	1987-88	1961-62	1987-88	1961-62	1987-88	1961-62	1987-88	1961-62	1987-88
-	Rice (kg)	4.73	4.58	5.89	5.96	7.40	6.68	8.26	7.12	8.50	7.37	8.78	7.04
2	Wheat (kg)	0.84	3.13	125	3.84	151	4.15	1.72	4.33	1.79	4.56	2.64	4.94
••	Coarse cereals (kg)	5.85	3.07	6.17	2.83	5.97	2.63	5.65	2.51	5.53	2.48	6.13	2.56
4	Total cereals (kg)	11.42	10.78	13.31	12.63	14.88	13.46	15.64	13.95	15.83	14.41	17.55	14.54
ŝ	Pulses (kg)	0.68	0.46	0.93	0.60	1.14	0.66	129	0.72	1.37	0.78	1.50	0.84
9	Milk (liquid)(lit.)	0.22	0.46	0.39	0.94	0.64	126	0.89	1.63	1.05	2.15	1.63	323
٢	Vanaspati (kg)	0.01	0.00	0.01	0.01	0.01	10:0	0.01	0:01	10.0	0.02	0.02	0.04
œ	Mustard oil (kg)	0:30	0.05	0.05	0.09	0.07	0.10	60:0	0.11	60.0	0.12	0.10	0.13
6	Groundnut oil (kg)	0.04	0.03	0.05	0.05	0.07	0.06	0.07	0.06	0.07	0.07	0.08	60:0
01	Coconut oil (kg)	0.01	0.00	0.01	0.00	0.01	0.00	60.0	0.00	0.01	00.0	0.01	0.01
Ξ	Palm oil (kg)	N.A.	0.02	N.A.	0.03	N.A.	0.04	N.A.	0.04	N.A.	0.04	N.A.	0.04
13	Gingely oil (kg)	0.01	N.A.	0.1	N.A.	0.02	N.A.	0.02	N.A.	0.02	N.A.	0.03	N.A.
13	Rapeseed oil (kg)	N.A.	<b>č</b> 0.0	N.A.	0.05	N.A.	0.06	N.A.	0.06	N.A.	0.07	NA.	0.07
14	Edible oils (others) (kg)	N.A.	0.12	N.A.	0.12	N.A.	0.11	N.A.	0.10	N.A.	0.10	NA.	0.10
15	Mcat (kg)	0.03	0.03	0.05	0.06	0.07	0.07	0.07	0.07	0.07	0.08	0.14	0.10
16	Eggs (no)	0.04	0.08	0.06	0.16	0.09	0.23	0.13	0.29	0.18	0.35	0.23	0.52
11	Fish (kg)	0.08	0.06	0.11	60:0	0.13	0.10	0.18	0.12	0.21	0.14	0.21	0.15
18	Potato (kg)	0.18	0.63	0.34	0.88	0.48	1.03	0.52	1.09	0.55	1.13	0.64	1.16
61	Fruit (kg)	N.A.	0.15	N.A.	0.24	N.A.	0.32	N.A.	0.38	N.A.	0.46	N.A.	0.68
20	Banana (no)	0.11	N.A.	0.13	N.A.	0.21	N.A.	0.34	N.A.	0.47	N.A.	16.0	NA.
21	Sugar-crystal (kg)	0.03	0.13	0.05	0.22	0.07	0.27	0.10	0.33	0.12	0.39	021	150
ដ	Khandsari (kg)	N.A.	0.00	N.A.	0.01	N.A.	10.0	N.A.	10.0	N.A.	0.01	N.A.	0.01
23	Gur (canc)(kg)	0.19	0.14	0.27	0.19	0.33	0.22	0.45	0.25	0.56	0.28	1.53	0:30
24	Gur(others)(kg)	N.A.	10.0	N.A.	0.01	N.A.	0.01	N.A.	0.01	N.A.	0.02	N.A.	0.02
52	Ghee (kg)	10.0	N.A.	10.0	N.A.	10.0	N.A.	0.03	NA.	0.04	N.A.	0.07	N.A.

TABLE 19. ESTIMATES OF QUANTITIES CONSUMED PER CAPITA PER MONTH OF SELECT ITEMS BY SELECT DECELE GROUPS FOR 1961-62 AND 1987-88: ALL-INDIA RURAL

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APRIL-JUNE 1995

Note: N.A. = Not available

SI.	Decile Group	9	10	10-	-20	20-	-30	30-	-40	40-	50	0-1	8
No.	Commodity	1961-62	1987-88	1961-62	1987-88	1961-62	1987-88	1961-62	1987-88	1961-62	1987-88	1961-62	1987-88
-	Rice (kg)	3.67	4.42	4.63	5.18	5.41	5.41	5.92	5.49	6.41	5.58	6.46	5.35
7	Wheat (ke)	2.36	3.74	3.62	4.46	3.47	4.69	3.71	4.84	3.97	4.85	4.11	4.98
rn,	Coarse cereals (kg)	3.09	1.59	3.02	1.23	2.81	1.05	2.75	1.05	2.47	1.03	2.23	0.92
4	Total cereals (kg)	9.12	9.75	11.27	10.87	11.69	11.15	12.38	11.37	12.85	11.46	12.50	11.25
s	Pulses (kg)	0.73	0.51	1.07	0.64	1.24	0.72	1.41	0.79	1.62	0.88	1.53	0.96
Ŷ	Milk (liquid)(lit.)	0.44	1.10	10.1	1.79	0.36	2.29	1.74	2.76	1.99	3.41	2.58	4.33
7	Vanaspati (kg)	0.02	0.01	0.03	0.03	0.03	0.05	0.07	0.06	0.06	0.07	0.07	0.09
œ	Mustard oil (kg)	0.06	0.07	0.06	0.09	0.10	0.11	0.07	0.11	0.09	0.11	0.12	0.13
6	Groundnut oil (kg)	0.07	0.07	0.14	0.09	0.12	0.11	0.22	0.13	0.20	0.16	0.21	0.18
01	Coconut oil (kg)	0.01	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.02	0.00	0.02	0.01
11	Palm oil (kg)	N.A.	0.05	N.A.	0.06	N.A.	0.07	N.A.	0.08	N.A.	0.08	N.A.	0.09
12	Gingely oil (kg)	0.01	N.A.	0.02	N.A.	0.03	N.A.	0.05	N.A.	0.05	N.A.	0.06	N.A.
13	Rapeseed oil (kg)	N.A.	0.01	N.A.	0.02	N.A.	0.02	N.A.	0.02	N.A.	0.01	N.A.	0.02
14	Edible Oils (others) (kg)	N.A.	0.01	N.A.	0.00	N.A.	0.00	N.A.	0.00	N.A.	0.01	N.A.	0.01
15	Meat (kg)	0.11	0.14	0.15	0.17	0.19	0.17	0.25	0.17	0.28	0.18	0.27	0.21
16	Eggs (no)	0.08	0.32	0.12	0.50	0.39	0.63	0.26	0.74	0.38	0.89	0.49	1.46
11	Fish (kg)	0.10	0.08	0.11	0.11	0.15	0.14	0.19	0.15	0.20	0.14	0.25	0.17
8	Potato (kg)	0.30	0.77	0.40	0.95	0.53	10.1	0.54	1.04	0.57	1.06	0.75	1.12
19	Fruit (kg)	N.A.	0.30	N.A.	0.48	N.A.	0.61	N.A.	0.71	N.A.	0.87	N.A.	1.28
20	Banana (no)	0.23	N.A.	0.92	N.A.	0.63	N.A.	1.02	N.A.	1.09	N.A.	2.45	N.A.
71	Sugar-crystal (kg)	0.11	0.38	0.23	0.54	0.30	0.62	0.45	0.70	0.48	0.81	0.61	0.88
2	Khandsari (kg)	N.A.	0.00	N.A.	0.00	N.A.	0.00	N.A.	0.00	N.A.	0.00	N.A.	0.00
23	Gur (cane)(kg)	0.17	0.08	0.23	0.08	0.26	0.09	0.35	60.0	0.30	0.08	0.31	0.10
22	Gur(others)(kg) (thee (ko)	N.A.	0.01 N A	N.A.	0.01 N A	N.A. 0.05	0.01 N A	N.A. 000	0.01 N.A.	N.A. 0.09	0.01 N N	N.A. 014	0.01 V A
	·9-)					2010							
Note: 1	V.A. = Not available												
	TABLE 21	1. ESTIMATES OF PER CA	VPITA İNTAKI	OF CALORI	e, Protein a	NND FAT PER	DIEM BY S	ELECT DECI	LE GROUPS F	FOR 1983: ALI	VIQU		
	Decile group			tural						Urban			
	ſ	Calorie (cal.)	Prote	in (gm.)		Fat (gm.)	 	Calorie (cal.	(	Protein (g	m.)	Fat (g	m.)
	010	1256 21	6	0 61		11 75		1221 76		20.14	ļ	5 VI	
	10-20	1681.80	• 4	7C.2		11.22		1588.29		20.14 45.15		20.2	1 2
	20-30	1847.86	<b>1</b> 00	2.56		17.17		1724.00		48.00		24.(	8
	30-40	1952.00	<b>•</b> 7 •	5.00		00.61		1861.19		51.95		28.5	4 (
	0-100	2221.00	n <b>vo</b>	2.00		27.00		2089.00		57.00		37.C	28

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## GROWTH, POVERTY AND LEVELS OF LIVING

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## UNEVEN GROWTH OF GOVERNMENT EXPENDITURE IN INDIA: AN ANALYSIS OF THE TRENDS BETWEEN 1974-75 AND 1990-91

M. Govinda Rao, Tapas K. Sen and Madanmohan Ghosh

Government expenditures in India during the period under study (1975-91) in per capita terms show three distinct phases of growth - fluctuations around a rising trend (1975-82), fiscal expansion (1982-87) and fiscal restraint (1987-91). Growth rates of expenditures during the first and the third phases were nearly the same but much lower than that of the second. During the entire period, in particular after 1980-81, expenditure growth was higher than that of revenue receipts. Within total expenditure, revenue expenditure grew at rates higher than that of capital expenditure; per capita capital expenditure grew very little in the earlier part of the period under study. In the subsequent phases, it stagnated and declined in real terms.

Growth of revenue expenditure was particularly sharp in the case of interest payments, subsidies, wages and salaries while those on maintenance of capital assets lagged behind. Interest payments have risen at all levels of governments, both due to increasing indebtedness and rising average effective rate of interest on government loans. The rise in wages and salaries (due to both increase in employment and rising per employee salaries) and subsidies could per haps be attributed to effective lobbying by concerned interest groups.

Considering the functional classification, expenditure on social services have risen fast, but due to the rising unit cost of supply (mainly rising wages and salaries), actual provision of these services may not have improved much. Economic services have suffered due to reduced capital expenditure which constituted more than 60 per cent of total expenditure on these services in 1974-75, but only about 33 per cent in 1990-91.

A notable feature of the growth of government expenditure in India has been the relatively high growth of expenditure on heads which could be related to interest group activities. The analysis throws up possibilities of interest group influence on government expenditure determination, even during period of low overall growth.

#### INDIAN DEVELOPMENT POLICY AND PUBLIC EXPENDITURES

In India, as is well known, the commanding role of the State in allocative decisions was the direct consequence of the State dominated heavy industry based import substituting development strategy. In such a framework the government had to play the roles of a catalyst as well as a direct participant in economic activity. The public expenditure policy, in particular, has had to play a crucial role in this policy of State accumulation.

The economic crisis in 1990 which was triggered off by fiscal imbalances led to a reconsideration of the role of the State and brought public expenditure policy into sharper focus. Fiscal imbalances in India, which had assumed serious proportions by the mid-eighties, had two important facets. First, the outpacing of the rate of growth of revenue receipts - capital receipts are by and large borrowings - by the expenditure

growth, considerably reduced the resources available for public investment in the economy. The increasing use of borrowed funds to meet current expenditures rendered the latter selfpropelling. Second, the increasing diversion of household savings to meet public consumption requirements not only resulted in the expansion of public debt to unsustainable levels, but also reduced the resources available for private investment [Chelliah, 1992]. In addition to the usual allocative distortions arising from the crowding out of private sector investments, the poor performances of public sector enterprises caused further decline in productivity in the Indian economy. These fiscal developments have had adverse macro-economic repercussions as well. A portion of the excess demand generated by the expansionary fiscal policy spilled over into higher imports and consequently, aggravated the balance of payments problem. The deficit in the

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current account of the balance of payment was a mere 1.2 per cent of Gross Domestic Product (GDP) in 1980-81 but rose to 2.5 per cent in 1989-90. At the same time, inadequate public investment outlay created severe infrastructural bottlenecks. All these combined together to create a stagflationary situation [Mundle and Rao, 1992].

In stabilising the economy and in making structural adjustments, the compression of unproductive public expenditures and costeffective provision of public services plays a critical role. However, unless properly planned and executed, the expenditure compression could/ bear down more heavily not on unproductive expenditures but on more socially productive administrative, social and economic infrastructure outlays. Therefore, an analysis of government expenditure trends is necessary to achieve planned reduction in unproductive expenditures.

In this study, we analyse the broad trends in government expenditure in India over the period 1974-75 to 1990-91 and speculate on the role of various economic factors in determining these trends. This is only a descriptive analysis and no rigorous attempt is made to quantify the effect of these factors on the level, growth and composition of government expenditures or their impact on allocative efficiency and equity. Even a descriptive analysis such as the present one helps us to understand the reasons for the fiscal crisis which in turn culminated in the macro-economic and balance of payments difficulties of 1990-91.

#### Data and Methodology

The budget documents and the Finance Accounts of Central and State Governments published by the Comptroller and Auditor General of India are the basic data sources for any study on government expenditure trends. However, a number of adjustments must be made in order to ensure inter-temporal comparability of data sets and to eliminate inter-departmental transfers. Fortunately, the Union Ministry of Finance makes the necessary adjustments in the data in its annual publication, Indian Economic Statistics - Public Finance (renamed as Public Finance Statistics). Comparable data from this

source are available only from the year 1974-75 to 1990-91. We have based our analysis of aggregate government expenditure mainly on this source of data. However, in order to assess the economic impact of government expenditures as also to identify the sources of government expenditure growth, we have supplemented this analysis with the analysis of expenditure data classified into economic and functional categories, taken from the Central Statistical Organisation (CSO).

There are, however, some differences between the CSO data and the budgetary data which must be noted. The important differences are (i) CSO data do not include interest payments and (ii) the subsidy figures according to economic classification (CSO) include losses from departmentally run commercial activities like irrigation projects, which are shown after deducting revenue receipts from the sale of water, whereas in the budgetary data, gross expenditures under the items are shown. Also, the general, social and economic service categories in the functional classification do not strictly correspond to the budgetary classification. For example, water supply in the budgetary classification is put under social and community services whereas according to the CSO's classification this is put under economic services.

Two important adjustments required to be made in the cross-section, time series data on government expenditures are for differences in scale and changes in prices. To take care of the fact that a growing population may in itself cause some growth in public expenditures, we have, by and large, analysed the data in per capita terms. For this purpose, we have adjusted the mid-year population estimates of the Registrar General to correspond to financial years by making pro-rata adjustments. To account for the price changes, we have deflated government expenditure in current prices with the wholesale price index.<sup>1</sup>

We have plotted per capita expenditure at constant prices to identify discontinuities in the trends and the various phases of expenditure growth. The plot shows three different phases of expenditure growth with discontinuities in 1981-82 and 1986-87. Having thus identified the sub-periods, growth rates have been estimated employing the kinked exponential regressions suggested by Boyce [Boyce, 1986]. Three dummy variables have been used to separate the two kinks ( $K_1 = 1981-82$  and  $K_2 = 1986-87$ ). The equation is

$$\log Y_{t} = a_{1}D_{1} + a_{2}D_{2} + a_{3}D_{3} + (b_{1}D_{1} + b_{2}D_{2} + b_{3}D_{3})t + u_{t} \qquad \dots(1)$$

 $D_1$  taking the value 1 for the period, 1974-75 to 1980-81 and zero otherwise,  $D_2$  taking the value 1 for the period, 1981-82 to 1986-87 and zero otherwise and  $D_3$  taking the value 1 for the period 1986-87 to 1990-91 and zero otherwise. Discontinuity is eliminated by imposing linear restrictions at the points of discontinuity,  $K_1$  and  $K_2$  such that

 $\begin{aligned} a_1 + b_1 K_1 &= a_2 + b_2 K_1 \text{ and} \\ a_2 + b_2 K_2 &= a_3 + b_3 K_2. \end{aligned}$ From these, the estimating equation is derived as  $log Y_1 &= a_1 + (b_1 - b_2) K_1 D_2 \\ &+ [(b_1 - b_2) K_1 + (b_2 - b_3) K_2] D_3 \\ &+ b_1 t + (b_2 - b_1) D_2 t + (b_3 - b_1) D_3 t \qquad ...(2) \end{aligned}$ 

## TRENDS IN AGGREGATE GOVERNMENT EXPENDITURE IN INDIA

During our reference period of one and a half decade, aggregate government expenditure in India showed a substantial increase. The per capita expenditure at constant (1981-82) prices increased by over 2.7 times from Rs 366 in 1974-75 to Rs 975 in 1990-91 (Table 1). At a rate of about 6 per cent per year, the growth of per capita government expenditure in India at constant prices exceeded the growth of per capita GDP as well as the growth of revenue receipts. The per capita GDP during this period increased at only about 2.5 per cent per year which was lower than that of per capita expenditure by about 3.5 percentage points. Similarly, both tax revenues (4.9 per cent) and non-tax revenues (2.9 per cent) in per capita terms increased at rates much lower than that of government expenditure (Table 2).

The analysis of government expenditure growth brings out two important factors. As revenue expenditures grew faster than revenue receipts, governmental dis-savings increased considerably over time and consequently, a significant part of the household savings had to be diverted to meet public consumption needs [Bagchi and Nayak, 1990; India, 1989], By 1990-91, revenue deficits formed almost 3.5 per cent of GDP. Second, the rate of expenditure growth was substantially higher than the growth of non-tax revenues signifying the increasing volume of implicit subsidies in the provision of public services. The difference between cost of providing social and economic services and cost recoveries as a proportion of GDP increased from 8.8 per cent in 1977-78 to 15 per cent in 1987-88; the cost recovery rates during this period declined from 55 per cent to 41 per cent in the case of economic services and from 6.2 per cent to 3.6 per cent in the case of social services [Mundle and Rao, 1991].

During the period 1974-75 to 1990-91, aggregate government expenditure at current prices increased at the rate of 16.3 per cent per year and the growth at constant prices was 8.2 per cent and in per capita terms at constant prices about 6 per cent. These numbers broadly reflect an approximate average inflation rate of about 8 per cent and a population growth of 2.2 per cent per annum.

The trends in per capita expenditure in current and constant prices shown in Figures 1 and 2 bring out an interesting feature. Clearly, the plot of nominal expenditures (Figure 1) shows a smooth upward slope and this prima facie, confirms the hypothesis that the governments by and large follow 'incremental' budgeting, with the outlay in the succeeding years higher by some constant. percentage over the previous year in nominal terms. This does not, however, ensure that adequate provision in real terms is made. The plot of per capita expenditure at constant prices (Figure 2) shows noticeable discontinuities, particularly in 1981-82 and 1986-87. Prima facie, Figure 1 also indicates the absence of political budget cycles.

The analysis of government expenditure trends in per capita terms (at 1981-82 prices) and as a proportion of GDP bring out three distinct phases (Figure 2). During the first phase (1974-75 to 1981-82), per capita expenditure had some degree of year-to-year fluctuations though on the average, it grew at 4.7 per cent per year. The expenditure-GDP ratio increased from 18.9 per cent in 1974-75 to 24.5 per cent in 1981-82. In the second phase (1981-82 to 1986-87), the growth rate was steady and accelerated significantly to average 7.6 per cent per year and the expenditure-GDP ratio during these five years increased as much as by six percentage points from 24.5 per cent to 30.5 per cent. However, this tempo could not be maintained and in the third

phase (1986-87 to 1990-91), the growth rate declined to broadly equal the growth rates seen in the first phase, at below 5 per cent per year. As a ratio of GDP, government expenditure actually fell during the last phase to 28.6 per cent in 1990-91.

The three phases of expenditure growth noted above can be explained by the state of the economy and, particularly, by the stringency of resource constraint. The political uncertainties in the latter half of the 1970s and the steep increase in oil prices in 1979-80 resulted in the per capita

PER CAPITA GOVERNMENT EXPENDITURE (IN CURRENT PRICES) (Data for Figure 1)

		6 .	(Rupees)
Year	Revenue Expenditure	Capital Expenditure	Total Expenditure
1974-75	159.24	68.38	227.62
1975-76	187.16	87.91	275.07
1976-77	213.21	93.73	306.94
1977-78	224.90	94.49	319.39
1978-79	255.44	111.49	366.93
1979-80	293.31	121.65	414.96
1980-81	334.35	160.53	494.88
1981-82	385.29	166.30	551.59
1982-83	453.17	174.89	628.05
1983-84	520.03	199.30	719.33
1984-85	616.07	238,39	854.46
1985-86	715.06	252.33	967.39
1986-87	830.53	306.59	1.137.12
1987-88	945.17	289.44	1.234.61
1988-89	1.078.39	301.11	1.379.49
1989-90	1.267.95	348.82	1.616.77
1990-91	1,451.92	368.95	1,820.87

PER CAPITA GOVERNMENT EXPENDITURE (IN 1980-81 PRICES) (Data for Figure 2)

Total Expenditure
365.95
447.26
488.76
483.20
555.11
536.13
543.22
551.59
598.72
637.70
711.46
771.45
856.91
859.75
893.40
975.72
974.90



## FIGURE 1. PER CAPITA GOVERNMENT EXPENDITURE IN INDIA (IN CURRENT PRICES)

FIGURE 2. PER CAPITA GOVERNMENT EXPENDITURE IN INDIA (IN 1981-82 PRICES)



Upper curves Total Expenditure; Middle curves Revenue Expenditure; Lower curves Capital Expenditure.

net national product (NNP) in real terms increasing at just 1.5 per cent per year on the average during 1974-75 to 1981-82 and the annual growth of per capita (constant prices) revenue receipts during this period was only 3 per cent (Table 2). The slow and fluctuating growth of the receipts could not sustain very high growth of expenditures. Yet, as the fiscal deficit during the period averaged just about 5.6 per cent of GDP, the overall constraint was not very stringent and expenditures grew faster than the revenues. At the same time, the political uncertainties and the oil shock contributed to fluctuations in the expenditure trend. This period witnessed the imposition of emergency (1975-76), emergence of non-Congress party rule (1977-79) and return of Congress party into power (1980).

The second phase (1981-82 to 1986-87) was marked by a significant acceleration in the rate of growth of expenditures. This must be attributed mainly to the economy shifting to a higher growth path. During the period, the per capita real NNP grew at 2.2 per cent per year on an average, while the government revenues increased at considerably higher rates (6 per cent). The reform of the tax system<sup>2</sup> and the replacement of physical restrictions on imports with tariffs mainly contributed to revenue buoyancy. Given the relatively stable political environment and buoyant revenues in the second phase, the growth of Government expenditures showed a significant acceleration. This was further fuelled by the emergence of significant revenue deficits since 1982-83 and their feedback in terms of increased interest payments. This phase can be easily characterised as the period of fiscal expansion.

However, with the hardening of the budget constraint from 1986-87, the tempo of expenditure growth could not be sustained due to two important factors. First, buoyant revenue expenditures had to be increasingly financed out of borrowed resources; but governmental borrowing beyond a certain level could not be sustained without causing a high rate of inflation. It may be noted that increase in the net liabilities of the government reached the highest level of 12 per cent of GDP in 1986-87, and in this year the Reserve Bank of India's net credit to government was also the highest, close to 5 per cent of GDP

[Dandekar, 1992]. Second, increases in the emoluments of government employees, consequent to the implementation of the recommendations of the Fourth Pay Commission at the Centre in 1987-88 and in many of the States in subsequent years, significantly enhanced relative cost of providing public services.<sup>3</sup> In addition, the unprecedented drought of 1987-88 not only necessitated diversion of resources to relief expenditures, but also decelerated the growth of per capita revenues at constant prices to just 5 per cent per year after 1986-87. With increasing proportion of revenue expenditures being financed from borrowed funds and with the limits on aggregate government borrowing set by judgements about acceptable rate of inflation, the overall expenditure level had to be contained. Thus, in the third phase, the share of expenditure in GDP actually showed a marginal decline. This period can, therefore, be characterised as the period of fiscal restraint.

Interestingly, a major part of the increase in government expenditure share in GDP (almost three percentage points) in the early 1980s was due to the phenomenal expansion in revenue expenditures (Table 2). While the per capita capital expenditure (at 1981-82 prices) grew at broadly uniform rates during the latter half of the 1970s and the first half of the 1980s at a little over 4 per cent, the growth rate of per capita revenue expenditures accelerated by almost four percentage points to record a growth rate of 8.9 per cent per year during the period 1981-82 to 1986-87 (Table 2). However, the compression that followed in the next phase came about more by compressing capital expenditures and per capita capital expenditures actually showed a decline (-1.8 per cent). At the same time, percapita revenue expenditure continued to increase at a relatively high rate of 6.4 per cent per year during this period. In absolute terms, per capita capital expenditure declined from Rs 231 in 1986-87 to Rs 198 in 1990-91 (Table 1) while per capita revenue expenditure increased from Rs 626 to Rs 777. As a proportion of GDP, capital expenditures declined from 8.2 per cent to 5.8 per cent during the above period. Consequently, capital expenditures which constituted about one-third of total expenditure in 1980-81 declined to just about 20 per cent by 1990-91. The increased resource availability during the expansionary phase accelerated the growth of mainly the revenue expenditure, but during the period of fiscal restraint, the cutback was mainly in capital expenditure, relegating it to a residual category.

These findings are reinforced when we consider the CSO data on economic-cum-functional classification of government expenditure (Table 4). The shares of all the three items of capital expenditure, namely, gross fixed capital formation, financial outlay and capital transfers and loans showed substantial decline. The decline was particularly marked as the resource constraint hardened since 1986-87. The share of current expenditures, however, increased from 60 per cent in 1974-75 to 74 per cent in 1989-90.

The largest increase in the share of revenue expenditures over the period came about on account of increase in interest payments. The expenditure on interest payments as a proportion of GDP increased from 1.6 per cent in 1974-75 to 4.7 per cent in 1990-91 and as a proportion of total expenditure, it increased from 8.5 per cent to 16.4 per cent (Table 3). The increase in interest payment was particularly marked in the eighties as, in per capita terms at constant prices, it registered a growth rate of over 13 per cent per year throughout the decade. This was due to increases in both the volume of indebtedness of the government and in the aggregate effective rate of interest on government borrowings. Table 5 shows that the outstanding debt of the Centre and States together (excluding inter-governmental borrowings) as a proportion of the GDP rose almost continuously from 37 per cent in 1974-75 to about 66 per cent in 1990-91. It may be noted that the proportion of external debt actually fell over the 16-year period from almost 9 per cent to about 6 per cent of GDP, and the rise in indebtedness is entirely attributable to the rise in internal debt and 'Other Liabilities' of the govemment.

Table 6 shows that the average effective rate of interest on government borrowing in India has risen substantially from 4.3 per cent in 1974-75 to 7.2 per cent in 1990-91. In particular, the rise has been continuous since 1980-81. An important

reason for this trend has been a shift in the composition of outstanding debtin favour of more costly ones. For example, quite a good proportion of the indebtedness in recent years has been on account of small savings schemes (14 per cent of total borrowings in 1990) which, besides involving high tax expenditures, involved high interest liability.

An important source of government expenditure growth was the significant increase in the emoluments of government employees. In per capita terms, at constant prices, this item increased from Rs 92 in 1974-75 to Rs 207 in 1989-90 (Table 4), registering an average annual growth rate of 5.3 per cent. This item of expenditure maintained its share of about 26 per cent in total expenditures.

The analysis of compensation to employees clearly brings out the effectiveness of a dominant coalition in the Indian polity, namely, government employees, in influencing the level and growth of government expenditures. The central and state government employees formed just about 1.2 per cent of population in 1989-90, but the share of wages and salaries received by them constituted 6.3 per cent of GDP. According to the Economic Survey 1991-92, per capita emoluments of public sector employees in 1989-90 amounted to Rs 43,665 at current prices which was over 10 times the per capita income of the country (Rs 4,252). In 1974-75, these figures stood at Rs 7.402 and Rs 1.034 respectively, the first being a little more than 7 times of the other. These figures not only show the relative level of average wages and salaries in the public sector, but also the faster relative growth of the same. It must be noted that emoluments do not include the in-kind incomes given by way of perquisites like subsidised housing and transport, subsidised loans for house building and for the purchase of other durable assets, free telephones (to the eligible) and subsidised education and medical facilities.4

Thus, the government employees by their ability to organise have not only been able to exercise oligopolistic power to claim a disproportionate share of community output but also enhance their share over the years. Another indication of the strength of the government employees is seen in the sustained growth of wages and salaries even during the period of fiscal restraint. The compensation to employees in per capita terms (at constant prices) increased at the average annual rate of 8.3 per cent during the period of fiscal expansion when aggregate per capita expenditures increased by 7.8 per cent per annum (Table 7) and even during the period of fiscal restraint, compensation to employees increased by 6.4 per cent when the aggregate expenditures increased by only 3.4 per cent per annum.

The steep rise in wages and salaries was not the only source of high growth of current expenditure even during the period of fiscal restraint. Per capita expenditure on subsidies increased at an average annual rate of 10.4 per cent and per capita transfer payments increased at 9 per cent per year. The increase in subsidies was mainly under food, fertiliser and irrigation heads which, it is believed, accrue largely to the rich farmers [Bardhan, 1984].

To sum up, the major findings of the aggregative analysis are:

(i) Government expenditure in India over the last decade and a half grew at a phenomenal rate, faster than both GDP and government revenues. With low and declining level of cost recoveries, the subsidies grew at a rate faster than government expenditures. The benefit of the large and growing subsidies have accrued to relatively more affluent people and to more developed regions [Mundle and Rao, 1991; Rao and Mundle, 1992]. Thus, there is prima facie evidence that the beneficiary groups have been successful in seeking increases in outlays on 'quasi-public' goods and transfers beneficial to them. At the same time, as the financing of these expenditures has been done not through better cost recoveries but by increasing resort to fiscal deficits, it is also clear that these groups have been able to disperse the burden of financing to the common man and unenfranchised sections (future generations) through fiscal illusion.

(ii) The pattern of expenditure growth over time reveals that when the resources position was relatively more comfortable, the revenue expenditure registered sharp increases. However, when the budget constraint hardened, capital expenditures, particularly those on economic services, received a cut-back. These trends probably reflect the political economic aspects of government expenditure determination; expenditures of current nature give a better pay-off in terms of votes to the incumbent party as compared to capital expenditures with their long gestation periods, and therefore, get priority.

#### EXPENDITURE TRENDS BY ECONOMIC AND FUNCTIONAL CATEGORIES

#### Administrative Services

Per capita expenditure on administrative services (at constant prices) after being virtually stagnant during the period 1974-75 to 1981-82, increased at a phenomenal rate of 10.3 per cent during the period of fiscal expansion (1981-82 to 1986-87). However, the growth rate decelerated thereafter to 3.9 per cent. Such a trend is seen in the case of individual items of expenditures as well (Tables 8 and 9).

An interesting point to be noted relates to the trends observed with regard to expenditures on defence and on the law and order enforcement machinery. While the growth of revenue expenditures under defence has been relatively small for the whole reference period (2.6 per cent per annum), capital expenditures have shot up in the eighties. Revenue expenditures on police, which is primarily a State subject, have grown faster than revenue expenditures on administrative services. The difference is particularly noticeable during the last period. Surprisingly, a detailed examination of the data relating to the law and order machinery (not reported here) shows that while per capita expenditures on police rose somewhat, those on jails and justice- the other arm of the law and order machinery- rose very little; this must have resulted in an increasing backlog of pending cases in the courts and deteriorating conditions in jails. Even the rise in the expenditures on police cannot be said to be too high as Bardhan implies, when compared with the overall growth in government expenditure [Bardhan, 1992, Pp. 325-6].

#### Social and Community Services

Expenditure on social services formed 6.4 per cent of GDP and about 22 per cent of total expenditures in 1990-91 (Table 3). As these services are employment-intensive, wage cost predominated and almost 94 per cent of the expenditure on these items was of current nature. The important items under this functional category were (i) education, art and culture, and scientific services (54 per cent), (ii) medical and public health, and family welfare (26 per cent), and iii) social security and welfare (12 per cent). The share of other items like housing and urban development (4 per cent), relief from natural calamities (2 per cent) and labour and employment (3 per cent) were financially not very important.

As was seen in the case of aggregate expenditures, the growth of expenditure on social and community services showed a noticeable increase during the expansionary phase (1981-82 to 1986-87) and thereafter, declined significantly (Table 10). As a percentage of GDP, after a steady increase from 4.2 per cent in 1974-75 to 6.9 per cent in 1987-88, expenditure on these services stabilised at around 6.5 per cent during the next three years (Table 11).

The significant rise in government expenditure on social and community services during the expansionary period occurred in both revenue and capital expenditures. Also, as a proportion of GDP, both revenue and capital expenditure under each of the major items showed some increases. However, notably, even as the proportion of capital expenditure was small, the capital expenditure was compressed further during the period of fiscal restraint. Perhaps, the government found it easy to cut outlays on school and hospital buildings, but not salaries of bureaucrats, teachers and medical personnel. In fact, revenue expenditure on social services continued to increase at a relatively high rate (4.8 per cent) even during the contractionary phase (Table 10). The growth rate of per capita expenditure on wages and salaries during this period was even higher at 6.4 per cent (Table 12). Thus, much of the increase in expenditures must be attributed to increase in the relative cost of providing these services rather

than to the increased supply of these services. It is also seen that the growth rate of per capita capital expenditures during the contractionary period was negative for social services (Table 10). Irrespective of the optimal combination of revenue and capital expenditures in the provision of these services, the opposite trends in these two types of expenditures during the contractionary phase strongly indicates increasing imbalance in the input-mix, which must have caused a deterioration in the quality of the services provided.

The significant acceleration in the growth of per capita expenditure during the expansionary phase, however, was mainly due to the high growth rates recorded in the case of two itemseducation and family welfare (Table 10). The growth rates in respect of other major items under social and community services did not rise during this period, and in the case of social security and welfare, the growth rate actually showed a significant decline, Similarly, a fall in the growth rate was recorded during the third period in respect of each of the items under social services, except education, and the decline was particularly severe in capital expenditures. Expenditures on education, however, continued to accelerate even during the contractionary period. It may be noted in passing that in spite of this, government expenditure on education (excluding art, culture and scientific services) as a proportion of GDP was just about 3.3 per cent which is well below the level of public spending on the item in developing countries taken together (4.1 per cent), as reported in the Statistical Year Book, 1989 of UNESCO.

Spending on medical and public health, family welfare, housing and urban development reflects socially productive forms of expenditure. Yet, the level of expenditure on these services was only 1.7 per cent of GDP in 1990-91. In fact, the reasonably high growth seen in the first two periods did help to spread the benefits of health and family welfare facilities to rural areas through the expanded network of rural public health centres, but, with the resource constraint hardening during the third phase, there was a significant decline in the growth rates of expenditures on these items.

Expenditure on 'social security and welfare'

mainly consists of various pensions and reliefs to vulnerable sections like the old, the widows and the destitutes. The high growth rates of expenditure on this item seen in the first two periods has to be viewed against the low levels of expenditure on these items in 1974-75, which as a share of GDP was just about 0.4 per cent. Even so, the governments found it easy to decelerate the growth of expenditures on these items during the period 1986-87 to 1990-91, when the resource constraint hardened. Expenditure on other social services includes spending on Scheduled Castes. Scheduled Tribes and other backward classes and on natural calamity relief. Although Scheduled Castes and Scheduled Tribes formed 24 per cent of total population, examination of the detailed data (not reported) shows that direct expenditures incurred on them formed just about 1.5 per cent of the total.

#### To sum up:

- (i) The growth rate of expenditure in social services accelerated significantly during the expansionary phase, but declined thereafter. This is attributable mainly to the trends in capital expenditure. On the contrary, revenue expenditure, overwhelmingly wages and salaries, accelerated in the expansionary phase and continued to grow at a high rate even during the contractionary period.
- (ii) Among the functional categories, expenditures on education and family welfare grew at an accelerated pace during the period of fiscal expansion. During the contractionary period, however, growth of expenditure on all the items under social services, except education, decelerated significantly. It must also be noted that increase in the emoluments of the teachers was one of the major reasons for the high growth rate of education expenditure recorded throughout the 1980s.
- (iii) The significant deceleration in the growth of expenditure on medical and public health, family welfare, housing and urban development during the period of fiscal

restraint, even when wage rates escalated, indicates possible decline in the supply of these socially productive services.

(iv) It is also seen that direct spending on the welfare of Scheduled Castes and Scheduled Tribes was just about 1.5 per cent of total expenditures though they formed about 24 per cent of population. Similarly, less than 3 per cent of total expenditure was incurred on social security, aimed at the poor and vulnerable sections. This shows that howsoever socially deserving the expenditures may be, and howsoever encompassing the beneficiary groups are, when the groups are not cohesively organised, the allocation will be disproportionately small, just enough to maintain political stability.

#### Economic Services

Expenditure on economic services formed about one third of total expenditure and this share remained more or less stable over the last one and a half decades. As a proportion of GDP, the expenditure on economic services increased appreciably in the second half of the seventies, stabilised in the first half of the eighties and declined thereafter. The expenditure-GDP ratio increased from 5.8 per cent in 1974-75 to 9.6 per cent in 1981-82 and to 9.8 per cent in 1986-87. It subsequently declined to 8.7 per cent in 1990-91 (Table 13). We have also noted earlier that the decline in the share in 1986-87 was mainly due to cut-backs in capital expenditure which, in per capita terms (at 1981-82 prices), declined from Rs 118 in 1986-87 to Rs 98 in 1990-91 (Table 14).

The trend in expenditure on economic services differed markedly from the trends in other categories in one important respect; the growth rate of expenditure on economic services showed a continuous decline throughout the period. Thus, even during the expansionary phase, growth rate of expenditure on economic services showed a decline (from 6.8 per cent to 5.5 per cent) as compared to the previous period (Table 15).

The decline in the rate of growth of expenditures on economic services has to be attributed to the deceleration in the growth of capital expenditure which formed a third of total expenditure. Consequently, the share of capital expenditure in economic services declined from 56 per cent in

1974-75 to only 33 per cent in 1990-91. Even during the expansionary phase (1981-82 to 1986-87), per capita capital expenditure on the economic services at 1981-82 prices increased at only 2.9 per cent per year, and the growth rate was as low as (-)3.9 per cent in agriculture and allied activities and 1.3 per cent in power and irrigation (Table 15). During the period of fiscal restraint, the growth rate of per capita capital expenditure declined further to (-)4.4 per cent. Among the individual items, except power, irrigation and flood control, per capita capital expenditure on all other items showed negative growth rates. Thus, the share of capital expenditure in total expenditure in respect of every major item of economic services was significantly lower in 1990-91 than in 1981-82.

Even as per capita total expenditures on economic services showed a decelerating trend in the successive periods, curiously, revenue expenditure continued to grow at a very high rate. In fact, during the contractionary period, the growth rate of revenue expenditure on economic services actually showed (Table 15) a marginal increase to 7.8 per cent over the previous period (7.5 per cent). A disaggregated analysis (not reported) shows that this is attributable mainly to the growth of expenditure on rural poverty alleviation schemes.

The above analysis of the trends in expenditures on economic services brings out the following:

- a. The growth rate of per capita expenditure on economic services has shown a continuous decline over the successive periods. The growth rate, even during the expansionary phase was lower than in the previous periods.
- b. The analysis of government expenditures in terms of economic and functional categories reveals that major sources of high growth of current expenditures on economic services were subsidies and other transfers. The share of these items in total expenditure on economic services showed a continuous increase since 1974-75. The annual growth rate of per capita expenditure on subsidies at constant prices averaged over 10 per cent for the period as a whole and in every sub-period, the growth rate was more than 9.5 per cent (Table 15).

- c. The expenditure on subsidies and on rural poverty alleviation programmes under agricultural and allied activities also witnessed high growth rates even during the period of fiscal restraint. This is partly explained by the fast expansion of poverty alleviation programmes. The Integrated Rural Development Programme (IRDP), started in 1978-79 was confined to 300 blocks until 1980, but was expanded to cover the entire country thereafter. Similarly, substantial increases in the allocation were made for National Rural Employment Programme (NREP) and Rural Landless Employment Guarantee Produring the Sixth (RLEGP) gramme (1980-85) and the Seventh (1985-90) Plan periods. What is however important to note is that, even with the high growth of allocation to this sector, spending on direct rural poverty alleviation programmes in 1990-91 formed only about 3 per cent of total expenditures although the proportion of people below the poverty line formed about 33 per cent of rural population according to official estimates; other estimates of rural poverty including those by the Expert Group appointed by the Planning Commission are higher.
- d. In spite of the hardening resource constraint during the third phase, the growth rate of per capita expenditure on wages and salaries accelerated to 6.7 per cent from 5.8 per cent in the previous period (Table 17). In contrast, the growth rate of expenditure on net government maintenance decelerated in every successive period and after 1986-87, the per capita expenditure on the item increased at the rate of just about 2 per cent per year. This again indicates the ability of the unions of government employees in securing an expanding share of public expenditures.
- e. The compression of expenditure in the contractionary phase was confined to the capital expenditure. The compression has been particularly severe in industries and minerals, agriculture, and even an infrastructural sector like transport and communications. What is even more worrisome, per capita capital expenditure on agriculture and allied activities showed a continuous decline throughout the period. Although disinvestments in

certain activities would not call for despair, declining investment in certain activities like agriculture, transport and communications may, in the long run, have adverse effects on both economic growth, and rural employment and poverty.

#### CONCLUDING REMARKS

The analysis of government expenditure trends since the mid-seventies strongly suggests influence of interest groups on expenditure policies. The sharp increases in expenditures on quasi-public goods, subsidies and transfer payments indicate the influence of beneficiary groups in securing higher outlays on such goods and services to crowd out expenditures on public goods having greater externalities. This is evidenced by the increasing share of current expenditures and, particularly, those on wages and salaries, food, fertiliser and irrigation subsidies and sharp reduction in the share of capital expenditures. This, along with the independent evidence of low and declining cost recoveries provided by earlier studies, shows that while outlays benefiting the dominant groups have shown sharp increases over time, the burden of financing these expenditures has been increasingly shifted to the people at large. A limit on the expansion of expenditure on quasi-public goods and on financing of such expenditures through budget deficits, however, is set by the probable inflation resulting from the deficits. Political gains from keeping interest groups happy are attractive as long as political costs of the resultant inflation are smaller; the point of equality of these opposite effects defines a political equilibrium.

The influence of interest group activity on expenditure determination comes out even more sharply when we consider the nature of resource constraint in different phases of expenditure growth. The easing of resource constraint in the first half of the eighties led to a phase of fiscal expansion. During this period, both current and capital expenditures grew, but the increase in the former was particularly sharp, with wages and salaries, interest payments, subsidies and transfers mainly contributing to the increase. However, with resource constraint hardening from 1986-87, deceleration in expenditure growth

came about mainly through cutting down expenditures on capital formation, particularly in the infrastructural sectors and those on maintenance of capital assets. The fact that current expenditures (specifically those benefiting the major coalitions) continued to show sharp increases even when resource constraints hardened, essentially by displacing socially productive expenditure on infrastructure, shows the importance of these coalitions in influencing expenditure decisions.

Another notable finding of the study is that the expenditure on social services, particularly on education and health, has shown very high growth rates throughout the eighties. The growth rates of expenditures on these items were high even during the period of fiscal restraints. It is, however, doubtful whether the sharp increases in the expenditures have enhanced the standards of these social services. For, the larger part of the increase in expenditures was due to climbing unit costs arising from increases in the salary levels of employees, teachers and the health staff. Thus, interest group activities have resulted in not only distorted expenditure priorities but also changes in the unit costs of providing public services in unintended ways.

The strong influence of interest group activity on public expenditure decisions points towards the inevitability of a fiscal crisis. When the dominant coalitions continue to exert pressure to enhance expenditures on items beneficial to them even when resources do not register the required growth, fiscal imbalance becomes inevitable. As increases in outlays on quasi-public goods had been achieved mainly by crowding out capital expenditures (particularly in the latter half of the eighties), infrastructural bottlenecks also developed which contributed to the stagflationary situation in no small measure.

The analysis also points towards the difficulty in achieving fiscal equilibrium in the short and medium term context. So long as the interest groups succeed in securing a large and increasing share of expenditures on categories disproportionally beneficial to them, not only does the compression of fiscal deficit become difficult but even the quality of fiscal deficit is worse. The proportion of revenue deficits in fiscal deficits will continue to increase or, in other words, the share of capital expenditures in the total expenditures will continue to decline. Successful fiscal compression can be achieved only when the effectiveness of distributional coalitions in influencing public expenditure decisions is somehow reduced. The basic question therefore is: does the government have the political strength and will to undertake reforms that would achieve this?

#### NOTES

1. There are certain advantages of estimating a separate price index to deflate government expenditures based on its cost composition. In particular, if the objective is to analyse the real increases in government services, such an index should be preferred. However, if the objective is to analyse the volume of resources used in the provision of public services, a general index like the wholesale price index may be used for deflating government expenditures. To the extent the changes in relative input costs of public services are different from the changes in wholesale price index, the two deflators would differ. For the conceptual details, see Musgrave [1981].

2. This occurred in 1984-85 and 1985-86, with the emphasis on reasonable tax rates and better enforcement, as enunciated in the Long Term Fiscal Policy [Ministry of Finance, 1985] and the introduction of Modified Value Added Tax.

3. The effect of pay revision in the States in 1988-89 was estimated to increase total wages and salaries by 18 per cent.

4. The evidence presented here does not agree with Pederson's conclusion that real wages for public employees have declined since the early 1970's [Pederson, 1992]. As declining real wages were cited as the principal argument against considering government employees as a dominant class, the conclusion does not hold in the light of the evidence presented here.

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ABLE I. LEVELS OF GOVERNMENT EXPENDITURE IN INDIA: 1974-75 TO	0 1990-91	1974-75 TO	INDIA: 19	ITURE IN D	EXPEND	<b>WERNMENT</b>	OFGO	EVELS	i 1.	<b>'ABLE</b>
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Year	Government I	Expenditure as a GDP	Percentage of	Per Capita Exp	Share of Capital Expenditure in Total		
	Revenue	Capital	Total	Revenue	Capital	Total	(70)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1974-75 1981-82	13.2 17.1	5.7 7.4	18.9 24.5	256.0 385.3	109.9 166.3	365.9	30.0 30.2
1985-86 1986-87	21.0 22.3	7.4 8.2	28.4 30.5	570.2 625.9	201.2 231.0	771.4 856.9	26.1 26.9
1987-88 1988-89	22.7 22.3	7.0 6.2	29.7 28.5	658.2 698.3	201.6 195.1	859.8 893.4	23.4 21.8
1989-90	23.2 22.8	6.4 5.8	29.6 28.6	765.2	210.5 197.9	975.7 974.9	21.6 20.3

Sources: 1. Indian Economic Statistics/ Public Finance Statistics, Ministry of Finance, Government of India. 2. Central Statistical Organisation, Ministry of Planning, Government of India. 3. Registrar General, Government of India.

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#### TABLE 2. GROWTH OF REVENUES AND EXPENDITURES

(per cent per year) Period Total Expenditure Per Capita Expenditure Per Capita Revenue Receipts (Current Prices) (1981-82 Prices) (1981-82 Prices) Revenue Total Capital Total Revenue Capital Total Tax Non-tax Expen-Expen-Expen-Expen-Expen-Expen-Revenue Revenue Revenue diture diture diture diture diture diture (10) (1) (2) (3) (4) (5) (6) (7) (8) (9) 1974-75 to 1981-82 15.0 4.9 4.4 4.7 3.3 1.7 3.0 15.4 15.4 6.0\* 1981-82 to 1986-87 7.6\* 6.2\* 5.1\* 19.4\* 14.3 17.9\* 8.9\* 4.3 0.5\* 1987-88 to 1990-91 16.7\* 7.7\* 14.6\* 6.4\* -1.8\* 4.5\* 5.7 5.0 1974-75 to 1990-91 2.9 17.4 13.4 16.3 6.8 3.3 5.9 4.9 4.6

Note: Growth rates are estimated by employing the kinked exponential regression model [Boyce, 1986]. \* Significantly different from the previous period growth rates.

TABLE 3. GOVERNMENT EXPENDITURE BY FUNCTIONAL CATEGORIES: LEVEL AND COMPOSITION

	Interest Payments as percentage of		Administrative Services as percentage of		Social and Com- munity Services as percentage of		Economic Services as percentage of		Net Loans and Advances as percentage of		Total Expenditure as percentage of	
	GDP	Total expen- diture	GDP	Total expen- diture	GDP	Total expen- diture	GDP	Total expen- diture	GDP	Total expen- diture	GDP	Total expen- diture
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1. Revenu	e Expen	diture										
1974-75	1.6	8.5	5.1	27.1	3.9	20.8	2.6	13.8		-	13.2	70.0
1981-82	2.3	9.6	5.4	22.0	5.0	20.5	4.3	18.0	-	-	17.1	<b>69</b> .9
1986-87	3.6	11.9	6.9	22.7	6.2	20.2	5.6	18.4	-	-	22.3	73.0
1990-91	4.7	16.4	6.2	21.7	6.1	21.3	5.8	20.5	-	-	23.8	7 <b>9</b> .7
2. Capital	Expend	iture										
1974-75		_	0.3	1.7	0.2	1.2	3.2	16.9	1.9	10.0	5.7	30.0
1981-82	•	-	0.3	1.3	0.4	1.6	4.3	17.5	2.4	9.8	7.4	30.1
1986-87	-	-	0.9	2.9	0.6	2.0	4.2	13.8	2.6	8.4	8.2	27.0
1990-91	•	-	1.0	3.5	0.4	1.2	2.9	9.9	1.6	5.5	5.8	20.3
3. Total E	Expendit	are										
1974-75	1.6	8.5	5.4	28.8	4.1	22.0	5.8	30.7	1.9	10.0	18.9	100.0
1981-82	2.3	9.6	5.7	23.3	5.4	22.0	8.6	35.5	2.4	9.8	24.5	100.0
1986-87	3.6	11.9	7.8	25.6	6.8	22.1	9.8	32.2	2.6	8.4	30.5	100.0
1990-91	4.7	16.4	7.2	25.2	6.4	22.5	8.7	30.4	1.6	5.5	29.6	100.0

	Per Capita Expenditure at 1981-82 Prices (Rs)			Expenditures as percentages of GDP				Expenditures as percentages of Total Expenditure				
	74-75	81-82	86-87	89-90	74-75	81-82	86-87	89-90	74-75	81-82	86-87	89-90
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1. Consumption Expend	diture											
a. Compensation												
to Employees	91.7	112.6	168.5	207.4	4.7	5.0	6.0	6.3	26.7	24.2	24.2	26.2
b. Net Government					•••	•						
Maintenance	49.6	75.2	1 10.2	117.7	2.6	3.3	3.9	3.6	14.4	16.1	15.8	14.9
Total - 1	141.2	187.8	278.7	325.1	7.3	8.3	9.9	9.9	41.1	40.4	40.0	41.2
2. Transfer Payments												
a. Subsidies	19.6	44.6	36.1	125.4	1.0	2.0	3.1	3.8	5.7	9.6	12.3	15.9
b. Transfer to												
Local Bodies	16.3	19.8	23.8	35.9	0.8	0.9	0.8	1.1	4.7	4.3	3.4	4.5
c. Other Transfer												
Payments	29.8	46.4	82.1	99.6	1.5	2.1	2.9	3.0	8.8	10.0	11.8	12.6
Total - 2	65.8	110.8	192.0	260.9	3.4	4.9	6.8	8.0	19.2	23.8	27.5	33.1
3. Total Current Expenditure (1+2)	207.0	298.6	470.7	586.0	10.7	13.2	16.8	17.9	60.3	64.2	67.5	74.3
4. Gross Fixed Capital Formation	38.5	39.2	63.3	49.9	2.0	1.7	2.3	1.5	11.2	8.4	9.1	6.3
5. Financial Outlay	25.8	36.9	49.8	42.2	1.3	1.6	1.8	1.3	7.5	7.9	7.1	5.3
6. Capital Transfers and Loans	71.9	90.2	113.6	111.0	3.7	4.1	4.0	3.4	21.0	19.5	16.3	14.1
7. Total Capital Expenditure	136.2	166.3	226.7	203.1	7.0	7.4	8.1	6.2	39.7	35.8	32.5	<b>25</b> .7
(4+5+6)												
8. Total Expenditure (3+7)	343.2	464.9	697.4	789.1	17.7	20.6	24.0	24.1	100.0	100.0	100.0	100.0

## TABLE 4. GOVERNMENT EXPENDITURE IN INDIA BY ECONOMIC CATEGORIES

Note: Total expenditure excludes interest payments.

TABLE 5. OUTSTANDING DEBT OF CENTRAL AND STATE GOVERNMENTS (AS PERCENTAGES)	0Å0	3DØ
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(1)	1974-75 (2)	1979-80 (3)	1984-85 (4)	1989-90 (5)	1990-91 (6)
Centre	22.5	43.0	40.0	50.1	<b>5</b> 03
1. Internal Debt	16.9 8.8 6.9 4.4	43.9 21.3	49.0 25.3	29.3 6.2 23.5 9.2	29.0 5.9 24.3 9.4
2. External Debt		8.7 13.9	7.2		
3. Other Liabilities, of which			16.5		
a. Small Savings		6.0	7.4		
b. Provident Fund	1.8	2.1	1.8	2.1	2.2
. States#	4.7	5.2	5.8	6.4	6.5
Total	37.2	49.1	54.9	65.4	65.7

# Excludes loans from the Central Government.
Years	Interest Payment (Rs Crore)	Amount of Debt Outstanding at end-March (Rs Crore)	Effective Rate of Interest (Per cent)
(1)	(2)	(3)	(4)
1974-75	1,169	27,239	4.3
1975-76	1,461	31,296	4.7
1976-77	1,749	35,201	5.0
1977-78	1,741	45,131	3.9
1978-79	2,190	48,779	4.5
1979-80	2,665	56,134	4.7
1980-81	2,957	66,655	4.4
1981-82	3,745	76,835	4.9
1982-83	4,637	93,837	4.9
1983-84	5,524	1,05,767	5.2
1984-85	6,863	1,26,919	5.4
1985-86	8,606	1,52,053	5.7
1986-87	10,591	1,83,422	5.8
1987-88	12,991	2,15,121	6.0
1988-89	16,447	2,53,309	6.5
1989-90	20,501	2,97,125	6.9
1990-91	25,006	3,48,909	7.2

# TABLE 6. COST OF GOVERNMENT BORROWING IN INDIA

TABLE 7. GROWTH OF PER CAPITA GOVERNMENT EXPENDITURE (1981-82 PRICES)

			(per	cent per annum)
(1)	1974-75	1981-82	1986-87	1974-75
	to	to	to	to
	1981-82	1986-87	1989-90	1989-90
	(2)	(3)	(4)	(5)
1. Consumption Expenditure				
a. Compensation to Employees	2.27	8.25*	6.39	5.28
b. Net Government Maintenance	4.30	8.09	2.60*	5.69
Total	3.03	8.20*	4.91*	5.43
2. Transfers				
a. Subsidies	11.78	10.90	10.38	11.23
b. Transfer to Local Bodies	2.24	4.96	12.39*	4.58
c. Other Transfers	5.39	10.37*	9.03	7.93
Total Transfers	6.96	9.96	10.00	8.60
<ol> <li>Total Current (1+2)</li> <li>Gross Fixed Capital Formation</li> <li>Financial Outlay</li> <li>Total Capital Transfers and Advances</li> </ol>	4.39	8.93	7.01	6.62
	1.99	12.47*	-7.05*	5.15
	3.42	7.97*	-9.78*	3.62
<ul> <li>a. Local Bodies</li> <li>b. Others</li> <li>Total</li> <li>7. Total Capital Expenditure (4+5+6)</li> <li>8. Total Expenditure (3+7)</li> <li>9. Per capita GDP (at 1980-81</li> <li>Prices</li> </ul>	5.26	5.93	-1.19*	4.74
	2.51	1.12	-2.65	1.28
	2.81	1.77	-2.35	1.73
	2.64	5.56	-5.05*	2.91
	3.72	7.84*	3.37*	5.41
	1.6	2.7*	4.3*	2.5

Note: Growth rates have been estimated by using the kinked exponential regression model. See Boyce (1986). \*Significantly different from the previous period.

				(1	per cent per year)
		1974-75 to 1981-82	1981-82 to 1986-87	1986-87 to 1990-91	1974-75 to 1990-91
		(2)	(3)	(4)	(5)
-	Revenue	0.9	7.7*	-5.3*	2.6
-	Capital	0.4	20.5*	25.4*	12.6
-	Total	0.8	9.5*	0.2*	4.2
ive Services o	fwhich	,			
-	Revenue	2.5	9.4*	8.7	6.4
	Capital	18.6	36.6*	-17.6*	18.1
~	Total	2.6	10.6*	6.8*	6.6
-	Revenue	3.0	7.6*	6.7	5.5
ve Services					
-	Revenue	1.6	8.9*	2.8*	4.8
-	Capital	• 0.5	25.0*	11.8*	12.1
<del>.</del>	Total	1.5	10.3*	4.0*	5.5
	ive Services o	- Revenue - Capital - Total ive Services of which - Revenue - Capital - Total - Revenue ive Services - Revenue - Capital - Total - Total - Total - Revenue - Capital - Capital - Total	1974-75         to         1981-82         (2)         -         Revenue         0.9         -         Capital         0.4         -         Total         0.8         tive Services of which         -         Revenue         2.5         -         Capital         18.6         -         Total         2.6         -         Revenue         3.0         tive Services         -         Revenue         1.6         -         Capital         0.5         -         Total         1.5	1974-75       1981-82         to       to         1981-82       1986-87         (2)       (3)         -       Revenue       0.9       7.7*         -       Capital       0.4       20.5*         -       Total       0.8       9.5*         ive Services of which       -       Capital       18.6       36.6*         -       Total       2.6       10.6*       -         -       Revenue       3.0       7.6*         ive Services       -       Revenue       1.6       8.9*         -       Capital       0.5       25.0*         -       Total       1.5       10.3*	(r $1974-75$ $1981-82$ $1986-87$ tototo $1981-82$ $1986-87$ $1990-91$ (2)(3)(4)-Revenue $0.9$ $7.7*$ -Capital $0.4$ $20.5*$ $25.4*$ -Total $0.8$ $9.5*$ $0.2*$ ive Services of which-Revenue $2.5$ $9.4*$ $8.7$ -Capital $18.6$ $36.6*$ $-17.6*$ -Total $2.6$ $10.6*$ $6.8*$ -Revenue $3.0$ $7.6*$ $6.7$ ive Services- $8.9*$ $2.8*$ -Revenue $1.6$ $8.9*$ $2.8*$ -Capital $0.5$ $25.0*$ $11.8*$ -Total $1.5$ $10.3*$ $4.0*$

TABLE 8. GROWTH OF PER CAPITA EXPENDITURE ON ADMINISTRATIVE SERVICES (1981-82 PRICES)	

TABLE 9. GENERAL ADMINISTRATIVE EXPENDITURE - LEVEL AND COMPOSITION (1974-75 TO 1990-91)

Description		1974-75		1981-82		1986-87			1990-91			
	Revenue	Capital	Total	Revenue	Capital	Total	Revenue	capital	Total	Revenue	Capital	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
I. As Percenta	age of GDP	,										
a. Defence	2.6	0.3	2.9	2.6	0.3	2.9	3.4	0.5	3.9	2.0	0.9	2.9
b. Police	0.8	n	0.8	0.9	n	0.9	1.0	n	1.0	1.1	n	1.1
c. Others	1.7	n	1.7	1.9	n	1.9	2.5	0.4	2.9	3.1	0.2	3.2
d. Total	-5.1	0.3	5.4	5.4	0.3	5.7	6.9	0.9	7.8	6.2	1.1	7.2
II. Per Capita	at 1981-82	Prices (	Rs)									
a. Defence	50.8	5.6	56.4	58.8	7.3	66.1	94.6	13.0	107.6	69.6	29.6	99.2
b. Police	14.8	n	14.8	19.4	-	19.4	28.3	-	28.3	36.2	-	36.5
c. Others	33.6	0.5	34.1	42.9	-	42.8	71.8	11.8	83.6	105.5	4.8	110.3
d. Total	99.2	6.1	105.3	121.3	7.3	128.3	194.7	24.8	219.5	211.4	34.4	245.8

		·	Ψ	er cent per year)
	1974-75 to 1981-82	1981-82 to 1986-87	1986-87 to 1990-91	1974-75 to 1990-91
	(1)	(2)	(3)	(4)
1. Revenue Expenditure				
a. Education,	3.6	7.4*	7.6	5.9
b. Medical and Public Health	6.4	7.1	3.4*	6.2
c. Family Welfare	3.0	14.9*	-0.2*	7.2
d. Housing and Urban Development	8.6	5.9*	5.8	7.1
e. Social Security and Welfare	10.2	10.2	1.8*	8.7
f. Total Social Services	5.3	8.0*	4.8*	6.4
2. Capital Expenditure				
a. Education	4.2	15.0*	-0.6*	7.7
b. Medical and Public Health	11.9	4.0*	-6.8*	5.1
c. Family Welfare	13.7	38.7*	-15.3*	17.3
d. Housing and Urban Development	5.3	8.2*	-8.2*	4.0
e. Social Security and Welfare	-	-	-	-
f. Total Social Services	7.5	11.2*	-5.1*	6.7
3. Total Expenditures				
a. Education	3.6	7.4*	7.6	5.9
b. Medical and Public Health	7.1	6.7	2.2*	6.1
c. Family Welfare	3.4	15.8*	-1.2*	7.6
d. Housing and Urban Development	7.4	6.9	1.0*	6.1
e. Social Security and Welfare	10.2	10.2	1.8*	8.7
f. Total Social Services	5.5	8.3*	4.1*	6.4

TABLE 10. GROWTH OF PER CAPITA EXPENDITURE (1981-82 PRICES) ON SOCIAL SERVICES (Der cent der year)

Note: Growth rates have been estimated by using the kinked exponential model. \* denotes that growth rates are significantly different from the previous period.

## TABLE 11. SHARE OF EXPENDITURE ON SOCIAL SERVICES OF THE CENTRE, STATES AND UNION TERRITORIES IN GROSS DOMESTIC PRODUCT (GDP)

			(per cent)
1974-75	1981-82	1987-88	1990-91
2.31	2.68	3.46	3.43
0.85	1.13	1.43	1.29
0.10	0.17	0.20	0.22
0.37	0.61	0.78	0.73
0.30	0.43	0.55	0.42
3.92	5.02	6.41	6.09
0.05	0.08	0.09	0.09
0.09	0.18	0.19	0.12
0.06	0.09	0.13	0.07
0.03	0.05	0.10	0.07
0.24	0.40	0.51	0.35
2.36	2.76	3.55	3.52
0.94	1.32	1.62	1.41
0.17	0.27	0.33	0.29
0.37	0.61	0.78	0.73
0.33	0.47	0.65	0.50
4.16	5.42	6.92	6.44
	1974-75 2.31 0.85 0.10 0.37 0.30 3.92 0.05 0.09 0.06 0.03 0.24 2.36 0.94 0.17 0.37 0.33 4.16	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$

			(pe	r cent per year)
	1974-75 to 1981-82	1981-82 to 1986-87	1986-87 to 1989-90	1974-75 to 1989-90
1.Education	6.5	7.8	6.6	7.1
2.Health	6.3	8.3	5.8	7.1
3.Social Security and Welfare	3.1	8.1	9.2	6.2
4. Housing and Community Services	0.9	11.6	1.1	5.3
5.Cultural Services	1.3	-1.8	11.0	1.1
6.Total Social Services	5.6	8.0	6.4	6.7

TABLE 12. GROWTH OF PER CAPITA EXPENDITURES (AT 1981-82 PRICES) ON WAGES AND SALARIES IN SOCIAL SERVICES

Note: Growth rates have been estimated using the kinked exponential regression model.

Source: Central Statistical Organisation, Ministry of Planning, Government of India.

TABLE 13. SHARE OF EXPENDITURE ON ECONOMIC SERVICES IN GDP

	1974-75	1981-82	1986-87	1990-91
1. Revenue Expenditure	aya o o ottoyo oo, <u></u>			
a. Direct Subsidies	0.54	1.01	1.64	1.83
b. Agriculture and Allied Services	0.89	1.52	1.87	2.08
c. Industry and Minerals	0.25	0.50	0.62	0.46
d. Power, Irrigation and Flood Control	0.24	<b>Ö.38</b>	0.53	0.51
e. Transport and Communication	0.43	0.62	0.56	0.50
f. Others	0.22	0.31	0.37	0.44
Total Economic Services	2.56	4.34	5.58	5.81
2. Capital Expenditure				
a. Agriculture and Allied Services	0.62	0.15	0.08	0.13
b. Industry and Minerals	0.74	1.06	1.23	0.26
c. Power, Irrigation and Flood Control	0.98	1.55	1.46	1.39
d. Transport and communication	0.72	1.13	1.14	0.75
e. Others	0.18	0.39	0.29	0.36
Total Economic Services	3.24	4.28	4.20	2.88
3. Total (Revenue plus Capital Expenditure)				
a. Direct Subsidies	0.54	1.01	1.64	1.83
b. Agriculture and Allied Services	1.51	1.67	1.94	2.20
c. Industry and Minerals	0.99	1.57	1.84	0.72
d. Power, Irrigation and Flood Control	1.22	1.92	1.99	1.90
e. Transport and Communication	1.15	1.74	1.70	1.24
d. Others	0.40	0.70	0.66	0.80
Total Economic Services	5.80	9.62	9.78	8.70

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			(at 1981-82 Prices Rs)		
	1974-75	1981-82	1986-87	1990-91	
(1)	(2)	(3)	(4)	(5)	
1. Revenue Expenditure					
a. Subsidies	10.47	22.85	46.84	62.20	
b. Agriculture and Allied Services	17.34	34.35	52.39	70.74	
c. Industry and Minerals	- 4.89	11.36	17.32	15.83	
d. Power, Irrigation and Flood Control	4.58	8.51	14.81	17.29	
e. Transport and Communication	8.24	13.90	15.60	16.87	
f. Others	4.22	7.02	10.43	15.10	
Total Economic Services	49.73	97.97	156.61	198.03	
2. Capital Expenditure					
a. Agriculture and Allied Services	11.93	3.31	2.22	4.28	
b. Industry and Minerals	14.32	24.01	34.44	8.81	
c. Power, Irrigation and Flood Control	19.03	34.92	41.13	47.44	
d. Transport and Communication	13.97	25.45	32.05	25.39	
e. Others	3.48	8.83	8.21	12.21	
Total Economic Services	62.73	96.51	118.06	98.12	
3. Total (Revenue plus Capital Expenditure)					
a. Subsidies	10.47	22.85	46.04	62.20	
b. Agriculture and Allied Services	29.26	37.66	54.61	75.02	
c. Industry and Minerals	19.21	35.36	51.77	24.63	
d. Power, Irrigation and Flood Control	23.61	43.42	55.95	64.72	
e. Transport and Communication	22.22	39.35	47.65	42.25	
d. Others	7.71	15.85	18.65	27.31	
Total Economic Services	1 12.47	194.48	262.62	296.15	

#### TABLE 14. PER CAPITA EXPENDITURE ON ECONOMIC SERVICES

Source: 1. Indian Economic Statistics, Ministry of Finance, Government of India. 2. Office of the Registrar General, Government of India.

TABLE 15. GROWTH OF PER CAPITA EXPENDITURES ON ECONOMIC SERVICES (1981-82 PRICE	S)
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			(pe	er cent per year)
	1974-75 to 1981-82	1981-82 to 1986-87	1986-87 to 1990-91	1974-75 to 1990-91
· .	(1)	(2)	(3)	(4)
1. Revenue Expenditure				
a. Subsidies b. Agriculture and Allied Services c. Industry and Minerals d. Power, Irrigation and Flood Control e. Transport and Communications f. Total Economic Services	9.8 10.4 8.4 8.8 -7.2 8.7	10.3 6.9* 9.8 10.2 1.1* 7.5	11.9 7.7 0.6* 4.1* 5.0* 7.8	10.4 8.5 7.6 8.6 4.2 8.0
2. Capital Expenditure				
a. Subsidies b. Agriculture and Allied Services c. Industry and Minerals d. Power, Irrigation and Flood Control e. Transport and Communication Total Economic Services	-9.1 3.0 8.2 8.6 5.2	-3.9* 7.0* 1.3* 2.9* 2.9*	-3.1 -29.7* 4.8* -2.0* -4.4*	-5.9 -2.1 4.7 4.3 2.6
3. Total Expenditures				
a. Subsidies b. Agriculture and Allied Services c. Industry and Minerals d. Power, Irrigation and Flood Control e. Transport and Communication f. Total Economic Services	9.8 5.8 4.4 8.3 8.0 6.8	10.3 7.7 8.0* 3.3* 2.2* 5.6	11.9 5.6* -16.6* 4.6 0.6 2.9*	10.4 6.5 1.9 5.6 4.3 5.6

Note: Growth rates have been estimated by employing a kinked exponential regression model. \*Significantly different from the previous period.

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	Per (i	Per Capita Expenditure Percentage of (in 1981-82 rupees) Expenditure to GD		Percentage of Total P Economic Services								
	74-75	81-82	86-87	89-90	74-75	81-82	86-87	89-90	74-75	81-82	86-87	<b>89-9</b> 0
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Compensation to	11.6	16.1	21.9	27.2	0.6	0.7	0.8	0.8	7.4	7.5	7.1	7.8
Net Government Maintenance	6.9	13.4	16.8	18.0	0.4	0.6	0.6	0.6	4.4	6.2	5. <b>5</b>	5.2
Subsidy	19.5	44.2	83.4	120.2	1.0	2.0	3.0	3.7	12.5	20.6	27.1	34.4
Other Transfers	4.7	9.7	18.0	25.2	0.2	0.4	0.6	0.8	3.0	4.5	5.9	7.2
Current Expenditure Total	42.6	83.4	139.9	190.6	2.2	3.7	5.0	5.8	27.3	38.8	45.5	54.6
Gross Capital Formation	27.1	23.1	28.4	27.7	1.4	1.0	1.0	0.8	17.4	10.7	9.2	7.9
Financial Outlay	25.5	35.0	44.8	35.8	1.3	1.6	1.6	1.1	16.4	16.3	14.6	10.2
Capital Transfers and Net	60.6	73.4	94.2	95.3	3.1	3.3	3.4	2.9	38.9	34.2	30.6	27.3
Advance												
Capital Expenditure Total	113.2	131.5	167.4	158.8	5.8	5.8	6.0	4.9	72.7	61.2	54.5	45.4
Total Economic Services	155.8	214.9	307.4	349.4	8.0	9.5	11.0	10.7	100.0	100.0	100.0	100.0

#### TABLE 16. EXPENDITURE ON ECONOMIC SERVICES

Note: The figures in this table do not strictly correspond to those in Table 13 and 14 as the data sources are different.

TABLE 17. GROWTH OF PER CAPITA EXPENDITURE ON ECONOMIC SERVICES (1981-82 PRICES)

			(t	per cent per year)
Expenditure Category	1974-75	1981-82	1986-87	1974-75
	to	to	to	to
	1981-82	1986-87	1989-90	1989-90
(1)	(2)	(3)	(4)	(5)
1. Current Expenditures				
<ul> <li>1.1 Compensation to Employees</li> <li>1.2 Net Government Maintenance</li> <li>1.3 Subsidy</li> <li>1.4 Other Transfers</li> <li>Total Current Expenditure</li> <li>2 Capital Expenditures</li> </ul>	4.3	5.8	6.7	5.3
	8.5	3.6	2.0	5.6
	11.8	10.2	10.5	11.0
	10.4	8.5	17.2	10.4
	9.4	8.4	9.8	9.0
2.1 Gross Capital Formation	-0.7	7.0*	-3.3*	2.4
2.2 Financial Outlay	3.0	6.9	-11.2*	2.8
2.3 Capital Transfers	1.7	1.9	-0.5	1.6
Total Capital Expenditure	1.6	3.9	-3.6*	2.0
Total Economic Services**	4.2	6.1	2.8*	4.8

Note: Growth rates have been estimated by employing a kinked exponential regression model. \* The growth rate is significantly different from the previous period. \*\* The growth rates do not correspond to those given in Table 15 as the data sources are different.

### NON-PARAMETRIC APPROACH TO STUDYING WAGNER'S LAW FOR THE INDIAN ECONOMY

#### Mala Lalvani

The Wagnerian hypothesis asserting that the development of a nation is accompanied by rising government expenditure has been variously interpreted and tested by economists the world over. In the present paper we make use of the non-parametric approach of Multiple Rank F test when checking the direction of causation in the different versions of the Wagnerian hypothesis which have evolved due to an imprecise statement of the hypothesis in its original form. On the basis of our present exercise there emerges a near unanimous conclusion that direction of causation runs from income to expenditure thus vindicating the Wagnerian proposition in the Indian context.

#### 1. Introduction

The role of state in the development of nations has been made to occupy a front stage position by Public Choice theorists who have examined the issue from an interdisciplinary perspective. Transcending the dividing line between economics and politics they have succeeded in bring to the fore the New Political Economy perspective of examining the role of state [see Mueller, 1987; 1989; Cullis and Jones, 1992].

This interest in looking at growth of government can be traced back to as early as the nineteenth century German economist, Adolf Wagner. Wagner hypothesised that the development of a nation is accompanied by an increase in government expenditure. Since then this Wagnerian hypothesis or what is more popularly known as 'Wagner's law' has succeeded in capturing the attention of a number of economists the world over. The large number of studies which have and which continue to concern themselves with it speak volumes for the appeal which this century old phenomenon continues to have for researchers.

The present paper is in the tradition of recent literature which concerns itself with testing if the Wagnerian hypothesis is robust to the application of more sophisticated econometric techniques. The present exercise operates at two levels. At the first level we try and replicate the result of the Holmes and Hutton study for the Indian economy with an extended data set using the nonparametric approach applying the multiple rank F test as suggested by them [see Holmes and Hutton, 1990]. We also try and see if the results hold good when a modification is introduced by way of considering the variables in real terms. At the second level, this paper looks at the different 'versions' of Wagner's law which have evolved due to an imprecise statement of the law in its original form. The same non-parametric technique of multiple rank F test is applied here too. However, at this point we consider not only the conventional aggregate expenditure measure but also current expenditures which co-integration technique shows as having a long run relationship with the income measures given in these different 'versions'.

Section 2 gives a bird's eye view of Wagner's law and a brief summary of the literature appearing on it. Section 3 deals with the data and methodological aspects of the study. Section 4 reports the results of the empirical exercise and Section 5 concludes the study.

#### 2. Wagner's Law: An Overview

The Wagnerian hypothesis asserting that the development of a nation is accompanied by an increase in government expenditures, has attracted a great deal of attention and a large number of economists have attempted to test the validity of this hypothesis for almost every country. Leading journals have appeared with articles authored by renowned economists, who have variously interpreted the Wagnerian hypothesis. For some, Wagner had expenditure per capita in mind but for others, it was expenditure as a share of national income that he was referring to. As regards 'development', some economists considered GNP to be the most appropriate indicator but others opted for GNP per capita, while yet others felt that GDP or GDP

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per capita was the right measure. Such a variety in interpretations was bound to give rise to a spate of articles dealing with, what may be termed as the different 'versions' of Wagner's Law.

The initial works which appeared in the field were concerned with simplistic single equation models. A large number of articles employing both, time-series and cross-section techniques, have examined the Wagnerian phenomenon for various countries [see Gupta, 1967; Wagner and Weber, 1977; Reddy, 1970, 1988; Henning and Tussing, 1974; Toye John, 1981; Ganti and Kolluri, 1979; and Abizadeh and Yousefi, 1985 for time series studies, and Gandhi, 1971; Goffman and Mahar, 1971; Ram, 1986, 1987; Abizadeh and Gray, 1985; and Ashan *et al.*, 1989 for cross section studies].

Implicit in the formulation of the simplistic single equation static models is that the direction of causality is from income to the expenditure measure. Pioneering work in examining the direction of causation was that of Sahni and Singh [1984] for India and by the same authors for Canada [Singh and Sahni, 1984]. Ram [1986] extended their work to a multi-country sample of 63 countries and Ashan *et al.*, [1989] to a sample of 24 OECD countries.

A more recent development in causality testing has been the employment of a non-parametric technique [Holmes and Hutton, 1990; Bhat *et al.*, 1991]. They speak of the superiority of the *multiple rank F test* which Monte Carlo experiments have shown to be robust over non-normal error distributions.

#### 3. Data and Methodology

The sample period chosen for the study of the Indian economy extends from 1950-51 to 1991-92. This section has been further subdivided into two sub-sections. Section 3(A)explains the methodology for the extended version of the Holmes and Hutton study we have undertaken and of the modified version too.

Section 3(B) looks at the methodology adopted for examining the different 'versions' of Wagner's law.

### 3(A): Methodology for an Extension of the Holmes and Hutton Study

Prior to explaining the procedure followed when adopting the non-parametric technique of multiple rank F test, it must be noted that Holmes and Hutton [1990] have made explicit the distinction between Granger prima facie causality and causality and the fact that they concern themselves with the former. X is said to be a prima facie cause of Y if X precedes Y in time and if P(Y/X)=P(Y). Causality, in addition to the above also requires that X must not be a spurious cause of Y. A spurious cause is a prima facie cause which is explained in the presence of another prima facie cause. The steps involved while performing a multiple rank F test have been briefly outlined below.

#### The Multiple Rank F Test

k1

The functional form for carrying out the multiple rank F test is given as:

$$g(\mathbf{Y}_{t}) = \alpha_{0} + \sum_{i=1}^{m} \beta_{i}g(\mathbf{Y}_{t,i})$$
$$+ \sum_{i=1}^{k2} \mu_{i}h(\mathbf{G}_{t,i}) + \mathbf{e}_{t} \qquad \dots \dots (1)$$
$$h(\mathbf{G}_{t}) = \delta_{0} + \sum_{i=1}^{k1} \theta_{i}h(\mathbf{G}_{t,i})$$

+ 
$$\sum_{i=1}^{k^2} \tau_i g(Y_{i,i}) + v_i$$
 ....(2)

where,

Y = income measure

G = expenditure measure

g(Y) = ranked series of income

h(G) = ranked series of expenditure

The error terms  $e_i$  and  $v_i$  are assumed to be i.i.d. The two hypothesis examined are

- a)  $H_0: \mu_1 = \mu_2 = \dots = \mu_{k2} = 0$  implies G is not a prima facie cause of Y in equation (1).
- b)  $H_0: \tau_1 = \tau_2 = \dots = \tau_{k2} = 0$  implies Y is not a prima facie cause of G in equation (2).

The rank transformed series is obtained by assigning ranks in ascending order. Rank 1 is assigned to the smallest observation and N to the largest. A separate series using the same method has to be obtained for each of the lagged and lead values to be considered. Rank transformations being monotonic in nature, the logarithmic form of the variables need not be considered and the assignment of ranks would remain unaffected. The multiple rank F test of the prima facie causal relationship between G and Y involves the variables, each of the lagged and lead series measured in ranks, OLS estimation of equations (1) and (2) and calculation of the standard F statistic based on these ranked regressions.

The superiority of the multiple rank F test lies in the fact that it is not limited by the hypothesis of a specific functional form of the ranked series of the variables nor by the assumptions of homoscedasticity and normality of the error terms. Borrowing the words of Holmes and Hutton - 'With little to lose in employing the multiple rank F test when all parametric assumption are met and much to be gained when the relationship is weak and such assumptions violated, the rank F test appears to be an appealing alternative to parametric testing' [Holmes and Hutton, 1990, p. 90].

The income measure they suggested was gross domestic product in per capita nominal terms, denoted in our study by PNY. Their expenditure measure - aggregate expenditure excluding debt servicing (i.e. interest payments) in nominal and per capita terms, is given here by PCNET<sup>1</sup>. Going by their study, both these variables are first difference stationary and thus a rank transformed series is obtained for both these variables in first differences<sup>2</sup>, the procedure for rank transformation being similar to that as explained earlier in this section.

In the modified version of the study, we consider the income measure, gross domestic product, which is available to us at 1980-81 prices (PCY) and the expenditure measure (PNI) is converted into real terms using the GDP deflator. Dickey Fuller (DF) and Augmented Dickey Fuller (ADF) tests are done to check for stationarity. The first difference variables which are seen to be stationary are rank transformed as was explained above.

Once we had the ranked series for both the original and the modified version, we took to checking the direction of causation. Income causing expenditure would vindicate the Wagnerian hypothesis while the Keynesian viewpoint would be borne out if the reverse direction of causation is seen. The procedure for causality testing is identical to that followed when parametric technique of estimation is adopted, the only difference being that the ranked series are now used instead of the original data. A brief description of this procedure for causality testing is outlined below.

#### Causality Tests

The most widely used definition of causality is that of Granger causality [Granger, 1969]. It emphasizes the impossibility of an 'effect' preceding its 'cause'. X is said to Granger cause Y (denoted as X->Y) if Y at *current* time period can be more accurately predicted by using *past* X values rather than by not doing so. Instantaneous

causality from X to Y is denoted by  $X \rightarrow Y$ . and feedback between X and Y is written as  $X \leftrightarrow Y$ .

The four types of Causality tests which have been set out in Nachane, 1991 are: (i) Sims' original [1972] test (OS test) (ii) Sims' modified [1974] test (MS test) (iii) Granger's [1969] test (GR test) (iv) Geweke's [1982] test (GW test).

In the present exercise we leave out the OS test which due to the fact that it regresses the dependent Y variable on current, past and future X values, is prone to serial correlation problem. The GW test too is not considered here. The GR and MS tests which were performed are explained using the following canonical notations:

$$PCNET_{t} = \sum_{s=1}^{\infty} A_{1s}PCNET_{t,s} + u_{1t} \qquad \dots (3)$$
$$PCNET_{t} = \sum_{s=1}^{\infty} A_{2s}PCNET_{t,s}$$

$$+\sum_{n=1}^{\infty} B_{2s} PNY_{t-s} + u_{2t} \qquad \dots (4)$$

$$PCNET_{t} = \sum_{s=1}^{\infty} A_{3s}PCNET_{t-s}$$

$$+\sum_{s=0}^{\infty} B_{3s} PNY_{t-s} + u_{3t} \qquad \dots (5)$$

$$PCNET_{t} = \sum_{s=0}^{\infty} A_{4s} PCNET_{t-s}$$

+ 
$$\sum_{n=-\infty}^{\infty} B_{4s} PNY_{t-s} + u_{4t}$$
 ....(6)

$$PNY_{t} = \sum_{s=1}^{\infty} C_{1s} PNY_{t-s} + v_{1t} \qquad \dots (7)$$

$$PNY_{t} = \sum_{s=1}^{\infty} C_{2s} PNY_{t-s}$$

$$+\sum_{s=1}^{\infty} D_{2s} PCNET_{ts} + v_{2s} \qquad \dots (8)$$

$$PNY_{t} = \sum_{s=1}^{\infty} C_{3s} PNY_{t,s}$$
$$+ \sum_{s=0}^{\infty} D_{3s} PCNET_{t,s} + v_{3t} \qquad \dots (9)$$

$$PNY_{t} = \sum_{s=1}^{\infty} C_{4s} PNY_{t-s}$$
$$+ \sum_{s=1}^{\infty} D_{4s} PCNET_{t-s} + v_{4t} \qquad \dots (10)$$

$$+\sum_{s=-\infty} D_{4s} PCNET_{t-s} + v_{4t} \qquad \dots (1)$$

where,

PCNET: [(government expenditures - interest payments) in current prices] /population

PNY: gross domestic product in current prices/population

Equation (3) as a restriction on (4) shows if PNY is a Granger cause of PCNET. Equation (7) as a restriction on (8) shows PCNET as a Granger cause of PNY. (4) as a restriction on (5) and (8) as a restriction on (9) shows instantaneous causality by the Granger method from PNY to PCNET and PCNET to PNY, respectively.

The Modified Sims (MS) test regresses PNY on current, past and future values of PCNET and on past values of PNY. The null of PNY not causing PCNET, is rejected if the future coefficients of PCNET are significant. By the MS test, estimating (5) as restriction on (6) shows PCNET as a cause of PNY. The reverse direction of causation from PNY to PCNET is checked by estimating (9) as a restriction on (10). Restricting (4) on (6) and (8) on (10) tests for instantaneous causality from PCNET to PNY and PNY to PCNET, respectively.

The same methodology was used when testing for causality between other pairs of variables.

The one obvious problem with the equations specified above is that as they stand they contain an infinite number of parameters that cannot be estimated from a finite set of observations [Judge *et al.*, 1985, 1988], thus necessitating lag selection. The lag selection procedure that we have used is that suggested by Hannan-Quinn [Hannan and Quinn, 1979]. It is given by:

$$HQ(m) = \ln(\sigma_m^2) + \frac{(2mc)\ln \ln(n)}{n}$$
  $c > 1$ 

where.

 $\sigma_m^2 = \text{sum of squared residuals}$ 

m = number of lags of the independent variable n = number of observations

The choice of HQ parametrization procedure was done on the ground that even though strongly consistent, this criterion is less likely to underestimate the true order than other consistent procedures [Nachane *et al.*, 1988].

Our next step was to introduce a modification in the Holmes and Hutton study and repeat the same procedure step by step with the expenditure measure after it was deflated using the implicit GDP deflator. GDP at 1980-81 prices was the income measure considered.

### 3(B): Methodology for Testing the Various 'Versions' of Wagner's Law

Enlisted below are the functional forms of some of the initial static versions of the law [Mann, 1980].

Version	Functional Form	Hypothesis
Traditional Peacock-Wiseman [1967]	E = f(GDP) ln E = a+b ln(GDP)	b > 1
Goffman [1968]	E = f(GDP/P) ln E = a+b ln(GDP/P)	b > 1
Pryor [1968]	C = f(GDP) ln C = a+b ln(GDP)	b > 1
Musgrave [1969]	E/GDP = f(GDP/P) in(E/GDP) = a+b ln(GDP/P)	b > 1
Gupta[1965] and Michas [1975]	E/P = f(GDP/P) ln( $E/P$ ) = a+b ln( $GDP/P$ )	b > 1
Modified Peacock-Wiseman	E/GDP = f(GDP) in (E/GDP) = $a+b$ in(GDP)	b > 1
Structural Hypothesis	i) EXPR = $f$ (ARATIO) EXPR = $a+b$ (ARATIO) EXPR = $f$ (ARATIO)	b <0
	EXPR = a+b (MRATIO)	b > 0

TABLE 1. DIFFERENT VERSIONS OF WAGNER'S LAW

Where. E = level of aggregate expenditure at constant price P = population

GDP = gross domestic product at constant price

C = government consumption expenditure ARATIO = GDP from agriculture/total GDP

MRATIO = GDP from manufacturing/total GDP

EXPR = aggregate expenditure/total GDP

Note: All variables are in real terms

Thus, while Peacock-Wiseman [1967] measured expenditures and GDP in absolute terms, for Goffman [1968] per capita GDP was a better representator of development. Musgrave [1969] was of the opinion that expenditure as a proportion of GDP would rise as per capita income rose. Gupta [1967] and Michas [1975] considered per capita expenditure to be a function of per capita income. The modified version of Peacock-Wiseman in keeping with Musgrave's view considered the expenditure measure as a share of GDP. It is our contention that causality testing proceeds on a sounder footing if co-integration technique establishes the presence of a long run equilibrium between the concerned variables. In our exercise, these tests show current expenditures and the income measure as specified in the different versions to have a long run relationship. Going by the results of these tests we rank

transform current expenditures. This transformation technique is also applied to aggregate expenditures, the measure conventionally used by economists. The procedure followed for carrying out the unit root test for residuals and cointegration is briefly described below.

#### Testing For Unit Root and Co-integration

It is widely acknowledged that stationarity of variables is essential for standard inference procedures in dynamic time series models. The danger of working with non-stationary variables is something that econometricians today are versed with. A linear regression with two deterministically trended variables (i.e., when the mean of the process increases over time) or with two variables subject to a stochastic trend (i.e., when the variance of the process increases over

time) will in all probability give us evidence of a spurious relationship when none exists [Granger and Newbold, 1986; Newbold and Davies, 1978]. Transforming a non-stationary series to a stationary one by differencing 'd' times makes it a series integrated of order 'd', denoted by:  $x_{r}[(d)$ 

When two series  $x_1$  and  $y_1$  are integrated of order d and there exists a linear combination of these two variables integrated of order 'd-b', then the two series are said to be *co-integrated*. Symbolically,

 $x_t, y_t \sim CI(d,b)$ 

Intuitively, if two or more non-stationary variables have a long run relationship but the deviations from this long run path are stationary then the variables are said to be co-integrated. Co-integration theory addresses itself to the testing and specification problems associated with long run equilibrium relationships [see Charemza and Deadman, 1993].

The testing procedure for unit roots proceeds in two steps:

Step 1

We test for the order of integration of each of the variables involved in the long run relationship given by:

 $XE_t=bGDPT_t + u_t$  ...(11) First, consider the dependent variable XEt. If we wish to test the hypothesis that it is integrated of order one, we must test for p=1 in the following equation:

$$KE_{t} = pXE_{t-1} + \varepsilon_{t} \qquad \dots (12)$$

If p=1 when  $\varepsilon_t$  are identical and independently distributed, equation (2) would be a representation of a 'random walk' where the variance of the process is a linear function of time and the stochastic process XE<sub>t</sub> is non-stationary. In such a case the error term follows a negatively skewed distribution as against a normal distribution, an assumption critical to OLS estimation. Hence it is the Dickey Fuller (DF) or the Augmented Dickey Fuller (ADF) tests which are resorted to.

The DF test is a test of the hypothesis that p=1, hence the name *unit root test*. It is based on testing the negativity of  $\delta$  in the equation below:

$$XE_{t} = \delta XE_{t-1} + \varepsilon_{t}$$
  
or, 
$$dXE_{t} = (1 + \delta)XE_{t-1} + \varepsilon_{t}$$
 ...(13)  
where, 
$$p = (1 + \delta); dXE_{t} = XE_{t} - XE_{t-1}$$

The value of  $\delta$  is checked against the critical values provided in Fuller [1976]. A rejection of the null of  $\delta$ =0 in favour of  $\delta$ <0 implies p<1 and XE<sub>t</sub> is an I(0) process. Failure to reject the null causes the DF equation to become:

$$d^{2}XE = \delta dXE_{1} + \varepsilon, \qquad \dots (14)$$

where,  $d^2$  indicates second difference and d as earlier implies first difference. Now, if  $\delta < 0$  is accepted, the series XE<sub>t</sub> is stationary and XE<sub>t</sub>-I(1).

To overcome a shortcoming of the DF test which does not take care of autocorrelation in  $\varepsilon_v$ . Dickey and Fuller [1981] suggested the Augmented Dickey Fuller (ADF) test. The ADF test uses lagged dependent variables as additional explanatory variables. The ADF equivalent of (12) is:

$$XE_{t} = \delta XE_{t-1} + \sum_{i=1}^{k} \delta_{i} \cdot XE_{t-i} + \varepsilon_{t} \qquad \dots (15)$$

Here too the value of  $\delta$  is checked against the critical values given for the DF test.

Step 2

If XE, is I(1) and GDPT, is I(1) in equation (1), then it may be that  $u_t$  is I(0) and the variables are co-integrated. For a check on this unit root tests (DF and ADF) were performed on the residuals DF:  $du = \delta u_{t+1} + e_{t+1}$ ....(16)

$$DF: du_t = \delta u_{t-1} + e_t \qquad \dots (10)$$

ADF: 
$$du_t = \delta u_{t-1} + \sum_{i=1}^{n} \delta_i du_{t-i} + e_t$$
 ...(17)

where  $u_t$  are the OLS residuals obtained from equation (1) and d indicates first differences. As was the case for the integration test, the value of  $\delta$  is checked against critical values.

#### 4. Empirical Results

As in the earlier section on methodology, this section on empirical results too is sub-divided into two sub-sections - Section 4(A) deals with the results of the Holmes and Hutton study, both in

its original and modified form and 4(B) reports the results of co-integration and causality testing for the different versions of Wagner's law.

#### 4(A): Empirical Results of the Extended Version of Holmes and Hutton Study

Following Holmes and Hutton we considered ranked series of nominal per capita gross domestic product (PNY) as the income measure and that of nominal per capita aggregate expenditure excluding interest payments (PCNET) as the aggregate expenditure measure. Both Granger (GR) and Modified Sims (MS) tests showed unidirectional causality from expenditure to income measure. However, considering the ranked series of both measures in real terms causes a complete turn-around in the direction of causation. In this modified version income is seen to cause expenditures, thus vindicating the Wagnerian proposition. The results of Holmes and Hutton methodology using nominal measures, as has been suggested by them originally and those obtained after making the modification of considering the same variables in real terms, are tabulated below:

#### TABLE 2A. RESULTS OF THE EXTENDED VERSION OF HOLMES AND HUTTON STUDY GR AND MS TEST RESULTS (X = PCNET, Y = PNY)

Null hypothesis	GR	MS
Holmes and Hutton (original)		
Y -/->X	2.735	2.070
X -/-> Y	(1,27) 3.339* (3,25)	(2,22) 3.405* (3,23)
$Y - I \rightarrow X$	1.645 (1.26)	1.509 (3.22)
$\mathbf{X} - \overset{\mathbf{i}}{/} \rightarrow \mathbf{Y}$	0.355 (3,25)	3.080 (4,23)

Note: Ranked series of the following variables are obtained. PCNET = (aggregate expenditure at current prices - interest payments)/population PNY = (gdp at current prices)/ population. Figures in the

parenthesis denote the degrees of freedom for the numerator and denominator, respectively.

\* indicates significance at 5% level.

TABLE 2B. RESULTS OF THE MODIFIED VERSION OF	7
HOLMES AND HUTTON STUDY GR AND MS TEST	
RESULTS $(X = PNI, Y = PCY)$	

Null hypothesis	GR	MS
Holmes and Hutton (modified) Y -/-> X	5.124 <b>*</b> (3.24)	6.335 <b>*</b> (2.24)
X -/-> Y	0.384 (1,27)	0.121 (1,22)
$Y - I \rightarrow X$	1.703 (1,23)	5.137 (3,24)
X - Y	1.944 (1,26)	0.879 (2,22)

Note: Ranked series of the following variables are obtained. PNI = (aggregate expenditure at current prices - interest

payments)/ population PCY = (gdp at current prices)/ population. Figures in the parenthesis denote the degrees of freedom for the numerator and denominator, respectively. \* indicates significance at 5% level.

The above table indicates that we are able to replicate the results of the Holmes and Hutton study, viz., expenditure causes income, for the Indian economy even with the data set extending upto 1991-92. However, a transformation of variables from current to constant prices shows a complete reversal in the direction of causation.

Thus, we find the Wagnerian viewpoint being vindicated when variables are considered at real prices. However, the Keynesian viewpoint is borne out when the variables are considered in nominal terms.

#### 4(B): Results of Testing Various Versions of Wagner's Law

In the Indian context, expenditure data is available to us as expenditures on revenue account and on capital account. Each of these two heads are further classified as developmental and non-developmental expenditures. For the purpose of the present study we experimented with six different expenditure measures as defined below:

XA = der+nder+dek+ndekXB = dck+dcr

XC = ndek+nder

- XE = der+nder
- XF = der+nder+dek+ndek+loan+grant

where

- der: development expenditure on revenue account
- dek: development expenditure on capital account
- ndek: non-development expenditure on revenue account
- nder: non-development expenditure on capital account
- loan: loan given to states and union territories. It forms a part of the capital disbursements of government of India
- grant: grant-in-aid to states and union territories for development purposes. They form a part of the revenue expenditure of government of India

#### Results of Unit Root Test and Co-integration

We used each of the above measures with the income measure as given in the six different versions of Wagner's law and tested for stationarity. Each of the variables was found to be an I(1) series, but it was only the XE measure, i.e., expenditure on revenue account which was found to be co-integrated with the income measures as given by Peacock-Wiseman, Goffman, Musgrave, Gupta and Michas as well as in the Modified Peacock-Wiseman versions. The XF measure (aggregate expenditures on revenue and capital account inclusive of loans and grants) as a proportion of GDP was seen to be co-integrated with ARATIO (GDP from agriculture/totalGDP) and MRATIO (GDP from manufacture/total GDP) which are the variables in the structural hypothesis suggested by Mann [1980]. For results of the unit root test for residuals using the XE measure for the six versions of Wagner's law (see Section 2) and the XF measure used for the structural hypothesis see Appendix A and B, respectively.

Having established the long run equilibrium relationship between current expenditure and the

income measures in the five initial versions and between aggregate expenditure and the variables in the structural hypothesis, our next step was to check the direction of causality for these cointegrated relationships as a test of the Wagnerian proposition. But before we indulged in causality testing a rank transformation was carried out for each of the variables in the manner described earlier in Section 3(A).

Below we present a brief description of each of the versions and tabulate the results obtained in each case using the XF measure of expenditure as was the convention and the XE measure which unit root test for residuals and co-integration show to have a long run relationship with the income.

#### (i) Traditional Peacock-Wiseman Version

Peacock and Wiseman postulated that aggregate government expenditures increase at a faster rate than output. The functional form of their version may be expressed as:

$$E = f(GDP)$$
  
InE = a + bln(GDP)

b>1 would validate the Wagnerian hypothesis. The results of the GR and MS tests for causality between the ranked series of XE and GDP and of XF and are tabulated below:

TABLE 3A. TRADITIONAL PEACOCK-WISEMAN (X = XE, Y = GDPT)

null hypothesis	GR test	MS test
Y-/->X	6.776*	5.942*
X-/->Y	(2,26) 1.193 (1,27)	(2,24) 1.027 (1,24)
$Y - \overset{i}{/} \rightarrow X$	5.188*	5.831*
	(1,25)	(3,24)
$X - X \rightarrow Y$	4.063	3.111
	(1,26)	(2,24)

Note: Ranked series of the following variables are obtained. XE = (development + non-development expenditure on revenue account) in real terms.

GDPT = total gross domestic product at 1980-81 prices. \* indicates significance at 5%.

null hypothesis	GR test	MS test
Y-/->X	9.077*	6.420*
	(3,26)	(2,24)
X-/->Y	0.015	0.003
	(1,27)	(1,24)
Y−, →X	1.749	5.159*
	(2,24)	(3,24)
X−İ → Y	1.860	0.841
	(1.26)	(2.24)

TABLE 3B. TRADITIONAL PEACOCK-WISEMAN

(X =XF, Y =GDPT)

Note: Ranked series of the following variables are obtained. XF = (expenditure on revenue account+ on capital account+ loan+ grant) in real terms.

GDPT = total gross domestic product at 1980-81 prices. \* indicates significance at 5%.

The GR and MS tests for both, current and aggregate expenditures, show unidirectional causality from income to expenditure, thus constituting a case for the Wagnerian hypothesis.

#### (ii) Pryor Version

'In growing economies the share of public consumption expenditures increases as national income increases' [Pryor, 1968, p. 451]. Symbolically,

$$C = f(GDP)$$
  
InC = a + blnGDP

b>1 would show support for the Wagnerian hypothesis.

The causality test results for this version are:

null hypothesis	GR test	MS test
Y-/->X	18.079*	8.706*
	(2,28)	(2,20)
X-/->Y	2.489	0.729
	(5,23)	(1,26)
Y−İ → X	4.676*	6.539
	(1,27)	(3,20)
X→İ→Y	1.297	2.678
	(1,22)	(2,26)

Note: Ranked series of these variables are obtained. GFCE = government final consumption expenditure at 1980-81 prices.

GDPT = total gross domestic product at 1980-81 prices.

\* indicates significance at 5%.

The GR and MS tests provide support for Wagner's hypothesis by showing unidirectional causality from income to government consumption expenditure.

#### (iii) Goffman Version

According to Goffman, 'As a nation experiences economic development with growth, an increase must occur in the activities of the public sector and that the ratio of increase when converted into expenditure terms, would exceed the rate of increase in output per capita' [Goffman, 1968, p. 359]. The functional form may be specified as:

$$E = I(GDP/P)$$
  
InE = a + bln(GDP/P)

Wagner's hypothesis would be validated, if b>1. The causality test results for this version are tabulated below:

TABLE 5A. GOFFMAN (X =XE, Y =PCY)

null hypothesis	GR test	MS test
Y-/->X	3.876*	4.628*
	(2,26)	(1,25)
X-/->Y	2.318	1.786
	(1.27)	(1.24)
	2.042	3.278
Y-/ →X	(1.25)	(2.25)
	1.692	1.946
$X - \stackrel{i}{/} \rightarrow Y$	(1,26)	(2,24)

Note: Ranked series of the following variables are obtained. XE = (devlopment + non-development expenditure on revenueaccount) in real terms

PCY = total gross domestic product at 1980-81 prices/ population \* indicates significance at 5%.

TABLE 5B. GOFFMAN (X =XF, Y =PCY)

null hypothesis	GR test	MS test
Y-/->X	6.724*	6.317*
`X-/->Y	(3,26) 0.689 (1,27)	(2,24) 0.257 (1.24)
$Y - \stackrel{i}{/} \rightarrow X$	1.737	5.061*
	(1,25)	(3,24)
$X^{-i} \rightarrow I$	(1,26)	(2,24)

Note:

XF = (expenditure on revenue account + on capital account + loan+grant) in real termsPCY = total gross domestic product at 1980-81 prices/population

PCY = total gross domestic product at 1980-81 prices/ population \* indicates significance at 5%.

The GR and MS tests show unidirectional cau- (v) Gupta and Michas Version sality from per capita income to revenue expenditure, thus supporting the Wagnerian proposition.

#### (iv) Musgrave Version

Wagner's law 'must be interpreted as postulating a rising share of the public sector... (with the) development of a country from low to high per capita income ...' [ Mann, 1980]. Symbolically,

$$E/GDP = f(GDP/P)$$
  
 $In(E/GDP) = a + bin(GDP/P)$ 

b>1 would validate Wagner's hypothesis. The causality test results for this version are:

TABLE 6A. MUSGRAVE (X =EXRE, Y =PCY)

null hypothesis	GR test	MS test
Y-/->X	8.247*	7.124*
	(2,26)	(2,24)
X-/->Y	1.901	1.323
	(1,27)	(1,24)
Y – /́ → X	0.290	5.110*
	(1,25)	(3,24)
X−/→Y	0.737	0.808
	(1,26)	(2,24)

Note: Ranked series of:

EXRE = [(devlopment+ non-development expenditure on revenue account) in real terms]/ GDPT

PCY = total gross domestic product at 1980-81 prices/population \* indicates significance at 5%.

null hypothesis	GR test	MS test
Y-/->X	3.573*	5.368*
X-/->Y	0.789 (1,27)	0.135 (1,22)
$\mathbf{Y} - \mathbf{i} \rightarrow \mathbf{X}$	0.456	3.712*
X-/ → Y	0.299	0.287

TABLE 6B. MUSGRAVE (X = EXPR, Y = PCY)

Note: Ranked series of:

EXPR = (aggregate expenditure (=XF) in real terms/ GDPT PCY = total gross domestic product at 1980-81 prices/population \* indicates significance at 5%.

Both the GR and MS tests support Wagner's hypothesis of income causing expenditure share for the XE and XF expenditure measure.

According to Gupta and Michas, it is per capita expenditures which increase more than proportionately as compared to per capita income.

$$E/P = f(GDP)$$
  
 $ln(E/P) = a + bln(GDP/P)$ 

b>1 validates the Wagnerian proposition. Results of causality testing for this version are tabulated below:

TABLE 7A. GUPTA AND MICHAS (Y = PCY, X = PCXE)

Null hypothesis	GR test	MS test
Y-/->X	4.487*	3.886*
	(2,26)	(2,24)
X-/->Y	1.681	1.258
	(1,27)	(1,24)
$\mathbf{Y} - \overset{\mathbf{i}}{/} \rightarrow \mathbf{X}$	2.029	÷3.105
•	(1,25)	(3,24)
$X - \overset{i}{/} \rightarrow Y$	1.262	1.654
	(1,26)	(1,24)

Note: Ranked series of:

PCXE = [(devlopment+ non-development expenditure on revenue account) in real terms]/ population GDPT= total gross domestic product at 1980-81 prices.

\* indicates significance at 5%.

TABLE 7B. GUPTA AND MICHAS (Y = GDPT, X = PCXF)

Null hypothesis	GR test	MS test
Y-/->X	6.416*	6.702*
X-/->Y	(3,25) 0.175 (1,27)	(2,24) 0.090 (1,23)
$\mathbf{Y} - \mathbf{X}$	2.212 (1.24)	5.401 (3.24)
$X - i \rightarrow Y$	1.946 (1,26)	1.109 (2,23)

Note: Ranked series of:

PCXF = [XF in real terms]/ population

GDPT = total gross domestic product at 1980-81 prices.

\* indicates significance at 5%.

The GR and MS tests support Wagner's law of income causing expenditures per capita when either current or the aggregate expenditure measure are considered.

#### (v) Modified Peacock-Wiseman Version

As proposed by Mann [1980], the modified version of the Peacock-Wiseman hypothesis, in the tradition of Musgrave, looks at expenditure as a proportion of GDP as the dependent variable while the independent variable (total GDP) remains unchanged from this original version. Symbolically,

$$E/GDP = f(GDP)$$
  
 $ln(E/GDP) = a + bln(GDP)$ 

b>1 once again vindicates Wagner's law. The causality results for this version are tabulated below:

TABLE 8A. MODIFIED PEACOCK-WISEMAN (X = EXRE, Y = GDPT)

Null hypothesis	GR test	MS test
Y-/->X	9.424*	7.434*
X-/->Y	(2,26) 0.542 (1,27)	(1,25) 0,498 (2,23)
$Y - \stackrel{i}{/} \rightarrow X$	0.304	4.126*
	(1,25)	(2,25)
$X - \dot{i} \rightarrow Y$	0.657	0.429
	(1,26)	(3,23)

Note: Ranked series of:

EXRE = [(development+ non-development expenditure on revenue account) in real terms]/GDPT

GDPT = total gross domestic product at 1980-81 prices.

\* indicates significance at 5%.

TABLE 8B. MODIFIED PEACOCK-WISEMAN (X = EXPR, Y = GDPT)

Null hypothesis	GR test	MS test
Y-/->X	3.451*	3.806
X-/->Y	(2,25) 0.039 (1,27)	(1,25) 0.186 (1,23)
$Y - / \rightarrow X$	0.111 (1,24)	2.095 (2,25)
$X - X \rightarrow Y$	0.347	0.146 (2.23)

Note: Ranked series of:

EXPR = XF in real terms/GDPT

GDPT = total gross domestic product at 1980-81 prices.

\* indicates significance at 5%.

The GR test shows unidirectional causality from income to expenditure share and thus supports Wagner's hypothesis, for both current and aggregate expenditures. However, the MS test does not show any causality when XF measure of expenditure is used. In case of the XE measure, this test too supports Wagner's hypothesis.

#### vi) Structural Hypothesis

Of the number of 'structural hypotheses' proposed by Mann [1980], the results of the unit root tests justified our carrying out causality tests between EXPR and ARATIO and EXPR and MRATIO (for definitions of the variables, see the description following Table 1).

In these hypotheses, the negative sign attached to ARATIO and the positive sign attached to MRATIO would constitute evidence in favour of Wagner's hypothesis as these signs are indicative of the development of a nation. In other words expenditure as a proportion of GDP increases as the share of agriculture in total GDP declines and that of manufacturing rises. Results of the causality tests carried out for this version are reported below:

TABLE 9A. STRUCTURAL HYPOTHESIS 1 (X = EXPR, Y = ARATIO)

Null hypothesis	GR test	MS test
i) EXPR=f(ARATIO)		
Y-/->X	2.788	4.869*
	(3,24)	(1,23)
X-/->Y	2.229-03	0.423
	(1,26)	(1,22)
Y−, → X	2.214	3.385
	(1,23)	(2,23)
X−/→Y	1.706	1.294
	(1,25)	(2,22)

Note: Ranked series of:

AR = GDP from agriculture at 1980-81 prices/GDPT EXPR = [aggregate expenditure on revenue and capital account including loans and grants (=XF) in real terms]/ GDPT

\* indicates significance at 5%.

•••

Null hypothess	GR test	MS test
ii)EXPR=f(MRATIO)		
Y-/->X	1.852	1.244
	(2,25)	(1,24)
X-/->Y	0.399	2.38
	(1,26)	(1,23)
$Y \rightarrow X$	10.581*	3.815*
	(1,24)	(2,24)
X-/→Y	6.142*	6.788*
	(1.25)	(2.23)

TABLE 9B. STRUCTURAL HYPOTHESIS 2

(X = EXPR, Y = MRATIO)

Note: Ranked series of:

MR = GDP from manufacturing at 1980-81 prices/ GDPT EXPR = [aggregate expenditure on revenue and capital account including loans and grants (=XP) in real terms]/ GDPT \* indicates significance at 5%.

TABLE 10A. SUMMARY RESULTS OF CAUSALITY TESTS	
(WITH XE MEASURE OF EXPENDITURE)	

Version	GR test	MS test
Traditional	GDPT->XE	GDPT->XE
Peacock-Wiseman XE=f(GDPT)	$GDPT \xrightarrow{i} XE$	$GDPT \xrightarrow{i} XE$
Goffman	PCY ->XE	PCY->XE
XE=f(PCY)	no ic	$PCY \rightarrow XE$
Pryor	GDPT -> GFCE	GDPT -> GFCE
GFCE=f(GDPT)	$\mathbf{GDPT} \xrightarrow{i} \mathbf{GFCE}$	no ic
Musgrave	PCY ->EXRE	PCY -> EXRE
EXRE=f(PCY)	no ic	$PCY \rightarrow EXRE$
Gupta/Michas PCXE=f(GDPT)	GDPT ->PCXE no ic	GDPT -> PCXE no ic
Modified	GDPT ->EXRE	GDPT -> EXRE
Peacock-Wiseman EXRE=f(GDPT)	no ic	$GDPT \xrightarrow{i} EXRE$

but both tests show the presence of instantaneous causality.

Having presented the results of causality tests for each of the versions, the position could be made even clearer by summarising all these results in tabular form as below:

TABLE 10B. SUMMARY RESULTS OF CAUSALITY TESTS (WITH XF MEASURE OF EXPENDITURE)

Version	GR test	MS test
Traditional	GDPT->XF	GDPT->XF
Peacock-Wiseman	no ic	$GDPT \xrightarrow{l} XF$
XE=f(GDPT) Goffman	PCY ->XF	PCY->XF
XE=f(PCY)	no ic	$PCY \xrightarrow{i} XF$
Musgrave	PCY ->EXPR	PCY -> EXPR
EXRE=f(PCY)	no ic	$PCY \rightarrow EXPR$
Gupta/Michas PCXE=f(GDPT)	GDPT ->PCXF no ic	no causality no ic
Modified Peacock-Wiseman EXRE=f(GDPT)	GDPT ->EXPR no ic	no causality no ic

TABLE 10C. SUMMARY RESULTS FOR CAUSALITY TESTS FOR STRUCTURAL HYPOTHESIS (USING XF MEASURE OF EXPENDITURE)

Version	GR	MS
i) EXPR=f(ARATIO)	no causality	AR -> EXPR
1		EXPR $\rightarrow AR$
ii) EXPR=f(MRATIO)	no causality	no causality
	$EXPR \rightarrow MR$	$\mathbf{EXPR} \xrightarrow{i} \rightarrow \mathbf{MR}$
	$MR \rightarrow EXPR$	$MR \xrightarrow{i} EXPR$

Note: "ic" an " $\rightarrow$ " stand for instantaneous causality.

When examining the structural hypothesis we do not consider the XE measure, as co-integration test shows the XF measure to have a long run equilibrium relationship with MRATIO and ARATIO, the independent variables for this hypothesis.

In the case where ARATIO is the independent variable the GR test shows no causality to exist but the MS test provides support to the Wagnerian hypothesis. With MRATIO as the independent variable both GR and MS tests show no causality The above tables make it amply clear that when causality tests are performed with rank transformed series of variables in all the versions, we find that except for the structural hypotheses, there is clear evidence of the Wagnerian hypothesis being vindicated for the Indian economy, especially with the XE measure of expenditure which on the basis of the unit root test for residuals may be expected to give more reliable results regarding the direction of causation.

#### 5. Summing up

The aim of this present exercise is a modest one of experimenting with a relatively new econometric technique of non-parametric methodology which is not subject to the criticism of adopting a particular functional form and which is expected to provide more reliable results when the standard assumptions of parametric analysis are not met.

Our exercise adopting the methodology c.f. Multiple Rank F test suggested by Holmes and Hutton using an extended data set fails to support the Wagnerian hypothesis as is the conclusion that they too arrive at. However, when we modify the study and consider the variables in real terms a complete reversal in the direction of causation is seen. Thus, removal of the price effect appears to be a significant factor in determining the direction of causation.

When considering the different 'versions' of Wagner's law all variables used were in real terms. As a first step co-integration technique was applied to establish the existence of a long run equilibrium. Current expenditure was seen to be the only expenditure measure having a long run relationship with the income measures as given in the different versions. Checking for the direction of causation now appeals more strongly to the rationale once the long run equilibrium has been established. Both, current expenditure, i.e., the expenditure measure co-integrated with income, and aggregate expenditure, the measure conventionally used by economists, provide us with near unanimous evidence of the presence of Wagner's law for the Indian economy.

Multiple rank F test, the technique which has been adopted in the present exercise, does by no means claim to displace the essential role of parametric analysis but the results of Granger causality appear to be functional form dependent and hence this rank transformation technique, which is unaffected by any such restriction, does seem to be an important addition to the research agenda for testing Wagner's law.

APPENDIX	: A.	<b>UNIT ROO</b>	от Т	ESTS	OF	RESIDUAL
(FOR	XE	MEASURE	OFE	EXPEN	1DI.	TURE)

Version	Valu	ie
Traditional	DF:	-4.4021
Peacock-Wiseman	ADF(1):	-3.8437
	ADF(2):	-2.8268
	ADF(3):	-3.4647
	ADF(4):	-2.6895
Pryor	DF:	-4.0991
-	ADF(1):	-3.9183
	ADF(2):	-3.9428
	ADF(3):	-3.5055
	ADF(4):	-3.5103
Goffman	DF:	-3.6655
	ADF(1):	-2.6997
	ADF(2):	-1.7300
	ADF(3):	-2.1363
	ADF(4):	-1.6112
Musgrave	DF:	-4.2141
0	ADF(1):	-3.3797
	ADF(2):	-2.2950
	ADF(3):	-2.8488
	ADF(4):	-2.1851
Gupta and	DF:	-4.4021
Michas	ADF(1):	-3.8437
	ADF(2):	-2.8268
	ADF(3):	-3.4647
	ADF(4):	-2.6895
Modified	DF:	-4.4021
Peacock-Wiseman	ADF(1):	-3.8437
	ADF(2):	-2.8268
-	ADF(3):	-3.4647
	ADF(4):	-2.6895

Note: Critical values at 5% are taken from MacKinnon [1990] DF = -3.4885; ADF(1) = -3.4925; ADF(2) = -3.4966;

ADF(2) = -3.4900;ADF(3) = -3.5009; ADF(4) = -3.5055

APPENDIX B. UNIT ROOT TESTS OF RESIDUALS (FOR XF MEA-SURE OF EXPENDITURE)

Version	Value	
Structural Hypothesis		
i) EXPR=f(ARATIO)	DF: -3.9900 ADF(1): -3.2595 ADF(2): -3.0263 ADF(3): -2.8008 ADF(4): -2.0116	
ii) EXPR=f(MRATIO)	DF: -5.2367 ADF(1): -4.4778 ADF(2): -3.6320 ADF(3): -3.0069 ADF(4): -2.0248	

Note: Critical values at 5% are taken from MacKinnon [1990] DF = -3.4885; ADF(1) = -3.4925; ADF(2) = -3.4966;

ADF(3) = -3.5009; ADF(4)= -3.5055

#### NOTES

1. The reason which Holmes and Hutton give us for this exclusion is that macroeconomists conventionally view government expenditure on debt service as similar to a transfer payment from taxpayers to bondholders and not either a demand or a supply for goods and services stationarity.

2. The unit root test for residuals carried out by us did not show this income measure to be first difference stationary at 5% level but we went ahead with the estimation.

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,	PCY [(2)/(3)] *10	(13)	1,194.18	1,201.97	1,212.82	1,262.88	1,292.62	1,302.11	1,348.78	1,306.41	1,375.29	1,378.99	1,449.40	1,460.72	1,458.77	1,499.59	1,579.28	1,487.05	1,471.84	1,557.02	1,560.64	1,627.77	1,671.46	1,648.72	1,605.78	1,641.24	1 623.90
	PNY [(1)(3)] *[0]	(12)	250.11	259.73	251.32	268.60	247.75	247.25	289.28	289.95	317.37	327.09	351.47	362.55	379.12	423.94	484.83	496.14	553.31	636.11	655.27	705.63	733.97	762.60	819.63	76.186	1,130.51
	01* [(£)/(6)] INd	(11)	59.58	69.35	66.42	68.48	104.35	106.67	112.67	148.83	146.07	147.95	154.11	162.89	194.51	221.00	226.30	223.49	241.59	199.78	187.50	193.75	213.29	249.02	246.57	213.07	219.24
TUDY	PCNET [(8)/(3)] *10	(10)	12.48	14.99	13.76	14.56	20.00	20.25	24.16	33.03	33.71	35.09	37.37	40.43	50.55	62.48	69.47	74.57	90.82	81.62	78.73	83.99	93.66	115.18	125.86	127.48	152.63
ND HUTTON S	NETINT I(6)-(7)J GDP defi.	(6)	2,139.01	2,531.43	2,470.84	2,595.32	4,027.91	4,192.00	4,518.05	6,087.08	6,105.77	6,302.84	6,688.18	7,232.19	8,830.66	10,254.45	10,726.57	10,839.46	11,958.66	10,109.11	9,712.45	10,249.20	11,538.95	13,795.54	13,980.56	12,358.21	13,000.86
F HOLMES A	CNET [(6)-(7)]	(8)	448	547	512	552	772	796	696	1,351	1,409	1,495	1,622	1,795	2,295	2,899	3,293	3,617	4,496	4,130	4,078	4,443	5,067	6,381	7,136	7,394	9,051
VERSIONS O	Interest Payments	( <u>1</u> )	37	39	37	41	40	43	39	42	49	69	LL	83	245	278	316	371	464	501	528	565	909	670	776	882	1,001
D MODIFIED	Total (4)+(5)	(9)	485	586	549	593	812	839	1,008	1,393	1,458	1,564	1,699	1,878	2,540	3,177	3,609	3,988	4,960	4,631	4,606	5,008	5,673	7,051	7,912	8,276	10,052
XTENDED AN	Aggregate Expendi- ture (capital account) (current prices)	(2)	137	205	158	192	411	398	534	762	782	828	873	996	1,226	1,519	1,802	1,987	2,715	2,180	1,926	2,106	2,494	2,923	3,320	3,440	4,259
DATA FOR E	Aggregate Expendi- ture (revenue account) (current prices)	(4)	348	381	391	401	401	441	474	631	676	736	826	912	1,314	1,658	1,807	, 2,001	2,245	2,451	2,680	2,902	3,179	4,128	4,592	4,836	5,793
TABLE CI.	Population (million)	(3)	359	365	372	379	386	393	401	409	418	426	434	444	454	464	474	485	495	506	518	529	541	554	567	580	593
	GDPT (1980-81 prices)	(2)	42,871	43,872	45,117	47,863	49,895	51,173	54,086	53,432	57,487	58,745	62,904	64,856	66,228	69,581	74,858	72,122	72,856	78,785	80,841	86,109	90,426	91,339	91,048	95,192	96,297
	GDPT (current prices)	(1)	8,979	9,480	9,349	10,180	9,563	9,717	11,600	11,859	13,266	13,934	15,254	16,097	17,212	19,671	22,981	24,063	27,389	32,187	33,943	37,328	39,708	42,248	46,473	56,954	67,039
	Year		1950-51	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1961	1968	1969	1970	1971	1972	1973	1974	1975

EL. H APPENDIX C.

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(Contd.)

	PNT PNY PCY [(9)/(3)] [(1)/(3)] [(2)/(3)] *10 *10	(11) (12) (13)	275.98 1,173.00 1,729.29	276.37 1,234.45 1,714.19	291.10 1,377.78 1,801.56	337.69 1,448.77 1,859.63	283.86 1,542.80 1,720.42	315.60 1,800.09 1,800.09	303.04 2,058.73 1,869.97	335.37 2,240.49 1,887.59	354.18 2,566.51 2,000.23	390.67 2,811.65 2,037.10	388.49 3,100.17 2,095.05	429.71 3,377.01 2,135.60	407.57 3,741.76 2,161.45	416.89 4,391.52 2,347.01	463.43 4,937.07 2,427.04	456.27 5,640.33 2,503.47	402.50 6,330.47 2,480.33	
	PCNET [(8)/(3)] *10	(10)	187.20	199.02	222.62	263.08	254.56	315.60	333.63	398.07	454.45	539.22	574.87	679.49	705.56	780.05	942.71	1 027.97	1,027.30	
	NETINT ((6)-(7)]/ GDP defl.	(6)	16,751.89	17,134.97	18,455.67	21,882.23	18,848.57	21,429.00	21,030.79	23,777.86	25,642.54	28.870.77	29,331.05	33,087.40	32,116.43	33.559.69	38 094 28	38.235.17	34,454.41	
	CNET [(6)-(7)]	(8)	11.363	12,340	14,114	17.048	16,903	21,429	23,154	28,223	32,902	39,848	43.403	52,321	55.598	62.794	17 491	86 144	87,937	
(GUCLD.)	Interest Payments	Θ	1.228	1,488	1.646	1.984	2.292	2,748	3,260	4,007	4.869	6.049	7,504	9,237	11.236	14.261	17,735	21.850	26,563	
TABLE CI. (C	Total (4)+(5)	(9)	12.591	13.828	15,760	19.032	19,195	24,177	26,414	32,230	37,771	45,897	50.907	61,558	66,834	77,055	95.226	107.994	114,500	llator.
	Aggregate Expendi- ture (capital account) (current prices)	(5)	5 402	5.387	6.398	8.084	7,161	9,633	10,546	12,885	14,881	18,016	16,135	19,014	18,705	20,800	28,698	31.782	29,122	nts)/GDP def
	Aggregate Expendi- ture (revenue account) (current prices)	(4)	7 189	8.441	9.362	10.948	12,034	14,544	15,868	19,345	22,890	27,881	34,772	42,544	48,129	56,255	66,528	76,212	85,378	terest payments
	Population (million)	(3)	109	620	634	648	664	619	694	709	724	739	755	770	788	805	822	838	856	rent prices-int it prices-intere
	GDPT (1980-81 prices)	(2)	104.968	106,280	114,219	120,504	114,236	122,226	129,776	133,830	144,817	150,542	158,176	164,441	170,322	188,934	199,503	209,791	212,316	senditure at cur diture at curren
	GDPT (current prices)	(E)	71.201	76,536	87,351	93,880	102,442	122,226	142,876	158,851	185,815	207,781	234,063	260,030	294,851	353,517	405,827	472,660	541,888	aggregate exp gregate expen
	Year		1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1661	1992	NETINT = ( CNET = ag

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PNI = (netint/population)\*10
NGDPT = Gross Domestic Product in nominal terms
GDPT = Gross Domestic Product in real terms
Data sources: (1) CSO. National Accounts Statistics.
(2) RBI, Report on Currency and Finance, various issues.

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Year	Total DER -Grant	Total NDER -Grant	Total (DER+NDER -Grant)	Total Grants	REXPT (DER+NDER +Grant)
1950-51	190.98	1,394.18	1,585.16	76.39	1,661.56
1952	199.00	1,485.54	1,684.54	78.67	1,763.21
1953	202.69	1,573.23	1,775.92	110.99	1,886.91
1954	244.49	1,518.64	1,763.13	122.24	1,885.37
1955	302.62	1,633.08	1,935.69	156.53	2,092.22
1956	431.84	1,701.03	2,132.87	189.59	2,322.45
1957	503.56	1,575.95	2,079.51	130.55	2,210.07
1958	693.86	1,941.92	2,635.78	207.26	2,843.04
1959	762.68	1,967.37	2,730.05	199.34	2,929.38
1960	885.35	2,011.01	2,896.36	206.58	3,102.94
1961	974.86	2,235.08	3,207.72	197.94	3,405.66
1962	709.12	2,167.64	2,876.76	797.76	3,674.52
1963	715.69	3,574.59	4,290.28	765.71	5,055.98
1964	608.40	4,432.16	5,040.56	824.18	5,864.74
1965	651.48	4,345.35	4,996.83	889.27	5,886.10
1966	703.72	4,321.15	5,024.86	971.10	5,995.96
1967	734.17	4,158.18	4,890.92	1,079.98	5,970.90
1968	692.71	4.146.45	4,839.16	1,160.22	5,999.38
1969	757.37	4.348.93	5,106.30	1,276.57	6,382.87
1970	816.61	4,521.37	5,337.98	1,357.10	6,694.39
1971	1,106,76	4.739.01	5,845.76	1,393.69	7,239.45
1972	1.582.56	5.417.90	7,000.47	1,924.16	8,924.62
1973	1.690.75	5,452.34	7,143.09	1,853.36	8,996.46
1974	1.729.88	4,761,77	6,491.66	1,591.16	8,082.81
1975	1.761.07	5.037.28	6,798.35	1,522.62	8,320.97
1976	2.234.96	6.463.11	8.698.07	1,900.31	10,598.38
1977	2.928.48	6.539.88	9,468.36	2,252.35	11,720.71
1978	3,191.82	6.486.02	9.677.84	2,564.18	12,242.02
1979	3.543.62	7.127.04	10.670.66	3,381.63	14,052.30
1980	3,565,29	7.165.37	10.730.66	2.688.35	13.419.01
1981	3.367.00	8.381.00	11.748.00	2,796.00	14,544.00
1982	3.813.82	8.005.77	11.819.59	2.593.23	14,412.82
1983	4.258.77	8.977.55	13.236.32	3.061.94	16,298.26
1984	4.548.35	9.860.48	14,408,83	3,430,75	17,839.58
1985	5,491,88	10.926.52	16,418.40	3,782.01	20,200.41
1986	6,374.67	12,348.60	18,723.27	4,775.09	23,498.36
1987	7,476.78	14,519.73	21,996.51	4,908.00	26,904.50
1988	7.755.59	14.726.15	22.481.73	5,320.20	27,801.93
1989	8,712.46	15,967.50	24,679.95	5,385.03	30,064.98
1990	11,281.15	17,140.48	28,421.63	4,283.28	32,704.91
1991	9,938.73	17,987.98	27,926.71	5,900.12	33,826.83
1992	9,7048.02	18,211,23	27.259.25	6,192.52	33.451.77

TABLE C2. REVENUE EXPENDITURE OF GOVERNMENT OF INDI	A (DEFLATED USING GDP DEFLATOR)
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(Rs crore)

Note: For definitions, see text. Data source: RBI, Report on Currency and Finance, various issues.

					(Rs croi DEK+NDEK
Year	DEK	NDEK	DEK+NDEK	Loan	+Loan
1950-51	272.15	66.84	339.00	315.12	654.12
1952	254.53	291.55	548.08	402.62	948.71
1953	154.43	33.78	188.26	574.28	762.49
1954	216.28	-103.44	112.84	789.88	902.72
1955	469.58	401.75	871.32	1,273.07	2,144.39
1956	716.22	-47.40	668.82	1,427.18	2,096.00
1957	1,179.63	102.58	1,281.19	1,207.61	2,489.82
1958	1,567.95	382.98	1,950.93	1,482.34	3,433.27
1959	1,586.03	156.00	1,742.03	1,646.70	3,388.73
1960	805.25	623.96	1,429.21	2,061.60	3,490.80
1961	1,113.42	560.83	1,674.25	1,925.80	3,600.05
1962	1,414.20	342.47	1,756.68	2,135.41	3,892.09
1963	1,931.59	423.26	2,354.84	2,362.54	4,717.38
1964	2,207.24	672.08	2,879.31	2,493.75	5,373.06
1965	2,081.47	1,003.28	3.085.75	2,785.07	5,869.81
1966	1,735.39	590.45	2,325.84	3,629.63	5,955.47
1967	1,364.60	2,082.82	3,447,26	3,774,61	7,222.02
1968	1,138.19	859.15	1,997.98	3,338.70	5,336.05
1969	1,188.45	-169.10	1,018.76	3,567.74	4,587.10
1970	1,234.15	260.67	1,494.82	3,363.34	4,858.16
1971	1,377.75	765.16	2.142.91	3.536.61	5,679.52
1972	1,947.94	464.82	2,412.76	3,906.68	6,319.44
1973	1.594.76	315.42	1.910.18	4.594.23	6,504,41
1974	1.385.58	299.18	1.684.75	4.064.81	5,749,56
1975	2,038.30	303.09	2.341.39	3,776.38	6.117.77
1976	2,637.43	681.10	3.318.83	4.645.36	7.963.89
1977	2,149.60	447.14	2.596.73	4,883,80	7.480.54
1978	2,574.64	358.28	2.932.92	5.433.02	8,365.94
1979	2,423,43	680.31	3.104.12	7.272.86	10.376.59
1980	2.385.26	335.65	2.720.91	5,264.52	7.985.44
1981	3.050.00	933.00	3.983.00	5.650.00	9.633.00
1982	3 439 78	464.15	3 903.93	567513	9 579 06
1983	3.465.99	627.65	4.093.65	6.761.81	10.855.45
1984	3.821.21	1.070.06	4.890.96	6.706.40	11.597.67
1985	4.778.23	904.20	5.682.43	7.370.57	13.053.00
1986	4,700.08	687.95	5.388.02	5.515.75	10.903.77
1987	4.836.54	861.32	5.697.86	6.326.45	12.024.31
1988	3.536.40	1.832.32	5.368.72	5,436.31	10 805.03
1989	3.402.79	2.078.44	5,481 23	5.63515	11,11637
1990	3.635.85	2,168,92	5 8()4 77	8303.06	14 107 83
1991	3.286.28	2,105.63	5.391.91	8.714.59	14 106 50
1007	2 401 51	1 075 10	A 466 61	6 042 62	11,100,00

TABLE C3. CAPITAL EXPENDITURE OF GOVERNMENT OF INDIA (DEFLATED USING GDP DEFLATOR)

Note: For definitions, see text. Data source: RBI, Report on Currency and Finance, various issues.

Year	XA (1)	XB (2)	XC (3)	XD (4)	XE (5)	XF (6)	GFCE (7)	ARATIO (8)	MRATIO (9)
1950-51	1,924.16	463.13	1,461.02	339.00	1,585.16	2,315.67	2,522	0.49	0.11
1952	2,230.62	453.53	1,777.09	546.09	1,684.54	2,711.92	2,548	0.48	0.11
1953	1,964.13	357.11	1,607.01	188.21	1,775.92	2,649.40	2,551	0.49	0.12
1954	1,875.97	460.76	1,415.20	112.84	1,763.13	2,788.09	2,583	0.50	0.12
1955	2,807.02	772.19	2,034.83	871.32	1,935.69	4,236.61	2,598	0.50	0.12
1956	2,801.69	1,148.06	1,653.63	668.82	2,132.87	4,418.46	2,670	0.48	0.13
1957	3,361.72	1,683.19	1,678.53	1,282.21	2,079.51	4,699.89	2,856	0.48	0.13
1958	4,586.71	2,261.81	2,324.89	1,950.93	2,635.78	6,276.31	3,216	0.46	0.14
1959	4,472.08	2,348.71	2,123.37	1,742.03	2,730.05	6,318.11	3,330	0.47	0.13
1960	4,325.56	1,690.59	2,634.97	1,429.21	2,896.36	6,593.74	3,390	0.46	0.14
1961	4,881.97	2,088.28	2,795.92	1,674.25	3,209.94	7,005.71	3,573	0.46	0.14
1962	4,633.43	2,123.32	2,510.11	1,756.68	2,876.76	7, <b>56</b> 6.60	3,836	0.44	0.15
1963	6,645.12	2,647.27	3,997.84	2,354.84	4,290.28	9,773.36	4,629	0.42	0.15
1964	7,919.87	2,815.64	5,104.23	2,879.31	5,040.56	11,237.80	5,733	0.41	0.16
1965	8,081.58	2,732.95	5,348.63	3,084.75	4,996.83	11,755.91	5,939	0.42	0.16
1966	7,350.70	2,439.10	4,911.60	2,325.84	5,024.86	11,951.43	6,516	0.38	0.17
1967	8,338.34	2,098.78	6,241.00	3,447.42	4,892.36	13,192.92	6,572	0.37	0.17
1968	6,836.50	1,830.90	5,005.60	1,997.35	4,839.16	11,335.43	6,705	0.40	0.15
1969	6,125.65	1,945.82	4,179.83	1,019.35	5,106.30	10,969.97	7,073	0.39	0.16
1970	6,832.80	2,050.76	4,782.04	1,494.82	5,337.98	11,552.56	7,764	0.39	0.17
1971	7,988.68	2,484.51	5,504.17	2,142.91	5,845.76	12,918.98	8,492	0.40	0.16
1972	9,413.23	3,530.50	5,882.73	2,412.76	7,000.47	15,244.07	9,369	0.38	0.17
1973	9,053.27	3,285.51	5,767.76	1,910.18	7,143.09	15,500.87	9,402	0.36	0.17
1974	8,176.41	3,115.46	5,060.95	1,684.75	6,491.66	13,832.37	9,305	0.38	0.17
1975	9,139.73	3,799.36	5,340.37	2,341.39	6,798.35	14,438.73	8,875	0.36	0.17
1976	12,016.60	4,872.39	7,144.21	3,318.53	8,698.07	18,562.27	9,799	0.38	0.16
1977	12,065.09	5,078.07	6,987.02	2,596.73	9,468.36	19,201.25	10,576	0.35	0.18
1978	12,610.76	5,766.46	6,844.30	2,932.92	9,677.84	20,607.96	10,898	0.37	0.17
1979	13,774.40	5,967.05	7,807.34	3,103.74	10,670.66	24,428.89	11,706	0.36	0. <b>19</b>
1980	13,451.57	5,950.55	7,501.02	2,720.91	10,730.66	21,404.45	12,424	0.32	0.19
1981	15,731.00	6,417.00	9,314.00	3,983.00	11,748.00	24,177.00	13,084	0.35	0.18
1982	15,723.52	7,253.60	8,469.92	3,903.93	11,819.59	23,991.88	13,663	0.35	0.18
1983	17,329.97	7,724.77	9,605.20	4,093.65	13,236.32	27,153.71	15,075	0.33	0.19
1984	19,300.10	8,369.56	10,930.54	4,891.27	14,408.83	29,437.25	15,718	0.34	0.19
1985	22,100.83	10,270.11	11,830.73	5,682.43	16,418.40	33,253.41	16,941	0.33	0.19
1986	24,111.29	11,074.75	13,036.55	5,388.02	18,723.27	34,402.13	18,868	0.31	0.20
1987	27,694.36	12,313.31	15,381.05	5,697.86	21,996.51	38,928.81	21,058	0.30	0.21
1988	27,850.46	11,291.99	16,558.47	5,368.72	22,481.73	38,606.96	22,660	0.29	0.20
1989	30,161.18	12,115.24	18,045.94	5,481.23	24,679.95	41,181.36	23,868	0.31	0.20
1990	34,226.40	14,916.99	19,309.41	5,804.77	28,421.63	46,812.74	25,211	0.29	0.21
1991	33,318.62	13,225.01	20,093.62	5,391.91	27,926.71	47,933.33	25,958	0.29	0.21
1992	31.725.86	11.539:53	20,186.33	4,466.61	27,259.25	44,862.00	25,975	0.28	0.20

TABLE C4.	EXPENDITURE AND INCOME MEASURES USED FOR THE	VARIOUS VERSIONS
	(MEASURES DEFLATED USING GDP DEFLATOR)	

Note: For definitions, see text. Data source: RBI, Report on Currency and Finance, various issues.

#### NATIONAL INTEGRATION AND THE LAW: BURNING ISSUES AND CHALLENGES

#### Mohan K. Vyas

The article analyses the process of national integration through law in India. The history of legislation taken for the purpose is traced from pre-Independence days. Abundant care was taken in the Constitution to ensure national integration. Yet, today all the legal measures appear to be counter-productive. Their inadequacies and their consequences are pointed out. It is observed that not only the various legislatures but courts too have not been consistently following the goal of national integration. Provision of reservation in the Constitution was expected to be an effective equaliser but, unfortunately, the very provision has further divided the caste-ridden society. Politics of capturing power through pandering people's unreasonable demands, particularly of religious minorities or of secessionist regional and linguistic chauvinists, has not brought the constitution-makers' dream of national integration any nearer to realisation.

#### I. INTRODUCTION

The vast bulk of the people of India had lived for centuries with certain common fundamental values of life and norms of conduct. This condition prevailed, despite the diversity of religious beliefs and practices. The people were able to absorb and assimilate all alien aggressors and their ideas. But, during the last four decades or more, several divisive forces and fissiparous tendencies have emerged on the political level. The question of national integration has, therefore, assumed considerable significance.

National Integration means a process as well as a goal, by which all the people inhabiting a particular territory irrespective of their religious, ethnic and linguistic differences, strive to live together with honour and dignity; on the basis of certain shared traditions, experiences, common history and values. It presupposes diversities. It is necessary that the parts should have a desire to be mutually helpful and complimentary. In the absence of this pre-requisite, there could be no integration. In a federal democratic country, wedded to the rule of law, national integration consists in ensuring justice to individuals, groups and regions, within the framework of its constitutional law. Justice signifies the incorporation of individuals, of different groups or nationalities, as equals into a national society. It also means

elimination of various types of segregation. The government's own actions *vis-a-vis* its citizens, irrespective of caste, creed, race, religion, language and place of birth, ought to be just. Government institutions, such as law courts and legislative and administrative bodies, ought to ensure the preservation of justice.

There are three aspects of justice: social, economic and political. Social justice means the prohibition of discrimination on any grounds creating artificial social barriers to integration, viz., untouchability, bonded labour, etc. As such, social justice demands equality along with liberty. For economic justice the state must make concerted efforts to improve the lot of the downtrodden and weaker sections of the people. The state should ensure a substantial minimum wage and other incidental benefits to labour according to the capacity of each industry to pay. The national economy should be re-shaped in such a way that most of the benefits reaped are made available to the common man. Political justice means ensuring personal freedom and liberty to all citizens and groups, and fair participation of the people in the country's political life. Thus, political justice involves universal adult franchise and no distinction on the grounds of religion, sex, caste, colour, etc., in matters of recruitment to public services.

With a view to securing such justice, the

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Summary by B.P. Patankar, Nagpur.

founding fathers incorporated in our Constitution certain fundamental rights for all citizens. They intended that a new social order would be created with common social, moral, ethical and economic values, which would forge a new sociological process leading to an integrated homogeneous community.

The role of law as an instrument for maintaining peace and order in society, and as a means of furthering social solidarity and social engineering is highly conducive to the integration of a diverse society into a homogeneous one. As the objective of national integration is to do justice to individuals and to groups and regions within a society, law as a means of doing justice has unbounded scope.

Law is not only a command or an external manifestation of power. It implies inner cohesiveness also. The Austinian concept of 'habitual obedience' takes for granted a law abiding character. The American jurist, Leon Fuller, postulates inner morality as part and parcel of the very structure of law [Fuller, 1958, p. 660]. Natural law thinkers also look upon law as an aspect of the common elements and values in human nature. Roscoe Pound's theory of social engineering as satisfaction of desires by balancing of human interest on the basis of jural postulates seems to present this integrative role of law in society [Pound, 1954, 424]. All other theories can also be interpreted as diverse exercises to prove the integrating function of law. The ultimate validity and success of law also depends upon the proper performance of its integrating function.

Development of law is conditioned by a series of integrative demands made by society's economic, political, educational and religious institutions. In such a situation, the purpose of law is to foster the values essential to social order, not by imposing one group's will on others, but by controlling, reconciling and mediating diverse and conflicting interests. In many areas of social life, such as education, race relations, housing, untouchability, protection of the environment and of the weaker and downtrodden people, and land reforms, law has been relied upon as an instrument of change, modernity and integrity because of its operational, objective value orientation and goal approaches. It is admitted on all hands that to bridge the yawning gulf between the haves and have -nots in the social and economic fields, law has to play a greater role as an instrument of equalisation and redistribution.

An important objective of national integration is value integration in a society having social economic, religious, linguistic and ethnic differences. All the modern values which can usher in changes in a society are incorporated in the Constitution of India. It also lays down certain fundamental constitutional obligations on the citizens of India, which if inculcated and internalised in their behaviour, could make India a culturally, socially and politically strong and united democratic polity. The Constitution is pervaded by the Indian spirit of comprehensive human concern, religious tolerance, pluralistic diversity and the essential unity. It calls for rationalisation, harmonisation and cooperation of those vital forces which regulate the ebb and flow of our national life. Law as a national integrator has thus a stupendous task to accomplish. 'Law is a means to promote a harmony of interests so that all interests in society are well served. Law further is meant to promote good-will and a sense of oneness among the people of a given country as also between the nations of the world' [Sethna, p. 11].

Law, however, works under certain limitations which are inherent in human nature and organisation of society. New enactments always institutionalise new patterns of behaviour manifesting new social values. At this stage, the effectiveness of law is impaired because it varies widely from the societal norms or because the law is not generally understood to be serving a shared goal. Law often fails because of its being ignored, poorly understood or narrowly construed. Poorly conceived, controversial or inappropriate legislation is often enacted but seldom successfully implemented at least in the short-run.

Notwithstanding these limitations, it would be a folly to dub law as a nonentity in the process and task of national integration. Instead, law can be a friend, guide and guardian, if used purposefully and promptly.

#### II. CONSTITUTIONAL PHILOSOPHY OF NATIONAL INTEGRATION

The Constitution in its preamble as well as in other parts reverberates the theme of national integration in an unambiguous terminology. The preamble expressly lays down the resolve of the people of India 'to constitute India into a sovereign, socialist secular and democratic republic, to secure to its citizens: justice, social, economic and political; liberty of thought, expression, belief, faith and worship; equality of status and of opportunity and to promote among them fraternity, assuring the dignity of the individual and the unity and integrity of the nation'.

It is opined in Kesawananda's case that the unity and integrity of the nation constitutes the basic feature of the Constitution [AIR 1973 SC 146]. The inclusion of the word 'Fraternity' in the preamble is intended to foster the spirit of brotherhood which is essential for bringing about national integration in a country, composed of people of many races and religions. The quintessence of the philosophy of national integration is incorporated in the preamble of the National Integration Policy, adopted by the National Integration Council [1968], according to which, 'the foundation of our national life is common citizenship, unity in diversity, equality, justice -social, economic and political- and fraternity among all the communities' [Gajendragadkar, 1974, p. 6].

Article 1 of the Constitution echoes the theme of unity in diversity wherein it declares, 'India, that is Bharat, shall be a Union of States.' This federalism is a strategy by which the dual objectives of unity and territorial diversity rooted in the prevailing historic, cultural, racial, linguistic, economic or geographical conditions in India are sought to be synthesised and harmonised. The constitutional and legal provisions by which the principles of federalism have been maintained and the divisive forces of communal, casteist, regional and linguistic fundamentalism restrained are more fully discussed in later sections.

An equally important feature of the philosophy of national integration is the incorporation of the ideals of secularism and democracy in the Constitution, so as to bring about an atmosphere of toleration, understanding and co-operation among people irrespective of their religious and ethnic differences. In establishing a secular state, the Constitution has maintained a careful balance between the rights of the individual and the larger interests of the community. There is no established state religion; citizenship is unrelated to the faith and creed of the individual (Articles 5 to 7). The preamble to the Constitution expressly declares an intention to ensure to all citizens, liberty of thought, expression, belief, faith and worship. The words 'Secular State' were not mentioned in the original Constitution but, nonetheless, our constitution-makers wanted the establishment of such a state.

The Supreme Court in Ahmedabad St Xavier's College v. State of Gujarat, explained the significance of the secular character of the Indian polity thus, 'There is no mysticism in the secular character of the State. Secularism is neither anti-God nor pro-God, it treats alike the devout, the agnostic and the atheist. It eliminates God from the matters of the State and ensures that no one shall be discriminated against on the ground of religion. The constitution-makers were conscious of the deep attachment the vast masses of our country had towards religion and the significant role it played in their lives. To allay all apprehensions of interference by the legislative and the executive in matters of religion, the rights enshrined in Articles 25-30 were made a part of the fundamental rights and religious freedom' [AIR 1974 SC 1389].

Thus, the incorporation of secularism under our Constitution reflects among other things the assertion of the unity of India, which to some extent means the replacement of religious loyalties by national loyalties and the inalienable equality of all citizens of the Republic.

A democratic set-up furthers the cause of secularism and therefore of national integration. Free and fair elections and competitive electoral politics tend to breakdown the isolation of communities and subjects communal solidarity to heavy pressures. Thus, democratic politics forces people to extend their area of concern and in the process promotes integration.

Equality is another basic postulate of national integration. It is idle to talk of national integration when our social and economic structure is founded on inequality. The Constitution recognises all individuals as equal units of power, operating through a system of universal adult franchise, permitting the flow of political power from all the segments of the society. At the same time, it provides for a kind of protective discrimination for those sections of society which are backward and downtrodden. In reality, inequalities do exist- inequalities in social status, income, health, education and opportunity. Economic inequalities in conjunction with social inequalities are antagonistic to social cohesion and integration. To preserve the unity and integrity of the nation, concerted and planned efforts are required for the upliftment of backward regions, castes and classes, and Scheduled Castes and Tribes, thus integrating them into the mainstream of national life.

The attempt of the constitution-makers was to create by legislative and administrative measures under the various Articles of the Constitution, viz., Articles 15(1) and (4) and 16(1) and (4) and certain directive principles (Articles 37-50), such conditions of social and economic equality as would lead to the establishment of an egalitarian society. Legislative and administrative measures had to be so designed as to resolve any conflict between different groups, make equality real and liberty available for all citizens, to do justice to all individuals and all sections of society, to make citizens realise that their basic privileges- educational, social and economic- are afforded to them, that there will be cultural autonomy, that no body will be suppressed, and that a democratic Constitution in the true sense of the term, will march on from political freedom to economic freedom and equality.

To realise this, Article 38(1) of the Constitution directs the state to strive 'to promote the welfare of the people by securing and protecting as effectively as it may a social order in which justice, social, economic and political, shall inform all the institutions of national life'. Article 38 envisages not only legal justice but socioeconomic justice as well. Article 38(2) directs the state to strive 'to minimise the inequalities in income', and to 'eliminate inequalities in status, facilities and opportunities', not only amongst individuals but also groups of people residing in different areas or engaged in different vocations.

It is towards the attainment of these objectives that the process of planning has been oriented, agrarian economy restructured, right to property diluted, public sector economy extended and a system of governmental regulation of private economic enterprise created. Efforts have been constantly made to improve the position of backward and economically weaker sections of society.

Closely linked with creation of a just social order is the ownership and control of the material resources of the community. In this connection Article 39 provides that the state shall direct its polity towards, inter alia, operation of the economic system in such a way as to eliminate concentration of wealth and means of production. Article 39 does not mean that the resources should belong to the community as a whole, but that they are capable of producing wealth for the community. The word 'Socialist' was introduced by a later amendment of the Constitution. However, that socialism was always the goal is evident from the various provisions of the directive principles of state policy. The amendment was only to emphasise the urgency. Ownership, control and distribution of national productive wealth for the benefit and use of the community and the rejection of a system of misuse of its resources for selfish ends is what socialism is about and the words and thought of Article 39(b) echo that idea. To achieve the socialist goal, the material resources of the community should be equitably distributed. The Supreme Court held that it would not be correct to construc the word 'distribution' in a purely literal sense so as to mean only division of a particular kind or to a particular person. The word 'distribution' does not mean that the property of one should be forcibly taken over and distributed to others, for that would be contrary to the ethos of individual freedom.

Fundamental Dutics of every citizen were incorporated in Part IV-A of the Constitution by the 42nd Amendment of 1976, with the objective of instilling in the minds and hearts of the people a feeling of unity, solidarity and cohesion vis-avis their nation and its culture and institutions. Some of these duties are: to abide by the Constitution and respect its ideals and institutions, the National Flag and the National Anthem; to uphold and protect the sovercignty, unity and integrity of India; to defend the country and render national service when called upon to do so; to promote harmony and brotherhood among all the people of India; to renounce practices derogatory to the dignity of women; to value and preserve the rich heritage of our composite culture; to develop a scientific temper, humanism and a spirit of inquiry and reform; to safeguard public property and to abjure violence; and to strive towards excellence in all spheres of individual and collective activity so that the nation rises to higher levels of endeavour and achievement.

The Constitution does not make any provision for the direct enforcement of these duties but reminds us that national integrity and cohesion is possible only if the citizens abide by them. As regards enforceability of these duties in courts of law, Justice Bhagawati observed in *S.P. Gupta* and Others v. Union of India that 'any member of the public having sufficient interest can maintain an action for judicial redress for public injury arising from breach of public duty or from violation of some provision of the Constitution or the law and seek enforcement of such public duty and observance of such constitutional or legal provision' [AIR 1982 SC 188].

In another case, a two Judge Bench of the Supreme Court took cognisance of the fundamental duty to show respect to the National Anthem. It held that proper respect should be shown by standing up with the others, when the

National Anthem is played. It would not be right to say that disrespect was shown by not joining in the singing [(1986) 3 SCC 617].

The Supreme Court has performed the role of social engineering by progressive and social interpretation of the relevant constitutional provisions. Its role in curbing regionalism, casteism, communalism and linguism has been brought out in section IV. Of particular importance are its decisions establishing a single all-India domicile, upholding agrarian reforms and protective discrimination in favour of the weak, and striking down restrictions on interstate trade as well as legislation or rules resulting in discrimination based on religion, sect, language, region or gender. Social engineering has emerged as an important device of national integration through harmonious judicial technique and creativity of the Supreme Court. In resolving the problems of independent India, the Court has identified itself as the reformer, promoter and harbinger of social good, common welfare and social justice in accordance with the constitutional philosophy of democracy, socialism and secularism. While protecting the rights and interests of various ethnic, linguistic and religious minorities it has always put national interest over and above all other interests.

### III. INEQUALITY, LAW AND NATIONAL INTEGRATION.

#### 1. Historical Survey

A survey of the various kinds of inequalities, prevalent in the traditional Indian society is necessary for understanding the needs of national integration.

#### (i) Inequalities Based on Caste

The earliest reference to caste is found in the Purusha-Sukta, a hymn in Rig-Veda, according to which Brahmins came from the mouth, Kshatriyas from the arms, Vaishyas from the thighs and Shudras from the feet of the Kalpurusha. It was only during the Samhita and Brahmana period (800-400 B.C.) that the first three varnas became more or less fixed and differentiated with respect to their privileges and duties. However, the concretisation of the varnas into a rigid socio-legal order took place only during the Dharmashastra period (200B.C. -200 A.D.) The unrivaled position of Manu Smriti among the Dharmashastra encouraged the ossification of the varna system. Generally speaking, the caste of a person was an important factor in determining his criminal liability. According to Manu, the murder of a Brahmin was the greatest sin a person could ever commit, whereas the killing of women, shudras, and vaishyas was categorised as a minor offence. Differentiation in punishment was also noticed. In the case of adultery, if a shudra was found guilty of intercourse with a woman of higher caste, if she was unguarded, the offender was liable to lose not only his offending part, but also his property; if she was guarded, then he was required to lose everything including his life. Even among the shudras, there were certain groups considered as untouchables (Chandalas). Generally, the untouchables were engaged in unclean occupations like scavenging, tannery and other unhygienic works. Andre Beteille opines that a significant feature of inequalities based on caste was that they were cumulative and were harmonic with economic inequalities [Beteille, 1972, p. 25].

#### (ii) Slavery

As in other ancient civilizations, the institution of slavery was widespread in India till its abolition in 1843. Manu has narrated seven modes by which a person could become the slave of another. The governments of native states like Travancore and Cochin owned a large number of slaves. The Indian form of servitude was closely connected with the caste system. The practice of selling married women by their husbands in several districts of Bengal Presidency was common. Even selling oneself in slavery when in distress was prevalent. Slavery was finally abolished in British India by Act V of 1843. The Indian Penal Code of 1860 made it a penal offence to buy or sell slaves.

#### (iii) Inequalities Based on Sex

The status and position of woman under the Shastric Hindu Law was precarious as she had to suffer many disabilities. An oft-quoted verse of Manu says that a woman is never fit for independence, because her father protects her in childhood, her husband in coverture and her sons in old age. Even among women, there was inequality. A Brahmin girl was legally permitted to marry only a Brahmin male. The Shastras did not recognise divorce for the three higher varnas. However, the customary law among shudras generally permitted them to divorce each other. A man could legally indulge in polygamy, but a woman could have only one husband. Among the first three higher castes, the re-marriage of widows was unknown, whereas no such disability was suffered by the womenfolk of lower castes. Women had also no right of inheritance except by way of limited estate. The practice of sati and of female infanticide, widespread in the northern and north-western parts of India, further worsened the status of women.

#### (iv) Land Control and Economic Inequalities

The permanent settlement introduced by the Warren Hastings in the British Bengal erected a new type of institution known as Zamindar who was empowered to evict a tenant at his will. An analysis of the land transfers between 1795-1850 in the districts of Benaras, Ghazipur, Jaunpur, and Mirzapur indicated that approximately 41 per cent of the land transferred went to families whose principal occupations were moneylending, service and law. The new purchasers were mostly absentee landlords. Generally, the untouchables and other low caste persons were prevented from buying land even when they could afford to purchase. They were forced to remain at work on the land as landless labourers. They were also not allowed to enter into those occupations which were reserved for members of the higher castes.

#### (v) Political Disabilities

Untouchables were given no place in the politics, administration or the general governance of India.

#### 2. Legislation during the British Rule

With the advent of the British, the policy of equality towards all its subjects was declared by the Charter of 1833 and the Proclamation of 1858, The administration proceeded to enact laws to remove certain social evils. Thus: (i) The Abolition of Sati Act, 1829, was passed due to the efforts of William Bentick and Raja Ram Mohan Roy. (ii) The Indian Slavery Act, 1843, prohibited the sale of a person and compulsory labour. The law was later adopted in the Indian Penal Code. (iii) The Caste Disabilities Removal Act, 1850 stressed that no person shall be deprived of any proprietary right on the ground of religious exclusion and deprivation of caste. This legislation was applied to both Hindus and Muslims. (iv) The Hindu Widows' Remarriage Act, 1856 permitted and legalised Hindu widows' remarriage. Children of such marriages were entitled to acquire their status and property rights. (v) The Female Infanticide Prevention Act, 1870 not only prevented this inhuman act, but also initiated measures regarding registration of birth, marriages, deaths and limitation of expenses on marriage ceremonics. (vi) The Special Marriage Act, 1872 permitted inter-religious marriages and provided a form of marriage for those who did not belong to any recognised religion. This Act provided protection from forfeiture of the rights of succession. (vii) The Hindu Inheritance (Removal of Disabilities) Act, 1928 confined the grounds of exclusion from inheritance to only two disabilities, namely, congenital lunacy and idiocy. (viii) The Hindu Women's Right to Property Act, 1937 enabled a woman to have a share equal to that of a son in the property of her deceased husband. (ix) The Hindu Marriage Disabilities Removal Act, 1946 provided a legal validity to those marriages which are contracted between persons belonging to the same Gotra or Pravar or belonging to the various sub-divisions of the same caste. (x) Measures taken for the upliftment of untouchables included: the Government of India Act of 1935 which provided for. a Schedule for all untouchable classes to be prepared with the intention of providing them

official facilities. Various schemes were prepared for the improvement in the conditions of *Harijans*. The Government of Madras by the Malabar Temples Entrance Act opened the doors of Hindu places of worship for all members of untouchable classes.

#### 3. Legislation after Independence

#### (i) Constitutional Provisions

The Constitution guarantees the right to equality through Articles 14 to 18. Article 14 outlaws discrimination in a general way and guarantees equality before law to all persons. Article 15 prohibits discrimination on grounds of religion, race, caste, sex or place of birth. Article 16 guarantees to the citizens of India equality of opportunity in matters of public employment. Article 17 abolishes untouchability and Article 18 abolishes titles other than a military or academic distinction.

Political equality is secured by providing special representation to politically powerless groups such as the Scheduled Castes and Scheduled Tribes, in the legislative bodies. Social and economic equality is intended to be achieved by the state in pursuance of the directive principles of the state policy contained in Chapter IV of the Constitution, which commands the state to remove existing socio-economic inequalities by special measures.

#### (ii) Philosophy of Right to Equality

From the point of view of integration, the provision of Article 14 does not ensure absolute equality for all citizens in all circumstances. It is a guarantee of their equality as human persons, not to be treated as inferior or superior to other individuals in the community. In the very nature of things, the society being composed of unequals, a welfare state will have to strive by both executive and legislative actions to help the less fortunate in the society to ameliorate their conditions so that the prevalent social and economic inequalities in the society could be narrowed. Classification of individuals for positive assistance is permissible but it must be based on some real and substantial distinction, a just and reasonable relation to the objects sought to be attained and cannot be made arbitrarily and without any substantial basis. The Supreme Court observed in Ajay Hasia v. Khalid Mujib, 'Equality is a dynamic concept with many aspects and dimensions. From a positivistic point of view equality is antithetic to arbitrariness. In fact equality and arbitrariness are sworn enemies. Where an act is arbitrary, it is implicit in it that it is unequal both according to political logic and constitutional law and is, therefore, violative of Article 14, and if it affects any matter relating to public employment, it is also violative of Article 16' [AIR 1981 SC 487].

The doctrine of classification and that of arbitrariness constitute two different but useful dimensions of the doctrine of equality, and could be usefully employed to serve the larger interests of the weak, vulnerable and exploited classes of society. Both are useful in advancing the cause of egalitarianism and in promoting national integration.

#### (iii) Equality and Desegregation

Article 15(1) prohibits discrimination on the grounds only of religion, race, caste, sex, place of birth or any of them. Thus the principle of non-discrimination has been firmly accepted. In this clause the significance of the word 'only' needs emphasis. The Article permits discrimination on other grounds like poverty.

Article 15(2) guarantees a citizen's right of access to shops, public restaurants, hotels, etc., and the use of wells, tanks, bathing ghats, roads and places of public resort maintained wholly or partly out of state funds or which have been dedicated to the use of the general public. This right is available against private citizens or groups. However, this constitutional protection is unavailable against certain acts of individuals. Thus, the landlord of a house may choose his tenants on the basis of religion or caste, or a private employer may choose his employees on the basis of kinship.

In matters of public employment, clause (1) of Article 16 clearly provides for equality of opportunity to all citizens in the services under

the state. Article 16(2) rules out some bases of classification, including race, caste, descent, place of birth, etc. Thus, these two clauses of Article 16 postulate the universality of Indian citizenship. As there is one common citizenship, residence qualification is not required for service in any state.

(iv) Reservations in Legislative Bodies, Educational Institutions and Services under the State

The Constitution visualises an integrated society based on equality, liberty, justice and brotherhood. On the other hand, the Scheduled Castes, Scheduled Tribes and other backward classes suffer from historical injustices. To combat lack of political power of these groups, reservations in state legislatures and in the Lok Sabha have been provided by Articles 330 and 332. To promote equality and to eliminate inequality in social and economic fields, reservations for these groups of people have been made for pursuing higher education under Articles 15(1) and (4) of the Constitution, as well as under Article 16(4), for giving them adequate representation in services of the state. The rationale behind such reservations in legislative bodies, in educational institutions and in services under the state is that in course of time these persons will be able to stand in equal position with the more advanced sections of the society.

In 1951, the Supreme Court had held in State of Madras v. Champakam Dorairajan that the state was not entitled to make any reservation in educational institutions in favour of any backward class of people, as it would amount to contravention of the fundamental rights of the citizens of India [AIR 1951 SC 226]. Consequently, by the First Amendment to the Constitution, clause (4) was added to Article 15 to enable the state to make any special provisions for the advancement of any socially and educationally backward classes. Article 16(4) also provides 'for 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'.

#### (v) Social Backwardness and Poverty Test

The tests to be applied for determining backwardness of a class of citizens, for purposes of protective discrimination under Articles 15(4) and 16(4) have continued to be under judicial review. The Supreme Court has taken note of the fact that there are numerous castes in the country which are backward socially and educationally. Therefore, if an entire caste is found to be socially and educationally backward, special provisions or reservations for it would not violate Article 15(1). Though in the ultimate analysis, poverty is the cause of social and educational backwardness, poverty in rural areas cannot be the basis of classification to support reservation for rural areas.

#### (vi) Backwardness is not a Static Concept

The Supreme Court has clearly laid down in the case of *A. Periakaruppan* v. *State of Tamil Nadu* that no class is to be treated as backward for all the time. Once a class reaches a take-off stage, then competition is necessary for their future progress [AIR 1971 SC 2303 at p. 2311].

### (vii) Limitations on Reservation under Articles 16(1) and (4)

Reservation for backward classes in appointments or posts is not without limitation. There are two conditions subject to which the power of reservation has to be exercised, i.e., (a) it is to be seen that by excessive reservation the guarantee enshrined in clause (1) of Article 16 is not rendered illusory; and (b) in making such reservation, the policy of the state should be consistent with the maintenance of efficiency of administration as enjoined by Article 335 of the Constitution. The Supreme Court has, however, in different cases, upheld reservations in each separate grade of service, and in selection posts. They have upheld the relaxation of two years granted to employees from Scheduled Castes and Scheduled Tribes for passing promotion tests and the general reservation of 15 per cent and 7.55 per cent posts for candidates belonging to Scheduled Castes and Scheduled Tribes, respectively. It has,

nonetheless, opined that reservation for any purpose in excess of 50 per cent is not valid [AIR 1981 SC 298].

#### (viii) Perpetuation of Reservation and National Integration

The reservation provisions which were originally temporary have become a permanent feature. They have also not brought about the cherished objective of bringing these classes into the mainstream of public life. As more and more privileged groups are created on the basis of caste and other considerations, more and more divisive forces are unleashed in the body politic. The political process has become subservient to caste loyalties, and the effectiveness of reservation as a social engineering device is often questioned.

#### (ix) Evaluation of Reservations

It is worthwhile to evaluate the operation of reservations for backward classes. It has been pointed out that of the 370 backward castes and sub-castes only nine managed to create a virtual monopoly for themselves in Tamil Nadu. These nine castes constituting 11.3 per cent of the backward class population secured 37 per cent of the non-gazetted and 48 per cent of the gazetted posts in the sixties. Similarly they got 44.3 per cent of the engineering and 47.3 per cent of the medical seats. On the other hand, seven castes which constitute 12.1 per cent of the backward castes held 1.9 per cent of the non-gazetted and 0.9 per cent of the gazetted posts. It has been noted that children of millionaires, industrialists, doctors, engineers, senior officials and big businessmen, calling themselves backward, corner most of the concessions. Even in the case of Scheduled Castes, the 26th Report of the Commissioner for Scheduled Castes and Scheduled Tribes revealed the magnitude of inequalities among these communities and called for a positive discrimination in favour of the backward sections of these communities [GOI, 1980, p.

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188]. The whole policy of reservation calls for a fresh, more equitable, judicious and rational approach and classification.

### (x) The Protection of Civil Rights Act (PCRA), 1976

This is the amended version of the Untouchability (Offences) Act 1955. It makes all manifestations of the practice of untouchability punishable offences. From 1955 to 1976 an average of 976 offences per year were registered. During the next six years this average increased by more than four times, i.e., 4,256 per year.

The Elyaperumal Committee identified the following impediments in the working of the Acts. (1) Lack of awareness- only 43.8 per cent of the beneficiaries were aware of the provisions of the Acts. (2) Delay in the disposal of cases. (3) Light punishments- in 73.9 per cent of proved cases, the accused were let off with small fines. (4) The rate of acquittals was as high as 45.2 per cent. In the enforcement of the religious rights under the Act, the rights of 'denominational groups' sometimes tended to defeat the objective of the Act. For example, if a member of the Scheduled Caste is denied admission to a Jain temple, he has no remedy under the Act [Elyaperumal, 1965]. Prior to the amendments in 1976, the courts took the view that all non-Jains could not claim the right of entry into a temple dedicated to the member of one sect alone, and therefore, no offence was committed under the provisions of the Act. In 1976, Parliament amended the Act to make its enforcement more stringent. Enforcement of religious and social disabilities is punishable now with imprisonment for not less then one month and not more than six months, and also with a fine. Explanation 1 to Section 10 inserted by the amending Act specifically provides that if a public servant wilfully neglects the investigation of an offence punishable under the Act, he would be liable to punishment as an abetter.

Notwithstanding these legislative efforts, the practice of untouchability continues unabated even though in an attenuated form. This is because the Scheduled Castes are generally engaged in unclean and low-paid occupations in the unorganised sector. That renders them an easy prey to social and economic exploitation. The efforts of the state are directed more to elitist aspects of political and job reservations and only marginally touch the problems of the poorest of the poor among the Scheduled Castes.

#### (xi) The Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Act, 1989

This Act specifies a whole new range of offences, provides stiff penalties and special courts. It provides a mandatory imposition of death sentence where the intentional giving of false evidence results in conviction and execution of an individual from scheduled groups. Also, if atrocities involve land disputes the courts are to presume that the offence was committed in pursuance of a conspiracy. The Act provides for externment of any one likely to commit an atrocity in the scheduled and tribal areas specified under Article 244 of the Constitution.

The Act is not only a penal policy measure, but states are required to ensure prevention of atrocities and to assist the victims. Legal aid and travelling and maintenance allowances during investigation and trial have now to be provided. Identification of atrocity-prone areas and adoption of safety and preventive measures are to form a part of the scheme. The Act came into force on 30.1.1989. It is too early to draw any final conclusions about the success or otherwise of the Act.

### (xii) The Bonded Labour System (Abolition) Act, 1976

The object of this Act is to provide for the abolition of the bonded labour system. The definition of bonded labour is wide enough to cover every type of activity which is in the nature of bonded labour. It particularly covers the rendering of labour by an indebted or obliged person for no wages, in the form of repayment of some debt or obligation. The Act mainly roots out the bonded labour born of indebtedness, It is only a rescue measure and not a remedy for the difficulties arising out of social and economic compulsions.

#### (xiii) Legislation for Women

#### (a) Prostitution

Article 23 of the Constitution prohibits traffic in human beings. There is also the Suppression of Immoral Traffic in Women and Girls Act, 1956 (now the Prevention of Immoral Traffic Act, 1986) under which state governments are to make rules for its smooth implementation.

#### (b) Dowry

Under the Dowry Prohibition Act, 1961, the giving and taking of dowry is pumshable with imprisonment upto six months or a fine of five thousand rupces or both. The Act has so far remained a dead piece of legislation, because (i) offences under the Act are non-cognizable, and (ii) it is unreasonable to expect that the father of the girl who has paid dowry would lodge a complaint, ignoring the interests of his own daughter. To deal with this problem effectively, the Committee on the Status of Women has suggested that the offences under the Act should be made cognizable, that the display of dowry should also be made an offence, etc. Some of their suggestions have been incorporated in the later amendments

#### (c) The Commission of Sati Abolition Act, 1987

Although the custom of Sati was abolished during the days of Lord Cornwalis, it has again revived in recent years on account of social pressures. This led Parliament to enact the Commission of Sati Abolition Act, 1987. The Act inter alia punishes glorification of the custom of Sati; the guilty person would also be debarred from contesting any election.

#### (d) Women and Employment

Although the Constitution provides equality in all walks of life, a number of government inequalities are discussed below:

departments practise gender based inequality. The Indian Foreign Service Rules, 1961 provided that no married woman, as of right, would be entitled to be appointed to the service. Further, women members of the service were required to give an undertaking that they would resign, if their family and domestic commitments were in conflict with the performance of their duties. No such rules were applicable to male officers. The Supreme Court termed these provisions as violative of Articles 14 and 16 of the Constitution, in its judgment in Muthamma's case [(1979) 4 SCC 260]. It was then that the government stated that the rule was being deleted. Some discriminatory rules applicable to air hostesses of Air India were also struck down by the Supreme Court, as violative of Article 14 of the Constitution.

#### (e) The Equal Remuneration Act, 1976

Another area in which the gender based discrimination is widely practised is in the payment of less wages to women workers for the same or similar kind of work. The Equal Remuneration Act casts a duty on the employer to pay equal remuneration to men and women for the same work, or work of similar nature. It also lays down that an employer shall not make any discrimination against women in the matter of recruitment. This Act has not worked well in practice. In one case, the Supreme Court was unable to give any relief as the wage rates had been fixed after negotiations with the concerned Trade Union. Generally, trade unions are male-oriented and are active only in the organised sector. Women are, on the other hand, largely employed in the unorganised sector. It is necessary for women to have their own trade unions and for the state to initiate measures to train and encourage women to organise themselves and to have their representatives in policy-making bodies. The state should also devise legal support for this purpose.

#### (xiv) Legislation Regarding Inequalities of Property and Income

The effects made by the state to lesson these
# (a) Inequality of Property

The 44th Amendment to the Constitution deleted the right to property as a Fundamental Right. This constituted a significant development in the context of eradication of inequalities in the agrarian structure in India. Article 31B introduced by the First Amendment provides that none of the Acts mentioned in the Ninth Schedule to the Constitution shall be deemed to be void on the ground that they infringe the Fundamental Rights. Since the early fifties, 169 agrarian reform laws have been protected by their inclusion in the Ninth Schedule of the Constitution. The introduction of tenancy reforms seems to have mixed benefits. In many areas, landlords evicted tenants, in anticipation of these reforms. Their introduction thus led to an increase in the number of landless labourers.

While sustaining the constitutional validity of certain legislations pertaining to the agrarian reforms, the Supreme Court observed in *Kesawananda Bharati's case* that without a dynamic programme of agrarian reform, it was not possible to change the face of rural India and to upgrade the standards of living in the villages.

In colonial India there were marked disparities in ownership of agricultural land. To rectify these disparities, ceilings on agricultural holdings were enacted by most states by 1961. But these were evaded and indifferently implemented. The ceilings fixed were found to be high and not much surplus was realised and distributed. So far about 47 lakh people - largely landless workers, especially those belonging to Scheduled Castes and Scheduled Tribes - have benefited from the distribution of surplus land, but large chunks of the land declared surplus have remained undistributed due to litigation.

The Madhya Pradesh Government has by amending its ceiling laws given possession of disputed land to landless people. This example could be followed by other governments. The extent to which inherited wealth contributes to inequalities in India does not appear to have yet been fully discussed. The case against inheritance lies on three counts (i) that it widens inequalities of incomes and wealth, (ii) that it affects the basic democratic ideals of equality of opportunity, and

(iii) that it permits the conferment of large amount of power and wealth on persons who are incompetent or unprepared to utilise it. One extreme step that has been suggested by hard core socialists is the abolition of the institution of inheritance. However, in practice, no state, whether socialist or democratic, has adopted the policy of abolishing inheritance. Only some palliative measures like gift tax, wealth tax and estate duty have been taken. These have been of little help in lessening the inequalities.

# (b) Inequality of Income

One of the basic causes of inequalities of income is the unequal distribution of the resources of the economy. Dandekar and Rath rightly observed: 'At the root of the inequitable distribution of the national product is the inequitable distribution of the means of production' [Dandekar and Rath, 1971].

With 20 per cent of the rural households owning only 1 per cent of the rural assets and with pay-scales in the unorganised sector being very low, the result is inequality of incomes. This could be reduced by lowering the gap in structures through greater government assistance and by raising minimum wages. In this connection, the Minimum Wages Act, 1948 empowers the central and state governments to fix different minimum wages for different employment. In Peoples Union for Democratic Rights v. Union of India, the Supreme Court held that if a worker provides labour or service for less than minimum wages, such labour would clearly come within the ambit of forced labour prohibited under Article 23 of the Constitution [(1982) 3 SCC 258].

There are two views about the feasibility of having a uniform national minimum wage. In view of the vastness of the country and differences in the levels of development in industries and regions, the National Commission on Labour felt that a uniform national minimum wage would be untenable. The Bhootalingam Committee, on the other hand, observed that the real minimum wage could only be the absolute national minimum, irrespective of sector, regions or states, below which no employment should be permitted.

In contemporary India, the generation of black money is responsible for the erosion of the purchasing power of honest tax payers, as well as, of those living below the poverty line. The Special Bearer Bonds (Immunities and Exemptions) Act. 1981 was enacted with the objective of canalising black money for productive purposes. The constitutional validity of the Act was challenged on the ground that it violated Article 14 of the Constitution and also offended against morality as it conferred on dishonest tax evaders immunities and exemptions which were denied to the honest tax payers. The Supreme Court by a majority decision upheld the legislation and observed, 'We are concerned here only with the constitutional validity of the Act and not with its morality' [(1981) 4 SCC 675].

Economic disparities in India are due mainly to unemployment, underemployment and low productivity of labour, as well as, evasion of taxes. These do not strictly lie in the domain of law-making but in the implementation of economic policies and laws. Nonetheless, these are potent enough to erode the bonds of fraternity, equality and justice and to retard the process of national integration.

#### (xv) Inequalities in Electoral Process

Economic inequalities as in the case of backward classes, and inequalities of status as in the case of Scheduled Castes or women, adversely affect the participation of these groups in the political process. Economic dependence and minority status sometimes prevents Harijans from exercising their franchise. This in turn results in the neglect of measures necessary for removing the injustices suffered by them. If equality of opportunity in the political process is to be achieved and representative participation without the constraints of money promoted, lowering the ceiling of election expenditure is necessary. Low ceilings for election expenses become difficult to enforce due to falsification of accounts. The second mode in which the ceilings for election expenses are evaded is that the amounts spent by the party, as distinguished from the candidate or his authorised agent, are not taken

into account as expenditure incurred by the candidate. This completely frustrates the object of prescribing a ceiling. An explanation was added to section 77 of the Representation of the People Act, 1951 by the 1974 Amendment. It provides that any expenditure incurred in connection with the election of a candidate by a political party, association, body of persons or an individual (other than a candidate or his authorised agent) shall not be deemed to have been expenditure incurred by the candidate.

The Election Commission in a report in 1989 while discussing 'the display and use of money power during the election' expressed itself against this liberalisation and urged for the curbing of money power so that it could not be misused for organising lavish campaigns or booth capture or rigging or for other malpractices. The Election Commission also felt that sooner or later, it would be necessary to evolve a scheme which would operate to shift the burden of legitimate election expenses to the state. While discussing the effect of inequalities on the political process, Dr. Ambedkar observed in the Constituent Assembly forty years ago that, 'We must remove this contradiction at the earliest possible moment or clse those who suffer from inequality will blow up the structure of political democracy which the Assembly has so laboriously built up' [Ambedkar, 1962, p. 412]. This warning, though administered forty years back, applies with equal force today.

#### IV FUNDAMENTALISM, LAW AND NATIONAL INTEGRATION

The term 'fundamentalism' implies (i) the strict adherence to traditional orthodox tenets (e.g., the literal meaning of scriptures which are held to be fundamental to Christian faith), and (ii) opposition to liberalism and modernism [Shorter Oxford English Dictionary]. In its classical sense the term 'fundamentalism' is associated with religious bigotry, but owing to usage its meaning in contemporary social sciences, is extended to all kinds of narrow and sectarian outlook in human affairs, an antithesis of liberalism, rationality, social change and liberal jurisprudence, and is, therefore, detrimental to national unity and integrity.

The commitment of the Constitution is to the

values of democracy, equality, fraternity, secularism, rule of law, etc. Moreover, the inclusion of certain fundamental rights and duties of the citizens in the Constitution, mentioned earlier in this paper, constitute a rejection of fundamentalism.

The urgent problem of the contemporary social situation in India is the transformation of the individual from a member of a tribe or village or a caste, creed or language group to a citizen of India, owing allegiance to the norms and values of the Constitution. The feelings of parochialism, communalism, and casteism prevent the growth of a spirit of healthy nationalism and harmonious relations among various communities. To curb these fundamentalistic attitudes in action, the Indian Penal Code under section 153(B) provides that whoever (a) makes or publishes any imputation that any class of persons cannot, by reason of their being members of any religious, racial, language or regional group or caste or community bear true faith and allegiance to or uphold the sovereignty and integrity of India, or (b) asserts, counsels, advises, propagates or publishes that any class of persons shall, by reason of their being members of any religious, racial, language or regional group or caste or community be denied or deprived of their rights as citizens of India, or (c) makes or publishes any assertion, counsel, plea or appeal, concerning the obligation of any class of persons by reason of their being members of any religious, racial, language or regional group or caste or community, and such assertion, counsel, plea or appeal has caused or is likely to cause disharmony or feeling of enmity or hatred or ill will between such members and other persons shall be punished with imprisonment which may extend to three years or with fine or with both.

To foster respect for national honour and for the symbols of national unity and integrity, Parliament has enacted the Prevention of Insult to National Honours Act, 1971. This Act forbids the commission of any acts of burning, destroying, mutilating, defacing, defiling, disfiguring, trampling of the Constitution and the national flag. These acts include even speech and intentional refusal or prevention of singing of the national anthem. The persons guilty of such forbidden acts

could be arrested without warrant and could be punished for their acts of criminality without proof of mens rea by imprisonment which may extend to three years. On sundry occasions, the national institutions, monuments, flags, national anthem, etc, were insulted by Akali Morcha agitation, the Naga Secessionist Movement, the Mizo Insurgency, the Azad Kashmir Front or Pro-Pak rallies and earlier during the language stir in the South. Could these acts be permitted as the exercise of the right to freedom under Article 19? Should these acts be deemed to be a contempt against the Constitution? Until the matter is decided by the High Courts and the Supreme Court, such acts could be punishable under section 124A of the Indian Penal Code. A full bench of the Madras High Court had occasion to consider a case pertaining to the unlawful acts of ten members of Tamil Nadu Assembly, who had burnt copies of the Constitution in the course of an agitation. However the Court confined itself only to the question of a breach of the privileges of the Assembly and declared the seats of these MLAs vacant. The Court did not deal with the question of violation of the provisions of the Prevention of Insult to National Honours Act, 1971.

There was a case in Kerala in which students belonging to the sect called Jehoveh's Witnesses refused to sing the national anthem. In that case, reconciling the duty of every citizen of India to respect the national anthem (Article 51-A) and the freedom of religious belief (Article 25), the Supreme Court observed that, 'if proper respect is shown to the National Anthem by standing up when the National Anthem is sung, it will not be right to say that disrespect is shown by not joining in the singing' [(1986) 3 SCC 617].

In India the fundamentalistic attitudes and behaviour could be broadly classified under (i) communalism, (ii) casteism, (iii) regionalism, and (iv) linguistic fanaticism.

#### (i) Communalism

Communalism is the belief, that because a group of people follow a particular religion they have common social, political and economic interests.

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It is the belief that Hindus, Muslims, Christians and Sikhs form different and distinct communities; that they constitute separate organic wholes or homogeneous and cohesive communities. Communalism is a negation of secularism, liberal democratic ethos and the constitutional rule of law. It is the antithesis of casteless and classless egalitarian social order. Explaining its meaning and its repercussions, Justice Madon rightly observed, 'Communalism as a way of thinking is the result of the perversion of religious sentiment and a clear distortion of its history, growth and development. It is also the erosion of man's sociability and the very violation of his rationality. ... (The tragedy is that as) those who become the denizens of such communalism ... refuse to think, so do their children grow and fail to think. Indians have ceased to think of themselves as citizens of India but look upon themselves only as followers of a religion with scant regard to the state and its constitution' [Madon, 1985, p. 87]. Realising the evil potentialities of the combination of politics and religion, the Constituent Assembly adopted on April 3, 1948, a resolution that all steps, legislative and administrative, should be taken to prevent communal organisations from engaging in any activities other than those of a religious, cultural, social or educational nature.

Though India has been declared as a secular state it does not mean a godless state. Article 25(1) of the Constitution guarantees to every person the freedom of conscience and the right to profess, practice and propagate religion subject to public health, order, morality, etc. The principle of secularism as understood and worked out in the United States of America means that the state and the Church co-exist in the same human society without having to do anything with each other. In India, however, the principle of secularism has come to be interpreted differently. The Constitution of India requires that there shall not be any state religion and that the state shall treat all religions equally. It does not, however, prevent the state from financially assisting educational institutions sponsored by religious organisations. The state has also reserved to itself, and has sometimes exercised the right to interfere in the religious practices of various communities in the

interests of their peaceful co-existence and cultural development. Further, the Constitution also calls for a Uniform Civil Code for all Indian communities. Article 16(5) recognises the validity of laws relating to management of religious and denominational institutions. Article 28(2) contemplates that the state itself may manage educational institutions wherein religious instruction is imparted. The governments at the centre as well as in the states have been given the power to legislate on the subject of 'charities, charitable institutions, charitable and religious endowments and religious institutions' (vide Entry 28 in the Concurrent List).

All these provisions lead different people to organise themselves on the basis of religion or language, etc., as it is easier to organise small, culturally distinct groups than large multicultural class collectives. Another disturbing aspect of religious freedom is that even if religion is kept apart from textbooks, irrational beliefs and religious value systems are being included in the name of culture and moral education. One feature of religious freedom which has cast a shadow over the Indian concept of secularism is the freedom to propagate one's religion. In Yulitha Hyde v. State of Orissa, the High Court held that Article 25(1) guarantees propagation of religion, including conversion, which is a part of the Christian religion and that prohibition of conversion by 'force' or fraud as defined by the concerned Act would be covered by the limitations subject to which the right is guaranteed under Article 25(1) [AIR 1973 Orissa 116]. The word propagate as used in Article 25(1) does not give the right to convert another person to one's own religion but only to transmit or spread one's religion by an exposition of its tenets [AIR 1977 SC 908]. This judgment was criticised as wrong and of greatest public mischief and that it ought to be overruled. The particular provision (Article 25(1)) in the Constitution has done more harm than good to the process of national integration, unification and assimilation of different communities in the country. There is need to check the misuse of that freedom through law.

As mentioned earlier, the secular characteristics of the Constitution are also reflected in the equality clauses, i.e., Article 14 to 17. Another 29(2) which says that admission into any educational institution shall not be denied to a citizen on the basis of race, religion, etc., if such an institution is maintained out of state funds. Minority institutions cannot restrict admissions to them on the ground of religion, language, caste, etc. Article 325 of the Constitution provides that 'there shall be one general electoral roll for every territorial constituency and that no person can claim to be included in any special electoral roll for any such area (constituency) on grounds only of religion, race, caste, sex or any of them'. Article 27 prohibits the specific appropriation of the proceeds of any tax in payment of expenses for the promotion or maintenance of any particular religion or religious denomination. Further, Article 28(3) provides that no one shall be required to take part in any religious instruction, or religious worship, at any educational institution recognised or receiving aid from the state, except with his or her guardian's consent.

Thus, as an antidote to communalism and as an instrument for achieving national integration, secularism can be said to have three distinct aspects: firstly, as a process of inter-community integration between the different religious communities, viz., Hindus, Muslims, Christians, Sikhs, etc., secondly, as a process of transformation of the caste-based dominant community, viz., Hindus; and thirdly, as a method and means of promoting a scientific culture and rationalist temper in the country.

Although Indian secularism is not akin to American secularism, it is nonetheless much more than a narrowly defined political concept. In India it means four things: (i) the rejection of a theocratic or quasi-theocratic state and the affirmation of a non-religion based polity; (ii) the proclamation that religion is of private or group concern and, therefore, would call for equal deference by the state, but it would have no political relevance for the structures and functions of the state; (iii) the assertion of the unity of the people of India which would to some extent mean the replacement of religious loyalties by national loyalties and the equality of all citizens; and (iv) the right of the state to interfere in the religious

secular provision of the Constitution is Article of their peaceful co-existence and cultural development.

> The belief of the constitution-makers that substitution of joint for separate electorates would secularise society has been belied by the development. post-freedom The DOSt-Constitution era has witnessed a gradual transformation of the enfranchised masses into a number of separate constituencies so that they vote communally, think communally, listen to the communal election speeches, judge the delegates communally and express their grievances communally. The existence and emergence of communal organisations have slowed down the process of de-communalisation of the political parties.

One of the worst forms of communalism is the frequent recurrence of communal riots in practically every part of India. There have been as many as fifty small and big communal riots in Uttar Pradesh since the re-opening of the Rama Janmabhumi Temple. The government admitted in 1981 that no fewer than 1,235 cases arising out of communal riots were pending, some for decades. Each major communal incident results in the formation of an enquiry commission, yet no one is punished in a court of law. All too often, the offenders are protected by politicians in power. Instead of treating every incident of communal riot as a pure question of law and order, it is given a political perspective. Criminal cases arising out of communal riots are not allowed to run their full course as the government generally withdraws from the prosecution in the hope of promoting communal harmony but this has proved to be an illusory hope. Case studies of some of the major communal riots reveal a pattern in the failure of the law enforcement authorities. These include (a) the failure to (i) make preventive arrests of communal leaders and antisocial elements under section 151 of the Criminal Procedure Code (Cr.P.C.) and their detention, under section 3 of the National Security Act, in time; (ii) make search and seizure of unlicensed fire-arms, explosives, etc., subsequently used during riots; (iii) ban entry of communal leaders into riot affected areas under section 144 of the Cr.P.C.; and (iv) prohibit prejudicial publications practices of various communities in the interest inciting communal feelings. (b) Delay in the

promulgation of section 144 of the Cr.P.C. and in (a) Law and Caste in Pre-Independent India the imposition of curfew order, and in their enforcement, due to shortage of manpower. (c) Release on bail by courts of persons arrested under Section 151 of the Cr.P.C.

The freedom of religion granted under Article 25 and the freedom of speech, expression, association, assemblage, etc., granted under Article 19 of the Constitution imply a right to take out processions. The state is however empowered to impose restrictions on these rights in the interests of public order, safety, morality, health, public use of thoroughfares, etc. Such restrictions can be placed under section 144 of the Cr.P.C. The Disturbed Areas Acts of various states even permit the use of force, including firing, to enforce such restrictions.

Laws relating to blasphemy comprises within its fold not only sections 95 and 96 of the Cr.P.C. which are rather preventive in nature, but also sections 153-A, 153-B, 295, 295-A, 296, 297 and 298 of the Indian Penal Code. The police have a positive role to play in the enforcement of this branch of the penal law which seeks to punish acts of insult and annoyance caused by a person of one religious persuasion against persons belonging to another faith. Judging by the number of prosecutions actually launched, it cannot, however, be said that the police are using these sections to the extent one would expect them to do.

## ii) Casteism

Casteism is another form of fundamentalism, because it is opposed to modernity and social change and breeds narrow and sectarian loyalties. Moreover, in a society organised on caste lines, individuality is neither recognised nor respected, because the individual exists as a passive unit in such a social organisation. Consequently, the problem of castes becomes a standing challenge to the constitutional goals of democracy, equality, secularism and national integration. The Constitution seeks to democratise caste relations by providing certain positive inalienable rights to the individual as well as by abolishing untouchability and forced labour.

In ancient Indian society based on Manu's legal philosophy, law coupled with religion not only helped to maintain the status quo of the caste divisions but also contributed to their further creation and consolidation. With the advent of the British administration, the law as given by the sovereign political authority took control of the political economic and social fabric of the country, and the power of the caste panchayat and caste usages and practices were pushed into the background. The Bengal Regulation III of 1793 made a beginning in the administration of justice in a new direction and the Bombay Regulation II of 1827 made a further change. Section 21 of that Regulation provided that the jurisdiction of civil courts shall extend to the cognizance of all original suits and complaints between natives and others (not British-born subjects) respecting the right to movable and immovable property, rents, government revenues, debts, contracts, marriage, succession, damages for injuries and generally of all suits and complaints of civil nature. The aforementioned Castes Disabilities Removal Act. 1850 was another land-mark. The enactment of the Civil and Criminal Procedure Codes and the Evidence Act gave a new experience to the Indians of the principle of equality before law. These legislative measures did not abolish the caste system but only demarcated the areas between the new administration of justice and caste control of the personal behaviour of its members. There were also certain administrative measures which fostered and perpetuated casteism. For example, for the first time in the Census of 1891, people were enrolled on the basis of caste and caste-hierarchy. The Morley-Minto Reforms of 1909 recognised special representation of the depressed classes. This resulted in a movement for organising caste associations to demonstrate the backwardness of the caste. Unfortunately, the Census and the electoral system provided more than sufficient incentive for the consolidation of caste groups.

# (b) Law and Caste in Post-Independent India

The Constitution attempted to delegalise the

caste system. The Protection of Civil Rights Act, 1955 as amended in 1976, provisions in the Code of Civil Procedure, and the Prevention of Atrocities on Scheduled Castes and Scheduled Tribes Act 1989 are some of the laws enacted to prevent abuses in the caste system. There laws have been discussed earlier in this paper.

# (b)(i) Casteism and Fundamental Aspects of Law

The legal and administrative measures detailed above have, paradoxically, promoted and encouraged casteism instead of weakening it. Due to the privileges and reservations offered for backwardness, there is a general desire for enrolment in the list of Scheduled Castes and backward classes. The provision of quotas and reservations on the basis only of birth in a particular caste is resented by members of other castes and does not lead towards political and social integration. It is a fact that almost all the ex-untouchables, especially those living in rural areas are, more or less, susceptible to violent untouchability. One important constitutional infirmity is that our constitution-makers did not take a bold decision of expressly abolishing the caste system. Had abolition of caste system been made a Fundamental Right, a constitutional remedy in the form of Article 32 would have been available to enforce that provision.

#### (b)(ii) Caste as a Denomination and as a Minority

Caste can also be perpetuated when it is recognised as a religious denomination and a minority. It then gets, under Article 26 of the Constitution, the right to establish and maintain institutions for religious and charitable purposes. to acquire property and to manage its own affairs in matters of religion. There is a further danger of castes masquerading themselves as religious or linguistic minorities and re-establishing themselves. Article 30 of the Constitution provides that all minorities shall have the right to establish and administer educational institutions of their choice. This right is not subject to the other provisions of fundamental rights nor even to public order, morality and health. Several decisions of the courts go to show that the minority

rights are being treated as absolute and impregnable rights. The Supreme Court held that the Arya Samaj educational institutions in Punjab are institutions of linguistic and religious minority [AIR 1972 SC 1737]. The state cannot impose a medium of instruction or even Hindi, which is a national language under Article 351 of the Constitution, on minority institutions.

# (b)(iii) Conversion and Caste

That a person reconverted to Hinduism reverts to his original caste and that, therefore, he is eligible for getting the benefits available to that caste was the opinion delivered by the Supreme Court in Anbalgon v. B. Devarajan and Others [Civil Appeal No. 544 of 1981].

Thus, the caste structure in India is firmly rooted and has social, economic and political overtones. The Report of the Mandal Commission observes that caste restrictions have loosened considerably as a result of factors like the laws introduced by the British, urbanization, industrialization, spread of mass education and above all, the introduction of adult franchise after Independence. But, what caste has lost on the ritual front, it has more than gained on the political front: the caste system has provided the political leadership with ready-made channels of communication and mobilisation. In view of this, it would be unrealistic to assume that the institution of caste will wither away [Mandal, 1980].

# (iii) Regional Fundamentalism

Regional fundamentalism is yet another category of fundamentalism. As a result of an upsurge of regional and linguistic fanaticism in contemporary India, different groups of people seem to identify themselves more as distinct entities rather than as 'Indians' belonging to a single political entity known as India. It is this regional and linguistic fanaticism that has led to the agitations in Punjab, Kashmir, Mizoram, Nagaland, Bodo and Gorkha regions, the demand for a separate state of Jharkhand and to disputes among the various states over the river water and boundaries. Regionalism *per se*, is not antithetical to national integration. In fact, the validity of the regional aspirations and identity is recognised and incorporated in the federal Constitution. Nothing is more basic to the concept of federalism than regionalism and sub-regionalism, which reflect unity in diversity of our composite culture. But the problem arises when under the cloak of regionalism, political parties start secessionist movements, as witnessed in Jammu and Kashmir, Punjab, and earlier by the D.M.K. in Tamil Nadu and various rebel groups in Manipur, Mizoram and Nagaland.

Sensing such disintegrative attempts by selfish and parochial groups, Parliament in early October 1963, adopted the Constitution (Sixteenth Amendment) Bill which, (1) enabled Parliament to make laws providing penalties for any person questioning the sovereignty and integrity of the Indian Union, and (2) laid down that a candidate for election to Parliament or a state legislature would have to undertake, by oath or affirmation, to bear true faith and allegiance to the Indian Constitution and to uphold the country's sovereignty and integrity. It is admitted on all hands that national unity and integrity can genuinely flower out of a healthy reconciliation between regionalism and centralism and perhaps that is the spirit behind Indian federalism. The Constitution provides certain healthy unitary trends to check the evil aspects of regionalism. Part II of the Constitution dealing with citizenship recognises only one citizenship. Articles 14 and 15 restrain the state from discriminating against any citizen on the basis of his place of birth. Article 16 provides equal opportunity in public employment. Article 19(1)(d) gives to all citizens the right to move throughout the territory of India and to acquire property and reside anywhere (except of course in Jammu and Kashmir). Article 301 ensures freedom of trade, commerce and intercourse throughout India. Economic planning is primarily being done by the union government. In the field of advanced and sophisticated industries, the union government is committed to an overall balanced development of India. With the general economic planning and taxing powers and the political and administrative leverage, the union controls 80 per cent of the governmental activities of the states.

conducive for national integration when it reflects and realises unity in diversity. It is antithetical to national integration when it becomes parochial and goes against the direction of the main currents of national life and ultimately leads to secessionism. Regionalism has therefore, to be nursed cautiously.

#### (iv) Linguism and National Integration

The existence of different and varied languages in India has no doubt contributed to the richness of culture but at the same time, created problems and tensions. The Indian National Congress had all along promised the creation of linguistic states in recognition of the strong subnationalistic feelings which, as the experience all the world over has shown, cannot just be ignored or suppressed. The States Reorganisation Commission, while making its recommendations, had kept the following principles in view - (i) to preserve the unity and integrity of the country, (ii) to maintain linguistic and cultural homogeneity and also (iii) financial and administrative viability. However in practice the Commission left many linguistic groups in a minority position in the new states, leading to furious agitations between various states over improper allocation of districts, tehsils and even villages [Ali, 1955].

The constitution-makers while making Hindi as the official language of the union took the view that the regional languages should also be promoted and developed. Seventeen other languages were, therefore, given recognition (vide Article 343 and Schedule VIII of the Constitution). To pacify those who were opposing Hindi as an official language, the Official Languages Act 1963 provided that the English Language may continue to be used even after the deadline of 15 years. The Act also made the use of English obligatory for certain purposes, in the interest of the non-Hindi-speaking employees of the central government and to ensure smooth communications between the centre and the states.

The National Integration Conference in 1961 recommended the adoption of 'three language formula' for secondary education all over the country. This formula envisaged the compulsory Regionalism is a double edged weapon. It is teaching of three languages in schools (i) the regional language and English together with Hindi in the non-Hindi speaking states, and (ii) another modern Indian language and English in the Hindi speaking states. So far the three language formula has not been implemented in its letter and spirit.

A Presidential Order had, on the recommendations of Parliamentary Committees, made training in Hindi compulsory for employees of the central government below the age of 45 years. The constitutional validity of the Order was challenged but the Supreme Court upheld the Order saying that it was not inconsistent with the Official Languages Act, 1963 [AIR 1967 SC 225].

Due to some linguistic fanaticism, the dream of the founding fathers to make Hindi as the official language in all spheres of national life has not so far been translated into reality. Developing an indigenous national language is necessary to strengthen national unity and integrity. Attitudinal integration is largely a function of a common language of a society. Hindi is best suited for this role but the complete switch over process should not be sudden, so that linguistic fury may not be aroused in any part of the community. Hindi should liberally receive words from other languages in order to become more representative of the whole country. The Sarkaria Commission on Centre-State Relations has recommended that effective steps should be taken to implement the 'three language formula' in its true spirit, uniformly, in all states in the interests of unity and integrity of the country.

#### V. FEDERALISM AND NATIONAL INTEGRATION

The sheer vastness of the country and the presence of religious, linguistic, racial and cultural variations among the people rightly prompted the framers of the Constitution to reject the unitary form of government and to preserve the inherited federal system for independent India. The federal principle is an important device by which integration is achieved in a vast and heterogeneous country like ours, precisely because it balances harmoniously the sentiments of localism and nationalism, of unity in diversity, rooted in the prevailing historic, cultural, racial, linguistic, economic or geographic conditions.

In India, the situation in which the federal polity was created was different from what it prevailed in America and Australia. Here, there were no independent sovereign political entities for creating a new federal authority. It was, a single Constituent Assembly that drafted and adopted the Constitution. Considerations of national unity made the constitution-makers opt for a strong central government, which alone could keep in check the disintegrating forces and put together sufficient financial and administrative resources tackling the vast problems of economic for planning and the responsibilities of a welfare state. The framers of the Constitution did not use the word 'federation'. They preferred to describe India as a union of states. They did divide governmental power between the centre and the states and did make the states autonomous in their own spheres. But, the states were to exercise that autonomy within the framework of the overall superiority and pre-dominance of the centre. The three lists in the seventh schedule of the Constitution show the division of legislative powers between the states and the Union. The residency legislative power has been vested in the Union under Entry 97 of List I. That is why jurists have described the Indian Constitution in different ways and none of them is prepared to call it a federation in its traditional meaning. It has been called 'a federation with strong centralised tendency' [Wheare 1963]. The centre has been conferred more powers so that it can effectively deal with problems like casteism, communalism, regionalism, linguism, inequality in socioeconomic status of the people as well as of regions, and geographical, ethnic and religious diversities. In every issue of public and national importance, the centre gives directions to state governments under Articles 257, 356 and 365. Parliament is empowered under Article 249 to legislate even in regard to subjects allotted to the states. The union can delegate its functions to states with corresponding duties, whether or not the states are willing to accept such delegation. The emergency provisions contained in Part XVIII bring out pre-eminently the very wide powers conferred on the union government. The provisions in regard to grants-in-aid contained in Article 275 and to the discretionary grants under Article 282 are also of the same character. The Constitution has also a requirement that certain bills, though passed by the state legislatures, can be reserved for submission to the President. Even the identity of a constituent state is not permanent, as Parliament has, under Article 3, the power to reorganise the state. None of these features is found in a federation of the classical types.

The Supreme Court, in the Kesavananda case, expressed the opinion that the federal structure is a basic feature of the Constitution. The same Court, however, in State of West Bengal v. Union of India, and in In Re Berubari Union and Exchange of Enclaves observed that the constituent states had no independent authority and had no roots in the past [AIR 1963 SC 1241 and AIR 1960 SC 845]. What is important from the point of view of national integration is what was observed by Chief Justice Sinha, 'It is to be remembered that a striking feature of our Constitution, which perhaps distinguishes it from some other Constitutions, is its attempt to harmonise the interests of the individual with those of the Union. Our Constitution does not set up the states as rivals to one another or to the Union. Each is intended to work harmoniously in its own sphere without impediment by others with an overriding power of the Union, where it is necessary in the public interest' [AIR 1963 SC 1760].

If we examine the actual working of the Constitution to find out how far it has succeeded in bringing about this harmonisation, we find that, by and large, the centre has displayed an inclination and a capacity not only to keep the state governments from overruling its own decisions but also to completely over-awe them except on a few occasions. The operation of centre-state relations in the past few decades has vividly brought to light certain tension areas:

# i) Institution of Governor

The very fact that the Governor, a head of the state executive and a part of the state legislature, is appointed by the President, points to a peculiar phenomenon in our federal system. The initial fifteen years hardly saw any controversy about the status, role and functions of the governors. It

was only since the fourth general elections in 1967 that these became a matter of public debate and that stresses and strains, not anticipated at the time of the framing of the Constitution, became noticeable. Article 355 expects the Governor to 'ensure that the government of every state is carried on in accordance with the provisions of the Constitution'. The Governor has to act in a dual capacity - as a constitutional head of the state and also as a representative of the centre. A successful discharge of these two roles depends on correctly interpreting the scope and limits of both. In Hargovind v. Raghukul Tilak, the Supreme Court held that the Governor is not subordinate or subservient to the Government of India, nor is he accountable to them for the manner in which he carries out his functions and duties [AIR 1979 SC 1109]. Article 356, which empowers the Governor of a state to make a report to the President that 'the government of the State cannot be carried on in accordance with the provisions of the Constitution', has however often been misused. This provision easily lends itself to abuse, as there is no objective way of determining at what point the constitutional machinery of the state can be said to have broken down. There is an impression that the governors have often acted to serve the political ends of the party to which they owe allegiance. In situations where governors sought to take an objective view of the political situation in a state, their tenure had been shortened by the centre for political reasons. Despite bitter historical experience, the Sarkaria Commission did not recommend deletion of Article 356. It only emphasised that Article 356 should be used very sparingly. It also recommended that a State Legislative Assembly should not be dissolved before Parliament has an opportunity to consider the Presidential proclamation, which should be revoked if the House passes a resolution disapproving it. Again according to the present state of the law, the President's satisfaction under Article 356, is not immune from judicial review. For such a review, it is necessary that the report of the Governor on the basis of which the presidential action is taken should be a 'speaking document', i.e., it should contain a precise and clear statement of all material facts and grounds, which should then be

made an integral part of the Presidential proclamation. The Sarkaria Commission also recommended norms of eligibility of persons for being appointed as governors and the method of their appointment. It is also necessary that the tenure of governors should be fixed and that their removal should not be possible, except through impeachment or on the basis of a report obtained from the Supreme Court, on the lines of Articles 124 and 317 [Sarkaria, 1988].

# *ii) Financial Federalism and the Quest for State Autonomy*

Financial autonomy has always been among the major demands raised by the states from time to time. There have often been complaints from the states ruled by opposite parties that the centre had not shared taxes with them in the spirit of the Constitution; that while they had to perform the increasing functions in developmental and social services, matching finances were not being transferred to them from the centre and that, under the existing system of allocation of funds, the rich states got more funds and the poor states less, resulting in an ever-widening gap. The constitutional scheme of financial relations involves two distinct features. Firstly, the centre and the states have independent powers of taxation and the states can also borrow money with the concurrence of the central government. Secondly, the constitutional scheme provides for the sharing of taxes collected by the centre. The Constitution has created a mechanism of the Finance Commission which makes recommendations to the President about the pattern of tax sharing. For the purpose of planning, all government activity has been divided between plan and non-plan sectors. The states have no autonomy in the plan sector even in respect of state subjects and they have to submit to the union-since the discretionary grants under Article 282 which finance the plan sector, and which constitute about 70 per cent of the total grants made by the centre are controlled by the Planning Commission, an off-spring of the union government. The Planning Commission controls the developmental activities of all the states and union territories by fixing broad targets and priorities, by scrutinising the plans prepared by

the states and by deciding the allocation of funds. Even the legislative activities of the state governments relating to agriculture, education, health and cooperation have passed into the hands of the Planning Commission. For instance, the land reform schemes of the states were examined by the Land Reforms Division of the Planning Commission before a Bill incorporating them could be introduced in the state legislature. The community development programmes are controlled and regulated by the Planning Commission as well as by the Union Ministry of Community Development. Very often the Planning Commission made grants for particular projects. The dissident states desiring more autonomy want the Planning Commission and the National Development Council to be made independent bodies which should have constitutional or legal standing and their recommendations to be binding on the union government. Article 282 should also come to an end. These states also want the corporation tax to be transferred into the divisible pool of taxes. The Sarkaria Commission took a favourable view of their demands. The Commission recommended that the whole question of resource mobilisation and expenditure should be examined by an expert committee to be appointed by the union government and having representatives from the states. The Commission also recommended the setting up of a National Economic and Development Council and the strengthening of the Finance Commission or setting up of a Standing Finance Commission. Thus, the Sarkaria Commission recommended an appropriate federal financial structure encompassing diverse factors like more resource devolution for the states and maintaining strict financial discipline and cooperation on the part of the union and the states.

# iii) The Use of Para-Military Forces by the Centre in the States

The use of para-military forces by the centre for maintaining law and order has annoyed the states ruled by opposite parties. The Administrative Reforms Commission has supported such use. The trend of centralisation in this sphere reached its climax by the incorporation of Article 257-A

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by the Constitution (Forty-second Amendment) Act, 1976, which empowered the central government to deploy any armed force in any state for dealing with grave situations of law and order. These forces were to act in accordance with the directions of the central government. Such a provision was resented by the states. Consequently, the Constitution (Forty-fourth Amendment) Act, 1978, enacted during the Janata rule, deleted this provision with effect from June 20, 1978. Under Article 355 of the Constitution, a duty is imposed on the centre to protect every state against external aggression and internal disturbance and to ensure that the government of every state is carried on in accordance with the provisions of the Constitution. The centre has therefore to have effective power. However, it is felt that as a matter of general policy the deployment of the central forces in a state should be done with the consent of the state government concerned.

# iv) All India Services

The need for a well coordinated administrative machinery on the part of the union and the states was met by the Constitution framers by providing for the creation of the All India Services (Article 312). While expressing their views before the Sarkaria Commission, most of the state governments agreed that the All India Services have, by and large, fulfilled the expectations of the constitution-makers. However, some state governments expressed different views. Some opined that with the state governments having acquired enough experience, they could manage their affairs without the All India Services. Some opposed these services on the grounds that they whittle the authority of the state governments. The Sarkaria Commission has finally opined that the AllIndia Services are as much necessary today as they were when the Constitution was framed and continue to be one of the premier institutions for maintaining the unity of the country. Any wholesale amendment of the Constitution to increase the powers of the states would be suicidal and may herald a disintegrative process. Only some minor changes as well as efforts to restore

some of the distorted provisions of the Constitution to their original spirit is a felt necessity of the time.

In order to bring about more coordination in various programmes and policies and to help settle disputes between the centre and the state and between states *inter se*, the Constitution provides the following instrumentalities in addition to recourse to the Supreme Court provided under Article 131.

# a) Inter-State Councils

Article 263 of the Constitution provides for the appointment of Inter-State Councils for: (a) inquiring into and advising upon disputes which may have arisen between states; (b) investigating and discussing subjects in which some or all of the states, or the union and one or more of the states, have a common interest; or (c) making recommendations upon any such subject and for the better coordination of policies. Under this provision some ad hoc councils for going into questions of health, local self government, etc., were appointed by the President. However, the Administrative Reforms Commission and later the Sarkaria Commission recommended the creation of a standing Inter-State Council, charged with all the functions enumerated above. Such a Council was set up in 1990.

# b) Dispute-Settlement Machinery in respect of River Water Disputes

Article 262 provides for the adjudication of special categories of disputes by extra judicial tribunals. The Inter-State Water Dispute Act, 1956, permits the creation of an *ad hoc* tribunal by the central government for the adjudication of water disputes. The decision of the tribunal is final and the Act also eliminates the jurisdiction of the courts. Two more non-statutory bodies have been created by the centre, viz., the National Water Development Agency and the Water Resources Development Council. The recent setting up of a tribunal for the Cauvery river dispute is a step in the right direction. In spite of all these instrumentalities several disputes concerning interstate rivers have remained pending for a long time among the various states.

# c) Zonal Councils

Zonal Councils were introduced in India by the States Re-Organisation Act, 1956, as instruments of inter-governmental consultations and cooperation mainly in socio-economic fields. They are advisory bodies, one each for five zones of India created by the Act. A special North-Eastern Council was also set-up by an Act of Parliament. So far, the councils do not have many spectacular achievements to their credit. Nevertheless, they have helped in developing a common approach to some regional problems, like the question of safeguards for linguistic minorities in the southern states, and minority safeguards in the eastern states. It is perhaps possible to activise these bodies and to use them for promoting much more fruitful regional co-operation.

# VI. MINORITIES, LAW AND NATIONAL INTEGRATION

Nation-building in a democratic set-up, is a dynamic process of integrating a plurality of social groups so that every section of the community gets an opportunity to participate in the national life without losing its separate identity. The goodwill and confidence of the minorities are necessary for national unification. However, minority rights should not become impediments to it.

The Constituent Assembly's Committee on Minority Rights bestowed much thought and attention to the minority problem in all its facets. It came to a unanimous conclusion that there should be no separate electorates. There was also to be no reservation of seats in the legislatures except for Anglo-Indians, the Scheduled Castes and the Scheduled Tribes. The Committee however recognised the importance of giving safeguards to the minorities. It said 'the State should be so run that they (minorities) should stop feeling that they are oppressed by the mere fact that they are minorities, but they have as honourable a part to play in the national life as any other section of the community' [CAD, Vol. V, p. 24].

The Constitution adopted two methods of protecting the minorities. It conferred certain positive rights on members of minority groups which they shared with other citizens of the country. Among the above rights may be mentioned equality before law (Article 14), in particular the prohibition of discrimination on grounds of religion, race, caste, sex or place (Article 15), equality of opportunity in matters of public employment (Article 16), the well-known seven fundamental freedoms (Article 19), the right of freedom of conscience and free profession, practice and propagation of religion (Article 25), freedom for religious denominations and sections thereof to manage their religious affairs (Article 26) and the permission to impart direct religious education in schools which are not maintained out of state funds (Article 28). The other kind of rights guaranteed may be described as those of special nature which ensure to the minorities the right to conserve their distinct language, script or culture (Article 29) and the right to establish and administer educational institutions of their choice (Article, 30).

Notwithstanding the guarantees given to the minorities in India, the Muslims and lately the Sikhs feel insecure and separated from the mainstream of national life. There have been many occasions in the past when both the majority groups and minority groups were guided by communal and religious feelings, rather than by the norms of democracy, fraternity and secularism. The crucial issue in national integration is how to make the various sections of the people and organised groups to subordinate their narrow loyalties to the larger loyalty of being an Indian. It is necessary to make them realise that their primary and most important loyalty is to India as a whole, rather than to the caste or tribe or religious community into which they are born, the language they speak, etc. But, before discussing further, it would be relevant to first determine the meaning of minority under the Constitution.

The Supreme Court held that in the absence of any precise definition in the Constitution, a minority community means a community which is less than 50 per cent of the population of a state. Also, in order to constitute a linguistic minority, the community must at least have a separate spoken language. There are certain snags in the above definition given by the Supreme Court. The population of a state may be so heterogeneous that no single community may constitute more than 50 per cent of the state population and, therefore, all groups may claim the title of minority community. The second difficulty about this definition is that, there might be certain communities which are in majority in case of states, but in minority in the case of the union. For example, Muslims, Sikhs and Christians are more than 50 per cent in Jammu and Kashmir, Punjab and Nagaland, respectively, but are in minority in the all India context.

Differences on grounds of language or religion are understandable, but it is difficult to define the word 'culture'. Since culture means different things to different people and there is so much cultural variety in India, it is difficult to determine culturally who is the minority and who is the majority. Language and religion or a combination of both, therefore, appear to provide a more stable basis for the determination of the question.

Apart from the religious and the linguistic minorities, the Scheduled Castes, the Scheduled Tribes and other backward classes have also been labelled as minorities due to their low level of social, economic and cultural development. The problem of these classes is a temporary phase, and need not be discussed here.

The greatest safeguard for the religious minorities in a multireligious society lies in a secular polity. As mentioned earlier, India has adopted such a policy. In order that the safeguards to minorities may not be used for blocking progressive legislation or programmes like family planning or the maintenance of divorced women, it was necessary to separate religious matters from other practices. The Supreme Court observed 'in order that the practices in question should be treated as a part of religion, they must be regarded by the said religion as its essential and integral part, otherwise even purely secular practices which are not an essential or an integral part of religion are apt to be clothed with religious forms to make a claim for being treated as religious practices within the meaning of Article 26. Similarly, practices though religious may have sprung from merely superstitious beliefs and may in that

sense be extraneous and unessential accretions to religion itself' [AIR 1961 SC 1402, at p. 1415].

The cultural and educational rights given to minorities under Articles 29 and 30 have certain implications. The right of a community to preserve its religion and culture includes (i) the right to profess, practice and preach its own religion, if it is a religious minority; (ii) the right to follow its own social, moral and intellectual ways of life; (iii) the right to impart instruction in its tradition and culture and (iv) the right to perform any other lawful act or to adopt any other lawful measure for the purpose of preserving its culture. The right to conserve one's language also includes the right to undertake political agitation to conserve the language. The right to conserve the language and culture includes the right to develop the same. This is done through educational institutions. Thus follows the right to establish and maintain educational institutions by a minority. The minority also wants the government to assume the financial burden of teaching its language in the state schools, or at least to subsidise the schools of the minority. Both these rights are incorporated and guaranteed in Article 30 in clauses 1 and 2, respectively. In order to claim these rights in favour of an educational institution, the concerned community must, according to the Supreme Court, show that (a) it is a religious or linguistic minority, and (b) the institution was established by it.

As regards the rights of linguistic minorities, the President has the power under Article 47 to direct a state government to recognise a language spoken in that state as an official language. Every person has a right under Article 350 to submit a representation in any of the languages used in the Union or the State, as the case may be. Article 350-A requires a state government to try to provide education through the mother tongue to linguistic minority groups at the primary level and empowers the President to issue directions in this behalf. Further, according to Articles 120 and 210, a member of Parliament or a State Legislature can address the respective House in his own mother tongue if he is unable to express himself in English or Hindi.

Institutions run by minorities appear to enjoy better protection from government regulation than those run by majority groups. The basic idea behind the incorporation of constitutional provisions for safeguarding the interests of minorities was to avoid any harmful impact of the culture of the majority community on the culture of the minorities. While enjoying these provisions the few minorities, like the Muslims and the Sikhs, ought to be willing to establish their oneness with the mainstream of Indian national life by agreeing to adjust themselves with social changes that take place, in the larger interests of national unification and integration. They should change their attitude towards family planning, marriages, divorce, civil code, etc.

If integration of the minorities is to be a reality and not merely an ideal, then religion must recede from public life. It must be confined to the relation of the individual with the Creator. It must not aspire to have sway upon human life. Other spheres of life must be influenced by reason and equity. In this age of scientific achievements, science must provide a rational basis to modern society and help in discovering the material principles of integrated national existence. The net result should be that the minority does not claim such freedom as breeds lawlessness, disunity and disintegration.

# VII. PERSONAL LAWS AND NATIONAL INTEGRATION

The existence of a mosaic of personal laws. grounded in religious beliefs, has often posed a challenge to the realisation of the constitutional goals of equality, secularism, democracy, fraternity, and consequently, to national unity and integrity. The Constitution directs the state in Article 44 to endeavor to enact a uniform civil code and empowers legislatures through Entry 5, List III of the Seventh Schedule to regulate matters of personal status like marriage, divorce, inheritance, etc. Will such a reform of the Hindu Law or Muslim Law, by a common civil code, violate religious freedom or the right to conserve culture enshrined in Article 29(1)? The answer to this important question requires an analysis of the essence of religion and of social obligation.

The Bombay High Court gave a very liberal definition of the term religion, that whatever binds a man to his conscience and whatever moral

and ethical principles regulate the lives of man, they alone can constitute religion as understood in the Constitution [AIR 1953 Bombay 242 at 244]. While freedom for such a religion is guaranteed, religious practices cannot claim absolute immunity from state interference. It was contended that the sacrifice of cow on the Bakri Id day was enjoined by the Koran and, therefore, the practice was an integral part of the Muslim religion. The Supreme Court held that the practice was not an essential part of the Muslim religion and could rightly be regulated under Article 25(2) of the Constitution [AIR 1958 SC 731]. Legal and social duties were interwoven in religious and ethical obligations in the past. The development of civilization and emergence of state authorities categorically divided the obligations of mankind as religious, social, ethical and legal. Marriage is a social institution. The relationship between husband and wife, parent and child, master and servant, etc., have been regulated by the state because the society bestows on them some legal rights and obligations which have no direct connection with the freedom of conscience and religion. Moreover, such of the religious personal laws as are limited to the regulation of social obligations of individuals have already undergone abrogation, modification, etc., during the British rule.

Prior to the advent of the British rule, religion-based personal laws of Hindus and Muslims regulated nearly every aspect of human conduct including criminal law, evidence law, procedural law and law of contracts, trade and commerce. When the Britishers established their hegemony over India, they changed the criminal law completely, and also introduced their own system to deal with various matters of civil law. The Charter Act of 1833 authorised the Governor-General to codify laws on various subjects in order to achieve uniformity where possible, and certainty in all cases, without shocking the prejudices of any community.

The first important piece of legislation, was the Indian Penal Code, 1860 under which the system of blood money (*Diya*), mutilation as a punishment for theft, stoning for sexual offences and slavery were prohibited. *Thugi* was made a severely punishable offence. The inhuman practices of *sati* and female infanticide were made punishable. The Criminal Procedure Code, 1861, 1882 and 1898, the Indian Evidence Act, 1872, the Indian Contract Act, 1872, the Sale of Goods Act, 1930 and the Indian Partnership Act, 1932 regulated the relation between two contracting parties or between partners irrespective of their religion. The Transfer of Property Act, 1882, the Civil Procedure Code, 1859, 1882 and 1908, the Specific Relief Act, 1877 and the Indian Limitation Act, 1908 abrogated the personal laws of Hindus and Muslims on one or the other point.

Family laws were also modified. The Caste Disabilities Removal Act, 1850 restored successionrights lost due to religious conversion. A host of enactments followed which changed the laws or practices followed by Hindus as well as Muslims in respect of choice of marriage partner, age of maturity, child marriage, appointment of guardians, married women's property, etc. Hindu law was extensively modified in the fields of succession to property, as also separate properties in the Joint Hindu Family system. The power of testamentary disposition of property, not known to Hindu Shastric Law, was conferred on the Hindus. Polygamy was regulated. Muslim Personal Law also underwent change. The Dissolution of Muslim Marriage Act, 1939 conferred the right on a Muslim wife to dissolve her marriage on any of the grounds stated therein. The remedy of restitution of conjugal rights and its refusal in certain circumstances was unknown to the personal laws of Hindus and Muslims, but in the name of justice and equity, the High Courts granted it by applying the British Matrimonial Causes Act. The widow's right to retain possession of husband's property in lieu of Mehr was recognised by the Privy Council.

Fundamentalists of both Hindu and Muslim communities could not oppose the abrogation and encroachment of their personal laws during the British rule. The problem became acute only after Independence, because of narrow communal thinking and by treating the social obligations and secular activities as an integral part of religion.

A question arose in the Constituent Assembly, whether the government should have power to enact a law on matters pertaining to personal laws of Hindus and Muslims and whether such a law would be a violation of religious freedom. It is interesting to note that whilst all the Muslim

speakers favoured continuation of the British policy of neutrality, the Hindu speakers emphasised that the religious freedom guaranteed by the Draft Article 19 (now 25) did not preclude the jurisdiction of the state in matters of personal laws and in enacting a Uniform Civil Code. The Muslim speakers asserted that the secular state of India should not be endowed with the legislative power to encroach upon the beliefs and practices of any religious community; that personal laws were deeply interwoven with religion and that the secular state of India should permit its citizens to practise their own religion and observe their personal laws. It was argued by others that there were many amongst Hindus also who did not like a Uniform Civil Code, but that, if their views were accepted one could not pass a single law which could alleviate the position of Hindu women. The sooner one forgot the isolationist outlook of life, the better it would be for the country. Religion must be restricted to spheres which legitimately appertain to religion. The rest of life must be regulated in such a manner as may evolve a strong and consolidated nation. Alloudin Khilji made several changes which offended against the Shariat. The Britishers had already introduced one single criminal law. Upto 1935, the North-West Frontier Province was not subject to the Shariat law. Until 1937, Muslims in western India were governed to a large extent by the Hindu law in matters of succession. In North Malabar, the Muruakkathaym Law applied to both, Hindus and Muslims. After these discussions the Constituent Assembly adopted Article 44 directing the state to try to secure a uniform civil code.

Parliament or state legislatures are competent to make laws in the areas of personal laws of any religious community. They are empowered under Article 246 read with List III, Entry 5 of the VII Schedule. However, the existing customary or religious laws of various communities get an exemption from the provision of Article 13 that any law inconsistent with fundamental rights has to be treated as void. This follows from a decision of the Bombay High Court [AIR 1952 Bombay 84]. The Supreme Court ruled that Part III of the Constitution does not touch upon the personal laws [AIR 1980 SC 807]. Therefore personal laws cannot be quashed on the ground that they infringe upon our fundamental rights. The customary laws of the Muslim community which have largely remained untouched are those regarding marriage, mehr, divorce and succession.

# (i) Marriage and Polygamy

The supposed right of a Hindu to take a second wife for, inter alia, begetting a son has been rejected by several courts. It has been pointed out that adherence to monogamy does not hit any of the fundamental rights of a Hindu and is, therefore, constitutionally valid.

Polygamy is permitted in Islamic personal law though, according to scholars, it is looked down upon by Islam. Also, the permission is subject to the husband being able to do justice and give affection to all the wives, a condition most difficult to fulfil. Cruelty to wives has not been allowed to the Muslim male under the canons of Quran. Most of the Muslim countries have regulated polygamy which results in inequality and inequity against the Muslim women. Keeping more than one wife may also affect the population problem of the country adversely. So, regulation of polygamy prevalent among the Muslims will not only be for betterment of Muslim families but would also be successful in achieving unity and integrity of the nation.

# (ii) Restitution of Conjugal Rights

As stated earlier, the British introduced this relief on the basis of the British Matrimonial Causes Act. Muslims have not revolted against this relief as it suits them (the males). It now forms part of section 9 of the Hindu Marriage Act, 1955.

# (iii) Discriminatory Right to Divorce

Right to divorce was unknown to Shastric law, though it was permitted among certain castes under the Hindu custom. It is now provided under the Hindu Marriage Act, under which the Hindu wife is given an additional option to repudiate the marriage on attaining puberty. In Muslim law, marriage has been regarded as a civil contract and any of the parties to the marriage is free to dissolve it. The Muslim personal law allows extra-judicial divorce and permits the husband to divorce his wife at any time and at his whim and pleasure. In detail the normative and procedural safeguards in

Sunni Law, talag-i-bains, i.e., divorce by triple pronouncement is one of the kinds of talaq. Immediately on pronouncement of this type of talaq it becomes irrevocable.

The practice of unilateral divorce by triple pronouncement under the Islamic law is very harsh. The question arises whether we can permit such an arbitrary right of the Muslim husband to divorce his wife without assigning any reasons, for no fault of hers and that too in her absence. Most of the Muslim countries, i.e., Turkey, Cyprus, Tunisia, Algeria, Iraq, Iran, Ceylon, Singapore, Pakistan, Indonesia, Syria and Egypt have regulated this unilateral arbitrary right of a Muslim husband to divorce his wife without any rhyme or reason. In India also, the need of the hour is to ensure that a Muslim male is required to approach a court to obtain a dissolution of his marriage.

# (iv) Adoption

Adoption in Hindu society was accepted as a religious requirement and a son alone could be adopted under Shastric law when a Hindu had no natural born son. Under the Hindu Adoption and Maintenance Act, 1956 a Hindu can now adopt a son or a daughter. A Muslim can legally acknowledge a child as his own child, provided the child's paternity is unknown. Adoption was also unknown among Christians and Jews. But gradually the practice of adoption has developed in these communities. Child adoption now acquires a secular aspect and is a fruitful means to satisfy the needs and emotions of both the adoptive parents and the adopted child.

Adoption was also recognised by custom among some Muslims. In Jammu and Kashmir, the institution of heir appointment popularly knows as pisar parwardaes has been recognised. In the eighties, there have been many cases of adoption of Indian children by foreign parents. The Supreme Court held that since there was no statutory law in India providing for adoption of a child by foreigners, resort had to be taken of the provisions of the Guardians and Wards Act, 1890 for facilitating such adoption. The primary object of giving the child in adoption must be the welfare of the child. The Supreme Court laid down in the matter of inter-country adoptions and made some clarifications and alterations too. To have a clarity in procedure and to watch the interest and welfare of the child, a comprehensive legislation on adoption is needed. Some legislative measures were initiated in 1977 and 1980 to have a uniform law of adoption, but they did not succeed in the face of opposition from the Muslim members of Parliament.

#### (v) Maintenance to Divorcees

Section 125 of the Cr.P.C., 1973 imposes an obligation on the former husband to pay maintenance to his divorced wife, till her re-marriage or till she remains chaste. The provisions of the Cr.P.C. were applicable to every person in India irrespective of religion, caste, creed or race. The court granted such maintenance to Muslim divorcees in many cases, but the Muslim community revolted when relief was granted to a Muslim divorcec in Mohd. Ahmed Khan v. Shahabano Begum. Meetings, seminars, processions, and demonstrations before the Parliament were held against the Supreme Court's decision. Ultimately a bill was introduced and passed as the Muslim Women (Protection of Rights on Divorce) Act, 1986. The Act deprives a Muslim divorcee to claim maintenance under the secular law, i.e., under Section 125 of the Cr.P.C., 1973. The new legal provision is that the Waqf Boards would take care of the deserted Muslim woman. Doubts are expressed as to whether this provision is rooted in Shariat law. The Uttar Pradesh and Bihar Waqf Boards have demanded Rs 5 lakh each as recurring grant to mete out the expenses of maintenance to divorcees. One wonders whether in a secular state, this demand can be met by government to benefit Muslim women alone. All in all, depriving the Muslim divorcee of the benefit of maintenance under the provisions of a secular law, i.e., under section 125 Cr.P.C., 1973 is a threat to national unity and integration.

#### (vi) Testamentary Succession

This was unknown to Shastric Hindu Law. Under the provisions of the Hindu Wills Act, 1870 every Hindu can now transfer his entire selfacquired property to anybody. In Muslim Law, a

Muslim cannot bequeath more than one-third of his property. This testamentary limitation of one third should be imposed uniformly on all Indians, so as to safeguard the interest of heirs.

#### (vii) Intestate Succession

The Hindu Succession Act, 1956 confers equal rights to a female Hindu to inherit her father's property with her counterpart male. The Christian Succession Law, and the Parsi Succession Law, i.e., the Indian Succession Act, 1925, have certain discriminatory provisions but even then they are comparatively better than the Islamic Law of Inheritance, Under the Koranic Law, a Muslim female gets half of that given to a Muslim male. The most discriminatory provision of intestate succession in Islamic Law is the non-recognition of the doctrine of representation. This law of succession under the Muslim Law needs a change in order to grant rights of inheritance to the children of a pre-deceased son, even if other children of the deceased are alive.

Article 44 of the Constitution envisages a Uniform Civil Code (UCC) applicable to all Indians. Unfortunately, the Muslim elites have been opposing the idea. Their opposition to Section 125 of the Cr.P.C. and to the Indian Adoption Bill, 1980 has been noted earlier. There have been a number of arguments for and against the UCC. Arguments against UCC include (a) that a common civil code would not cut down the number of communal riots or lead to integration, (b) that uniform laws have been in existence for over a hundred years in the areas of crimes, contracts, torts, etc. If those laws have failed to inculcate the concept of national unity, uniform family laws would also fail, (c) that a uniform civil code has nothing to do with national integration, though equality of laws for all sections of the people is desirable, and (d) that religious freedom, which is a fundamental Right under Article 25 of the Constitution cannot exist under a uniform civil code, and that such a code will destroy national integration.

The chief argument in favour of UCC is that it is a requirement of the Constitution. The Universal Declaration of Human Rights sets a common standard for all peoples and nations. Further, Article 1 of the Convention on the Elimination of All Forms of Discrimination Against Women proclaims that discrimination against women, is fundamentally unjust and constitutes an offence against human dignity. Article 2 enjoins that all appropriate measures shall be taken to abolish existing laws, customs, regulations and practices which are discriminatory against women. Article 16(1) states that men and women of full age, without any limitation due to race, nationality or religion, have the right to marry and to form a family. They are entitled to equal rights as to marriage, during marriage and its dissolution.

The adoption of a Uniform Civil Code is still a distant dream. Any forcible imposition of a Common Civil Code in India will create a gulf between the diverse religious communities rather than achieve the national goal of unity and integration. Adoption of the UCC will therefore have to be a gradual process.

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# EMPIRICAL TESTS OF THE REAL BUSINESS CYCLE MODEL FOR THE INDIAN ECONOMY

## Neeraj Hatekar

In this paper, we have attempted to test some major implications of the real business cycles model of Long and Plosser [1983] using aggregate level annual data on the Indian economy for the period 1951-1985. Real business cycles imply that nominal magnitudes and real money balances cannot be exogenous driving mechanisms of the business cycle. These propositions have been tested in this paper. Section 1 discusses the low frequency properties of non-detrended data. In particular, those series in whose case the hypothesis of one or more unit roots could not be rejected are identified on the basis of Phillips-Perron tests. Along with this, a system having secondary sector output and real balances and another having secondary sector output and wholesale prices is estimated via Johansen's [1988] cointegration, and tests of bidirectional causality following Miller and Russek [1990] have been taken. The short run business cycle is identified with data detrended using the Hodrick-Prescott filter with a weight of 400. Correlations of detrended gdp with various other detrended series are described. Section 2 takes tests of Granger causality and weak exogeneity for nominal and real money magnitudes and gdp over the cycle. Granger causality is confirmed from money to output. Though the results are somewhat ambiguous, they do not give clear cut support to the real business cycle model in the short run. In the long run, however, there is substantial support for the neutrality of money and prices.

#### Introduction

Whether money matters for aggregate output over the business cycle has been an issue of contention among economists for some while now. The latest advance has been made by real business cycle theorists (Long and Plosser [1983] is a good representative) who claim that economic fluctuations are optimal equilibrium responses of households and firms to changes in their economic environments. Markets are assumed to be continuously clearing to bring planned demands and planned supplies into equality. Consequently, agents are always on their demand or supply curves depending upon whether they are net buyers or sellers in specific markets. Since all markets are assumed to clear continuously, the classical dichotomy holds at every point of time, with money supply determining only the absolute price level. Also, since the level of absolute prices does not matter for economic decisions, absolute prices can be at any level without affecting any economic decision. This implies that money supply or the level of prices cannot be exogenous driving forces of the business cycle. This is the chief econometrically testable proposition associated with real business cycle theory. This is the logical outcome for any equilibrium model of the business cycle of the 'flex' price variety. All prices adjust continuously. Hence, any shock to

money supply, in the full information context, can only effect the price level, which is assumed to be irrelevant any way.

The same logic works even when one considers the long run, only with greater force. In fact, earlier business cycle theories like the monetary misperceptions theory of Robert Lucas allowed for non-neutral effects of money in the short run. In the long run of course, the Phillips curve was held to be vertical. We have the monetarist claim of Professor Friedman 'We have accepted the quantity theory presumption and have thought it supported by the evidence we examined, that changes in the quantity of money as such in the long run have a negligible effect on real income, so that non monetary forces are 'all that matter' for real income over decades and 'money does notmatter' [Friedman, 1974]. Real business cycle theorists rule out even the short run nonneutrality. According to them, the Phillips curve is vertical in the short as well as the long run. Long run growth is assumed to be the result of real factors like technology and population growth. Money and nominal price level are assumed not to matter for the growth performance of the economy.

In this paper, we have made an attempt to test for the neutrality of money and prices in the long run as well as over the short run business cycle. The long run is investigated with the help of

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Johansen's [1988] cointegration technique, and tests of bidirectuonal causality using the Miller and Russek [1990] technique. The short run cyclical components were investigated by using Hodrick- Prescott detrended data with a weight of 400.Section 1 below describes the empirical methodology and results of the long run effects of money supply and price level on output.

# SECTION 1

In this section, we study the low frequency properties of the data, and in particular their unit root properties. Non-stationarity of time series has always been regarded as a problem by econometricians. It has been shown by several authors that the statistical properties of regression analysis using non-stationary time series are dubious (For example, see Phillips [1986], Charemza and Deadman [1992], Newbold and Davies [1978]. Newbold and Davies [1978] report the results of regressing two uncorrelated random walks on each other. In a sample of 1,000 regressions, 670 were found to have significant (at 5 %) t statistics. Apart from the problem of spurious regressions, there is also the problem of hypothesis testing, as the relevant distributions are non-standard.

Some non-stationary series achieve stationarity after differencing one or more times. This has motivated the following definition in the literature.

Definition: A non-stationary series which can be transformed into a stationary series by differencing d times is said to be integrated of order d or symbolically, I(d). In contrast, a stationary series is symbolically represented as I(0).

A non-stationary time series, that achieves stationarity on being differenced once is called I(1). There are several important differences between an I(0) and an I(1) series. The I(0) series has a mean value and there is a tendency to return towards that mean, so that the series tends to fluctuate around that mean value, crossing the value often and only rarely 'straying' too far out. Autocorrelations decline rapidly as the lag increases and the process gives a lower weight to events that are further down into the past, and thus effectively has a finite memory. An I(1) process without a drift on the other hand, will be relatively

smooth, will wander widely, and will rarely return to a value that it has visited earlier. Autocorrelations are all near one in magnitude, an innovation to the process affects all later values and hence the process has an infinite memory. Clearly, the theoretical implications of the two classes are very different. For instance, for an I(1)process, a productivity shock will have a permanent impact, whereas for an I(0) shock, it will only have a temporary impact. If gdp is an I(d) process, d > 0, then it would be difficult to reconcile this fact with a Lucas monetary surprises kind of framework, where money shocks have only a short period impact. Indeed, several authors (for example, Nelson and Plosser [1982]) have sought to exploit this fact as evidence against a monetary theory of the business cycle.

Various tests have been discussed in the literature for distinguishing between an I(1) and an I(0) process. They are discussed more fully in the appendix. In the paragraph that follows, I have discussed only the results of these tests.

Real gross domestic product at factor cost, was found to be I(2). High powered money, real high powered money (high powered money divided by gdpd), time deposits, currency with the public, demand deposits, m3, real balances i.e. m3 divided by wpi - (it may be worthwhile to note that m3 divided by gross domestic product deflator, henceforth referred to as rb2, was found to be I(1)). The secondary sector was found to be I(1). Any disturbance to the money supply process then, has a tendency to die out, whereas any disturbance to output remains in the series all throughout. This precludes any long term equilibrium relationship between the money supply process (excluding rb2) and secondary and tertiary sector output. Similarly, all the measures of the general price level (the wholesale price index, the gross domestic product deflator and the index of non-administered prices) all are I(1). This also implies that over the long run, there cannot be any equilibrium relationship between nominal and real monetary magnitudes (excluding rb2) and the general price level. It is likely that over the long run, prices will be driven by industrial and tertiary sector outputs. The idea of a long term equilibrium relationship is formalised in the concept of cointegration. Consider initially

a pair of series  $x_t$ ,  $y_t$  each of which is I(1), and none of which has a drift or a trend in the mean. It is generally true that any linear combination of these series is also I(1). However, if there exists a linear combination that is I(0), the two series are said to be cointegrated. The formal definition of cointegration was given by Engle and Granger [1987].

Definition: Time series  $x_t$ ,  $y_t$  are said to be cointegrated of order d, b, where  $d \ge 0$ ,  $b \ge 0$ , written as:

 $\mathbf{x}_{t}, \mathbf{y}_{t} \sim \mathrm{CI}(\mathrm{d}, \mathrm{b})$  1.1

if:

1. Both series are integrated of order d,

2. There exists a linear combination of these variables, say

 $\alpha_1 x_1 + \alpha_2 y_1$  which is integrated of order d - b.

The vector  $[\alpha_1, \alpha_2]$  is called a cointegrating vector. A generalisation to more than two time series is straightforward.

The cointegrating vector can also be interpreted as the 'long run equilibrium relationship' between the two series. The initial technique for testing for cointegration was discussed by Engle and Granger in a classic paper [Engle and Granger 1987]. Later on, Johansen [1988, 1989], Johansen and Juselius [1990] have worked out a generalisation based on the maximum likelihood principle. Real business cycle theory claims that over the business cycle, output and the wholesale price level do not have any equilibrium relationship. Since all markets are complete and there is continuous market clearing, money supply determines only the aggregate price level. The assumption of complete markets also holds over the long term. Hence, over the long run too, the price level should not matter to economic activity. This would also mean that there is no long term relationship between real output and the aggregate price level. If such a relationship does exist, it should be from real output to the wholesale price level, rather than the other way around. An identical argument can be made regarding money. Either there should not be any long term equilibrium relationship between money and output,

or if there is one, it should be from output to money, rather than from money to output. In other words, either there should not be any equilibrium relationship between output and prices and output and money, or if there is one, the causal direction should be from output to prices and output to money. If, on the other hand, the classical dichotomy does not hold over the long run, that is, if there are rigidities leading to substantial non-market clearing and/or market failures, there can also be a relationship from money to output and from the price level to output. Thus, evidence of long run bidirectional causality between the price level and output, or money and output would logically lead to a rejection of the real business cycle theory model. Clearly, since gdp is I(2), and

all the monetary magnitudes excepting rb2 are I(0), there cannot be cointegration between them. Hence, we have tested for cointegration between rb2 (m3 divided by gdp deflator) which was found to be I(1) and secondary sector output, as well as for cointegration between various measures of the absolute price level and secondary sector output. The results are presented below:

Cointegration between log of secondary sector output and log of gdpd was accepted. The following cointegrating vector emerges:

 $\log(\text{secondary sector output}) = -0.47819$  $\log(\text{gdpd}).$ 

Cointegration between log of secondary sector output and log of wpi was also accepted and the following cointegrating vector emerges:

 $\log(\text{secondary sector}) = -0.48074 \log(\text{wpi}).$ 

Cointegration between log of secondary sector output and log of non-administered prices was accepted and the following cointegrating vector emerges:

log(secondary sector output) = - 0.60712 log (non-administered prices.)

Interestingly, all the long run cointegrating relationships have a negative sign. That implies that in the long run, the general level of prices tends to decline with output. Prices could be output driven in-the long run. However, the exact direction of causality cannot be inferred directly from the cointegrating vector alone.

Whether output is also 'price driven' will become clear only when tests of bidirectional causality are taken.

p

Cointegration between log of rb2 and log of secondary sector output is also accepted. The following cointegrating vector was obtained. log (secondary sector) =  $0.93587 \log (rb2)$ .

Following Granger [1988], it is known that if x, and y, are I(1) and cointegrated, there must be Granger causality in at least one direction. The predictions of the real business cycle model are intact as long as the causality is from output to prices and output to money. However, the predictions of the model fail if the causality is in both directions. Hence, testing for bidirectional causality would allow us to infer the validity of the real business cycle model. We have used the Miller and Russek [1990] method of testing for bidirectional causality. Suppose we have two time series x, and y, both of which are I(1). Then, the standard Granger causality test will very likely be made on the first differences of both the series. Intuitively, it will tell us whether the lagged changes in one variable, say y, allow us to predict current changes in x; over and above the information provided by past changes in x. However, no inference can be drawn on whether past levels of y can allow us to infer current change of x, over and above the inference already made possible by past changes of x. Miller and Russek [1990] have considered an alternative form of modelling the causality tests in such a way that if x and y are cointegrated, an additional channel of Granger causality, in terms of level of y can emerge. This is the error correction channel. Consider the following equation:

$$\Delta \mathbf{x}_{t} = \boldsymbol{\alpha}_{0} + \sum_{i=1}^{p} \beta_{i} \Delta \mathbf{x}_{t-i}$$
$$+ \sum_{i=1}^{q} \gamma_{i} \Delta \mathbf{y}_{t-i} + \varepsilon_{t}$$
 1.2

where the null hypothesis that y does not Granger cause x will be accepted if the  $\gamma_j$  are jointly zero. This, as discussed in the appendix, is the standard Granger causality test. Miller and Russek propose additionally to test for the significance of the coefficient of  $\mu_{t,1}$  in

$$\Delta \mathbf{x}_{t} = \alpha_{0} + \sum_{i=1}^{q} \beta_{i} \Delta \mathbf{x}_{t,i}$$
$$+ \sum_{i=1}^{q} \gamma_{i} \Delta \mathbf{y}_{t,i} + \mu_{t,1} + \varepsilon_{t}$$
 1.3

where  $\mu_t = x_t - \alpha y_t$  and where  $x_t - \alpha y_t$  is a stationary linear combination of  $x_t$  and  $y_t$ . We present below the results of the causality tests:

The null hypothesis of no causality from log of secondary sector output to log of gross domestic product deflator was rejected. The lagged value of log(secondary sector) was insignificant and the associated F statistic was 0.0556 at 1 and 30 degrees of freedom. (The lags in equation 1.3 were chosen by Akaike [1973] information criterion). However, the lagged value of the error correction term was significant at 5% with the associated F statistic being equal to 4.7433 with 1 and 30 degrees of freedom. The null was accepted for causality from log(gross domestic product deflator) to log (secondary sector output). The coefficient of the lagged value of log(gdpd) was insignificant with an F statistic of 0.059 at 1 a.d 30 degrees of freedom. The lagged error correction term too was insignificant, with the associated F value of 0.0252 with 1 and 30 degrees of freedom. The null hypothesis of no Granger causality from log of secondary sector output to log of wholesale prices was also rejected. The associated F statistic for the lagged value of log(secondary sector) was 1.39 with 1 and 19 degrees of freedom, but the lagged value of the error correction term was significant with an F value of 19.05 with 1 and 19 degrees of freedom. The null hypothesis of no Granger causality from log(wpi) to log(secondary sector) was accepted with an F value of 2.6142 with 2 and 28 degrees of freedom associated with the lagged values of log(wpi) and the coefficient on the lagged value of the error correction term was also insignificant with an F value of 1.3182 with 1 and 28 degrees of freedom. The null hypothesis of no Granger causality was also rejected for causality from log(secondary sector output) to log(real balances). The F statistic associated with the lagged value of log(secondary sector) was 0.2809 with 1 and 30 degrees of freedom, but the error correction term was significant (at 10 per cent) with an Fvalue of 4.091 with 1 and 30 degrees of freedom.

As for the null hypothesis of no Granger causality from log(real balances) to log(secondary sector) it was accepted with the lagged value of real balances having an F statistic 0.58 with 1 and 30 degrees of freedom, and the error correction term also having an insignificant F value of 0.0058 with 1 and 30 degrees of freedom.

Thus, change in levels of wpi, gdpd, and real balances are driven by the past change and levels of secondary sector output, and not the other way round. At this stage then, if we confine ourselves to changes in the relevant time series, we have conclusive evidence in favour of the real growth model. Over the long run, it is output that drives real balances and prices, rather than the other way round. However, the same relationships also need to hold over the business cycle for the predictions of real business cycle model to hold. The first differences of a series need not correspond to the cyclical fluctuations in that series. To be able to say anything about the business cycle, we need to first identify the business cycle. It is to this that we turn in the next section.

#### Description of the Business Cycle

Economists commonly decompose univariate time series into a secular 'long term' growth component and a 'short run' cyclical component. Various approaches have been adopted in the literature towards detrending univariate time series. Among these, linear detrending and taking first differences have been the most popular so far.

It is generally assumed that the long run component is relatively smooth, and does not vary much over the duration of the cycle. Hence, it has been the practice to regress a time series on time (or some polynomial in it) and treat the residuals from the fitted regression line as the short run cyclical component, to be explained by business cycle theory. (i.e, Bodkin [1969], Lucas [1973], Barro [1978], Sargent [1978], Taylor [1979], Hall [1980], Kydland and Prescott [1980], Chitre and Paranjpe [1987], and Chitre [1991]).

However, as Nelson and Plosser [1982] have pointed out in a seminal paper, secular trends need not be modelled as deterministic processes.

For time series belonging to what Nelson and

Plosser called the Difference stationary class, business cycle models based on time trend residuals are misspecified. Chan, Hayya and Ord [1977] and Nelson and Kang [1981] have pointed out that the autocorrelation function of the residuals from a regression of a random walk on time is a statistical artifact in the sense that it depends entirely on the sample size and implies strong positive autocorrelations at low lags with pseudo periodic behaviour at long lags. Thus, the persistence of the business cycle will get overestimated.

Nelson and Plosser [1982] have suggested that series with a unit root can be made stationary by taking first differences of the data. Indeed, this methodology has been commonly used in stationarising data. However, as a technique for business cycle analysis, it has the following limitation:

First differencing eliminates low frequency components of the data. It also passes the maximum number of high frequency components. Such high frequency components will not be of much use for business cycle analysis which is primarily interested in medium to high frequency components. For instance, first differencing, at one extreme, may pass only random noise. The business cycle analyst, on the other hand, might be looking for a cyclical movement that lasts much longer, for instance, one to five years. Random noise is hardly likely to serve his purpose.

In the present paper, classification of the time series involved was done on the basis of the Phillips-Perron tests. It is also customary to use the Dickey-Fuller [1981] and the augmented Dickey-Fuller tests for this purpose. However, these tests are known to be sensitive to the assumptions regarding the distribution of the error term. The Phillips-Perron test overcomes this drawback.

For those series that are not I(0), detrending by regressing on time will give a misleading picture of the business cycle. Use of the first difference operator on stationary series will, on the other hand, lead to non-invertibility in the moving average part. [Nelson and Plosser, 1982]. Also, first and second differencing was considered avoidable for the reason noted in the previous paragraph. Apart from that, since the order of integration is different for different series, all of them would have to be filtered different number of times. This may distort the relationships between series. [Wallis, 1974]. Consequently, all the series have been detrended using the Hodrick-Prescott filter described in greater detail in the appendix.

#### SECTION 2

The main testable implication of the real business cycle theory was that nominal magnitudes like nominal balances and price level do not play any part in the business cycle. Also, it was pointed out there that the theory assumes that the classical dichotomy is complete. That means that in a full Walrasian equilibrium, there is no reason why anyone should hold real balances. A model of the business cycle, based on the assumption of a complete set of markets, which clear instantaneously, would naturally lead to the conclusion that real balances do not or rather cannot matter for output fluctuations.

Work by King and Plosser [1984] and others which indicates that according to the real business cycle model, money is purely passive and endogenous. Based on these propositions, we report below the propositions that we have tested:

Real Business Cycle theory: Affirmed if 1) a) Money is endogenous and passive, meaning thereby that money does not Granger cause output, and b) is not weakly exogenous with respect to output (see appendix for a discussion of the concept of Granger causality). 2) a) Output Granger causes money, and b) is weakly exogenous with respect to money. 3) a) The wholesale price level does not Granger cause GDP, and b) GDP is weakly exogenous with respect to WPI fluctuations (that is, the classical dichotomy is complete). (All these relationships are of course tested for data detrended using the Hodrick -Prescott filter, using  $\lambda = 400$ .)

We have used a number of measures of real balances over the cycle, viz., detrended ratios of high powered money to gdpd, (HPMR), demand deposits to gdpd (DEPMONR), time deposits to gdpd (TDR). GDP stands for detrended GDP. The method of detrending was the Hodrick-Prescott filter alluded to above, and explained at length in the appendix. If either 1, 2 or 3 above are rejected, we interpret it as evidence against the real business cycle theory model. To start with, we report Granger causality tests and Geweke causal measures. The null hypothesis is rejected if the test statistic is significant at 5%.

TABLE 1.

Null Hymothesis	E statistic	v1 v2	Whether Accepted
Null Hypothesis		• 1, • 2.	informer recorption
TDR -/-> GDP	68.50837	1,31	No
GDP -/-> TDR	3.70089	3,19	No
DEPMONR -/-> GDP	1.6696	6,21	Yes
GDP -/-> DEPMONR	0.241329	1,31	Yes
HPMR -/-> GDP	0.13854	1.32	Yes
GDP -/-> HPMR	6.67845	1,26	No
WPI-/-> GDP	2.4283	6.22	Yes
GDP -/-> WPI	4.2168	1,22	Yes

Here, TDR -/-> GDP for instance, stands for real time deposits (detrended ratio of time deposits to gdpd) do not Granger cause GDP (where GDP is the detrended GDP). v1 and v2 refer to the numerator and the denominator degrees of freedom of the F distribution respectively. The null hypothesis that time deposit fluctuations do not Granger cause GDP fluctuations is rejected. This goes against the real business cycle theory model,

whereby the null hypothesis should have been accepted in this case. There is also evidence of reverse causality, because the null hypothesis that GDP fluctuations do not Granger cause time deposit fluctuations is refuted. The null hypothesis is accepted in the case of the null hypothesis of no causality from demand deposits fluctuations to GDP fluctuations and the other way round, i.e, no causality from GDP fluctuations to demand deposits fluctuations. The null hypothesis of no Granger causality from HPMR to GDP fluctuations is accepted but is rejected in the case of no Granger causality from GDP fluctuations to HPMR. The null hypothesis is accepted for no Granger causality from wholesale price fluctuations to GDP fluctuations, as well as for no Granger causality from GDP fluctuations to wpi fluctuations. However, both the hypotheses are rejected at 10% level of significance. Thus, in the case of wholesale prices, there is no clear cut evidence. In fact the rejection of the null hypothesis at 10% can be taken as mild evidence against the real business cycle model.

Table 2 discusses computed Geweke Causal measures. For reasons given in the appendix, they are presented only for the case where the null hypothesis has been rejected. They are also presented for WPI -/-> GDP & GDP -/-> WPI since both these hypotheses are rejected at 10% level. Also, on the basis of the Geweke causal measures, both the null hypotheses can be strongly rejected.

TABLE 2.

Causality. Direction	Geweke Causal Measures.	
TDR TO GDP	39.65266	
GDP TO TDR	13.34509	
DEPMONR TO GDP		
GDP TO DEPMONR		
HPMR TO GDP		
GDP TO HPMR	7.315818	
WPI -/-> GDP	11.22431	
GDP -/-> WPI	5.260766	

Geweke causal measures indicate the explicit strength of causality. It is clear that causality from TDR to GDP is much stronger than the reverse causality. This point goes against the real business cycle theory model. The fact that there is no causality from HPMR to GDP is in favour of the real business cycle model. Again, that the causality from WPI to GDP is stronger than the reverse one can be interpreted as evidence against the real business cycle model. As has been pointed out above, the real business cycle theory model would predict that wholesale price level does not matter, that is, the classical dichotomy is complete. The fact that it matters is simply an evidence

against the classical dichotomy holding. Real balances can enter meaningfully only when the classical dichotomy does not hold completely. In that sense, the distinct pieces of evidence that are presented above are mutually consistent. Granger causality tests coupled with Geweke causal measures then, give some evidence against the real business cycle model as far as Granger causality from TDR to GDP is concerned. Lack of Granger causality from DEPMONR to GDP and from HPMR to GDP is some evidence for real business cycle model. DEPMONR is too narrow a magnitude to cause GDP fluctuations. The lack of causality from GDP fluctuations to DEP-MONR is more intriguing and stands in need of a theoretical explanation. HPMR fluctuations are more in response to GDP fluctuations than the if one looks at the composition of HPMR. The sources of HPMR are 1) Net Reserve Bank claims on Government, 2) Reserve Bank claims on commercial and cooperative banks, 3) Claims on the National Bank for Agricultural and Rural Development, 4) Claims on commercial sector, 5) Net foreign exchange assets of RBI, 6) Government's currency liabilities to the public, and 7) Net monetary liabilities of RBI. A predominantly large part is RBI's claims on Government, which is hardly likely to influence the business cycle in any systematic manner in the absence of any conscious business cycle policy. However, GDP fluctuations in turn, can easily influence this component. Similar is the case with net foreign exchange assets of the RBI. The problem is that there is no systematic anticyclical policy that is followed by the Reserve Bank. Since the price level is anticyclical, over the boom, RBI's claims on the commercial sector and its claims on NABARD can increase in response to the needs of business irrespective of whether the monetary authorities are targeting the price level or the interest rates. The fact that HPMR does not Granger cause GDP fluctuations simply implies that the RBI does not follow any systematic business cycle policy. It is doubtful whether this can be interpreted as evidence favouring real business cycles.

In table 3, we discuss the evidence regarding weak exogeneity of the time series of interest. Again, the same hypotheses that are alluded to above viz., 1, 2 and 3 are examined. In table 3

below, marginal processes are written vertically, whereas conditional processes are written horizontally. Entries in the table indicate whether the null hypothesis of weak exogeneity is accepted.

TABLE	3.
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Marginal Process			Conditional Pro	CESS	
	TDR	DEPMONR	HPMR	WPI	GDP
TDR DEPMONR HPMR WPI GDP	No	Yes	No	No	Yes No Yes No

Thus, GDP is weakly exogenous with respect to TDR but TDR is not weakly exogenous for GDP. This gives some evidence to the real business cycle theory model. However, a strict acceptance of the real business cycle model requires 1) Output is weakly exogenous with respect to money, and b) Money does not Granger cause output. Since b) is rejected for time deposits, we do not have any conclusive evidence in favour of the real business cycle model. However, both these hypotheses are accepted in the case of HPMR. Output fluctuations are weakly exogenous, and there is no Granger causation from HPMR to output. HPMR is not weakly exogenous with respect to GDP, and GDP Granger causes HPMR. This bit of evidence conclusively goes in favour of the real business cycle model. As far as DEPMONR is concerned, there seems to be no connection either way with GDP. This cannot be interpreted as evidence in favour of the real business cycle model. As far as WPI and GDP are concerned, we find that GDP is not weakly exogenous. Also, at 10% level of significance, we found that WPI fluctuations do Granger cause GDP fluctuations. Thus, 3 a) as well as 3 b) cannot be accepted directly.

The overallevidence of this section is somewhat mixed, but goes largely against the real business cycle model. It points out that real factors are indeed responsible for the business cycle, but the

role of time deposits and wholesale price fluctuations in causing business cycles cannot be completely disregarded.

#### Conclusion

The empirical results presented above imply the following:

1) In the long run, secondary sector output drives prices as well as money. Money and prices are output determined in the long run.

2) Over the short run business cycle, there are two way linkages between real gdp, time deposits and prices. However, the causality from the monetary magnitudes to output is much stronger than the reverse causality. The same holds true for the wholesale price level over the business cycle. Thus, over the business cycle, neither money supply nor the price level is neutral. The classical dichotomy does not hold in the short run. The long run story is of course entirely different. In the long run, money as well as the price level are 'output driven' and Professor Friedman's contention that 'money does not matter' is probably valid.

# APPENDIX HODRICK - PRESCOTT FILTER

Suppose we have observations  $y_1, \ldots, y_T$  on a non-stationary time series  $\{y_i\}$  (Assume for simplicity that the nonstationarity arises from the trend). Consider the problem of decomposing this time series into a growth component  $\{g_i\}$ and a cyclical component  $\{c_i\}$  in such a way that  $y_t = g_t + c_t$ 

Hodrick and Prescott [1980] propose to approximate {y,} by a smooth curve. They constrain the smoothness of the growth component by setting the sum of the squares of its second differences to be less than some finite number. Obviously, smaller the number, lower is the possible variability that can be attributed to the trend. Consider the following constrained least squares problem:

$$\min \sum_{t=1}^{T} (c_t) + \lambda \sum_{t=2}^{T-1} [(g_{t-1} - g_t) - (g_t - g_{t-1})]^2$$

$$(2)$$
s.t.

 $y_i = c_i + g_i$ 

The first part measures the fit of the curve. Obviously, it is minimised for  $y_t = g_t$ . The second term measures the smoothness of the series. It becomes zero when change in g. is constant for all periods. Hence, the expression is minimised when g is linear. There is a tradeoff between the first and the second terms in expression 2 and one must choose what weight to give to each. That job is done by an adequate choice of  $\lambda \cdot \lambda = 0$  sets all the weight to the trend and gives a trend that always equals the actual series, with the cyclical component being zero throughout. On the other hand,  $\lambda$  near to infinity would result in a linear trend.  $\lambda$  must be set a priori. We have used  $\lambda = 400$ . (We have experimented with values of  $\lambda = 400$ , 800, 1200 and 1600. Here we have reported results only for  $\lambda = 400.$ ) The algorithm for doing the calculations is given in Danthine and Girardine [1989]. A rather low value was chosen for  $\lambda$  so that adequate allowance is made for the variability of the trend that time series of developing countries like India are likely to exhibit.

#### **II UNIT ROOT TESTS**

Consider a model

$$Y_{i} = \rho Y_{i,1} + e_{i}$$
  $e_{i} = N[0,\sigma_{e}^{2}]$  (3)

We would like to test whether  $\rho = 1$ . If that is true, the expression would be a random walk. However, the simple OLS regression of y, on y, would not be correct because, besides having the problem of a lagged dependent variable, since under the null hypothesis, a non-stationary process is involved, the t statistic would not have a limiting normal distribution [See Charemza and Deadman, 1992]. Consider a modification of 3,

 $\Delta y_i = (\rho - 1)y_{i,1} + e_i$ (4)

(1)  $(\rho - 1) = 0$ . On the other hand,  $\rho < 1$  implies the value of  $\rho - 1$ less than zero. In the regression (4), the null hypothesis that (p-1) = 0 can be tested by computing the standard student's t statistic and comparing it with the statistical tables presented in Fuller [1976] and Dickey and Fuller [1981]. (Zr statistic in those tables.)

If a trend is deterministic trend is involved,

$$\Delta Y_{i} = (\rho - 1)y_{i-1} + \alpha t + e_{i}$$
(5)

is the form of the regression, and the null hypothesis of no trend now corresponds to the joint hypothesis of (p-1)=0and anot equal to zero which is testing for the simultaneous absence of a stochastic trend and the existence of a deterministic trend. Since more than one parameters are involved, an appropriate test is the Lagrange multiplier test, discussed in Dickey and Fuller [1981]. It is possible that the error terms in (4) and (5) have significant autocorrelation. In that case, the OLS estimated from (4) and (5) would not be relevant. Dickey and Fuller [1981] suggest using lagged left hand side variables to correct for autocorrelation. The resulting test is called the augmented Dickey-Fuller test. The critical values are the same as those for (4) and (5).

However, these tests are sensitive to heteroscedasticity in the error term. In such a situation, Phillips and Perron [1988] have suggested transforms of Dickey-Fuller statistics to take care of the problem. Let  $(p-1) = \beta$  (computed regression value of  $(\rho - 1)$  in (6)). Then, Phillips'  $Z_{\alpha}$  statistic can be obtained as:

a) 
$$Y_i = a + \beta Y_{i-1} + e_i$$
. (6)  
From  $\hat{e}_i$  define,

$$s_i^2 = 1/T \sum_{k=1}^{T} \hat{e}_i^2$$
 (7)

$$s_{k}^{2} = 1/\Gamma \sum_{t=1}^{T} \hat{e}_{t}^{2} + 2/t \sum_{s=1}^{k} w_{s} \sum_{t=s+1}^{T} \hat{e}_{t} \hat{e}_{t,s}$$
  
where  $w_{s} = 1 - s/(k+1)$  (8)

b) Now work out

$$Z_{\alpha} = T(\beta - 1) - \frac{1/2(s_{k}^{2} - s_{i}^{2})}{\frac{1}{r^{2}}\sum_{i=1}^{T}(y_{i} - \bar{y})^{2}}$$
$$Z_{\gamma} = [s_{i}/s_{k}]t_{\beta} - \left[\frac{1/2(s_{k}^{2} - s_{i}^{2})/s_{k}}{\sqrt{\frac{1}{r^{2}}\sum_{i=1}^{T}(y_{i} - \bar{y})^{2}}}\right]$$
(9)

where t<sub>A</sub> is the student's t statistic for testing the hypothesis  $\beta = 1$  in equation 6. The limiting distribution of Z<sub>n</sub> and Z<sub>n</sub> are where  $\Delta$  is the first difference operator.  $\rho = 1$  corresponds to the same as those in Fuller [1976].

#### III GRANGER CAUSALITY TESTS

Various papers have investigated the subject of Granger causality. (For an excellent discussion, see Nachane [1991]). Normally, the following tests are common in the literature: 1) Granger's [1969] test. (GR).

- 2) Sim's modified [1974] test. (MS).
- 3) Geweke [1982a] test. (GW).

By now, GR and MS are standard knowledge and hence will not be discussed here. The interested reader can see Nachane [1991] or Jadhav and Joshi [1993]. The GW test is comparatively newer. Consider two covariance stationary time series  $\{x_t\}$  and  $\{y_t\}$ . Suppose the null hypothesis being tested is 'y does not cause x'. In the standard GR test, the following two regressions are first executed:

$$\mathbf{x}_{t} = \sum_{i=1}^{P} \phi_{i} \mathbf{x}_{t,i} + \mathbf{u}_{1t}$$
(10)

$$\mathbf{x}_{t} = \sum_{i=1}^{p} \gamma_{i} \mathbf{x}_{t,i} + \sum_{j=1}^{q} \rho_{j} \mathbf{y}_{i,j} + \mathbf{u}_{2k}$$
(12)

Let s1 and s2 be the estimated variances of  $u_1$  and  $u_2$ . The estimated Geweke measure of causal dependence from y to x is defined as:

$$\hat{F}(y-x) = \ln(|s1|/|s2|)$$
 (13)

This measure possesses several important properties:

1) This measure gives an explicit quantitative indication of the strength of causality. The other tests do not posses this feature.

2) The measure is non-negative and invariant with respect to separate invertible lag operations on  $\{x_i\}$  and  $\{y_i\}$ .

Geweke [1982b] establishes the equivalence of the above mentioned null hypothesis with the true feedback measure being equal to zero. If there are n observations, the statistic  $n\hat{F}(.)$  is distributed asymptotically  $x^2(k|q)$  where k and l are the dimensions of  $\{x_i\}$  and  $\{y_i\}$  above.

All these tests are theoretically identical under some mild assumptions. However, the finite sample properties of these tests are much less understood. The GR test is slightly superior to the MS test. It is also superior to the GW test [Nachane 1991]. In view of these findings, we have reported only the results of the GR test and also the results of the GW test, because the GW test gives an explicit indication of the strength of causality, which is not provided by the other tests.

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# DOCUMENTATION

The purpose of this section 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 suggestions regarding official documents or parts thereof for inclusion in this section.

In the present section we publish:

Report of the Indian Economic Enquiry Committee, 1925, Vol. I - (Chairman, Sir M. Visvesvaraya)

# INDIAN ECONOMIC ENQUIRY COMMITTEE, 1925 REPORT

# CHAPTER I

#### INTRODUCTORY

# Origin of the Committee

On the 4th of February 1924, the Council of State passed a Resolution on the subject of an enquiry into the economic condition of the people of British India in the following form:-

"That this Council recommends to the Governor-General in Council that the Local Governments may be consulted with regard to the desirability of undertaking an inquiry into the general economic conditions of British India and whether they are prepared to support the proposal to appoint a Committee and to cooperate in its labours if appointed."

Later on, on the 22nd September of the same year, the Legislative Assembly adopted a Resolution on the same subject which read as follows:

"This Assembly recommends to the Governor-General in Council that he be pleased immediately to dissolve the present Taxation Inquiry Committee and appoint, instead, a Committee of non-officials and experts, in consultation with the leaders of the parties in the Legislative Assembly, to institute a thorough inquiry into and report on the following matters (with power to them to make an *ad interim* report):

- (1) The economic condition of the various classes of the people of India;
- (2) Their income per head;
- (3) Their capacity to bear the existing burden of taxation (including land revenue);
- (4) The general resources of the country;
- (5) The manner in which the burden of taxation is distributed at present between the different classes of the population;
- (6) Whether the whole scheme of taxation -Central, Provincial and Local - is equitable, and in accordance with economic principles; if not, in which respects it is defective;
- (7) The suitability of alternative sources of taxation without increasing the present level;

- (8) The machinery required for the imposition, assessment and collection of taxes, old and new;
- (9) The general financial and economic effects of the proposals."

# Constitution of Committee and Terms of Reference

2. After taking these recommendations into consideration, the Government of India, with the approval of the Secretary of State, announced the appointment of the Indian Economic Enquiry Committee in Finance Department Resolution No. 655-F, dated the 22nd January 1925. The subjects given to us for investigation are embodied in the following terms of reference set out in paragraph 2 of the Resolution:-

"To examine the material at present available for framing an estimate of the economic condition of the various classes of the people of British India; to report on its adequacy; and to make recommendations as to the best manner in which it may be supplemented, and as to the lines on which a general economic survey should be carried out, with an estimate of the expenditure involved in giving effect to such recommendations,"

#### 3. Preliminary Work

The Committee assembled in Delhi on 7th February 1925 and proceeded with the preliminary work of recruiting the office and research staff, and collecting the official publications, books and other material required. Arrangements were made simultaneously through the Finance Department of the Government of India to obtain, from the Dominions and certain foreign countries, some selected books and other publications needed for the enquiry. The Committee experienced some difficulty at first in securing the services of trained research assistants, and it was not till the first week of March that the candidates selected were able to enter upon their duties.

# 4. The Questionnaire and Examination of Witnesses

While the work of collecting and examining the available material was in progress, it was decided to issue a questionnaire and to undertake a tour round the principal provinces with the object, on the one hand, of recording the oral evidence of witnesses residing in those areas, and, on the other, of consulting the representatives of the Local Governments, wherever possible, on the subjects entrusted to us for investigation. The questionnaire, which is printed at the beginning of volume II of this report, was issued in print on 1st April and altogether 622 copies were distributed. Written statements in reply to the questionnaire were furnished by 106 persons, of whom 60 were officials and 46 non-officials. The total number of witnesses who gave oral evidence was 81, of whom 45 were officials and 36 nonofficials.

Before proceeding on tour, the Committee met in Delhi several representative members of the Council of State and the Legislative Assembly, who had specialised, or were known to take interest, in economic questions, and conferred with them on various points arising out of the terms of reference. Some eighteen members in all, both European and Indian, attended these conferences.

#### 5. Work Done on Tour

The Committee commenced their tour on the 6th of April 1925 and visited six major provinces as indicated in the following itinerary. The number of witnesses examined orally is noted against each centre.

Name of centre	Arrival	Departure	Number of witnesses examined.
Allahabad	6th April	9th April	7
Calcutta	10th April	17th Âpril	17
Rangoon	20th April	24th April	16
Madras	27th April	lst May	14
Poona	3rd May	7th May	17
Bombay	8th May	10th May	••
Simla	12th May	· · · · · · · · · · · · · · · · · · ·	10

Witnesses from the Bengal Presidency as well as from Bihar and Orissa and Assam were examined in Calcutta. At Poona, we took the evidence of witnesses from the Bombay Presidency as well as of those from the Central Provinces. During the return journey we halted in Bombay for a couple of days to consult certain leading economists and business men, some of whom had not been previously examined as witnesses. The Punjab witnesses and some experts of the Government of India Departments were examined at Simla on the conclusion of our tour. We had opportunities of conferring with the officers of the Governments of Burma, Bombay and the Punjab in regard to questions of organisation and the cost of an economic survey for their respective provinces. It was originally intended to examine the representatives of the Government of the United Provinces in the course of our tour, but as that Government had arranged to move to the hills just before our visit, the officers concerned were unable to meet us at Allahabad. The United Provinces Government, however, kindly suggested that we should pay a visit to Naini Tal for the purpose, but the time at our disposal being limited it was not found possible to comply with the suggestion, and as the officers were unable to meet us at Simla, their opinions were obtained in . writing.

# 6. Acknowledgements

We are indebted to the Finance Department of the Government of India for various facilities afforded to us and for the supply of a large number of reports and official publications, some of which were obtained from the British Dominions and foreign countries. We desire to express our obligations to the Local Governments for the help and facilities afforded in respect of accommodation and other requirements during our visits to the various centres. The acknowledgements of the Committee are also due to the gentlemen, both officials and non-officials, who, at the expense of much time and labour, favoured us with written memoranda or gave oral evidence in the course of this enguiry.

We regret that on account of fundamental differences of opinion we have not had the benefit of the co-operation of our colleague, Mr. A. R. Burnett-Hurst in the preparation of this report. We desire however to place on record our high appreciation of his services as Secretary to this Committee. The office and research staffs have also worked to our entire satisfaction.

# CHAPTER II

#### **OBJECT OF AN ECONOMIC SURVEY**

#### 7. Desire for an Enquiry

The object for which this Committee was constituted has sometimes been misunderstood. Although the name of the Committee is associated with the term "Economic Enquiry" we have no concern with any actual investigation into the economic condition of the people. Our task, under the terms of reference, is limited to the framing of a scheme of economic survey after examining the adequacy or otherwise of the material already available. The idea of an economic survey is of foreign origin and of comparatively recent growth in India. The matters to be dealt with in the course of such a survey are partly technical and the public in this country are unfamiliar with the body of scientific facts which bear upon the issue. It may therefore not be out of place to preface this report with a brief explanation of the meaning and object of, and the processes involved in, an economic survey.

8. The economic condition of the people of this country has been the subject of frequent active controversy and dispute. Although the controversial spirit underlying the discussions has in a mild way extended also to the present enquiry, the evidence given before the committee and the opinions ventilated in the press leave no doubt that the public and a majority of the officials are in sympathy with the objects associated with an economic survey. If there has been any hesitation on the part of some of the witnesses to advocate a survey, it was due either to a mistaken belief that sufficient material already existed to enable remedial measures to be undertaken in regard to the country's economic deficiencies, or it was based on a vague notion that the expenditure which the survey would involve might not bring results of any immediate value. But it has been

made abundantly clear in the course of our tour that there is a widespread desire in the country for an economic enquiry.

#### 9. Value of a Survey

As regards the main purpose and permanent value of an economic survey, we cannot do better than invite attention to the estimation in which investigations falling within the scope of such a survey are held outside India. Speaking of the Empire Statistics Conference which sat in January and February 1921, the London *Times* said:

"In Germany before the war the Statistical Bureaux were ceaselessly employed in working on everything that illuminates the future of the German people; and in the era which is now opening there can be little doubt that the nation which studies the drift of events as it is revealed by the statistical analysis will be infinitely better equipped to take advantage of its opportunities than another which perhaps trusts only to the methods of empiricism."

A Commission appointed in 1912 to examine and report upon the official statistics of Canada remarked that there had been no general answer to the question: What are the phenomena requiring the scientific measurements supplied by statistics, if Canadian national development is to proceed to the best advantage? It went on to say: "Lack of unity and co-ordination prevents true comparisons between Canada and other countries. The recent growth of international intercourse has rendered such comparisons more than ever necessary, and they have become indispensable to the national progress of Canada." Again the Official Year Book of the same Dominion for 1922-23 states: "Statistics are not merely a record of what has been, but are for use in planning what shall be; it is the duty of a statistical bureau to assist directly in the day to day problems of administration as well as to provide their theoretic background. One of the most significant or recent developments in administration is the extent to which statistical organisation has been increased as a guide to national policy,"

Mr. R. H. Coats, the present Dominion Statistician of Canada writes: "Our problems will to a new degree involve our relations with other countries with whose statistical data it is most important that our own should range in scope and quality." The same writer says in another connection: "Organised coordinated effort is essential to the progress of the administrative equipment of the country, and the statistics are the corner-stone - the basic organisation without which the endeavour to meet new situations will be seriously handicapped." Again Mr. G. H. Knibbs, formerly the Commonwealth Statistician of Australia, in a paper read before the British Royal Statistical Society in January 1920, said: "A Department whose duty it is to keep the Government, publicists, and the economists and the nation generally, informed as to the movement of every important activity in it, and of population facts, is of obvious value if intelligent direction is to be given to national affairs, or an intelligent study of them is to be made possible. To a large extent existing statistics are a side product of various government or other departments produced mainly as a sort of public advertisement of their activity or for departmental use, each acting on its own initiative, the whole uncoordinated and often without appropriate technical direction."

These observations apply *mutatis mutandis* to the conditions of British India. Surveys in various forms are now a regular feature of the administrative activities of the self-governing Dominions within the Empire, and in India too, the time has arrived when a survey should be regarded as an indispensable preliminary to the formulation of economic policies and the treatment of many of the larger problems that arise in connection with the economic development of the country.

#### 10. Economic Deficiencies

Evidence was adduced before us to emphasise the fact that the people's traditions and habits were anti-economic. It is said that they spend their small savings extravagantly on marriages and litigation, or invest them in unproductive hoards or in the shape of jewellery or ornaments. Over 92 per cent of the population is illiterate. The average expectation of life is extremely low and

the death rate high. The average income and the standards of living are both stated to be so inadequate that according to the official publication "India in 1923-24", "a very large proportion of the inhabitants are beset with poverty of a kind which finds no parallel in western lands." It is feared that the progress of productive industries or agricultural methods has not kept pace with the increase of the population or the higher standards of living necessitated by world conditions. An expert witness - an American - told us at Allahabad that the crop yields of the country were about the lowest of any civilised country he knew of. The holdings are in many places minutely subdivided. It is alleged by some that the food supply is insufficient. The losses of cattle due to scarcity and disease arc heavy and frequent. The unproductive debt of the peasants of British India including Burma is estimated by Mr. M. L. Darling, I.C.S., of the Punjab, at Rs 600 crores. There is a large store of cheap and docile labour and in many parts of the country chronic underemployment is a marked characteristic of every day rural life. Several witnesses have urged that unemployment among the lower middle classes is causing much distress.

Where so many deficiencies exist, who can say that an economic survey comes too early or that it is not called for? The problem before the country is how to provide employment for a growing population and avert poverty and distress. There are defects in the outlook of the people and defects in the economic structure of the country and both these demand comprehensive treatment by the latest and most approved methods.

## 11. Economic Problems

The primary purpose of an economic survey is to collect and compile facts and statistical data relating to the economic condition of the people and it is too well known to need any emphasis that numerous problems concerning the material well-being of the people of British India are to-day awaiting treatment under the guidance best supplied by an economic survey. The results of such a survey should, among other things, lead to the adoption of measures for increasing production and wealth: measures, such as, the industrialisation of agriculture, the development of industries and trade, the redistribution of population according to the fertility of the various tracts, increasing the efficiency of labour, and calling in the aid of machinery, science and capital for developing the country's vast resources and organising its stupendous man power.

#### CHAPTER III

#### **TESTS OF ECONOMIC CONDITION**

# 12. Main Heads of Enquiry

The term 'economic condition' has a wide significance. It may include purely economic tests, such as, income and cost of living or such factors as trade or transportation which are indirect measures of economic activities; or it may also embrace socio-economic factors, such as, education, expectation of life, labour conditions, movement of the population, etc. In our questionnaire, a suggestion was thrown out that an enquiry into the economic condition of the people should embrace - Production, Wages, Income, Cost of Living, Wealth, and Indebtedness.

At the same time we invited opinions as to whether any additions were necessary. Barring a few who were opposed to an economic enquiry in any shape or form and a few others who suggested the omission of one or more of the tests just mentioned, the witnesses were generally in favour of the enquiries suggested in the questionnaire. Some of them wanted various additions made to the suggested enquiries, but those were outside the scope of our terms of reference.

After giving careful consideration to the opinions received, we have come to the conclusion that apart from such subjects as trade, communications, finance, etc., for which fairly satisfactory statistics are now maintained, an enquiry into the economic condition of the people should fall under two main heads, *viz.*,

(1) Tests applicable to a province or the country as a whole:

Production, national income and national wealth.

(2) Tests applicable to classes of people or local areas:

Individual income, individual wealth, collective wealth, cost of living, wages and prices, indebtedness, etc.

#### 13. Technique of Measurement

After making allowances for differences in conditions, statistics serve as a technique for measuring the comparative well-being of nations, communities, or social groups as distinguished from households or individuals. "Proposals for progress in modern civilization and solutions of its problems," says Sir Josiah Stamp, "depend to an increasing extent upon the methods of extraction or statistical science as distinct from statistical arithmetic in those fields where precise measurement or enumeration is not possible."

It should be noted that all the goods and services implied in the estimates of production, income or wealth are measured by a price. From a technical point of view, it is only when a price can be fixed that the income or assets of an individual or community become eligible for consideration in the economic regime.

#### 14. Production

Views as to what constitute appropriate data to measure the economic condition of the people differ widely, but it is generally admitted that the production of material utilities in a definite period of time, usually one year, is an important test, for it is production which forms the basis of the sustenance and comfort of the people. Whether for classes, tracts, or provinces or for the country as a whole, the determination of the annual resources which are made available for consumption either locally or abroad, appears to be of primary importance.

Production means the money value of the goods or articles produced in a year. As thus defined, it forms a part of the year's income. The term 'production' is used in this connection in its
popular acceptation, i.e., as including such processes as the growing of crops, extraction of minerals, capture of fish, conversion of water into electrical current, manufacturing, etc., - in economic phrase, the creation of 'form utilities'.\* We have not included in the definition of the term 'production' the various activities comprised under transportation, exchange of goods, etc., nor those under other 'service utilities' although both these are, in a strictly economic sense, no less 'productive'. In this report, therefore, production will be interpreted to mean the aggregate money value of the produce, in a year, mainly from agriculture, pasture and dairy farming, forests, fisheries, mining and manufactures.

An idea may be formed of the relation between 'production' regarded as 'form utilities' and 'national income' which includes also 'service utilities' from the fact that a rough estimate of the national income of Canada in 1920 put the relative values of 'production' and 'service utilities' comprising it, at two-thirds and one-third, respectively, in proportion to the total number of persons usefully and gainfully employed in the respective occupations.

#### 15. Income

"The two measures of material well-being" says Mr. G. H. Knibbs, formerly the Commonwealth Statistician of Australia "are income and wealth". The distribution of income and wealth is of special value. Consumption in its relation to saving is also treated as one of the main tests. The meanings attached to these terms differ according to the circumstances of their use and are not always on a uniform basis.

"Income", according to Dr. C. J. Bullock, "is the chief test of the taxpayer's ability". For purposes of taxation, "it is without doubt superior to either consumption or wealth." The term 'income' may be considered either from the point of view of individual income or national income, the term 'national' being interpreted to apply to the

country as a whole or to any defined administrative or geographical area. National income is defined as "the aggregate money expression of those goods produced, and services performed, by the inhabitants of the country in a year, which are as a fact, generally exchanged for money".\*\*

Individual income is the share of the price set on our products and services under the different names of wages, house rents, farm rents, interests, or profits, or the sale of production, etc.\*\*\*

# 16. Wealth

Wealth is the name given to the total stock of goods and services which are in a person's possession as a result of his total accumulations to date. In economic parlance, wealth does not mean great riches only. "To the economist, the poor man's dwelling and the rich man's palace are alike wealth since they satisfy economic wants." The term 'wealth' like income, comes up for consideration either from the point of view of national wealth or of private wealth, the former being the aggregate of wealth of the individual citizens of the state as well as the corporate or communal wealth represented by such assets as national railways and municipal water works. The national wealth of a country is "the value of the objects found within its boundaries including the wealth of its inhabitants".\* Approximate estimates of the national wealth comprising both public wealth and private wealth are prepared by various methods but chiefly by what is known as the "inventory method".

# 17. Other Tests

Of the remaining tests one of the most important is cost of living. The cost of living is usually ascertained from family budgets or by a house to house canvass. The cost changes at short intervals with the prices of food, clothing and rent. The percentage of income expended by a family on

<sup>\*</sup> The Canada Year Book 1922-23, page 216.

<sup>\*\*</sup> Sir Josiah Stamp's "Wealth and Taxable Capacity", page 40.

<sup>\*\*\*</sup> Gide's Political Economy, page 455. \* Sir Josiah Stamp's "Wealth and Taxable Capacity", page 7.

subsistence is an index of its material prosperity. The difference between income and cost of living represents the saving of the family, or the accumulation of capital or wealth. There is a tendency among modern nations to fix a standard of living to enable a worker and his family to subsist in health and comfort and to expect his employer to pay a wage sufficient to maintain that standard.

Enquiries regarding indebtedness would be necessary in provinces where the peasant population is heavily involved in debt. Other heads of enquiry which readily suggest themselves for Indian conditions are unemployment, underemployment, fragmentation of holdings, etc. As explained already, there will at all times be numerous questions of a local or special character in regard to some phase or other of the economic condition of the people requiring investigation with a view to the adoption of remedial measures.

# 18. Uses of Estimates of National Wealth and Income

Among the uses to which, according to Sir Josiah Stamp, estimates of national wealth and income may be put are (1) tests of the country's progress by way of comparisons between different years to show the accumulation of capital, (2) tests of the distribution of wealth among the different classes of population, (3) tests of the relative 'prosperity' or resources of different nations or communities either as a whole or per head of the population, and in relation to their national debt, and (4) comparison of income with capital and property.

In the treatment of questions of taxation it will be necessary to prepare estimates of income as well as of private wealth and the distribution of such income and wealth.

Literature relating to the estimates of national wealth and income is readily available in Great Britain and the methods and data for that country are better known and understood than those for other countries.\*\* In the United States of America, periodical estimates of the wealth of the country are officially published by the Census Bureau. Taxes are collected in the States mainly

on the basis of wealth. Rough estimates of income and wealth are published for Canada, Australia and New Zealand. It is time that a beginning was made to prepare such estimates also for British India.

#### CHAPTER IV

#### EXAMINATION OF MATERIAL AVAILABLE

#### STATISTICS GENERAL

19. The first part of the terms of reference in the Government Resolution appointing this Committee asks us "to examine the material at present available for framing an estimate of the economic condition of the various classes of the people of British India, to report on its adequacy and to make recommendations as to the best manner in which it may be supplemented".

# 20. Data Collected in the Dominions and Foreign Countries

The adequacy or otherwise of the existing material may be best judged in the light of the statistical data bearing on economic conditions, usually collected in the Dominions and foreign countries. The subject being new to India, we must be guided by international standards in this respect or by standards adopted in countries where the collection of economic statistics has made appreciable advance.

The nature of the statistical information available in the Dominions and foreign countries and the methods of collecting the data in those countries are outlined in Appendix I of this report. We may briefly mention here that statistics of production in all its branches are more or less complete in most of the advanced countries of the west. The income tax and wage statistics which are published in considerable detail give, between them, a fairly good idea of the income of the population. In several cases, estimates of the national or private wealth are also available. Cost of living index numbers are invariably prepared in all the Dominions. No figures of indebtedness of individuals or classes are published, presumably because individual indebtedness is not a prominent characteristic of the population of

<sup>\*\*</sup> Paper read by Sir Josiah Stamp before the Royal Statistical Society in 1919.

those countries. Statistics relating to trade, transport, finance, population, and other allied subjects of economic interest are usually very full.

# 21. Material Available in British India

The Statistical Abstract for British India and the other publications detailed in Appendix 2 ....., show that a mass of statistical material is collected in this country on a variety of subjects. Some of these subjects, such as, justice, police and prisons, wild animals, pilgrims, medico-legal investigations, lunatic asylums, merchandise marks, meteorology, and patents and designs though indirectly affecting the well-being of the people are, strictly speaking, not of economic significance and the material relating to these need not be examined by us.

22. We give below a list of the remaining subjects on which statistics are now collected generally by the departments concerned and published in varying degrees of detail:-

Area, agriculture (tenures, crops, etc.), irrigation, live-stock, forests, fisheries, minerals, number of factories and details of some large scale industries, prices, wages, registration (including land transfer), finance (including income tax, coinage and currency, banks), co-operative societies, joint stock companies, life insurance companies, production of opium and salt, population, trade (foreign and inland), transport and communications (including posts, telegraphs, telephones and shipping), vital statistics and migration, municipalities, district and local boards and education.

23. Besides the general statistics mentioned above, local and special enquiries have been conducted from time to time concerning cottage industries, indebtedness, fragmentation of holdings, family budgets, general condition of villages, milk supply of certain towns, conditions of labour including housing, cost of living, etc., mostly by private individuals and occasionally also by official agencies. Many University Professors of Economics have carried out intensive studies of villages with the help of their college students. Such studies are being taken up in

increasing numbers by Professors of Economics in most Universities and Colleges which have faculties or courses in Economics. Some nonofficial societies, such as the Chanakya Society of Patna, have taken it upon themselves to collect and publish family budgets; and private individuals, of whom Mrs. Caleb is a notable example, have interested themselves in the family budgets of particular classes. The Bombay Labour Office has collected useful information regarding the condition of the labour classes and the departments of Co-operative Credit are devoting their attention to the investigation of problems relating to agricultural classes, such as, indebtedness, fragmentation of holdings, etc. A Board of Economic Enquiry has been established in the Punjab, divided into rural and urban sections. The rural section particularly is having investigations made by paid investigators in villages under the supervision of the Registrar, Co-operative Credit Societies. A great deal of information is contained in the reports prepared by settlement officers and particularly in the settlement reports of Burma which are a mine of information relating to the economic condition of the people.

24. A mass impression of the general economic condition of the people of British India is derived principally from the reports of the decennial population censuses and the statistics annually published by the Government of India in varying degrees of completeness. It is from these reports that British and foreign experts have made shrewd. guesses at the income and wealth of the people of this country. The production statistics are decidedly incomplete, but some details are available which have enabled an idea, howsoever rough, to be formed of the per capita production. The external trade statistics are very complete and give a clear conception of the balance of trade from year to year. The statistics of communications indicate the extent of transport facilities available for the business of the country and the budget gives the magnitude of the financial operations of the Government. The education, population, and vital statistics give glimpses into other phases of the economic life of the people.

### 25. Classification of Material

For the purpose of determining in what respects the statistical data available are deficient from an economic point of view, the subject may be considered under the following three main classes:-

- I. General Statistics other than production, comprising:- Finance, Population, Trade, Transport and Communications, Education, Vital Statistics and Migration.
- II. Statistics of production, including:- Agriculture, Pasture and Dairy Farming, Forests, Fisheries, Minerals, Large Scale Industries, Cottage and Small Scale Industries.
- III. Estimates of Income, Wealth, etc.:-Income, Wealth, Cost of Living, Indebtedness, Wages and Prices.

The statistics falling under class I are more or less complete; those under class II are satisfactory in some respects but incomplete or totally wanting in others; while as regards estimates of income, wealth, etc., class III, no satisfactory attempt has been made in British India to collect the necessary material on a comprehensive scale.

The condition of general statistics under class I will be commented upon in the remaining portion of this chapter and the subjects coming under classes II and III in the two subsequent chapters. We shall, in dealing with each subject, suggest how the existing material may be supplemented, where it is incomplete or defective, or how the required information may be collected where none is available at present.

#### STATISTICS GENERAL

#### 26. Finance

Besides the Budgets and Financial statements of the Central and Provincial Governments, there are special departmental publications, in each province, relating to the administration of land revenue, salt, customs, income tax, excise, stamps, registration, forests and opium, the last in the United Provinces and Bihar and Orissa only. These publications give sufficient indication of

the financial aspects of the administration, including public debt. Detailed information is available in the civil and army estimates, in the departmental estimates, and in the "Finance and Revenue Accounts", published by the Auditor General. Regarding currency and coinage, the annual "Report on the Operation of the Currency Department" and "The Report on the Administration of Mints" give the imports and exports of gold and silver, amount coined, old coins received for recoinage, number and value of currency notes of each denomination in circulation, composition of the paper currency reserves, securities created, notes held in Government treasuries, etc.

Information about local finance can be had from the financial statements of municipalities and local boards, summarised statements whereof are given in the "Statistical Abstract" already referred to.

Other information relating to public or private finance is given in the "Statistics relating to Banks in India" and "Reports of the Co-operative Societies". Statistics relating to Post Office Savings Banks will be found in the "Report of the Posts and Telegraphs Department", those relating to the paid-up capital of companies are given in the "Report of Joint Stock Companies", and those pertaining to life assurance companies appear in the "Statistical Abstract". We think the report of Joint Stock Companies should contain information regarding the dividends declared. The figures are published from time to time in the Calcutta Weekly Journals, the "Capital" and the "Commerce". We are also of opinion that statistics relating to insurance companies, for purposes other than life insurance, should be included in the Statistical Abstract.

#### 27. Population

The statistical publications relating to the decennial censuses of population in India leave little to be desired. Statistics relating to territorial distribution, migration, age, sex, civil condition, caste, tribe or race, religion, language, occupation, literacy and infirmities, are discussed in great detail; and at the last census, a chapter on the economic condition of the people was added to the Census Reports for Bombay, Assam and

Baluchistan in the shape of an analysis of family budgets. An industrial census was held in 1911 and again in 1921 along with the population census, in the course of which the number of factories of each kind and the number of operatives employed were recorded. The economic value of the statistics of population and of the indications they give of the various aspects of the social life of the people is very considerable. The growth, decline and movement of the population, the variation in occupational distribution, the increase of literacy, the distribution of the population in life periods and the duration of life are all phenomena which demonstrate the material and physical progress of the people; while statistics relating to sex, civil condition, language and religion afford tests of other phases of their economic welfare.

#### 28. Trade - Foreign, Sea-borne

The statistics relating to foreign trade are exceptionally good. Information as to the seaborne trade is available in the annual "Statement of the Sea-borne Trade and Navigation of India", and in the monthly and annual "Accounts relating to the Sea-borne Trade and Navigation of India". These publications give the quantity and value of every article (including treasure and Government stores) exported, imported and re-exported, specifying the details of trade with each country. All the maritime provinces (except Bihar and Orissa) have their separate annual reports.

# 29. Overland

Just as the maritime provinces have their separate sea-borne trade reports, so have the provinces adjoining the land frontier (viz., Sind and British Baluchistan, the North-West Frontier Province, the Punjab, the United Provinces, Bihar and Orissa, Bengal, Assam and Burma), their annual reports relating to the external land trade. There is also an all-India monthly publication called "Accounts relating to the Trade by land of British India". The annual "Review of the Trade of India" gives in a very lucid and concise manner all the necessary information relating to the country's foreign trade, including the export and

import prices. So far as external land trade is concerned, our information is that the arrangements for the collection of primary data are defective, but we understand that steps are being taken to record land frontier statistics more correctly from the next year.

#### 30. Internal Trade, Rail and River Borne

We find that one of the effects of the recommendations of the Inchcape Committee has been to discontinue, almost entirely, the collection of figures of internal trade. Before the retrenchment, the Department of Statistics used to publish annually the "Inland Trade (Rail and River borne) of India" and all the provinces used to issue similar publications. These gave the import and export trade in staple articles of each of the five or six blocks into which every province was divided; and the imports and exports of eighteen bigger blocks forming the trade divisions of India as a whole. The figures related to quantity only; the figures of value, given in a few cases, were admittedly very rough. Even these publications have now been discontinued, except in one or two provinces. But the internal trade statistics lose the greater part of their usefulness, if they are not collected in every province.

The internal trade returns, when they were being issued, were by no means satisfactory. The trade within a block was not recorded, there was obvious evasion on railways, and trade by road, which is not negligible, was not taken into account. Nevertheless the discontinuance of the publication has removed a very important check on provincial figures of production.

We think the publication of internal trade returns should be revived and brought into line with the more up-to-date statistics of countries like the United States of America.

#### 31. Coasting Trade

The publication relating to the annual "Coasting Trade and Navigation of India", which used to give the quantity and value of imports into, and exports from, the ports of British India and the Indian States, and the shipping engaged in such trade, has also been discontinued, as a measure of retrenchment. The gaps caused are, however, not serious, because the necessary information will, we understand, be published either in the monthly "Sea-borne Trade Accounts" or in the annual "Review of Trade".

# 32. Transport and Communications

The statistics included under the head "Transport and Communications" may be divided into (a) railways, (b) shipping, (c) other transport, (d) roads and navigable canals, and (e) posts, telegraphs and telephones.

### 33. Railways

The report entitled "The Railways in India", issued annually in two volumes by the Railway Board, is a comprehensive publication. The second volume dealing with statistics gives detailed and complete information, in relation to every railway system, about mileage open for traffic, capital outlay, gross earnings, working expenses and net earnings, staff, accidents, rolling stock, passenger and goods traffic and earnings therefrom; total mileage covered by passenger, mixed and goods trains, and other figures. In view of the fact that the inland trade publications have been discontinued, the information published in this volume, relating to the quantity of the principal commodities carried, differentiating between quantities booked on the railway system or on foreign railways is of some use.

The statistics which were criticised by the Retrenchment Committee as not being compiled on a standard basis have since been improved by the Railway Board.

# 34. Shipping

There is no separate publication in India on shipping, but the sea-borne trade statistics mentioned above contain detailed information about the number and tonnage of steam and sailing vessels, which enter into and clear from the different ports of British India during the year, their nationalities and the countries of origin and destination. Information regarding the total shipping of each port and the number and tonnage

of vessels built or registered in India is also available.

The number of tonnage of vessels (distinguished by nationalities) engaged in the coasting trade of India used to be given in the publication known as "Coasting Trade and Navigation of India"; but this publication, as already explained, has been discontinued. The figures will, however, be included hereafter in the monthly "Sea-borne Trade and Navigation Accounts". We think that figures as to the crew employed, especially on ships plying in coastal waters, should also be published.

# 35. Other Transport

A census of carts is taken along with the cattle census. But no information is available about other vehicles particularly motor transport or boats. Complete figures of motor and all other forms of transport including boats should, we think, be collected and published.

#### 36. Roads and Navigable Canals

The reports of the Public Works Department (including the Irrigation Branch) of the various provinces give figures of the length of metalled and un-metalled roads maintained by that department and by the local authorities, and in most cases also of navigable canals. The information is however not put together for the whole of India. This, we suggest, may be done in future.

# 37. Posts, Telegraphs and Telephones

The Annual Reports of the Posts and Telegraphs Department give the usual information about the number of letters, parcels, etc., carried from one postal circle to another, money order, value payable parcel and savings bank statistics, length of telegraph lines, number of words and messages transmitted, and the revenue and expenditure of the department. Some statistics about telephone companies and telephone lines and the Indo-European Telegraph Company are also available in the Statistical Abstract. The only suggestion we have to make in this connection is that figures relating to wireless messages and broadcasting stations might also be published.

#### 38. Education

The annual reports of the provincial education departments contain very detailed information on all aspects of primary, secondary, high school, college, and university education. A summarised statement is given in the Statistical Abstract.

While on this subject, it may also be mentioned that the number of printing presses and of newspapers, periodicals and books published is noted in the Statistical Abstract. These statistics seem to be fairly complete. We think that information relating to libraries, museums, zoological and botanical gardens and learned societies might also be collected and published.

# 39. Vital Statistics and Migration

Detailed figures relating to vital statistics, vaccination and deaths from and destruction of wild animals are available in the Statistical Abstract, in the annual "Report of the Public Health Commissioner with the Government of India", in the reports of the Provincial Directors of Public Health or Sanitary Commissioners and in the Provincial Reports on Hospitals, Asylums, etc. The vital statistics are complete enough but the agency for reporting them is said to be unreliable. The omission to report births and deaths was noticed in the Census Report of 1921. The inefficiency of the reporting agency has also been brought to our notice by some of the witnesses who appeared before us. We have no doubt that steps are being taken to improve the agency.

Statistics of emigration are also published in the Statistical Abstract.

#### 10. Improvement of Statistics General

The co-ordination, improvement and extension of general statistics falling under class I is a matter which our opportunities do not permit us to explore at length. We will only say that these statistics have not been hitherto compiled with a

view to their being utilised for shaping the economic policies of the country. In other respects, they appear satisfactory as far as they go. Further improvements to bring them into line with upto-date statistical systems abroad might be effected with the aid of a committee or conference of statistical experts. The improvement in the direction of centralization of statistics suggested later, in Chapter VII, will apply equally to statistics general, under our class I.

# CHAPTER V

#### EXAMINATION OF MATERIAL - CONTD.

#### STATISTICS OF PRODUCTION

# 41. Production

The publications dealing with production are detailed in Appendix 2. Estimates of the production of the country have been prepared by non-official experts, but no attempt has been made to bring together officially statistics relating to various kinds of production, incomplete as they are. We consider that complete statistics of production, including the total value of production, should be collected, if it is possible to do so at a reasonable cost. Among others, Professor E. A. Horne of Patna pointedly drew our attention to the necessity of having complete statistics of production. Estimates of the total agricultural production and of the surplus of food crops, ordinarily available for storage and exports, etc., have been made from time to time. The first estimates of the kind are contained in the Report of the Famine Commission of 1880. The estimates were prepared in a rough and ready manner, by applying such standards of yield as were available, to the figures of cultivated area for the Ryotwari tracts. In the Zemindari tracts estimates were prepared on the basis of the returns of total area recorded in 1878, it being assumed that the proportion of cultivation to total area in these tracts was the same as in the remaining tracts. The production was valued at an all round rate of Rs 50 per ton for food crops and Rs 30 per acre for non-food crops. Similar estimates were again prepared by the Famine Commission of 1898 and the valuation was made at the same average rates. The estimates were further scrutinized by the

Department of Revenue and Agriculture in 1900, in view of the fact that they left much to be desired in accuracy and completeness. In pursuance of the suggestions then made a further enquiry was undertaken by provinces in 1902, but although the estimates of production were prepared by districts and some improvements were made, the material, on which they were based, still remained very imperfect. A similar estimate was prepared in 1911-14. It goes without saying that although the estimates so prepared were of great use in furnishing Government with data which enabled them to take action for the purpose of combating famines, they were very far from representing the actual value of the agricultural production of the country.

#### 42. Agriculture

The statistical information on agriculture in India is contained in the "Agricultural Statistics of India - Vol. I", the provincial "Season and Crop reports", the "Estimates of the Area and Yield of the Principal Crops" and the periodical settlement reports. The provinces of Bengal, Bihar and Orissa and the Central Provinces also have a minor publication called the "Agricultural Statistics" of the province. These publications give the usual details about the total area, cultivated area, area under various crops, area irrigated from various sources, area under forests, waste area, normal yields, estimated total yield in the case of the principal crops, rainfall, live-stock, ploughs, carts, etc. The value of crops is not always worked outbut the harvest prices in each district are given. The incidence of land revenue on the area (fully assessed) and on population in each district is also noted.

Some of the special reports in the provinces (e.g. in Bombay, Madras, the Central Provinces, the Punjab, and the United Provinces) give the value of produce of certain specified crops besides certain other information such as cost of cultivation, price of land, etc.

Useful data are collected during settlement operations, as to the value of agricultural production and other allied subjects like cost of cultivation, agricultural indebtedness, price of land, cost of living of agriculturists, temperature,

rainfall, rent, holdings and tenures. Special reports on the consumption and various aspects of production of tea, coffee and rubber are published for the whole country as supplements to the "Indian Trade Journal". A provincial report on the outturn of tea is also published in Assam.

In connection with agriculture may be mentioned the canal irrigation statistics, which give detailed information about irrigation works, expenditure thereon, the area irrigated and the quantity and value of crops raised on lands irrigated from each canal system.

In spite of their bulk, the agricultural statistics published at present do not provide material for deducing either the quantity or value of the total agricultural production. While the total yield is estimated in respect of the principal crops, not even the area is given separately for minor and mixed crops. The value is worked out only for certain crops in some of the provinces, while in Madras and Bombay complete estimates of the value of agricultural production for a year have been prepared, through the enterprise of individual officers. Some witnesses consider the record of area to be unreliable; others hold that the yield has no reliable basis. In tracts under permanent settlement the estimates of area and yield are prepared from reports made by ignorant and low-paid police choukidars. The wholesale prices at which the value of agricultural outturn is calculated are considered in certain provinces to be untrustworthy. There can be no denying the fact that from the point of view of economic data, the agricultural statistics are defective. We shall discuss the various factors separately in dealing with proposals for their improvement.

Agricultural production is of prime importance in a country which is mainly agricultural. In the Dominions, agricultural production is ascertained by issuing schedules to farmers who return them duly filled. In the United Kingdom, estimators are employed who collect the information from farmers and check it by figures of export from cach centre. This is done at the periodical censuses of production. The methods of ascertaining agricultural production employed in the more advanced countries are, however, unsuitable for India. The cultivators being generally illiterate, a great majority of them cannot be expected to fill up schedules. They are also suspicious by nature and unwilling by tradition to disclose their outturn.

# 43. Suggestions for Ascertaining Agricultural Production

Suggestions have been made in places that the actual production should be obtained through the agency of crop estimators or by issuing forms to be filled up by headmen of villages in respect of every holding in each village. Neither of the methods appears to be a practical one. In the former case the estimators would have to go round every field and see the outturn weighed, for the cultivator keeps no record of his outturn. The cost of having estimators who could visit each village at harvest time, and record the actual outturn of every field will be absolutely prohibitive. Such procedure will moreover be greatly vexatious. The figures obtained from the village headmen would be far less reliable than those based upon the standard yields.

During the course of evidence we have heard comments on the inefficiency of the subordinate revenue agency and its want of capacity on the one hand and absence of interest on the other to collect any statistical information bearing on economic matters. This impression, however, seems to us to be due to lack of opportunity to study the work of the village accountant at close quarters. The officers who have been in daily touch with these officials and non-officials, who have had occasion to study their work, have been equally strong in impressing upon us the fact that in local knowledge of economic conditions in particular, and in elementary statistical work in general, the village accountant is hard to beat. The Director of Agriculture of one of the provinces went so far as to say: "He is a trained hand and his figures are usually more reliable than would bemy own". Irrespective of this, we think it would be most uneconomical to discard the widespread existing machinery and to introduce a new rival organisation.

#### 44. Agricultural Statistics Afford the Best Basis

The best way to obtain complete information

for agricultural production, therefore, seems to be by improving and amplifying the existing agricultural statistics. It goes without saying that, where a subordinate revenue agency exists, no other agency can be usefully substituted for it.

#### 45. The Cropped Area

With the exception of the tracts under permanent settlement in the provinces of Bengal, Bihar and Orissa, Assam and also in parts of Madras and the United Provinces, which will be dealt with separately, the figures of area under crops are, in the opinion of revenue officers and others who are best able to judge, 'remarkably good', and are we may safely say as perfect as they can be made. All that is needed is to improve the statistics of yield where necessary and to convert the quantities into values.

### 46. Minor and Mixed Crops

It is true that only the area under the main crops is published separately at present in most provinces and that the minor crops are lumped together. But the crop grown on every piece of land, howsoever small, is noted at the time of crop inspection and it is therefore not difficult to amplify the returns so as to include therein the area under every minor crop separately. The difficulty of valuing the outturn of mixed crops has also been brought to our notice, but it should not be difficult to estimate and record separately the area under each of the crops sown collectively in a field, or, where it is considered preferable to arrive at the outturn and value thereof, as a mixed cropper se. The area under such crops is at present apportioned at the provincial headquarters, to each of the constituent crops according to formulae arrived at by each provincial Government.

# 47. Factors Other Than Area

There are other factors besides area which have to be considered before an estimate of the value of agricultural produce can be arrived at, on the basis of the returns of area under crops, *viz.*, the condition of crops,
the vield, and

3) the prices.

#### s) the prices.

# 48. Condition of Crops

The estimate of the condition of crops is intended to show whether the yield to be assumed is above or below the standards fixed and, in either case, in what proportion. In most provinces, the estimate of the condition of crops is arrived at on the basis of what is known as the annawari estimate, prepared by the village accountant, as a result of his inspection of each field. From the figures given by him, an arithmetical average is struck for the tahsil or taluk, the district and finally the province. This method is almost universally condemned as leading to fallacious conclusions. The system in vogue in the Punjab, which seems to be as good as any, can be further improved. The tahsildar should as a result of his personal observation during his crop inspection tour, and after consulting the inspectors (kanungos), a number of village accountants and also some reliable zemindars, report for each assessment or revenue circle, by how much the standard yield should be raised or lowered in respect of each crop on each class of soil, in order to arrive at the average yield for the particular harvest. These figures should be checked and, if necessary, corrected by the Revenue Assistant (Deputy Collector) and the Collector and then by the Director of Agriculture. The figures as finally corrected should be communicated to the tahsildar.

# 49. Yield - Standard Yields

The standard yield is, it may be stated, based mainly upon the results of crop experiments. The objection sometimes taken is that the crop experiments made in any one year are not numerous enough and that the inferences drawn from them are fallacious. The standard yields are, however, not based on the results of one year's experiments. Where the system has been in force for several decades, the data have gone on multiplying and the standard yield of each crop has

been built up, on a very large number of experiments, including those made during the settlement operations in each district under close supervision. These standard yields are modified. where necessary, every five years, with reference to the results of the experiments made during that period; and they have also been corrected in some places with the aid of information received from other sources. We were told in Bombay that the yields on the basis of which the Agricultural Department now works out its estimates of outturn are quite reliable. A Punjab official witness has told us that the estimates of yield in his province, though they cannot be called accurate, are better than in most countries. Dr. Gilbert Slater has stated\* that "The Madras agricultural statistics have attained a high degree of perfection". Dr. Harold H. Mann, Director of Agriculture, Bombay, told the Committee: "We are better than the United States of America as regards statistics of area and better than Australia as regards values but we cannot say within 25 or 30 per cent, which was the absolute production". It may be noted here that in the Presidencies of Madras and Bombay, the value of agricultural production has been worked out by districts.

#### 50. Crop Experiments

The crop experiments are, however, confined generally to the principal crops. In Bombay, a series of crop experiments on all minor crops appear to have been made several years ago, and the agricultural authorities consider that the results then arrived at are quite good enough for their purpose. In other provinces also, it should not be difficult to arrange to have crop estimates made on minor crops.

During settlement operations, the settlement officer has crop experiments conducted on every class of soil in each assessment circle and has the outturn of every crop estimated. This is necessary for calculating the value of all crops with a view to determining the net (i.e., assessable) assets of the landlord. The revenue authorities in each province can take advantage of the yields ascertained during settlement operations and at once

<sup>\*</sup> Dr. Gilbert Slater, "Some South Indian Villages", page 230.

add the yield of minor crops to their statement of standard yields. Enquiries from reliable landlords or cultivators would also help in arriving at correct estimates. The account given above reflects the procedure adopted in the Punjab. Conditions may be different in other provinces, but we believe it will be possible to adopt similar measures in them with necessary modifications.

The number of crop experiments should be considerably increased and they should cover the minor crops as well. Crop experiments should be conducted mainly by the agricultural department, but the revenue officers should also continue to make a certain number of experiments every year, even though a district is not under settlement. The work should be closely supervised by the higher revenue officers. When the number of crop experiments has been largely increased, the results can be used for checking the reports of tahsildars on the condition of crops. Mr. Hubback, Commissioner, Bhagalpur Division in Bihar and Orissa, is trying an interesting system of crop experiments on rice by means of a wooden equilateral triangle covering an area of 1/3200 of an acre. He expects, with an expenditure of Rs 20,000 to Rs 30,000 a year, to be able to take some 1,500 samples in each sub-division. The system is not applicable to such crops as sugarcane or cotton, but may work well in the case of wheat. If successful, this new system may provide a convenient means of obtaining results of extensive crop experiments on some of the more important crops. It is for each Provincial Government to decide what methods its officers should adopt for increasing the number of crop experiments performed from year to year.

# 51. Fruit and Vegetables

Stress has been laid by some witnesses on the difficulties of ascertaining the value of fruit and vegetable production. But it is quite easy for the district officer to ascertain what an acre of vegetables grown in the suburbs of towns and cities usually yields. Enquiries into a few individual cases will provide a reliable formula to be applied to the total area under vegetables in each village. In the rural tracts, vegetables have little value and are not grown on any extensive scale. The local revenue officer can assign a cash value per acre to the vegetables grown in each assessment circle and *tahsil*.

The production of fruit is usually ascertained at settlement. In any case, there should be no difficulty in finding out how much each fruit-garden was sold for during the year. This information can be ascertained by the village accountant.

In case of such fruit trees as date palm and jack fruit which grow largely outside gardens, the average production per tree can be easily ascertained. Indeed such averages have been worked out at all events in the Punjab. In rural areas there should be no insuperable difficulty in ascertaining the production of scattered fruit trees. Fruit trees lying within the area of towns and cities, except those in gardens, may be excluded from agricultural production.

#### 52. Value of Produce

The conversion of total outturn into value is a mere arithmetical process. With a view to arrive at as accurate an estimate of the yield as possible, calculations should, we think, be made separately for each village. The process should be as follows:-

As soon as the condition of crops of a harvest has been determined for each *tahsil* and the crop abstracts containing the area under each crop have come in, the office *kanungo* for each *tahsil*, or by whatever name the official responsible for the compilation of the agricultural statistics in each *tahsil* is called, should take in hand the preparation of a statement of the value of agricultural production of each village in each of the assessment or revenue circles, in the attached form:-

Assessment Circle	Village	Class of soil	Name of Crops	Area under matured crops (less quantity used as fodder)	Yield per acre	Outtum	Price per maund	Value
					1			

It will be necessary to give the office kanungo the assistance of a clerk for this work. A selected village accountant should be able to do the work efficiently. It will take him a month or six weeks at the end of each harvest to do the compilation of the statistics of agricultural production. For the rest of the time he will be occupied in dealing with statistics of pastoral production and in sending copies to village accountants.

In the Punjab, it is believed that about two-thirds of the produce is either sold within three months of harvesting or consumed locally. The outturn should be evaluated at the average wholesale prices for the year prevailing at the market town in or near the assessment circle, or partly at the rates for the quarter immediately following harvesting operations and partly at the average for the remaining quarters of the year according to the proportion which may be fixed for each province with reference to local conditions.

The clerk should send an abstract giving the totals, by assessment circles, to the district office and, at his leisure, forward a copy relating to each village to the village accountant concerned, for being entered in the village note book and for publication in the village.

In the district office, the entries in the abstracts should be checked and the figures for all the *tahsils* added together. The totals for the district should then be forwarded to the Provincial Statistical Bureau. The statistics for districts will be published in the provincial statistical compilation along with the provincial totals. The figures for assessment circles and *tahsils* will be retained in the district while the record of production of villages will be kept in *tahsils*...

# 53. Periodical Census of Agricultural Production Unnecessary

It has been suggested that a detailed census of agricultural production might be taken periodically. Agricultural statistics are however already

collected and published in sufficient detail and, when supplemented by the value of production they will supply all the information which a periodical detailed census is designed to secure. We, therefore, consider a periodical census of agricultural production unnecessary. A review of agricultural production might however be made quinquennially on the basis of the annual returns.

#### 54. Tracts Under Permanent Settlement

In Bengal, Bihar and Orissa, about one-third of Madras, and in parts of the United Provinces and Assam, where the land is under permanent settlement, the collection of figures of agricultural production presents great difficulties. The information regarding the area under crops and the outturn is, so far as we have been able to ascertain, collected by the village policeman and supplied by him to the Collector through the police department. The Collector, we are told, alters the figures reported to him in the light of his own experience, and then forwards them to the Director of Agriculture, who makes as good a guess of the total figures as is possible under the circumstances. No witness has been able to suggest any method by which sufficiently reliable figures can be obtained. It was proposed by one witness that Government should enlist the assistance of zemindars, and estimate the outturn on the basis of the share of the produce received by them, but it is by no means certain that every zemindar will be prepared to show his books, or to supply the necessary information. Some witnesses have suggested that the assistance of local Unions may be obtained but a Union does not exist in every village, nor is it certain that the Unions will be able to obtain correct information from persons who are not connected with them. Another witness thought that a number of temporary surveyors should be appointed in one year to ascertain as approximately as possible the area under various crops in each panchayat circle, that the variation might be guessed in subsequent years and that the survey should be repeated every 15 years. In spite of the enormous cost of such a survey, the proposal would provide only approximate figures and in the following 14 years the estimates though, perhaps, somewhat better than the present ones, would be pure guess work. Yet another suggestion is to utilize the agency of panchayats for the purpose of reporting outturn of crops as is done in the case of jute crop forecasts. This procedure would also have a considerable element of uncertainty. A combination of these and other methods may, however, secure the desired result. The triangle system of crop experiments by Mr. Hubback, already referred to, may prove useful in estimating the outturn of rice which is an important crop in the provinces concerned and some other food crops, e.g., wheat. We think that it is absolutely necessary to obtain reliable data regarding the agricultural production of these zemindari tracts.

We understand that the districts under permanent settlement are being gradually measured so that survey maps are becoming available for most of the districts and can be utilized if an agency were employed for the inspection of crops at each harvest. We also understand that, while there is no subordinate agency in these provinces for the inspection of crops, the superior revenue agency is more or less the same as in other provinces, so that the appointment of a subordinate revenue agency would not necessitate any addition to the superior revenue staff.

The ideal course would be to employ a subordinate revenue agency consisting of estimators (of the type of village accountants) and inspectors (who would correspond to *kanungos*). But the cost of such an agency would be prohibitive. As we were not able to confer with the representatives of Governments of any of these provinces, we regret we are not in a position to offer any definite suggestions. We understand that steps have been taken by some of the Governments concerned to improve their crop forecasts and estimates of agricultural production. All we can say is that such improvements should be persisted in till the statistics of agricultural production are

placed on a par with those of Ryotwari provinces as regards reliability of the outturn and values of the crops raised.

#### 55. Pasture and Dairy Farming

The statistics of pastoral and dairy farm production are altogether wanting. The only data available are those contained in the reports of censuses of cattle and other live-stock, which are taken quinquennially in most of the provinces but annually in Burma and the Central Provinces, and are said to be sufficiently accurate. Some provinces give the prices of certain breeds of cattle in their provincial reports, but that affords no indication of the value of the annual production of cattle. The yield of milk has been estimated in special studies on milk supply in Bombay, Lahore, Mandalay and some other towns and villages.

The pastoral products consist of:-

- 1. Additions to cattle, sheep, goats, pigs etc.,
- 2. Meat, tallow, sinews, hides and skins,
- 3. Bones, horns, hoofs, etc.,
- 4. Wool,
- 5. Bacon and ham,
- 6. Poultry and eggs.
- 7. Honey, bees-wax,
- 8. Game of all kinds.

Under dairy farming may be treated milk, butter, curd, ghi and cheese.

The cattle census takes stock of the number of cattle, sheep and goats. We think this census should, if possible, be held annually everywhere as in Burma and the Central Provinces and should also embrace pigs and poultry and distinguish between milch and dry cows and buffaloes and between bullocks used for ploughing and those engaged in transport. It would provide statistics regarding annual increase in the number of cattle, goats, sheep, pigs and poultry. The amount of meat consumed in towns can be ascertained from the slaughter houses, so also can the amount of by-products disposed of, and the number of hides and skins produced. The production of these articles in villages can be ascertained through the revenue agency. If, however, there is any difficulty in ascertaining the production, the quantity and value of the different products arising out of slaughter of animals can be roughly estimated by applying formulae, which may be different for different areas, to the number of the live-stock enumerated in each area. As suggested by the late Mr. Sedgwick, the talented Director of the Labour Office of Bombay, whose untimely death we greatly deplore, such formulae can be worked by the Agricultural Department with the assistance of the Veterinary Department. Statistics of the production of bones may be obtained from the returns of the railways and bone factories, while those of horns and hoofs may be ascertained, along with the production of cottage industries, from industrial works which utilize these as their raw material. Horns and hoofs which are neither sold with bones, nor used in these cottage industries are of no value.

The extent of bacon and ham curing and the amount of lard produced can be ascertained from the curing establishments. The statistics of production of honey and bees-wax should be obtained by the Forest Department. The production of game can be ascertained by making enquiries as to the catch of professional *shikaris* and the figures can be checked by the supply of game coming into towns. Game killed by sportsmen may be ignored. The production of butter, cream and cheese can be ascertained from dairies and dairy farms. Cream is not produced in rural areas and cheese is seldom manufactured. The consumption of butter is rare in rural tracts. it is almost invariably converted into ghi. The difference between the value of milk and curd (dahi) is not very considerable and the added value will be negligible. Moreover, the proportion of milk converted into *dahi* but not reconverted into ghi, is, in many places, insignificant. We, therefore, think that the production of dahi need not be estimated separately, but may be included in the production of milk. The quantity of milk, ghi and eggs produced should be ascertained every year by a special agency acting under the Revenue Department.

It has been suggested to us that *cowdung* cakes form an important industry. The milkmen living in and about the cities and towns no doubt

manufacture cowdung cakes and sell them in the towns as fuel, but they usually form an insignificant proportion of the fuel consumed in urban areas. In rural tracts the cultivators use a certain amount of cowdung for making fuel cakes as they are supposed to be useful in providing slow and constant heat for thickening milk. But we have been told also by witnesses - a fact too well known, - that the cowdung so used would be infinitely more valuable if utilized as manure. Instead, therefore, of adding to the value of cowdung, which as manure, must be taken as part of the cost of agriculture production, its conversion into cakes involves a deterioration in value. In villages, where there are no trees and other fuel is not available, more cowdung is used as fuel, to the detriment of agriculture. We, therefore, think that the manufacture of cowdung cakes in agricultural villages should be neglected altogether. Stock may, however, be taken of the value added to cowdung by conversion into fuel cakes in and about cities and towns, where they are sold for profit or in non-agricultural villages. Other minor pastoral products, such as feathers of birds, can easily be ascertained for a whole province from inland trade figures or for British India as a whole from external trade returns.

# 56. Forests

The annual "Statistics relating to Forest Administration in British India" along with the quinquennial review, and the provincial reports of the Forest Department, give figures of the area under different kinds of Government forests, and the quantity and value of the outturn of timber, fuel, and minor forest produce.

We have been told by the Inspector-General of Forests that statistics of forest production are complete in respect of produce of all kinds, including minor products. The free gifts and sales at concession rates to right-holders are also valued in full; and the supplies of fuel received by villages from unclassed forests are valued on the basis of their annual requirements. In Burma, where forests are very extensive and where, according to the Inspector-General of Forests, administration is still in its early stages, the minor forest products and the supply of timber to the

villages adjoining the unclassed forests are apparently not valued at present. He is, however, of opinion that the methods employed in other provinces of British India can be applied equally well to the Province of Burma. The mere fact of the extensiveness of forest areas does not necessarily make the determination of the value of easements derived from them impossible. After all villagers depending upon unclassed forests cannot sell any of the produce in the market. They can take timber, fuel, etc., only for their local requirements, which are limited and can be accurately estimated by the forest officers who are constantly visiting such villages. A question has also been raised as to whether the forest produce should be valued at the price or royalty recovered by Government or at its market value. Other witnesses have made it clear that the value of forest produce is that on the spot and that it must be measured in terms of what Government actually realize for it, or, where timber is extracted by Government agency, the net saving to Government after defraying all expenses of extraction. The increase in the value of forest produce, when it comes to the market, is due to the services of middlemen and forms no part of forest production. We, therefore, think that complete statistics of forest production can be obtained from the Forest Department. No figures regarding production from private forests are available. Such production is comparatively small, but figures should be obtained, so far as possible, through the Revenue Department and published.

# 57. Fisheries

The Departments of Fisheries in Madras and Bengal publish some statistics relating to fisheries. The Madras report deals only with sea fishing, and gives the weight and value of the take of sea fish within certain areas, the average quantity of fish cured, the number of fish curing yards, ticket holders, market and boats; and the wholesale prices at Tuticorin. The Bengal Fisheries Department publishes only the quantity of fish imported into Calcutta by road, rail or river. The information is quite incomplete. We should aim at ascertaining the amount and value of the total catch in both inland and sca fisheries. Figures should also be collected in respect of chank, pearl, oyster, and other special fisheries. Fish curing and other industries subsidiary to fishing should be dealt with under industries.

In Madras, the organization of the Fisheries Department can be utilized to secure reliable data of the production of sea fish in that presidency, so far as the main centres of fishing and fishcuring yards are concerned. The catch of fishing villages outside the areas of the curing yards, as well as the catch of fresh water fish in the inland villages, can be recorded by the revenue agency, with the help of inspectors who may be appointed for ascertaining the production of cottage industries and other forms of miscellaneous production. It may also be possible to secure, from municipalities and railways, details of the quantity consumed in large cities such as Calcutta, Bombay and Karachi. As regards the rest of India, the work of the collection of the information should be done by the inspectors above referred to, under the guidance of the Fisheries Department wherever one exists.

# 58. Minerals

For mineral production in India, we have two sources of information, viz., the annual "Reports of the Chief Inspector of Mines" and the "Review of the Mineral Production in India" published annually in one of the issues of the Records of the Geological Survey. The information relating to mines dealt with by the Department of Mines includes the number of mines, employees, accidents, mineral concessions, licenses and leases and the estimated quantity and value of all kinds of mineral production. These statistics are complete, but information regarding indigenous mining and certain smaller quarries is wanting.

The production of minerals should be ascertained through the Chief Inspector of Mines. The Indian Mines Act of 1923 applies to all mines, howsoever small, except those exempted under Government of India (Department of Industries and Labour), notification No. 1051, dated the 26th of July, 1924. For such mines as are not dealt with by the Department of Mines, including indigenous mining, which is conducted on a very small scale, statistics can be collected by the Revenue Department, according to instructions which may be laid down by the Chief Inspector of Mines. The information supplied should be of quantity and value of minerals produced, number of persons employed and value of other material used up, including fuel consumed or power employed.

### 59. Large-scale Industries

Large-scale industries may be defined as industries governed by the Indian Factories Act. No information about the production of manufactured goods, other than cotton and woollen goods, paper and beer, is published. The industrial census, taken along with the population census of 1921, gave the number of large industries and their employees, number, nature, and power of engines, and the number of looms in textile industries. The publication "Large Industrial Establishments" contains only a list of establishments, with the number of employees. The Department of Statistics publishes a small pamphlet called the "Monthly Statistics of Cotton Spinning and Weaving in Indian Mills" which gives the quantity of yarn spun and of woven goods. The consumption of raw cotton and jute at the mills is also stated. It will be seen that, apart from cotton goods, data relating to manufactured articles are either scanty or are not collected at all. The recent reports of the Tariff Board, however, have made available an estimate of the production of iron and steel goods, paper, ink, sulphur, magnesium chloride and certain other minor manufactures. But, in no case are the values of Outturn given and, even where the consumption of raw material is stated, it is impossible to arrive at the "added value of the production". Appendix F. (2) to our questionnaire, printed at the beginning of Vol. II of this report, will show that no statistics are collected for a large number of industries, some of which fall under the designation, "Large-scale Industries". We consider it essential that, in respect of all large-scale industries, the following statistics should be collected through the Department of Industries and published annually:-

(a) Quantity and value of manufactured goods,(b) Quantity and value of raw material used up in production,

(c) Added value of manufactures,

(d) Value of fuel or power used, and

(e) Number of employees.

It was suggested by a competent witness that the quantity and grades of the outturn might be ascertained and that they should be evaluated by formulae in the statistical bureau. This plan might be adopted if there is any opposition to the demand for values of outturn.

The Director of Industries should have no difficulty in securing the information. We have been told in some provinces that the Director can obtain it by persuasion, but legislation would remove any possible obstacles.

Some witnesses have objected to asking for the value of fuel used on the ground that the enquiry might be taken as an attempt to get at the profits. While we are very reluctant to recommend any measure which would savour of such an attempt, we think, following the example of the United Kingdom and the Dominions, that it is necessary to ascertain the value of coal or other fuel in order to arrive at net production.

In addition to collecting statistics of production every year, we think a regular census of production of large industries should be taken quinquennially. The census need not be as elaborate as in the United Kingdom, but particulars regarding the industries might be collected in some detail, including the salaries and wages paid to the staff and workmen, separately for each class of operatives, if the owners of the factories have no objection. The capital invested and the value of lands, buildings and machinery, less depreciation, may be ascertained for the purpose of being included in an estimate of wealth, if the establishments concerned are not opposed to such a course. Most factories will, we believe, give such information, if secrecy is ensured.

Details of the information to be collected should, we think, be settled by the Statistics Department in consultation with the Industries Department and the manufacturing establishments concerned. We are advised that legal powers will be necessary for the census of production from large-scale industries.

# 60. Cottage Industries

The material relating to production from cottage industries is exceedingly meagre. In India, cottage industries play a very important part in production. Nevertheless the information which is available is scanty and can be gleaned only from isolated industrial monographs and occasional industrial survey reports, like Latifi's "Industrial Punjab", and Chatterji's "Notes on the Industries in the United Provinces". In a few cases, bits of information relating to the output per man, per family, per day or per month, quantity of byproducts, and the number of workers engaged in particular cottage industries can be picked up here and there. But, beyond localized spasmodic efforts, no attempt has been made to ascertain the total production of cottage industries. We consider it of great importance that an estimate of the quantity and value of the total annual production of cottage industries should be ascertained along with the estimated value of raw material used up. It would be interesting to ascertain, at the same time, the number of persons engaged wholly or partially in such industries, distinguishing dependents and hired workers from the owners. In weaving, the number and kind of looms might be ascertained and, similarly in cottage industries using machinery of one kind or another, the number of such machines might be recorded. Where the production varies in quality, the grades might also be noted.

#### CHAPTER VI

### **EXAMINATION OF MATERIAL - CONCLD.**

# ESTIMATES OF INCOME, WEALTH, ETC.

61. As regards estimates of income, wealth, cost of living, indebtedness, etc., such official information as is available is very meagre. We have not been able to see any official record of estimates of income, etc. There are monographs published by officials and private persons at

different times ...... They relate chiefly to the study of some working class families in Bombay city and a number of labour class families in Assam and village studies in parts of the Bombay Presidency, Bengal, Madras and the Punjab. Some of the recent settlement reports, especially in Burma, also contain useful information concerning the income derived by typical families of agriculturists.

# 62. Income

We have already explained that among the tests of economic efficiency, income is the most important. The income-tax statistics of British India give useful information regarding the earnings of Government servants, trading classes, persons engaged in industrics and liberal professions, etc., with incomes of Rs 2,000 or more, per annum. But, unlike in the Dominions, the statistics of income in this country cover a very limited field. Here, all agricultural incomes are excluded and this omission leaves out the most important source of income in an agricultural country. The number of persons paying the income-tax amounted, in the year 1922-23, to 238,242 showing that the income-tax statistics after all account for the incomes of a very small fraction of the population numerically, however important that fraction may be in other respects. It has been urged that the returns of income made by the trading classes are far from correct. This is no doubt true to some extent but, on the contrary, incomes are often over-assessed and the errors largely adjust themselves so far as the lower grades of income are concerned. Moreover, the understatement of incomes is not a feature peculiar to India. The difficulty is experienced in other countries as well. There can be no doubt that the creation of a separate Income-tax Department has resulted in great improvement in ascertaining the true incomes in the higher grades. We would suggest that in the income-tax returns greater details of the sources of income, i.e., of the business, profession or occupation from which it is derived may be given in future.

Theoretically, the best method of ascertaining the income of any given province would be to take an income census from house to house, similar to that taken some years ago in Australia. But this must be rejected as impossible on account of the cost involved and the difficulty of obtaining reliable data by direct interrogation. We are therefore suggesting that general investigations as to income should be carried out every year for small typical areas, in both urban and rural tracts, so that the results may go on accumulating till their volume is sufficiently large for generalization, i.e., to enable estimates of income of classes and administrative units to be framed with the aid of index numbers where necessary. The methods to be adopted will be explained in detail in the next two chapters.

#### 63. Distribution of Income

In collecting data it should be borne in mind that they should be in sufficient detail for framing estimates of -

(i) distribution of income according to occupations and classes, and

(ii) distribution of income showing the percentage of population in the enjoyment of various grades of income

After some experience, it should also be possible to prepare estimates showing distribution of income between production and services and between property and services. Such estimates of distribution of income are available for some of the more advanced countries. Similar figures are necessary for British India, if its economic condition is to be correctly understood.

# 64. Wealth

No official estimates of the wealth of India, national or private, have been attempted in the past. Such figures as are given by statisticians and others are rough guesses made on the basis of published statistical and other material relating to the country. The most satisfactory way of obtaining information concerning private wealth would no doubt be to take a regular house-tohouse census throughout the country. But, the very heavy cost involved puts such a measure out of court. Moreover, under present circumstances, much difficulty will be experienced in obtaining reliable information regarding private wealth, particularly that relating to bullion, ornaments and other valuable property.

We are of opinion that in the course of intensive enquiries recommended in the sequel, investigators should endeavour to prepare, wherever possible, by a house-to-house enquiry, approximate estimates of individual wealth. But in view of the initial difficulties which have been brought to our notice, we are of opinion that estimates of local collective wealth should be prepared from the very start by what is known as the 'inventory method' for villages, towns and cities. Such estimates can be framed by evaluating the area of land, the number of houses and the number of cattle in each unit area. A rough estimate of the value of furniture and implements can be added. The average price of land in each village or group of villages can be worked out from the statistics of sales of land and the tahsildar assisted by a local committee of non-officials can ascertain the value of houses, etc. In cities and towns, the work would be heavy and more difficult. But, here again, the local bodies could be asked to supply the information partly from the register of rental values and partly with the help of local nonofficial committees under the advice of experts or municipal or public officials experienced in the valuation of properties. Estimates of national wealth will include private wealth and also public wealth or wealth under communal ownership, such as, railways, roads, tramways, public buildings, irrigation works, harbour works, telegraphs, telephones, defence works, military equipment and other similar material. Estimates of the public wealth may be obtained from the Government departments or officials who are custodians of such property.

#### 65. Cost of Living

The material available as regards cost of living in this country is mentioned in Appendix 4 (not printed). It may be said to fall under four groups. First, there are the cost of living index numbers for the working classes prepared by the Labour Office, Bombay and by the Director of Industries, Bihar and Orissa. Secondly, there are records of special enquiries into conditions of well-defined classes, such as, "The Report of the Assam Labour Enquiry Committee", "Report on an enquiry into working class budgets, Bombay," "The Reports of the Patna College Chanakya Society", "Family budgets of clerks in Lahore", etc. In this class may also be included the family budgets embodied in the 1921 Census Reports of Bombay, Assam and Baluchistan. In the third place, we have several village studies (like those of Dr. Harold H. Mann in Bombay and Major J. C. Jack in Bengal) for the Presidencies or Provinces of Bengal, Bombay, Madras, the Punjab and Bihar and Orissa. Lastly, there is much valuable information relating to cost of living in some of the settlement reports, particularly those of Burma.

The results of these studies have, however, not been of much use so far, partly because they were not made in sufficient number for any one class of people in any particular locality, so as to form a basis for cost of living index numbers; and partly because, the sources of information were not reliable in consequence of the illiteracy and ignorance of the people, from whom the information was derived. The only two successful attempts at preparing cost of living index numbers have been made by the Labour Office, Bombay and the Director of Industries, Bihar and Orissa, although the reliability of, at all events, the former has been questioned. There is no reason why similar indices should not be prepared in other provinces or why they should be confined to the working classes only. We think the information on this subject should be supplemented by the preparation of cost of living index numbers for working classes in the principal industrial centres and index numbers based on family budgets (showing expenditure on various items, e.g., food and fuel, rent, clothing and other requirements) of typical families of other classes.

Two witnesses from Bombay, *viz.*, the late Mr. L. J. Sedgwick and Prof. R. M. Joshi laid some stress on the importance of determining, (1) a normal subsistence level and (2) a minimum subsistence level as a starting point in all enquiries connected with the cost of living.

The minimum subsistence level, it has been suggested, may be arfived at by taking into account the three lowest standards officially fixed, viz., (1) the jail diet, (2) the hospital diet,

and (3) the famine code rations. These suggestions may be taken into consideration by the Central Statistical Bureau if one is established in accordance with the suggestion made later in Chapter VIII.

#### 66. Indebtedness

A large number of studies on the indebtedness of particular classes of the population in selected localities are already available as may be seen from Appendix 5 (not printed). Some of the publications, for example, Mr. Darling's "Punjab Peasant in Prosperity and Debt" are special studies on this subject; in others this topic forms only a part of the subject matter. The only official sources of information which may be of some value are the records of the Co-operative Societies and the reports of the Registration Department. The figures of mortgages and transfers are published in the Provincial Land Revenue Administration Reports. The subject of agricultural indebtedness also receives attention during settlement operations; and the assessment reports and some of the settlement reports of Burma contain valuable information in respect of the tracts dealt with.

Information regarding public debt is published in the Statistical Abstract and calls for no comment. As regards private indebtedness, the results of the intensive studies should be published in order to give an idea, to the public, of the extent of indebtedness of various classes or tracts, together with information regarding the causes of indebtedness, the rates of interest charged and the sources of the loans. In regard to the agricultural classes, this information coupled with statistics of debts secured by land mortgage, which are already published, will present a fairly complete picture.

#### 67. Wages

Statistics of wages, to which so much prominence is given in other countries, have so far been very defective in India. Wage statistics used to be published in the annual issues of "Prices and

Wages" but that publication has now been suspended as a result of retrenchment. The publication used to give the results of the quinquennial wage censuses (those of 1911 and 1916) in respect of a few urban and rural occupations. In the Central Provinces, the rates were reported annually but only for a few of these occupations. The same publication also used to give the rates of wages of certain operatives employed in selected cotton, woollen, jute, rice, and paper mills, in certain railway workshops, in one or two leather factories, in the Murree Brewery, in certain tea plantations, in the British India Steam Navigation Company, and on the Orissa canals. Special publications on wages have been referred to in Appendix 6 (not printed).

The results of the provincial wage censuses of 1911 and 1916 were found to be so unsatisfactory that a third one proposed to be taken in 1921 was abandoned as an all-India project. In Madras and the Punjab alone was a general wage census taken in 1921-22; and a census of rural wages only was taken in Bihar and Orissa in 1924. But no regular official wage statistics are being, any longer, published for British India as a whole.

The chief defects of the wage census figures, as they used to be published, were briefly these:-

(i) that they did not embrace a sufficiently large number of villages and towns, nor were the units selected sufficiently typical ones,

(ii) that the rates were reported between too wide a range, and even where the averages were given, no uniform system was adopted, and the weighting of sub-district results was faulty in some cases,

(iii) that the classification of rural and urban workers was not comprehensive enough in view of the great difference in the nature of and remuneration for work in different places,

(iv) that the frequency of employment was not given, and

(v) that the unit of time for which wages were recorded was not uniform.

The wage statistics so far as they go are said to be fairly accurate in some provinces, e.g., the Punjab.

Our suggestions for a quinquennial wage census and for annual wage returns have been discussed at length in Appendix 7 (not printed), and our scheme relating to the subjects has been described in chapters VII, VIII and IX. But, we may mention here, in passing, that the information to be collected should, in our opinion, comprise rates of wages of various classes of operatives in industrial establishments, mines, docks, rail ways, workshops and municipalities; those in cottage industries; of domestic servants and artisans in towns; extra payments at harvest and supplementals; and the mode, range of wages, and frequency distribution for each class.

# 68. Other Labour Statistics

Mention may be made here of the fact that the "Large Industrial Establishments in India" which is an occasional publication of the Department of Statistics, gives figures of the average daily number of persons employed in each such establishment. The only other labour statistics available are the average daily number of persons employed in each kind of establishment ascertained at the Industrial Census held in 1921 as part of the population census operations. The annual reports of factory inspectors and of the Chief Inspector of Mines give like information. No investigation has however been made as to the hours of labour, except one by Mr. Findlay Shirras in regard to the cotton mill industry in Bombay.

# 69. Prices

In most places 'Prices' fall under 'Labour' statistics. As a matter of fact, however, wholesale prices are of use in evaluating 'production' and relate to statistics of production, while retail prices are necessary for measuring changes in 'the cost of living'.

The statistics of prices have also suffered from the recent retrenchment policy. The fortnightly wholesale and retail prices of certain staples, cereals, pulses, oil seeds, raw sugar, salt, etc., are no doubt still being collected in each district but the annual all-India publication "Prices and Wages" has unfortunately been suspended. This used to give not only the wholesale and retail prices of several commodities at many important places in India, with their index numbers, but also the export and import prices. "The Index Numbers of India Prices, 1861-1918" had, since 1918, been kept up-to-date by the issue of an addendum every year. We understand that in spite of the suspension of "Prices and Wages" this addendum will be continued. Harvest prices embodied in the "Agricultural Statistics" have been referred to under agricultural production.

The collection of wholesale prices is only partial and exception has been taken to their reliability. The sources from which retail prices are collected are also said to be untrustworthy. We think the collection of prices should be placed on a comprehensive basis. Wholesale prices should be collected fortnightly in respect of all agricultural products in each district, at the principal market towns within or near each assessment or revenue circle. Retail prices may be collected weekly from the principal towns in each province and published as is done at present. Where a commodity has marked variations in quality, e.g., desi and American cotton, fine and coarse rice, the prices of the various grades should be stated. The agency for reporting both kinds of prices should be honorary correspondents so far as possible. In every market town there are dealers in agricultural products who will, we presume, be glad to report the prices fortnightly. In each selected market town more than one honorary correspondent should be appointed and formally entrusted with this duty. As regards retail prices, the bazaar choudhris may be required to supply information under their signature or, if more convenient, some reliable honorary correspondent may be appointed. The tahsil officer should be made responsible for personally verifying the accuracy of the information in both cases and before he sends up the list of prices current, he should enter a certificate thereon to the effect that he has personally verified by inspection of books, or otherwise, that the rates entered in the list are correct. When the town reporting the prices is not the head-quarters of the tahsil officer, the duty may be relegated to the inspector within whose circle the town lies. If these precautions are enforced, we are sure that the statistics regarding prices will attain a degree of accuracy, which will not be open to objection.

Both wholesale and retail prices should, we

think, be published collectively for the year. In each province the weekly and fortnightly prices should be brought together and averages struck for each article in each town, and also for the province. In the central publication, provincial averages for each week and fortnight should be stated and the annual provincial averages should be published for the year.

#### CHAPTER VII

#### SCHEME OF ECONOMIC SURVEY - GENERAL

### 70. Second Part of Terms of Reference

We shall now proceed to consider the second part of the terms of reference in which the Committee are enjoined to make recommendations as to "the lines on which a general economic survey should be carried out, with an estimate of the expenditure involved in giving effect to such recommendations".

In the terms of reference laid down by Government for our guidance, mention is made of economic condition of the various classes of the people of British India. We also note that in the resolution of the Legislative Assembly, quoted in paragraph 1 at the beginning of the report, the very first matter mentioned for enquiry is "the economic condition of the various classes of the people of India". As the various classes of people do not live apart but are mixed together in their economic life, we presume that in both cases the real intention is that the proposed survey should deal with the economic condition not only of the various classes of the people but also collectively of specific geographical or administrative units, large or small, of which they are the residents, and the country as a whole.

Moreover, there are certain statistics of economic significance, such as, finance, trade, transportation, etc., which can be collected only for a province or for the country as a whole. Their influence on the economic condition of individual classes can only follow from the results deducted for a province or for the whole country.

We have carefully studied the debates of the Legislative Assembly and of the Council of State pertaining to the resolutions which led to the appointment of this Committee and we also made it a point, at our conference with the members of the two Houses of the Central Legislature, in April last, to ascertain the views of those who had taken part in the debates. We are confirmed in our belief that the interpretation we have put on the terms of reference is not only consistent with a scientific treatment of the subject but is also in consonance with the views of the Honourable Members who initiated the demand for an economic survey.

We have seen in the preceding chapters that the existing statistical material is not sufficient to enable an estimate to be framed regarding the economic condition of the various classes of the people or of any administrative unit or units. We have also made our recommendations under each head as to the extent to, and the manner in, which the existing material may be supplemented by improving the statistical data at present available or by collecting additional information by new methods.

In order to devise remedies or reforms on a comprehensive scale, the entire economic fabric of the country should be closely sifted by a survey. For carrying out such a survey an effective organization, a continuously functioning staff and rules and instructions based on foreign experience as adapted to local conditions, will have to be brought into existence and adequate funds provided for putting the proposals into practice. In what follows we shall briefly outline a scheme which embodies all these characteristics and which is designed to give a progressively correct estimate of the true economic condition of the country and its people.

### 71. Classification of the Population

The question of the classification of the population for purposes of an economic survey has next to be considered. A recognized classification is needed mainly for the presentation of the results of the proposed intensive studies. Various suggestions have been made by witnesses examined by us. Some have advocated the adoption of the occupational classification of the population census with certain specific modifications. Others have proposed classification with reference to income, while one witness has suggested a double classification based on both occupation and

income. We consider that the statistics of income, wealth, cost of living, etc., should be collected for the twelve occupational classes, adopted at the last population census, which are based on a scientific scheme prepared by M. Jacques Bertillon in 1890. We do not recommend any modification in the grouping as that would clash with the occupational figures collected at the last two population consuses. The only alteration we would suggest in that classification is that the class "exploitation of animals and vegetation" should be sub-divided into two main classes, namely, (1) agriculture and (2) 'forms of exploitation of animals and vegetation other than agriculture'. We recommend that the distribution by occupations or callings, should be further sub-divided according to income under seven standards or grades; in other words, that income should be ascertained under the 13 heads of occupation and under 7 classes of income, as shown in the following table:-

We have in this table classified the population into vertical divisions on the basis of occupational differences, and into horizontal ones according to economic well-being or status. We have suggested 7 grades of income but we have subdivided the 4 lower grades into (1) labour and (2) classes of people other than labour. In the preliminary stages of the survey, it should be sufficient if this double classification is used for presenting the figures of income.

# 72, Economic Zones

At the last population census, provinces were apportioned into certain large natural divisions based on their physical features, climate and rainfall. These divisions are not strictly economic. But considering that figures of population, occupation, etc., have been published for the divisions in question at the last two censuses, we see no reason why statistics of economic condition should not be tabulated for such homogeneous tracts. In the ordinary course zones can be determined only after, and as a result of, an economic survey and, in view of varying industrial and agricultural opportunities, economic zones may not coincide with divisions which have similar physical characteristics. But we have been

-	Grades	EXPLOITATION OF ANIMALS AND VEGETATION Agriculture Others	Exploi- tation of minerals	Industry	Transport	Trade	Public Force	Public Admini- stration	Profe- ssions and liberal arts	Persons living princi- pally on their incornes	Domestic Service	Insuffi- ciently described occupa- tions	Unpro- ductive
Wealthy- (With family i 24,000 and ov Upper Middle- Rs 6,000-24,01 Lower Middle Rs 1,200-6,000	ncome of Rs. er) 00												
Rs. 600-1,200	Labour- Upper classes Others- Poor in comfort												
Rs 200-600	Labour- In comfort Others- Poor below comfor	_											
Rs. 100-200	Labour- Below comfort Others- Very poor												
Below Rs 100	Labour- Poor Others- Very poor					,							

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told by expert witnesses that, to enable generalizations to be made from intensive studies in limited areas, such studies must be made in parts of homogeneous tracts. Within a district there are tracts homogeneous with regard to conditions of rainfall, fertility, communications, etc. Variations in the outturn of land belonging to one class and the conditions of life in similar occupations within such a tract are more or less identical. These distinctions are brought out at the periodical settlements in what are known as assessment or revenue circles. In our opinion the revenue circles represent the smallest economic zones and the provincial natural divisions the larger ones. We therefore think that statistics should be collected originally for the village, town or city, and then successively for the assessment or revenue circle. the tahsil or taluk, the district, the larger economic zone and the province, the statistical data for rural and urban areas being kept quite distinct. We are of opinion that for our larger economic zones, the provincial natural divisions of the Census Report of 1921 may be adopted. The Provincial Governments concerned may make such modifications as they may consider necessary, provided that the utility of the figures tabulated at the last two population censuses is not impaired.

#### 73. Methods of Survey - Suggestions Examined

Before proceeding to describe the methods of survey, which we have foreshadowed in the preceding chapters, we consider it necessary to make a brief reference to certain suggestions put forward by some of the witnesses in this connection. There is a school of experts who do not believe in any extensive enquiries or the collection of any data whatever for the provinces or the country as a whole. Their apprehension is that any collective data would be liable to misinterpretation. They advocate nothing but intensive studies on various subjects, in various tracts, with the sole object of ascertaining facts and without any immediate end or result in view. They would go on prosecuting these studies until such time as a repetition of similar results may lead to inferences. Some of these witnesses consider that it may take at least twenty years before it is found

possible to obtain a reliable picture of the economic condition of the country. Others consider it impossible to measure certain forms of production accurately and would therefore not attempt to ascertain total production. They would content themselves with statistics of production where they could be recorded with perfect accuracy. Their fear seems to be that comparisons with the figures of other countries might place the Indian conditions at a disadvantage.

There is another school of economists who want production to be ascertained by a central statistical organization but would like all intensive studies in regard to tests, such as, income and wealth, to be conducted under the guidance of a separate body of the type of the Punjab Board of Economic Enquiry without any connection or co-ordination between the two organizations. They want results of intensive studies to be published for each village separately, but do not wish the results to be put together or published, even in the provincial publications. We need hardly say that we do not agree with any of these suggestions. While we appreciate the importance of intensive studies and wish to aim at the maximum of accuracy, we think we should follow the example of the Dominions in preparing estimates and obtaining approximate figures for generalization where strict accuracy is not possible of attainment. We should not refuse the guidance which approximate figures may give, because we are unable to obtain strictly accurate figures for a long time. We are also strongly of opinion that all work connected with economic survey should be co-ordinated and guided by one central authority instead of being split up into two or more unconnected, water-tight compartments.

#### 74. The Committee's Proposals

As remarked in paragraph 40, we do not propose to deal, in our scheme, with the collection of general statistics falling under Class I for which the material already published is more or less complete. We shall confine our proposals to subjects falling under Classes II and III dealt with in Chapters V and VI respectively. These are:

1. collecting statistics of production, and

#### 2. preparing estimates of income, wealth, etc.

# 75. Production Statistics

We have proposed in paragraph 41 that complete statistics of production of all kinds should, as far as possible, be collected under each of the following heads:-

- (a) Agriculture,
- (b) Pasture and Dairy Farming,

(c) Forests,

- (d) Fisheries,
- (e) Mines,
- (f) Large Industries,
- (g) Cottage Industries.

So far as large industries are concerned, the annual statistics should be supplemented quinquennially by a detailed census of production.

Figures of production of all kinds will be obtained through Government departments by means of the existing agency or additional special staff to be entertained for the purpose, as will be explained in the next chapter. It would be idle to attempt absolute mathematical accuracy in obtaining the figures of production. In the words of Dr. Bowley.\* "There is not in existence a perfectly accurate measurement, physical or economical, just as there is no perfectly straight line or perfect fluid". Even in countries with much greater resources, where the population is literate and particulars of production in all branches are gathered by the issue of schedules to honorary correspondents, it is not found practicable to collect all the schedules issued and the figures of production are often based upon inferences drawn from as many schedules as are received in time the number in some cases not exceeding 25 to 50 per cent of the total. Wherever, therefore, it is not possible to obtain actual figures of production, we should try to arrive at as reliable an approximation to them as possible.

# 76. Estimates of Income, Wealth, Cost of Living, etc.

We attach great importance to intensive studies for the purpose of ascertaining the income, expenditure, wealth, indebtedness, etc., of the various classes of the population. Several such enquiries have been made in the past few years, (paragraph 61) and some valuable work has been done in this connection.

The publications on village studies, such as those of Mr. Bhalla and Dr. Lucas (Punjab), Major Jack (Bengal), and Dr. Gilbert Slater (Madras) are very elaborate and are more or less in the form of village gazetteers dealing not only with the economic and social life of the people, but also with the climatic conditions, natural resources, etc., of the villages dealt with. The minute information contained therein is most useful in ascertaining the detailed condition of each village. Such detailed enquiries may be necessary for other specific purposes but, in our opinion, they are somewhat too elaborate for our purpose, i.e., for the purpose of ascertaining the general economic condition of the various classes of the people and the causes which contribute to their poverty or affluence. One of the witnesses (Professor H. Stanley Jevons of Burma) aptly remarked. "To be quite frank, my own feeling is that we have already had too many studies of an intensive character in India with a view to ascertaining the condition of people in certain isolated spots and a great elaboration of such enquiries would not. to my mind, serve any useful purpose".

### 77. Subjects for Intensive Study

In our opinion, the intensive studies should comprise enquiries into the following broad facts concerning every household (which should be taken as the unit) included in the survey:-

<sup>\*</sup> Elements of Statistics, Second Edition, page 199.

1. Income, from

(a) land,

(b) trade,

(c) industry, etc., and

- (d) other sources.
- 2. Expenditure
  - (a) food

(b)other necessaries, e.g., clothing, rent, etc., and

(c) extraordinary expenses.

3. Wealth

(a) value of landed property,

(b) value of house property,

(c) value of other property, including furniture, implements, tools etc., and

(d) investments, cash, jewellery, etc., (if possible).

4. Indebtedness

(a) debts secured by mortgage,

- (b) unsecured debts, and
- (c) causes of indebtedness.

The enquiries into expenditure should enable standards of living and the cost of living of various classes to be determined. In towns and industrial centres, the urban investigators might also devote attention to studying labour conditions in large industries.

Questions and instructions on the subjects can be prepared for each province, according to local conditions, on the lines of the excellent questionnaire drawn up by the Punjab Board of Economic Enquiry. The information will be collected with reference to the classification proposed in paragraph 71.

# 78. Method of Intensive Studies Explained

The intensive studies should be directed towards ascertaining the condition of the different classes in each village and of the village as a whole. Judging from the opinions given by witnesses, we are inclined to think that, with only four subjects engaging his attention, an investigator should be able to collect information for five families in a day, i.e., he should have no difficulty in dealing with an average village of a hundred families in 20 working days. Family budgets have been collected sometimes in even

shorter periods, but after examining the publications and the evidence recorded on the subject, we are of opinion that, to secure reliable information, the investigator, if not himself a resident of the locality, must become quite familiar with the people of village under study and win their confidence. We, therefore, think that he should, instead of completing his enquiries in one village in, say, a month, keep a group of 12 villages under observation and investigation for a whole year and, at the end of it, submit a brief report of the results. Similarly, in urban tracts, the number of houses to be dealt with in a year should remain under study throughout that period. The statistical conclusions should be embodied in an abstract appended to the report. From these abstracts it will be possible to compile statistical results, under the four heads mentioned above, for all the villages investigated. The statistical results so obtained from the enquiries should, we think, be published from year to year with the annual provincial statistics, and, in every succeeding year, the results of the previous year's investigations should be shown alongside for comparison. These results will, in course of time, afford a basis for generalization as to the distribution of income and wealth as also to the distribution of taxation, imperial, provincial and local and its relation to the income. The selection of villages for intensive study should be made every year in consultation with the Board of Economic Enquiry and the local officers. We would advise groups of adjoining villages to be selected by turn in the different tahsils of a district. Within the tahsil the groups should be taken by rotation from the different assessment (revenue) circles. Information should, however, be collected for whole villages. For purposes of intensive study, a town should, we think, be divided into homogeneous blocks, as far as possible and, within those blocks, houses should be selected by what is known as random Information sample. regarding indebtedness will not be required in towns and there will be some rural tracts which may be in too prosperous a condition to need this class of investigation. While, therefore, enquiries regarding income, expenditure and wealth should

be included in the general programme, indebtedness need be added only in the case of special classes or tracts.

# 79. Special Investigations

Another subject for special investigation is the fragmentation of holdings, the latter being often sominutely sub-divided as to make it unprofitable for any one to cultivate the area.

A number of witnesses brought to our notice the fact that the question of unemployment among the lower middle classes demanded special investigation at the present time. The clerical classes are said to be suffering from lack of employment. The condition of depressed classes also needs investigation. A few important witnesses brought to our notice that there was perennial under-employment in rural areas on account of the too exclusive dependence of the population on agriculture and the uncertainties of the seasons. Each such matter may form the subject of special enquiry through the Statistical Department. Any special economic deficiencies in specific geographical areas, for example, areas subject to malarial fevers or any special disabilities from which particular classes of people, such as the weaver class, may be suffering, may also form the subject of special enquiry with a view to the adoption of suitable ameliorative measures.

Besides the intensive enquiries on the four general subjects mentioned in the preceding paragraphs, special enquiries into any subjects of local importance which the Provincial Government may prescribe from time to time, may be undertaken by the Provincial Statistical Department. For such special investigations, the investigating staff alone will have to be strengthened, the Provincial Government making additional financial provision for the purpose. Ordinarily, no increase in the supervising staff will be necessary.

# 80. Extensive Surveys for Income and Wealth

Apart from investigations into wealth by intensive studies, we propose that estimates of the collective private wealth and national wealth may be prepared by the inventory method as far as practicable, as described in paragraph 64. We also recommend that statistics of income-tax should continue to be published with the details which we have suggested in paragraph 62.

#### 81. Wages and Prices

Wages and prices form a class by themselves. The methods by which they should be ascertained have been described at length in Chapter VI and need not be repeated here. Briefly stated, the statistics of wages for large industrial establishments should be collected by the Industries Department, those for mining establishments by the Chief Inspector of Mines and particulars relating to rural and other labour by the Revenue Department. Annual returns should be prepared, showing the rates of wages prevailing in each month. A census of wages should be taken quinquennially. Prices, both wholesale and retail, should be collected by the Revenue Department.

#### 82. Centralization of Statistics

In recent years, there has been a strong tendency towards centralization of statistics in all the Dominions of the British Empire. In Australia the Federal Bureau of Census and Statistics was created in 1906 and the Federal and State Governments have been in favour of a single statistical authority ever since. A census and statistics office was formed in New Zealand in 1915. A central statistics office was created in 1917 for the Union of South Africa. A Dominion Bureau of Statistics was established in Canada in 1918 constituting a comprehensive central statistical office, all purely statistical work being brought by transfer under its immediate direction.

'Statistics' is already a central subject in British India; a central statistical office has been in existence for several years, although as a result of the recent retrenchment policy, it was reduced in status and strength and subordinated to the Director-General of Commercial Intelligence. The statistics published by the central office are collected, for various objects, by the several departments of the Provincial and Central Governments, but there is no distinctive connecting link and no real co-ordination between them. What is more important for our purpose is that they are not designed to give an indication of the true economic trend of the people or of the status of British India as an economic unit.

If the statistics of British India are to be maintained in a satisfactory manner in future so as to form a basis for building up the economic policies of the country, all work in that connection should, as in the Dominions, be co-ordinated and centralized. The aim should be to provide a common purpose and a "central thinking office" on the subject of statistics and to bring the statistics of all the departments, both of the Central and of the Provincial Governments, under the supervision of one central authority who should be the adviser of Government in statistical matters.

Those statistics which are partly departmental and partly economic may continue to be compiled by the departments concerned but they should come under the technical guidance of the central statistical authority. The purely departmental publications which do not contain any material required for the economic purposes of the Central and Provincial Governments may be left to the departments concerned.

#### 83. Legislation

The proposed scheme of economic survey should, if it is to secure enduring success, have its organization defined by law. Legislation is necessary to bring into existence an all-India system of statistics. It has been said that there can be no statistics without legislation. The object of legislation connected with the proposed scheme should be two-fold, namely (1) to place the whole statistical organization on a legal basis, and (2) to ensure or facilitate the collection of correct economic data from individuals and firms. For the latter purpose, it would be necessary for officers to possess legal powers of compulsion howsoever mild. The data to be collected in most cases being such as cannot be obtained except from the individuals and firms concerned, it is necessary to legalise the demand. The exercise of the power of compulsion must be vested in certain officers and consequently the legislative measure to be adopted must recognize the whole organization,

define the principal duties of the various officers and the subjects on which enquiries may be made or information refused. While arming the officers with the necessary powers to compel persons to supply information, it will be necessary to give guarantees to individuals and firms against any direct or indirect disclosure of the information obtained from them under the seal of official secrecy.

It has been suggested that the objects in view can be secured by an executive order without recourse to legislation. But an executive order cannot provide the powers of compulsion, nor can an organization resting on a mere executive order have any permanent foundation, for it would be open at all times to modification or termination by another similar executive order.

Legislative enactments relating to statistics have been passed in the United Kingdom, the Dominions and other foreign countries. In India, the Census Acts already invest officers with the powers of compulsion needed at the population censuses, even though the enquiries in that connection are not such as to rouse opposition or resentment.

We suggest that among other things, the following provisions should find a place in the Bill which may be drawn up on the subject:-

- (1) Establishment of Central and Provincial Bureaux.
- (2) Appointment of officials of all grades.
- (3) Appointment and functions of Advisory Committees.
- (4) Powers of a Bureau to obtain information from individuals and firms and from the various departments of Government.
- (5) Matters concerning which information may be collected annually or periodically.
- (6) Obligations on the part of individuals and firms to make true returns, to answer relevant questions and to allow inspection of records containing relevant information.
- (7) Conditions under which information of a specified nature may be refused.
- (8) Guarantee of secrecy for returns and answers.
- (9) Penalties for failure to carry out the obligations imposed and for unauthorised disclosure by officials.

- (10) Publication of information collected.
- (11) Power of Central and Provincial Governments to make rules, etc.

The legislative measures we have proposed may also conveniently embody provisions relating to the decennial censuses of population, thereby obviating the necessity of passing an Indian Census Act every ten years. The new measure may, as in the Dominions, be called the Census and Statistics Act.

#### CHAPTER VIII

#### SCHEME OF ECONOMIC SURVEY -ORGANIZATION

#### 84. Central Bureau

No great results can be achieved without organization. The proposal for centralization of statistics which we have emphasized in paragraph 82, will necessitate the creation of a central office, presided over by an officer who will be responsible for the collective presentation of statistical data for the whole of India, and for laying down the broad lines on which such material and data may be collected in the provinces so as to ensure a sound uniform system. This office may suitably be called the Central Statistical Bureau. The staff should, in our opinion, consist of a Director of Statistics with two Assistants, one of the latter being entrusted with economic statistics proper and the other with statistics of all other kinds. The office should have an establishment of one superintendent and some fifty clerks (including typists), with the requisite menial staff.

The duties of the Central Bureau would be:-

- to arrange for, supervise and control the taking of periodical censuses, such as those of population and large industrial establishments, and industrial wages;
- (2) to collect annually, or at shorter intervals, statistics relating to the economic condition of the people, such as, production, income, expenditure, wealth, prices, etc., either through Provincial Bureaux or direct from the departments concerned;

- (3) to collate, scrutinize, tabulate and summarize the information collected and to publish it in a presentable form;
- (4) to compile and publish a Year Book on the lines of the Dominion Year Books, with the co-operation of the Director of Public Information;
- (5) to supply statistical information to Govcrnment and the public, when requested to do so; and
- (6) to undertake special statistical enquiries for Government when necessary.

The Director of Statistics should be an officer of broad sympathies and outlook and should have had practical training in statistical methods. With a view to arouse public interest in the subject and to enlist public sympathy with the department, his appointment should, preferably, be subject to the vote of the Central Legislature. Each of his Assistants should be a trained statistician or economist and at least one of them must have sufficient experience of local conditions. In connection with the census of population which is taken decennially, the future Director of Statistics should be able to discharge the duties now performed by a Census Commissioner. At each such decennial census he might be given, for a period of about four years, a competent Assistant who would deal exclusively with the census work.

Before formulating our proposals for a Central Bureau and for the adoption of Centralization of Statistics as a definite policy for the future (paragraph 82), we had the advantage of discussing the problems of statistical organization with the Hon'ble Mr. T. D. Chadwick and with Mr. C. G. Freke, to both of whom we are indebted for much useful advice. The information which has been kindly furnished by them is treated as a part of the confidential evidence recorded by the Committee.

## 85. Provincial Bureaux

Each province should have, for the collection and compilation of statistics, a similar office which may be termed the Provincial Statistical Bureau. It should be presided over by a Provincial Statistician with one Assistant for head-quarters and a number of Assistants, usually one for every Revenue Division, for the supervision of work which will be carried on in the districts. We agree with Professor C. J. Hamilton of Patna in thinking that the Provincial Statistician should possess a high degree of local knowledge more than high statistical qualifications. The office establishment should consist of one Superintendent, and some thirty clerks with the usual menial staff. The headquarters Assistant, who may be called the Personal Assistant, should be a trained economist or statistician with a knowledge of local conditions.

All statistics relating to a province should be collected locally under instructions issued by the Provincial Bureau; but figures concerning mineral production may, as at present, be collected by the Chief Inspector of Mines, and those relating to individual factories may be submitted direct to the Central Bureau, if the owner or manager of a factory prefers such a course.

When censuses of large industrial establishments and of wages are being taken with the help of the Department of Industries or the Provincial Labour Office, the Provincial Bureaux will probably require a few additional clerks to deal with the issue of the schedules and the compilation of the returns received from the factories through the Department of Industries. The census of population, which is a large enough subject in itself, must be dealt with by a separate establishment and separate financial provision as heretofore.

# 86. Advisory Boards

We think it would be a great advantage to associate advisory boards with the officers charged with the work of economic survey. This proposal is favoured by a number of high officials and university professors. It is proposed later (paragraph 102) to make the Director of Statistics and the Director of Public Information jointly responsible for the compilation and publication of the Year Book which will embody the results of the economic enquiries throughout the country.

It may be convenient to utilize the existing Publicity Advisory Committee to serve at the same time as an advisory body for the proposed statistical organization.

# The Publicity Advisory Committee

The committee, it is understood, consists of 16 members, including 4 officials and 12 nonofficials, with the Home Member of the Government of India as its President. It should be possible to strengthen this Committee by the addition of four members - two officials and two non-officials - with economic or statistical experience. The Director of Statistics should be one of the two official members. The committee so enlarged would assist the Director with advice as to the details of the information to be collected, and the methods to be employed in collecting them. They might also be asked to offer their criticism on the Year Book, when ready, before it is submitted for the approval of Government.

#### 87. Provincial Boards of Economic Enquiry

A Provincial Board of Economic Enquiry should be established in every province. The Provincial Statistician should be a member of the Board and its Personal Assistant might act as its Secretary. The Board should consist of members, both official and non-official, and their functions should be to advise the Statistician as regards the details of his duties and, if necessary, to cooperate with him in the supervision of work connected with economic research. The non-official members should be paid a fee for attending the meetings at all events, for the first few years.

Some witnesses have deprecated the division of the Boards of Economic Enquiry into rural and urban sections. We agree that the Board should give equal attention to matters rural and urban but, where a Board undertakes to supervise the intensive studies, there should be no objection to such an arrangement, if it is calculated to make the supervision more effective.

We have proposed that each Provincial Statistician should be given a Personal Assistant and in addition one Assistant for each Revenue Division (comprising 5 to 6 districts). These Assistants should be graduates in economics with some previous practical training in economic enquiries, if possible. They should be natives of the province, thoroughly conversant with the ways and manners of the local population. Each of these Assistants should have a senior and a junior clerk and two peons attached to him. He will have to supervise, as will be explained in the sequel, 15 to 18 investigators engaged on intensive enquiries and, at the beginning, some 20 or 25 inspectors employed in collecting production statistics. The number of the latter, viz., inspectors, will be reduced to 10 to 12 after the first two years.

#### 89. Two Distinct Agencies in Each District

Two distinct agencies for collecting economic data will be employed in each district, viz., (1) inspectors and tahsil clerks - the inspectors for collecting statistics of production other than those pertaining to agriculture, forests, mines and large industries, and the clerks for compiling the statistics of agricultural production - and (2) investigators who will collect, by intensive study, data relating to income, wages, cost of living, wealth, indebtedness, etc., in individual villages and for classes. The former additional staff will be under the Revenue Department subject to the guidance of Assistant Statisticians; while the latter, though forming part of the statistical department and acting entirely under the control of the Assistants. should nevertheless be associated in some degree with the Revenue Department.

#### 90. Agencies for Production Statistics

The agencies for collecting production will be as follows:-

The statistics of agricultural and forest production will be supplied by the Revenue Department and the Forest Department, respectively. The production from Government *monopolies*, such as, opium and salt will be ascertained through the departments concerned. Similarly, the figures relating to production of large industries will be collected and furnished by the Industries Department, and those relating to mineral production by the Chief Inspector of Mines or the Director of Geological Survey. The principle to be observed is that the primary data should be collected by the department which has most to do with them.

#### 91. Agency in Districts Inspectors

Information relating to other forms of production, e.g., cottage industries, pastoral, dairy and fish production will be collected by a suitable number of inspectors appointed especially for the purpose, and working under the Revenue Department. To begin with, one inspector may be posted to each tahsil (or taluga), but the number will be reduced after the first two years to two inspectors per district. These inspectors will be drawn from the revenue inspector class known as the Kanungo in the Punjab, which has greater facilities for getting into touch with the people and is more likely to get reliable information from the masses than even trained economists on very much higher pay. These inspectors should be treated as an additional Revenue staff.

It will be necessary to associate local agencies with the inspectors for the purpose of ascertaining the total production of cottage industries, etc. A simple form will have to be devised on which a record of the production from various sources should be kept from month to month. The local agencies to be employed should be:-

- (1) the co-operative society, if any, in the village,
- (2) the panchayat, if any
- (3) in villages owned by a single zemindar, the zemindar's agent, and
- (4) failing all these agencies, the village accountant.

The local agent, whoever he is, can, without difficulty, ascertain at the end of each month the production of the local cottage industries together with the different kinds of pastoral and other miscellaneous products. When the inspector goes round the villages, he will be able to check this record by personal interviews with the owners of cottage industries, and the persons concerned with the other products. In this manner, it should be quite easy for him to form a fairly correct estimate of production of various kinds, other than agricultural, in the village.

In the first year, when these records will be newly started, the inspector will not have the advantage of monthly records but will have to depend entirely upon personal enquiries. He may have to prepare an estimate of production by working out an average on the basis of figures for one or more months, or he may have to estimate the outturn merely with reference to information which he is able to collect during his interviews. For this purpose the staff of inspectors may be doubled for the first two years. The experience gained in the first year and the figures recorded by the local agency from month to month will greatly facilitate the work of the permanent staff, in future years.

#### 92. Supervision by Tahsildars

The tahsil officer, whose duties have become somewhat lighter owing to the transfer of the income-tax work to the new Income-Tax Department and the district board work to the local bodies, and who may possibly be relieved of judicial work in the future, should not find it difficult to supervise the work of these inspectors. The work will not be of an intricate nature. On the contrary, it will involve the collection of information with which the tahsildar will be quite conversant. The fact, moreover, that the inspectors will be working under the supervision of the tahsildars will provide the former with the backing of authority which they will need in persuading people to give reliable information. We do not think that any other agency will be half so successful in achieving the object as the one we have proposed. The staff will, however, need a certain amount of technical guidance, the success of their work depending upon the initial training given to them and the detail and lucidity of the instructions issued by the Provincial Statistician and his Assistants for their guidance. The compilation of statistics of agricultural and other

miscellaneous production will be made in the *tahsil* office by a special assistant clerk (paragraph 52).

#### 93. Investigators

The intensive enquiries for ascertaining income, expenditure, wealth, indebtedness, etc., involve patient and intelligent observation. They should be conducted by qualified investigators specially employed for the purpose. These investigators should ordinarily be graduates, under-graduates or retired revenue officers with special aptitude for economic investigation. Graduates in economics have done work successfully and University students have made themselves useful under the guidance of their professors. We think that some of the retired revenue officers will, with a little preliminary training, prove equally useful. The co-operation of University professors and students should be enlisted as far as possible in economic research. For enquiries relating to indebtedness, the help of the co-operative societies will be most valuable.

#### 94. Intensive Study in Urban Tracts

For the rural tracts we have estimated (in paragraph 78) that one investigator will be able to deal with some 1,200 families in a year, i.e. with a population of 5,000 to 6,000 souls. The enquiries in towns will be much more difficult and, even when the investigators are local men, they will not find it so easy to collect the necessary information concerning income or wealth. We are therefore of opinion that an investigator will not be able to secure data for more than 50 families in a month or 600 families in a year, i.e., a population of 3,000 souls a year. The total urban population of the Punjab was found at the recent census to be 22, 12, 191, and there being 146 towns in the province, the average population per town was 15,152. The average number of towns per district was five. We are of opinion that the survey in towns should be conducted on the basis of a random sample of one house in every five in each town. One investigator should therefore be able to deal on an average with one town in a year, i.e., with 20 per cent of the urban population of an average district; but, since his studies relate to a

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sample of one in five, the results of his enquiry will really represent the condition of only 4 per cent of the total population. In five years, a staff consisting of one investigator per district should be able to complete the survey of all the towns in the province and accumulate data for 20 per cent of the town population. The urban population is however not equally distributed over the districts. While, therefore, two or three investigators may have to be employed in a city like Lahore, one investigator may be able to deal with the urban population of more districts than one, taking the towns in each district in alternate years. In this way a provision of one investigator per district for urban survey will enable the Provincial Bureau to make the necessary adjustment of staff needed for large towns and cities, requiring special treatment. We therefore, think that 29 investigators should suffice for intensive study in urban tracts in a province like the Punjab.

# 95. Intensive Enquiries in Rural Tracts

We have proposed in the preceding chapter that an investigator should deal with a dozen villages in a year. We propose that two investigators should be employed for dealing with rural areas in each district. Taking the average number of villages per district to be about 1,000, these two investigators should be able to deal every year with 24 or 25 villages, i.e., with about  $2\frac{1}{2}$  per cent of the rural population.

# 96. Generalization from Results

We have been told by various witnesses that results pertaining to 5 per cent of the total population can justify generalization as to the condition of the population as a whole. We have shown in paragraph 94 that one investigator per district will complete the collection, every year, of data relating to 4 per cent of the urban population or 20 per cent thereof if a random sample of one in five is presumed to present a reasonably reliable picture of the whole. We have also stated in the preceding paragraph that two investigators working in the rural areas of a district should be able to collect annually data relating to  $2\frac{1}{2}$  per cent

of the rural population. But, although we propose that from the second year onward, when statistics relating to 5 per cent or more of the population will be available, the Provincial Statistician should begin to generalize from the figures, we think such conclusions should be taken for what they are worth. As the results of the investigation become available in each succeeding year, the inferences drawn as to the general condition of the classes, and tracts would become more and more reliable. The statistics should be reviewed every five years. In the course of ten years, we should have data relating to 25 per cent of the population and although conditions may vary from year to year, and by the end of the tenth year the condition of the villages examined in the first year may have altered materially, yet the figures when taken for large tracts will afford a basis which will not be far removed from the reality, and the use of index numbers will enable the accumulated results to be reduced to a common denominator. There will be three investigators on the average in each district. It is of the utmost importance that their work should be closely supervised by the divisional assistants to the Provincial Statistician.

# 97. Village Help to Statistical Staff

The inspectors for production statistics will, as stated in paragraph 91, make use of local cooperative societies or panchayats as far as possible. Where no such body exists and the services of the village accountant have to be requisitioned for keeping the record of miscellaneous production, it will be advantageous to nominate, for the purpose of assisting him in maintaining the record, a small committee consisting of the village headman, one or two leading and, if possible, literate zemindars and the local schoolmaster or, where there is no school, the local shopkeeper. The investigators engaged in economic research should, in our opinion, be invariably assisted by a small committee consisting of the village accountant, the villageheadman and a few leading residents of the village under survey. These committees can be easily brought into existence through the *tahsildar*.

# 98. Utilizing the Staff of Other Government Departments

Where the Industries Department has a Superintendent of Cottage Industries as in Burma or Divisional Superintendents (or Inspectors) as in the United Provinces, dealing with cottage industries, their services may be utilized for collecting information regarding production from that source. In some provinces, grazing inspectors have been appointed. These could probably help in collecting information regarding pastoral products. Similar staff of other departments, e.g., the Co-operative Credit Societies Department might, if available, be made use of on payment of small special allowances, where necessary.

# 99. Prices and Wages

The statistics of prices, both wholesale and retail, and of wages prevalent in rural and urban tracts, other than those of persons employed in large industries, should continue to be collected by the Revenue Department. The method of collecting the information should however be improved, as suggested in paragraphs 67 and 69. Statistics of wages relating to large industrial and mining establishments will be collected by the Director of Industries and the Chief Inspector of Mines, respectively, as suggested in paragraph 81.

# 100. Amalgamation of Existing Labour Offices with the New Provincial Bureaux

We have, in Bombay, a Labour Office with a Director at its head, which is said to be costing about Rs 1,15,000 per annum. In the Madras Presidency, there is a Labour Commissioner with a large staff and, in Burma, a Labour Commissioner has just been appointed. In each of these provinces, the Labour Office may be amalgamated with the new Statistical Bureau. In these three provinces, an organization already exists to form the nucleus of a Provincial Bureau and the duties being cognate, the suggested amalgamation will result in considerable economy of expenditure.

# 101. Suggested Amalgamation of the Posts of Director of Land Records and Provincial Statistician

In some provinces the post of Provincial Statistician may be usefully combined with that of the Director of Land Records whose work, we have been told, is by no means too heavy. Moreover, the bulk of the information to be collected in each province will relate to agricultural production. The tendency of recent years has been to transfer the work connected with the crop forecasts, etc., to the Agricultural Department, but we have found that the Director of Agriculture is generally a scientific man who is interested more in the development of agricultural processes and intensive cultivation than in the compilation of statistics. The compilation of agricultural statistics has in the past been in the hands of the Director of Land Records and, since the statistics relating to the area under crops still come to him from the districts and are compiled in his office, he would naturally be the proper person to superintend the compilation intended to give the value of crops. Indeed, both the Director of Land Records and the Director of Agriculture should participate in the collection of economic data pertaining to agriculture. The fixation of standards of yield and the determination of the condition of crops each year should be done by the Director of Agriculture; while the Director of Land Records should be responsible for the work of compilation.

Wherever it is possible to combine the two posts, a substantial saving in expenditure can be effected, and in that case an addition of as many as thirty clerks to the existing staff may not be found necessary. We have been told by a Director of Land Records that he could undertake the additional work if he were given two or three assistants. With a Personal Assistant for statistical work and an assistant for each Revenue Division, he should find it easy to manage the double charge.

# 102. Publications

The Committee consider that an official India Year Book should be published after the model of those issued by all the Dominion Governments. It should embody abstracts of all the principal statistics and form a compendium of official data and information concerning the general, social and economic conditions of the people. At present some of the descriptive matter which should go into a Year Book is already given, as required by the Government of India Act, in the publication known as "India" issued by the Director of Public Information. The new Year Book, if published, will form a handy companion volume to that publication. For this reason we would recommend that the proposed Year Book be brought out on the joint responsibility of the future Director of Statistics and the present Director of Public Information.

The Year Book should also contain an abstract giving production of all kinds under the following heads: agriculture, pasture and dairy farming, forests, fisheries, mines, large industries and cottage industries; and another abstract giving the results of intensive enquiries in regard to income, wealth, consumption and indebtedness, with details of the number of villages, in each province, for which results are collected. Cost of living indices worked out in each province should be brought together and the standards of living which may have been ascertained should be given with the necessary explanations.

Besides the Year Book which we have proposed above, the Central Bureau of Statistics will continue to publish the usual statistical returns and tables and such other reports, etc., as may be considered necessary.

In some respects the statistics of British India have long since attained, both in fange and quality, a high state of development. As already explained, they have not been hitherto designed to indicate the economic trend of the people. They require to be suitably altered to meet this need. Some additions have to be made, gaps in existing statistics filled and inequalities remedied, so that the whole may form a single thoroughly coordinated and harmonious system for the future.

#### 103. Periodical Review of Statistics

The statistics collected from year to year should, we think, be reviewed once in five years and all doubtful points examined. So far as statistics of production are concerned, such a review will enable an examination to be made of the results

of good and bad years collectively and make it possible to arrive at conclusions based upon the averages for the quinquennial period. In regard to wages and prices, the figures of five years can be put together and compared with those of the previous quinquennium with a view to observe the trend of wages and prices.

As regards statistics of income and wealth, generalizations might be made from the data collected during the quinquennial period. Similarly, the conditions of specific classes of the population brought to light by enquiries into other matters, such as, indebtedness, unemployment, etc., might also be reviewed.

These reviews will be prepared, in the first instance, by the provincial statistical authority and eventually by the Director of Statistics. The advisory bodies should have opportunities of recording their opinion on the reviews before they are taken into consideration by the respective Governments. Similarly, an annual review of the economic condition should also be published. This may be done conveniently at the time of the discussion of the succeeding year's budget in the Legislature. Summaries of the budgets and the essential statistics indicating the economic condition of the people and the discussions thereon might be published in a convenient form for the use of the public.

#### 104. Propaganda

In order to help the people to overcome their anti-economic habits and traditions, it will be necessary to undertake a certain amount of educative propaganda. We have proposed that statistics of agricultural and miscellaneous production should be published in every village (paragraph 52). We think that statistics relating to all other forms of production in a village should be supplied to the village accountant to be published along with figures of agricultural production. A simple form showing production of all kinds from year to year may be prescribed. This form might be pasted on a small wooden board which should be hung up in some conspicuous place in the village, e.g., the village chaupal (meeting place). If the revenue officers and officers of the statistical department draw the attenhappen to visit a village and explain to them the significance of the statistics, they will doubtless arouse an interest among the people in the economic aspect of their own life. At the same time, the association of local committees, *panchayats*, etc., with the work of collecting statistical data (paragraphs 91 and 97) will have an educative value. On the other hand, the review of annual statistics by advisory bodies will enable them to direct the attention of the people, through the press and from the platform, to the more patent economic deficiencies and to measures which may be adopted for removing them.

Such propaganda will greatly help the country to obtain the fullest benefit derivable from the scheme of economic survey which we propose in this report.

# 105. Economic Studies by Village Agency

Statistics of production are of as much importance for local improvement as they are for national development. We consider it desirable that the rural population, i.e., the population of villages which contain an appreciable number of literate inhabitants, should be instructed in the use of elementary statistical data relating to production, income and cost of living, so that they may gradually imbibe the practical lessons which such data convey. A suggestion has been made that the villages should, with their own agency and at their own cost, undertake the work of collecting economic data concerning production, income, wealth, expenditure, and indebtedness and of maintaining a record of purchases and sales effected in the village with persons from outside the village. Such studies are maintained with beneficial results in some of the villages of Japan in which production figures calculated by the village officials are exhibited graphically on charts which are hung up in the village hall or school. Many of those villages have increased their production by mass-co-operation and by emulating the example of more favourably situated villages. We understand that there is a record in that country of villages which under the advice of experts have increased their production four-fold or more in a little over twenty years. The consensus of opinion, however, is that under present conditions the suggestion cannot be

thought of in British India on any appreciable scale, and that any attempt to saddle the villages with a share of the cost of the enquiry is likely to jeopardize the whole scheme. But there will be no harm, in our opinion, if we aim at inducing villages to share the cost when they begin to realize the benefits of the survey, or inviting them to take over the whole enquiry concerning their respective areas, when they feel they can do so. In the meantime, the proposals which we have already made for associating local committees with inspectors and investigators (paragraphs 91, 97) and the publication of the figures of production, etc., in the villages will go a long way to arouse interest in the subject and to educate the villagers in the benefits of a village economic survey. Such opportunities of self-improvement may bring to light many unsuspected sources of will and capacity in the rural population.

### 106. Indian States

The Indian States, many of which do not maintain statistics according to any accepted standards, are so interspersed with British territory that they will prove a handicap in any effort at scientific measurement of the economic conditions of the country as a whole. These States contain two-fifths of the total area and between one-fourth and one-fifth of the total population of India. We are aware that some of the States maintain statistics almost as complete as those prepared in British India, but they are only notable exceptions. In their own interest and that of India as a whole, all the States might be invited, as they have been in the past in regard to the population census, to undertake similar economic surveys and join British India in a common organization for the collection of statistical data on an uniform basis for the country as a whole. We understand that the statistical department of the Government of India has been training officers for Indian States from time to time for statistical work. We hope that the States will be willing to co-operate.

#### 107. Early Beginning Recommended

We are of opinion that it is necessary to make an early beginning with the economic survey. It
is recognized by economists that such investigations are not expected to give minutely accurate results and that the primary value of statistics is usually due to relative rather than to absolute accuracy. While always aiming at the greatest possible accuracy, we should be content, in the carlier stages of the survey, with approximate figures in all cases in which it may not be possible to obtain a correct count. Naturally, the information collected at first will be somewhat imperfect, but from year to year the public will become familiar with the processes, interest in these investigations will be roused, the growth of public opinion will ensure a steady advance, and the data will become more and more accurate.

#### CHAPTER IX

#### SCHEME OF ECONOMIC SURVEY - (CONCLUDED)

#### ESTIMATE OF COST

#### 108. Approximate Character of Estimate

An estimate of the cost of new scheme of this character must of necessity be only approximate. The precise requirements as regards staff and contingent expenditure can only be determined in the light of actual experience. We have examined some of the figures which give the expenditure incurred on similar work in the Dominions and

foreign countries but have found the conditions so different and the details available so meagre that we could derive no direct guidance from them. We attempted to collect some data in the course of our tour in the provinces but found that, except in the Bombay Presidency, the local officers were reluctant to commit themselves to any definite scheme or figures without the authority of their respective Governments. They in effect stated that unless the policy was first laid down and accepted, they could not enter into the question of costs. But notwithstanding this attitude, reasonable in the circumstances, several official witnesses gave us much helpful information. The question of cost is a matter of expediency. If more money can be found, a more satisfactory scheme can be evolved and the results we have in view can be achieved sooner. The estimates worked out in the following paragraphs, though admittedly rough, will, we hope, be found to be near enough to enable a satisfactory start to be made in the direction of a detailed economic survey.

#### 109. Central Bureau of Statistics

The expenditure required for a Central Bureau of Statistics may be estimated as below:-

Designation	Pay. Rs	Average Pay Rs	Annual Cost Rs
Director of Statistics	2,500-50-3,000	2,725	32,700
1 Assistant Director	1,500-50-2,000	1,725	20,700
1 Assistant Director	1,000-50-1,500	1,225	14,700
1 Superintendent	500-25-700	590	7.080
20 Clerks	200-8-296	243	58,320
20 Clerks	100-6-196	143	34,320
10 Clerks	75-5-150	109	13,080
10 Peons	16 each		1.920
1 Daftari	25		300
1 Jamadar	20-1-25	22	264
Stationery and Printing			20,000
Travelling Allowances and Contin-			16,616
gencies			-,
Total			2,20,000

An additional grant of Rs 1,00,000 may be necessary for the initial equipment of the new Bureau, including a library and some time-saving appliances of the modern type used in the work of statistical compilation.

The existing office of Deputy Director of Statistics, which now forms a section of the office of the Director-General of Commercial Intelligence, will be absorbed into the new Central Bureau. Owing to the amalgamation of the Statistical Department with that of Commercial Intelligence under the retrenchment scheme, we have not been able to ascertain the actual cost of the former office, but we understand that the share of the cost debitable to the present Statistical section would be about Rs 1,30,000 exclusive of the cost of printing. Moreover, the work of that office is said to occupy half the time of the Director-General of Commercial Intelligence and allowance has to be made for the share of the net cost of printing. With these additions, it would be safe to put down the total present expenditure at Rs 1,75,000. This

amount should be deducted from the cost of the new Central Bureau of Statistics given in the above estimate. The difference or net additional expenditure will probably be not much more than Rs 50,000 per annum, or including the fees, etc., for members of the Central Advisory Board, say Rs 75,000. As remarked above, a sum of Rs 1,00,000 will be needed, in addition, for initial equipment, and, as will be explained later, a quinquennial outlay of about Rs 25,000 will be required for periodical surveys; thus making a total initial outlay of Rs 1,25,000 which should be available for expenditure in the first two years.

#### 110. Provincial Bureau of Statistics

We give below an estimate of the probable cost of a Provincial Bureau of Statistics for a province of the size of the Punjab, which, according to the 1921 census, had a population of 20,678,393 souls:-

Designation	Pay Rs	Average Pay Rs	Annual Cost Rs
Provincial Statistician 1 Personal Assistant 5 Divisional Assistants 1 Superintendent	2,000-5()-2,500 1,000-50-1,500 300-25-500-25-800 200-10-350	2,225 1,225 525 268	26,700 14,700 31,500 3,216
30 Clerks	50-4-100	$73\frac{1}{2}$	26,460
10 Divisional Assistant's Clerks	50-4-100	$73\frac{1}{2}$	8,820
10 Peons 1 Jamadar 1 Daftari Travelling Allowances Stationery, Printing and Contingen-	15 cach 20 20		2,880 240 240 8,000 27,244
Total	·		1,50,000

A provision of Rs 50,000 should be made for a library and for card punching and electric tabulating machinery. The requirements will vary with the size and conditions of each province. This estimate does not take into account the possibility of the Labour offices in Bombay, Madras and Burma being absorbed in the proposed Provincial Bureau (paragraph 100) or of the amalgamation of the Office of Director of Land Records with the Bureau (paragraph 101). If such

absorption or amalgamation be found feasible in any province, the cost will be reduced to a corresponding extent. The resulting saving in the latter case may amount to as much as Rs 30,000 or Rs 40,000 per annum. We have chosen for our illustration a concrete case, namely, the province of the Punjab, because one of the members of our Committee is intimately acquainted with the details of its revenue administration.

# 111. Establishment in the Districts - Agricultural Production

The additional staff needed in the districts for the compilation of statistics of agricultural production will be one clerk on Rs 40 per mensem in each tahsil. The cost for the 124 tahsils of the Punjab will be 40 X 12 X 124 = Rs 59,520. Our suggestion to increase the number of crop experiments may involve some additional expenditure. It is somewhat difficult to estimate this increase until the extent of the multiplication of crop experiments has been determined. It will vary from province to province. Assuming that the work necessitates the addition, according to the advice of Mr. C. A. H. Townsend, C.I.E., I.C.S., an expert Punjab witness, of one Deputy Director on Rs 250 and some five Agricultural Assistants on Rs 60 each, one operating in each Revenue Division, the total cost in a major province should not exceed Rs 10,000 pcr annum. These assistants would be available for other duties when they are not performing crop experiments. Similarly as a result of the assistance which this new staff will render during the greater part of the year, the existing staff of the agricultural department might be called upon to carry out a larger number of crop experiments than they are now able to do.

# 112. Production, Pastoral, Cottage Industries, etc.

We have stated in a preceding chapter that the staff needed for ascertaining annually the pastoral and fish production and the production from cottage industries will be one Inspector for every *tahsil* for the first two years and two for every district thereafter. The pay of this Inspector should, in our opinion, be Rs 50 per mensem with a horse allowance of Rs 25 or Rs 75 in all. We have been told that young graduates will be available on this pay, but in any case a good selection can be made from among undergraduates who are working as revenue inspectors or from applicants of the type who seek enlistment for the post. The cost per annum would be -

for the first two years  $75 \times 12 \times 124$ = Rs 1,11,600 per annum;

#### t ac are for subsequent years 75 × 12 × 29 × 2 = Rs 52,200 per annum

The collection of the statistics of production from the Departments of Forests, Industries, Mines, Excise, Salt, etc., should not involve any additional expenditure. The additional cost to the Departments concerned, if any, will be amply compensated by the value of the information added for departmental purposes.

#### 113. Intensive Enquiries

We have so far made provision for ascertaining annually the production from all sources. The questions of economic interest remaining to be investigated will be chiefly income, expenditure, wealth and indebtedness. The late Mr. L. J. Sedgwick, Director of the Labour Bureau, Bombay, suggested that information regarding income and expenditure might be collected by obtaining 100,000 family budgets through 1,000 honorary correspondents in a province of the size of Bombay. He thought that the out-of-pocket expenses of these honorary correspondents should be paid, and he estimated the amount at about Rs 65,000. He would spread the work over a couple of years so that the yearly expenditure might not be more than about Rs 32,500. We suggest that Provincial Governments should be allowed to employ this method wherever honorary correspondents are available in sufficient number and the Governments concerned are satisfied that the information derived from them would be fairly reliable. Other provinces will have to resort to intensive enquiries through paid investigators.

Intensive studies have been carried out on a fairly large scale and in great detail in the Punjab. The investigators are paid Rs 150 per mensem and they are given travelling expenses to the place of investigation at the start and travelling expenses back to their headquarters on completion of the enquiry. The Punjab Board of Economic Enquiry has been able to obtain the services of promising graduates in economics at these rates of remuneration. The enquiries, so far as we can see, will require, in addition to general intelligence, a knowledge of the rudiments of economic survey. It is of much greater importance that the investigator should possess plenty of tact to win the confidence of the inhabitants of the tract where he conducts investigations than that he should possess highly scientific or technical knowledge. We think the scale of pay laid down by the Punjab Board of Economic Enquiry will easily enable the Provincial Statistical Bureaux to obtain the services of men qualified for the work. The investigators should, we think, be recruited from graduates or under-graduates who have distinguished themselves, either at college or outside, as regards their capacity and intelligence, or from retired revenue officials of the type of tahsildars who exhibited special aptitude for this kind of work during their service. The cost of the investigating staff will be:-

For rural tracts $29 \times 150 \times 2 \times 150$ For urban tracts $29 \times 150 \times 12$	12	= Rs = Rs	1,04,400 52,200	
	Total	Rs	1,56,600	

#### 114. Prices and Wages

The collection of prices and wages other than those prevailing in large industrial establishments will be attended to by the existing revenue agency and will involve no additional expenditure, but a sum of Rs 5,000 may be provided for contingencies, in connection with the statistics to be collected annually.

#### 115. Quinquennial Surveys

The quinquennial wage census and the regular census of the production of large industrial establishments should, we think, be taken in the first year of the survey when the office establishment will not be fully occupied. The organization of the work of this quinquennial, or rather initial census will probably take up the first three months of the year. The census itself should not take more than three months and the compilation of statistics, say, six months. If this suggestion is adopted, the first initial census should not cost very much by way of additional establishment. It will only be necessary to provide a small amount for contingent expenditure. But if it is found that the establishment of the Central and Provincial Bureaux are fully occupied in the first year or if

it is found necessary for other reasons to postpone the detailed census to a subsequent year of the quinquennium, the additional establishment needed will be comparatively small. Three or four additional clerks in each Provincial Bureau should be able to cope with the work of issuing schedules and compiling the information received from the Director of Industries. In some places, it may be found necessary to employ additional factory inspectors to assist the managers of factories in filling up the forms. Provision will also have to be made for stationery and printing. There are no data on which an estimate might be based, but we think that a provision of Rs 25,000 in the Central Bureau and of about Rs 10,000 in each province will probably meet the requirements. The industrially advanced provinces will of course have to spend proportionately more but others will be spending less.

The census of wages, other than those prevailing in large industrial establishments, will be taken through the Revenue Departments. Such periodical censuses of rural and other wages have been conducted in the past by the Directors of Land Records. About Rs 10,000 may be provided for contingent expenditure. Altogether under all heads referred to in this paragraph, the total provision needed every five years may be taken to amount roughly to Rs 25,000 in the Central Bureau and about Rs 20,000 in a Bureau for a province of the size of the Punjab.

#### 116. Training of Staff

We are of opinion that before starting work, the Director of Statistics should hold a conference with the officers appointed as Provincial Statisticians, for the purpose of determining the lines on which the work is to be conducted. The Provincial Statisticians should in their turn spend some time in explaining the methods to their Assistants in the respective provinces and the inspectors and investigators to be employed should undergo a course of training for a couple of months at the headquarters of the province before they are called upon to begin the work. For this purpose we would recommend the provision of a sum of Rs 50,000 in a province like the Punjab and we think that this training should be given in the year preceding that in which the work of the economic survey is to be started. Presuming that our proposals are accepted and that orders are passed by the month of December 1925, we would suggest that the training be undertaken and completed between January and March next and that regular work be started from the 1st of April, 1926. The financial provision for training should in that case be made during the current year.

#### 117. Foreign Training for Assistant Statisticians

We think it would be a great advantage if some of the Assistants to Provincial Statisticians could be sent out to foreign countries, particularly the United States of America, to study the methods of enumeration and statistical work followed in those countries. We would suggest that two Assistants be deputed in this way from each province in the first two years. Nine months training would probably suffice. By this measure, every major province will be provided itself with one or two trained Assistants by the beginning of the third year. The question whether any further batches should be sent out may be considered thereafter with reference to the experience gained in the interval. The cost of deputing one Assistant to America would be:-

Passage both ways	for one	Rs	2,500
Pay and allowances of the Assistant		Rs	6,000
car at Rs 500 per mensem	Total	Rs	8.500

For two men the charge will be Rs 17,000. This might be treated as part of the initial expenditure of the survey.

#### 118. Allowance for Stationery and Contingencies

Allowance for stationery and contingencies will have to be made for the staff of inspectors employed for ascertaining production as well as for investigators engaged in intensive enquiries. Under contingencies, provision should be made also for the extra staff needed to replace men absent through sickness or leave. The total estimate under this head may be placed at Rs 40,000 distributed as follows:-

Work connected	with production	Rs. 20,000
Work connected	with intensive enquiries	Rs. 20,000

#### 119. Recurring Provincial Expenditure

The recurring yearly expenditure to be incurred in a typical province like the Punjab is summarised below:-

Particulars	Cost	Total
1. Provincial Bureau	Rs	Rs 1,50,000
FOR PRODUCTION STATISTICS		· ·
<ol> <li>Tahsil clerks for compiling agricultural and other statistics.</li> <li>Inspectors for collecting statistics of products of pastoral and cottage industries, etc.</li> <li>Additional staff for crop experiments</li> <li>Stationery and contingencies</li> </ol>	59,520 52,200 10,000 20,000	
Total for collection of production statistics FOR INTENSIVE ENQUIRIES, ETC.		1,41,720
<ol> <li>Investigators</li> <li>Stationery and contingencies</li> <li>Annual prices and wages statistics</li> </ol>	1,56,600 20,000 5,000	
Total for intensive enquiries		1,81,600
Total yearly recurring expenditure		4,73,320

120. Initial and Periodical Expenditure (Provincial)

detailed survey, the following extra expenditure would be necessary in addition to the yearly outlay just mentioned.

In the first quinquennium beginning with the

Particulars	Cost	Total
<ol> <li>Training of Staff</li> <li>Deputing Assistants for training in foreign countries.</li> <li>Quinquennial expenditures on a census of large industries and of wages.</li> <li>Equipment</li> <li>Extra annual expenditure for ascertaining production from pastoral and cottage industries, etc. for the first two years - Rs</li> <li>59,400 × 2 (paragraph 112)</li> </ol>	Rs 50,000 17,000 20,000 50,000 1,18,800	Rs 2,55,800
	or say I	₹s 2.5 lakhs.

Thus for a province of the size of the Punjab with a population of 20,678,393, the yearly recurring expenditure will be Rs 4,73,320 and the initial expenditure, Rs 2.5 lakhs practically spread over two years. This gives a rate of Rs 23 per mille of population in the former case, and about Rs 12.4 per mille for two years in the latter. The average expenditure per annum for the quinquennium may be taken at Rs 25.5 or, say, in round figures, Rs 25 per 1,000 persons.

#### 121. Cost of Scheme by Provinces

Taking the cost for other provinces at the same rate as for the Punjab, namely, Rs 23 per 1,000 of population for yearly recurring expenditure and Rs 12 per 1,000 for equipment, training, etc., we arrive at the following figures for the several provinces of British India:-

Name of Province		Recurring annual expenditure	Additional initial expenditure
		Rs	Rs
<b>.</b> .		lakhs	lakhs
Bengal		10.74	5.79
United Provinces		10.44	5.62
Madras		9.73	5.25
Bihar an Orissa		7.82	4.21
Punjab		4.73	2.55
Bombay		4.45	2.49
Central Provinces and Berar		3.20	1.73
Burma		3.04	1.64
Assam		1.75	0.94
North-West Frontier Province		0.52	0.28
Other Minor Tracts-including Ajmer-Merwara, Delhi, Baluchistan, Coorg, and Andamans and Nicobars.		0.37	0.20
	l'otal	56.79	30.61

These figures merely give a rough indication, but by no means an accurate one, of the expenditure to be incurred in each province. Our estimate is on the basis of population. Detailed estimates have to be worked out for each province separately. But the conditions in individual provinces will vary. In densely populated provinces like Bengal, the United Provinces, Madras and Bihar and Orissa, it may be possible to conduct the survey with a proportionately smaller staff. Moreover, local organisations in some of the provinces may afford facilities which do not exist in the Punjab. The total expenditure in these provinces may not go nearly so high as the amounts given in our estimate.

#### 122. Additional Cost in Tracts under Permanent Settlement

We have recommended in paragraph 54 that special arrangements will be necessary for ascertaining agricultural production in tracts which are under permanent settlement. For reasons stated there, it is impossible to estimate what additional cost the measures to be adopted may involve. It is possible that the staff of inspectors intended for ascertaining the production of cottage industries and miscellaneous pastoral production may, with some additions, be able to cope with this extra work. If this staff is doubled and no reduction is made in the agricultural production section after two years, it will mean a permanent addition of Rs 1,11,600 per annum for 29 districts or about Rs 88,500 a year for a province like Bengal where four-fifths of its 28 districts are under permanent settlement. Owing, however, to the uncertainty of the amount which will be needed in each of the provinces which fall under this class, we have made no provision in our estimates. But whatever additional expenditure may be found necessary in this connection must be treated as a local charge.

#### 123. Total Cost of Scheme - British India

The cost of the Central Bureau, in addition to the expenditure now incurred (paragraph 109), will be as given below:

		(Rs)
Yearly recurring expenditure		75,000
Initial equipment	1,00,000	
Quinquennial outlay	25,000	
Total Expenditure on equipment, etc., to		
be incurred in the first two years of the		
quinquennium		1,25,000

Counting these figures with those given for the provinces in paragraph 121, the total estimated cost of the scheme, for British India as a whole, will be a yearly recurring outlay of Rs 57.54 lakhs, and an initial outlay of Rs 31.86 lakhs, the latter sum to be expended in the first two years. The yearly average of the total outlay, for British India as a whole, for the first quinquennium, will be Rs 63.91 lakhs.

#### 124. Distribution of Cost

The cost of the Provincial Bureau and the expenditure on collecting statistical data in the districts should in the ordinary course be met by the Provincial Governments. The Central Statistical Bureau would of course be financed by the Central Government. In view, however, of the financial stringency in the provinces, we venture to suggest that the Central Government may meet, for the first five years, half the expenditure to be incurred in the provinces under this scheme.

#### 125. Abstract of Financial Proposals

The following is a summary of the financial proposals under the scheme:-

	Rs Lakhs
Recurring yearly expenditure by the Central Government Recurring yearly expenditure in the Provinces	0.75 56.79
Total yearly recurring expenditure by both Central and Provincial Governments	57.54
Additional expenditure for equipment, training, etc., in the first quinquennium to be expended practically in the first two years	
Central Government	1.25
Provincial Governments	30.61
Total	31.86

If the Central Government bears half the cost of the Provincial Establishments and half of the initial additional expenditure, the share of the respective Governments will be as follows:-

	Rs lakhs
By the Central Government:-	
(1) Total initial outlay in the first two years 1.25	16.56
+ 15.31	
(2) Recurring yearly outlay ().75 + 28.4()	29.15
By the Provincial Governments collectively:-	
Total initial outlay in the first two years	15.31
Recurring yearly outlay	28.40

#### 126. Ultimate Transfer of Cost to Local Bodies

We would have suggested that each municipal corporation or committee should bear, from the commencement, at least a portion of the cost of the economic survey carried out within its jurisdiction, had we not been faced with a universal lament that the local bodies were as a rule in financial difficulties and would be unable to make any immediate contribution. According to the existing law, an economic survey obviously comes within the scope of the objects on which municipal funds might be legitimately expended. The municipalities already bear a substantial share of the cost of the population census. We have had several witnesses before us who thought that it would not be unreasonable to ask the municipalities to share this expenditure. The District Boards might also be expected to bear at least a share of the burden, but in their case too we have been invariably confronted with representations that they were in financial straits. We think that the question of transferring a share of the cost of the survey to the local bodies should be kept in view. In course of time, villages may offer or may be induced to collect the necessary statistical data with their own agency and at their own cost (paragraph 104). And it is possible that some of the provinces might adopt the scheme of collecting family budgets through honorary correspondents, suggested by the late Mr. L. J. Sedgwick for Bombay. When any of these

proposals begin to materialise, a portion or the whole of the local expenditure may be saved, and the burden on the Central and Provincial Governments correspondingly reduced.

#### CHAPTER X

#### SUMMARY OF VIEWS AND RECOMMENDATIONS

The following is a summary of our views and principal recommendations:-

#### Preliminary

(i) There is a wide-spread desire in the country for an economic enquiry (Para. 8).

#### Object of Economic Survey

(ii) The object of an economic survey is to collect statistical data and information which would facilitate the shaping of the economic policies and the solution of current economic problems with a view to meet existing deficiencies, improve resources and increase the country's prosperity generally. (Paras. 9-11).

#### Tests of Economic Condition

(iii) The chief tests of economic condition are income (including production), consumption (including cost of living), and wealth. An enquiry into the economic condition of the people should fall under two main heads, namely -

(a) Tests applicable to the provinces and the country as a whole:

Production, National Income and National Wealth.

(b) Tests applicable to classes of people or local areas:

Individual income, Individual wealth,

Collective wealth,

Consumption,

Wages and prices,

Indebtedness, etc. (Paras. 12, 15, 17).

#### Existing Statistical Material

(iv) In the circumstances of British India the existing statistical material may be considered under three main classes, viz. :-

- A General statistics other than production, comprising finance, population, trade, transport and communications, education, vital statistics, migration, etc.
- B Statistics of production, consisting of agriculture, pasture and dairy farming, forests, fisheries, minerals, large-scale industries, cottage and minor industries.
- С Estimates of income, wealth, etc., covering income, wealth, cost of living, indebtedness, wages and prices.

Statistics falling under class A are more or less complete, those under class B are satisfactory in some respects but incomplete or totally wanting in others, while no attempt has been made to collect those under class C on a comprehensive scale. (Para. 25).

(v) Statistics of class A have not been compiled hitherto with an eye specifically to shaping the economic policies of the country. Further improvements to bring them into line with upto-date statistical systems abroad might be effected with the aid of statistical experts. (Para. 40).

(vi) Complete statistics of production including the total value of production should be collected. (Para. 41)

The existing agricultural statistics, amplified and improved, offer the means of ascertaining agricultural production. Where a subordinate revenue agency exists for doing this work, no other agency can be usefully substituted for it. (Para. 44).

Detailed suggestions as regards the collection of data relating to agricultural production and the conversion of quantities into values are given. (Paras, 45-52).

In view of the correctness of areas and the detailed information already being collected, it is not considered necessary to have a periodical census of agricultural production; but in its stead a quinquennial review of the data collected from year to year is suggested. (Para. 53).

value of production from pastoral occupations, dairy farms, forests, fisheries, and cottage and minor industries. (Paras. 55-57, 60).

Departments of Mining and Industries should collect annually statistics of mineral and industrial production, respectively, including values.

A detailed guinguennial census of industrial production is also proposed. (Paras. 58, 59)

(vii) Intensive studies of villages have been carried out in various parts of the country and a large number of family budgets have been prepared but they have been too detached or fragmentary to lead to any appreciable conclusions. (Paras. 61-76).

It is suggested that intensive enquiries should be made every year in limited areas in every district for ascertaining income, wealth, cost of living, indebtedness, etc., of the people. (Paras. 62-66).

The income-tax returns should continue to be published with certain suggested improvements. Approximate estimates of the wealth of individuals should be made wherever possible by the investigators in the course of their intensive enquiries. In the meantime estimates of collective wealth should be prepared for villages, towns, etc., by the inventory method. (Paras. 62, 64).

Cost of living index numbers should be prepared for the principal industrial centres. (Para. 65).

Detailed proposals have been made for the collection of rates of wages of various classes of operatives in industrial establishments, mines, etc., also of persons employed in cottage industries, agricultural labour, domestic service, etc.

A comprehensive quinquennial wage census is also recommended. (Para. 67).

Suggestions are made for the collection of wholesale and retail prices. (Para, 69),

#### Scheme of Economic Survey

(viii) For the presentation of results of intensive studies a double classification of the population based both on occupation and income, is suggested. These statistics should be tabulated by administrative units and also by economic zones where necessary. (Paras. 71-72).

(ix) Figures of production of all kinds should be Detailed suggestions are given for obtaining the obtained through the departments of Government by engaging additional staff where necessary. The total value of the entire production should be recorded. Wherever it is not possible to obtain actual figures of production, a near approximation may be attempted. (Para. 75).

(x) Every intensive study should as a rule extend over a whole year. Each investigator in rural areas should deal with a group of villages in one assessment or revenue circle. In towns, houses should be selected by a random sample of 1 in 5. Ordinarily these studies should embrace income, expenditure, wealth and indebtedness. (Paras. 77 and 78).

Special enquiries regarding particular phases of economic condition may be made (1) in local areas, or (2) concerning particular classes of people, whenever required by the Provincial Government. (Para. 79).

The staff under the Provincial Bureau will constitute a nucleus to undertake special investigations.

(xi) Data regarding wages in large industries and mines and prices of industrial and mineral production, will be collected by the Industries and Mining Departments, respectively, and similar particulars relating to rural and other wages and prices wholesale and retail by the Revenue Department, (Para. 81).

(xii) All statistical work should, as in the Dominions, be co-ordinated and centralized, the aim being to provide a common purpose and give the statistics an economic trend by means of a central thinking office. (Para. 82).

(xiii) The whole statistical organization requires legal sanction to stabilize it as well as to arm the officers of the departments with the necessary powers to compel people to supply any information which may be specified, while guaranteeing the maintenance of secrecy in respect of the information or particulars so supplied. (Para. 83).

(xiv) A Central Statistical Bureau should be established at the head-quarters of the Central Government to take the place of the Statistical Section of the office of the Director-General of Commercial Intelligence for the purpose of centralization of statistics, particularly those of economic significance. It should be presided over by a Director of Statistics with the requisite staff. The Director should be able, in addition, to work as a Census Commissioner for the decennial

population census. (Para. 84).

(xv) Every province should have a Provincial Statistical Bureau with a Provincial Statistician at its head and a staff of Assistants, usually one for every revenue division, to supervise the work in the districts. (Para. 85).

(xvi) An advisory body should be associated with cach of these bureaux. The existing Publicity Advisory Committee might be strengthened by the addition of the Director of Statistics and three other members with statistical or economic experience, and utilized as an Advisory Body to the Central Bureau. In every province there should be a Board of Economic Enquiry to advise the Provincial Statistician and, if necessary, to supervise the work connected with economic research, (Paras. 86 and 87).

(xvii) There will be two distinct agencies working in each district for collecting economic data; (1) a staff of inspectors to collect statistics of production other than those furnished by Government departments, and clerks for the compilation of statistics of agricultural production, etc.; (2) qualified investigators for intensive enquiries.

The former staff will be under the supervision of the Revenue Department but controlled in technical matters by the statistical department; and the latter, while acting under the direct control of the Assistant Statistician will be associated with the Revenue Department in the matter of regulating their relations with the people. (Para. 89)

(xviii) On the scale provided the investigators will be able to collect every year data relating to about

 $2\frac{1}{2}$  per cent of the rural and 4 per cent of the urban

population. It is expected that as data continue to accumulate generalizations from them will become more and more reliable. (Para. 96).

(xix) Local agencies in villages, such as, Cooperative Credit Societies and local committees of zemindars, schoolmasters, shopkeepers, etc., should be associated with the inspectors and investigators as far as possible.

The services of superintendents of cottage industries, grazing inspectors, members of the staff of Co-operative Credit Societies and other departments may be utilized when available. (Paras 91, 97 and 98).

The Director should be able, in addition, to work (xx) It is suggested that the labour offices in as a Census Commissioner for the decennial Bombay, Madras and Burma be absorbed in the

proposed Provincial Statistical Bureaux and that the posts of Director of Land Records and Provincial Statistician be amalgamated wherever possible. (Paras. 100 and 101).

(xxi) The publication of an Official Year Book for British India is recommended. The statistics collected should be reviewed quinquennially by the Provincial and Central Bureaux. The results of each year's work should be reviewed and discussed in the legislatures concerned at the time of the presentation of the annual budget. (Paras. 102 and 103).

(xxii) Statistics of production, etc., pertaining to a village should be published in the village and interpreted to the people by the officials of the Revenue and Statistical Departments.

The Advisory Bodies should also direct the attention of the public through the press and from the platform to deficiencies in the economic structure and to measures for removing such deficiencies. (Para. 104).

(xxiii) It is suggested that the Indian States be invited, in their own interests, as well as that of the country as a whole to undertake economic surveys on parallel lines and to join British India in a common organization for the collection of statistical data. (Para. 106).

#### Estimate of Cost

(xxiv) The yearly expenditure required for the Central Bureau, over and above the present cost of the Statistical Section of the Commercial Intelligence Office, is estimated at Rs 75,000. An initial expenditure of Rs 1,00,000 would be needed for equipment and a sum of Rs 25,000 for quinquennial investigations. Rupees 75,000 will be the recurring yearly outlay, and the sum of Rs 1,25,000 will represent the special outlay required in the first two years. (Para. 109).

(xxv) A Provincial Bureau for a province of the size of the Punjab (population 20,678,393) will require a yearly recurring outlay of Rs 4,73,000 besides a sum of Rs 2,55,800 for initial equipment, etc., the latter sum to be expended in the first two years. (Paras. 110-120).

(xxvi) The total estimated cost worked out, on the Dated the 10th August, 1925.

basis of population, for all the provinces of British India aggregate Rs 56.79 lakhs recurring and Rs 30.62 lakhs for expenditure on initial equipment, etc., in the first two years. This is exclusive of the expenditure of the Central Bureau mentioned above. (Para. 121).

(xxvii) The tracts under permanent settlement may require some further expenditure for securing reliable data concerning agricultural production. This will have to be determined for themselves by the Provincial Governments concerned. (Para 122).

(xxviii) The Provincial Governments should ordinarily bear the entire provincial expenditure but, in view of financial stringency in the provinces, it is suggested that for a period of five years the Central Government may meet half of such expenditure. (Para. 124).

(xxix) If this suggestion is accepted, the cost of the scheme will be as distributed below:-

#### By the Central Government

	Rs
4	Lakhs
Initial outlay	16.56
Recurring yearly outlay	29.15

By All the Provincial Governments Collectively

	Rs
· · · · · · · · · · · · · · · · · · ·	Lakhs
Initial outlay	15.31
Recurring vearly outlay	28.40
	(Para. 125).

(xxx) It is suggested that an endeavour should be made to transfer gradually a share of the cost to local bodies and to such villages as may come forward to participate in the work and the financial burden. (Para, 126).

M. VISVESVARAYA, Chairman. HARI KISHAN KAUL A. R. BURNETT-HURST\*

Simla, Dated the 10th August, 1925.

<sup>\*</sup> Subject to a Note of Dissent on page 91. (not printed).

#### **APPENDIX 1.**

#### Material usually collected and published in Foreign countries regarding the Economic Condition of the people.

The material as collected and published in the Dominions may be examined under:- I - Production - (a) agriculture, pastoral and dairy and farm produce, (b) fisheries, (c) forests, (d) minerals, (e) industries and manufactures; II - Labour and Wages; III - Trade and Commerce; IV - Transportation and Communication; V - Finance; VI - Education; VII - Vital Statistics; VIII - Incomes; IX - Prices and Cost of Living; X - Wealth; XI - Indebtedness.

The following details are available:-

#### I. - PRODUCTION

(a) Agricultural, Pastoral, Dairy and Farm Produce -Agricultural revenue, tenure, number and size of holdings; area, yield, quality and value of crops (food, commercial, minor, fruits, etc.); labour on fields and farms; wages; and machinery. Livestock and pastoral products; value and quantity of flesh, hides, skins, etc.; for farming; number and value of dairy cattle; quantity and value of all dairy products. Poultry and bees; number of small animals and hives - value of honey, eggs, etc.

(Note - In South Africa and Canada an annual census of production is carried out. Schedules are distributed in the former by the Police Force under the supervision of the Production Section of the Office of Census and Statistics, while in the latter country they are distributed through rural schools and crop correspondents. In New Zealand and Australia, 'statistics of agricultural and pastoral production are collected by means of schedules through the agency of the Police Force and Special officers. In New Zealand practically every holding of one acre and over is canvassed personally.)

(b) Fisheries - Total catch of inland and sea fisheries; value, number and kind of vessels used; number and capital value of fishing vessels, boats, nets and traps, etc., used; number of fish canning and curing establishments; number and sex of persons employed; salaries and wages in fish canning and curing establishments; value of exports and imports of fish and fish products.

(Note - In New Zealand, owners of boats and vessels, employed in fishing are required to furnish returns of the catch. In Canada, statistics are collected by the local officers of the Fisheries Branch, and are checked in the Department of Marine and Fisheries.)

(c) Forests - Area under various kinds of forests; quantity and value of all forest products; trade in forest products; revenue and expenditure of forest departments.

(Note - Statistics are furnished by the Forest Departments.) (d) Minerals - Number of working mines and quarries; total output and its value; number of employees and their wages; accidents; number, kind and power of machinery used; capital employed; dividends declared.

(Note - Departments of Mines and Quarries furnish the statistical information.)

(e) Industries and Manufactures - Capital : value of land, buildings, machinery, implements, tools, etc.; capital invested. Labour : number, race, adult and child labour, sex of employees, wages and salaries. Establishments : number with details regarding proprietorships and hands employed. Cost of production : quantity and value of raw-materials, etc. Outtum : value and quantity. Fuel and light : quantity consumed, cost of fuel and light. Power : number of engines, horse-power, and kind of power used.

(Note - Statistics are collected annually in all the Dominions, by means of schedules distributed either by post or through the Police Force and Factory Inspectors.)

#### II. - LABOUR, WAGES AND PRICES

(a) Labour - Occupations of the people : number, nativity, sex, distinguishing productive employees in each industry. Trade Unions : number, memberships. Employment and unemployment: applications for employment, demand from employers, persons provided with employment. Trade disputes : strikes and lockouts.

(b) Wages - Index numbers of rates of wages for various classes of labour; averages of norminal and effective weekly wage rates; hours of work. Overtime in various industries.

(Note - In South Africa, statistics of wages are collected by the Statistics Department from Trade Unions and Associations and from the Labour Department and employers' associations; while, in New Zealand and Australia, data are obtained also from the awards of Arbitration Courts. The Labour Department also supplies predominant ruling wages in Agricultural and Pastoral occupations for which no awards are available.)

#### III. - TRADE AND COMMERCE

External Trade - Exports and Imports of merchandise, total trade; movements of coins and bullion; imports of merchandise and raw-materials used in manufacture entered for home consumption; exports to and imports from all countries by classes of merchandise, by values, and percentage. Average ad valorem rates of duties collected. Exports to and imports from all countries in quantities and values by classes of home produce. Imports (dutiable and free), and exports of home and foreign produce by main classes. External trade by main groups, and degree of manufacture according to origin. Ouantities and values of animal and agricultural products.

Internal Trade - Number and shortage capacity of grain elevators, shipments of grain by vessels; trade in livestock and meat; retail trade in coal.

#### IV. - TRANSPORTATION AND COMMUNICATION

Railways - Electric and Steam - Mileage, capital liability, eamings and operating expenses. Number, and amount of salaries and wages, of Railway employees, and the ratios of the latter to gross eamings and operating expenses. Rolling stock. Commodities hauled as freight: areas of land subsidised or granted to Railways. Railway bonds guaranteed. Cost of construction, working expenses and revenue and capital expenditure to Government Railways. Accidents, Traintraffic statistics.

Roads - Classification of highway and road mileage. Motor vehicles: number, types, revenue from the taxation of the sale, distribution and operation, imports and exports of motor vehicles.

Air Navigation - Number of firms; passengers, express and mail, carried; accidents and injuries.

Canals - Length; traffic, tonnage; expenditure and revenue; capital expenditure.

Shipping and Navigation - Sea-going vessels - entered inwards and outwards and cleared. Foreign vessels employed in Coasting trade etc. Total number and tonnage of all vessels. Vessels built and registered. Revenue and expenditure of the Department of Marine. Number of seamen shipped. Wrecks and casualties.

Posts, Telegraphs and Telephones - Revenue; expenses; pole, line and wire mileage; employees; officers; messages; amount of money transferred. Radio stations, number, business and cost of maintenance. Operation of money order system, number and total values of postal notes; issue of postage stamps.

#### V. - FINANCE

#### (1) Public Finance

(I) Dominion - Detailed receipts and expenditure. Inland Revenue. Provincial subsidies. National debt : details of the assets of public debts and gross liabilities; funded debt payable outside country; public debt.

(II) Provincial - Revenues and expenditure of the provincial governments, itemized receipts and expenditure; assets and liabilities.

(III) Municipal. - Municipal statistics of principal interest for cities, urban municipalities of 1.000 or 1,000 to 3,000 population. Receipts and Expenditure, (ordinary and extraordinary), assets and liabilities.

#### (2) Currency and Banking, Loan and Trust Companies

Coinage, composition of gold coinage, circulation of silver and bronze coin. Notes circulation and reserves; bank note circulation; circulating medium in hands of public. Development of Banking business; liabilities and assets; deposits, loans, bank reserves with liabilities; number and branches of banks; amount of exchange of the Clearing Houses of Chartered Banks; Bank amalgamations and insolvencies. Deposits with Government and other Savings Banks. Liabilities and Assets of Trust Companies.

#### (3) Insurance

Fire insurance in force; premia received, losses paid, and percentage of losses to premia. Business transacted; cash income and expenditure; assets and liabilities. Life insurance in force and effected; assets and liabilities; cash income and expenditure; life insurance on the assessment plan. Miscellaneous insurance other than fire and life: income, expenditure, assets and liabilities. Government annuities fund: valuation of annuity; contracts issued pursuant to the Government Annuities Act.

#### (4) Commercial Failures

Number, assets, liabilities, causes of failures.

#### VI. - EDUCATION

Number of Schools, teachers, attendance, and pupils in various kinds of colleges and schools, (State and private). Vocational and Technical Schools. Teachers and pupils. Receipts and expenditure for Public Education, Public Libraries, Societies, Museums and Art galleries.

#### VII. - VITAL STATISTICS

Births, marriages, deaths, and natural increase by sex and age. Illegitimate births; still births; marriages, and marriage rates; conjugal condition of brides and grooms. Nativity of persons married. Deaths and death rates by province and by sex; infantile mortality by place, sex and age; maternal mortality by causes of death. Deaths from special causes.

#### VIII. - INCOME

In all Dominions, Income-tax returns are available and contain information regarding the number of tax-payers, the total income assessed and the number of tax-payers, according to various grades of income.

#### IX. - PRICES AND COST OF LIVING

Index numbers of wholesale and retail prices of commodities usually consumed and other necessaries of life, such as food, grocery, rent, fuel, light, sundries, including clothing and boots, etc., are published. Index numbers of the cost of living based upon weighted retail prices are worked out, and the changes in it are shown with the variations in purchasing power of money. In Canada prices and index numbers of a family budget of staple food, fuel, lighting and rent, in sixty cities, are separately worked out and published.

(*Note* - Price returns are collected from representative dealers in selected towns; in New Zealand and Canada also through local factory inspectors and crop correspondents, respectively.

As regards cost of living, a standard regimen is adopted from the various family budgets collected for the purpose and retail price quotations are used in framing the index numbers of the cost of living. Data for house-rents, light and fuel and clothing, etc., are also collected by means of returns.)

#### X. - WEALTH

In Dominions the nature of information on wealth varies. Australia and South Africa give little or no information. In New Zealand, the estimates of the private wealth of the Dominion are arrived at on the assumption that the wealth per head of the living population is approximately equal to the average of that left by persons dying. The actual average wealth of deceased persons is obtained by a consideration of the estates certified for stamp duty.

In Canada and Australia, the National wealth is worked out by the 'Inventory method', the basis of which is the valuation of assets item by item, e.g., land and improvements; live stock; agricultural, dairying and pastoral implements, and machinery; manufacturing plant and machinery; mining properties (including plant and machinery); coin and bullion; private railways and tramways; shipping; agricultural and pastoral products; locally manufactured products; mining products; imported merchandise; clothing and personal adomment; furniture and fittings, books, etc., and motor vehicles.

#### XI. - INDEBTEDNESS

None of the Dominions publishes information regarding private indebtedness. Figures of public debts are available, and have been dealt with under Finance.

#### **APPENDIX 2**

List of publications on production with the nature of information contained in each

AGRICULTURE

#### **Publications**

Quinquennial Report on the Average yield per acre of Principal Crops in India. Commercial Intelligence Department. (Quinquennial.)

Estimates of the Area and Yield of the Principal Crops in India - Department of Commercial Intelligence and Statistics. (Annual.)

Report on the Production of Tea in India.

Statement relating to area, production, imports and exports of Coffee in India.

Statement relating to area, production, imports and expons of Rubber in India.

Agricultural Statistics of India - Commercial Intelligence Department. (Annual.)

Season and Crop reports, published by the Provincial Departments of Agriculture or Land Records. (Annual.)

#### Nature of Information

Average yield (lbs. per acre) of principal crops irrigated and un-irrigated - in each province and district of British India.

Area and yield per acre of principal crops in each province during each of the previous ten years; standard or normal yields per acre of crops for which forecasts are prepared.

These publications are issued annually as a supplement to the Indian Trade Journal by the Department of Commercial Intelligence and Statistics. The information contained in them is of the following nature:- area; number and area of plantations; production; production (in lbs.) also of cured coffee and dry nubber; persons employed in all three industries in each province or district of British India; quantity of tea available for consumption in India during the previous five years; stock of dry nubber (in lbs.) held in each province; quantity of nubber (raw) exported by sca; import and export of tea, coffee and nubber; prices and wages relating to the tea industry.

Vol. I. - Total area (in acres), classification of the area (in acres), area irrigated and crops irrigated, area under crops and specification of crops in each province; livestock, ploughs and carts; land-revenue assessments on the area, and population of each province; harvest prices of certain important crops per maund (for five years); average yield (lbs. per acre) of principal crops in each province of British India.

Vol. 11 relates to Indian States.

The information available in the Season and Crop reports is as given below:-

Average rainfall (in inches) according to season, month or year; total area - cultivated, uncultivated, irrigated, un-irrigated, sown, cropped or matured, assessed; areas under different crops, with areas irrigated; classification of area in cach district under forests, etc., area under food grain crops in each district of the Bombay Presidency and

#### Nature of Information

its estimated outtum; estimated outtum of "kharif and rabi" crops in parts of 100; total produce of the principal crops; estimated yield of main cereals in cleaned grain (in Bombay reports only); yield per acre (food and non-food crops); normal rates of yield per acre of different crops for each district; average estimate of the actual weight of the total produce in tons; number and sources of water-supply (in Bombay reports only); total number of oil engines, tanks, channels and wells actually used in each district for the purpose of irrigation (in Madras reports only); seasonal factor or condition figures of crops in ryotwari (including minor 'inam') areas as well as non-ryotwari areas, so far as information is available, in parts of 100 (100 denoting the normal crop); harvest prices of staple articles and fodder; agricultural stock, ploughs and carts.

Agricultural Statistics, published by the Department of Agriculture in Bihar and Orissa and by the Department of Land Records in the Central Provinces. (Annual)

Tea culture in Assam - Department of Agriculture. (Annual.)

revenue, statement of transfers of land (Bihar and Orissa only).

Statistics of area, live-stock, and incidence of land-

Number of plantations, area, yield, persons employed (daily average), for each district.

#### Special Reports

The Economic Progress of the Rural Areas of the Bombay Presidency, (1911-22), by Harold Mann, D.Sc., Director of Agriculture, Bombay Presidency - Poona, Government Central Press, 1924.

The produce of rice land, cost of cultivation, land values and other statistics for calculating the revenue demand, compiled by Maung Tun Myint, B.A., and Maung Say Yen, B.A., (Burma).

Fodder crops of the Punjab.

Names of field crops grown in Madras, Central Provinces, Burma - (published by the Department of Agriculture as Bulletins. In the United Provinces of Agra and Oudh it is published by the Department of Land Records). Changes in the rural population; area occupied under crop in different seasons, the double cropped area, irrigated area (whatever be the source from which the land is watered); character of crops grown; total amount of produce obtained; money value of the produce from the land in the purchasing power of the population.

Produce of rice land; cost of cultivation; land values and other statistics for calculating the Revenue demand.

Classification of the food of cattle so far as it is derived from crops; quantity of grain, cotton seed, oilcake and fodder given to cattle in the various districts of the Punjab; areas of grazing land, etc., number of live-stock; area (in acres) of fodder crops.

A complete list of field crops grown in all the four provinces; area and statistics of outturn.

#### PASTORAL

Agricultural statistics - Commercial Intelligence Department. (Annual.)

Report on the census of Live-stock, Ploughs and Carts in India - Department of Statistics. (Quinquennial.) Number of live-stock divided into bovine, ovine and others, for each province, in the last census and as compared with the preceding census.

Number of live-stock, etc., in each province in British India as ascertained by a census held quinquennially.

Cattle Census - Director of Land Records and Agriculture. (Quinquennial.)

Notes on the cattle of the Bombay Presidency, by Rao Sahib G. K. Kelkar - Department of Agriculture, Bulletin No. 75.

A cattle survey for the Nagpur and Berar Divisions.

Notes on wool in India, by A. H. Silver and J. K. Mehta - Government of India.

#### Nature of Information

Statistics of agricultural stock, ploughs and carts.

Fluctuations in prices of agricultural cattle; quantity of bye-products of food grain crops available for fodder; area in acres under fodder, average outturn of dry fodder per acre, total fodder available for consumption, fodder available per head of cattle per year and per day; prices of various breeds of cattle in different tracts.

Area open for grazing and the number of cattle therein; composition of the fodders and other feeding stuffs grown in Nagpurand Berar divisions, number of agricultural stock.

Estimate of total production of wool in India; yield per sheep for each province; average price for East Indian wool in the Liverpool market from 1911 to 1917; particulars of imports and exports of raw wool into India by sea and land from 1912 to 1918; import value of manufactured woollen goods into India by land; imports and exports of manufactured woollen and worsted goods into India by sea (quantity and value); number of sheep in each province of British India.

#### DAIRY AND FARM PRODUCTION

Mandalay Milk Supply by F. J. Warth, M.Sc. -Department of Agriculture, Burma, Bulletin No. 15.

Report of the Committee appointed to consider measures for the improvement of the milk supply in large cities in the Bombay Presidency (1916). Yield per day and per milking cow of some herds in Mandalay; total cows; milch cows; yield (in lbs.) - totalper cow in Mandalay town (herd samples); yield per day from India half bred and Burma cows in Mandalay town; rate and average quantity sold.

Quantity of milk available in large towns (daily supply); retail price of milk (lbs.) per rupee; estimates of other sources of demand of milk apart from the demand for domestic consumption; annual yield of milk, butter, fat; total cost of feeding and feed cost to produce 100 lbs. of milk and butter.

#### FORESTS

Quinquennial Review of Forest Administration in British India - Department of Revenue and Agriculture, Government of India. (Quinquennial.)

Annual Return of Statistics relating to Forest Administration in British India - Department of Revenue and Agriculture, Government of India. (Annual.) Area (reserved, protected, unclassed, state); area closed and open to grazing; area of plantation and the cost of the year's work; outturn of forest production (timber, fuel, and minor produce); exports of forest produce (quantity and value) and estimated value of forest produce given away free or at reduced rates, for each province for quinquennium.

It contains the same information as is given in the quinquennial report with the difference that the statistics relate to the year under report only.

Progress Report on Forest Administration - Department of Forests. (All provinces.) (Annual.)

#### Nature of Information

Area (reserved, protected, unclassed, leased, etc.); area closed and open to grazing; area of artificial production and afforestation; outtum (in thousands of cubic feet, solid) of timber and fuel; outtum of minor forest produce; abstract showing the value of live-stock and dead-stock; imports of timber, firewood and bamboo; estimated value of forest produce given away free or at reduced rates; account of timber, fuel, bamboos and minor forest produce cut or collected by Government agency and brought to depots, sold locally or otherwise disposed of. The information usually relates to each district of the province concerned.

Special Publications

India's Forest Wealth, by E. A. Smythies.

The Indian Forest Records, Vol. VI, Part II, Statistics compiled in the office of the Sylviculturist, Forest Research Institute, Dehra Dun, during 1915-16 - Government of India.

Indian Forest Records - A note on some statistical and other information regarding the teak forests of Burma, by R. S. Troup, I.F.S., F.S.I., Imperial Sylviculturist (1911). Area, output and value of forest produce (major and minor) for various provinces; produce given away in concession or free grants (quantity and value); imports into and production in India of rosin and turpentine since 1907; exports of rosin and turpentine from India; exports of myrabolams, and of lemon grass, citronella and other oils, from Indian ports (quantity and value).

Rate of growth and average outturn per tree; average outturn (in cubic feet) of different sizes of deodar. Similar statistical data were compiled in the Indian Forest Records, Vol. VI, Part V, 1918.

Area in square miles of teak-bearing forests, number of teak trees per 100 acres of teak-bearing forests; statistics regarding rate of growth in girth; average teak growing and dead trees per 100 acres of teak-bearing forests; statements showing rate of growth of teak in natural forests - exploitable age, size and other particulars; statistics regarding yield and outturn of Burna teak forests.

#### FISHERIES

Report on Madras Fisheries by G. F. S. Christie, I.C.S.

A statistical analysis of the Fishing industry of Tuticorin (South India) by James Hornell, F.I.S., Report No. 3 - Madras Fisheries Bulletin, Vol. XI, 1917 - Department of Fisheries, Madras.

Statistics and information, West and East Coast Fisheries, Madras - Bulletin No. 9, Department of Fisheries, Madras.

Annual Report of the Department of Fisheries, Bengal. (Annual.)

Statistics of Fish imported into Calcutta - Bulletin No. 13, Department of Fisheries, Calcutta.

A statement showing the principal fish found in the waters of the Madras coast. Wholesale prices of some species of fish.

Average yearly weight and value of the 36 most important local fishes; average monthly catches during 4 years (1911-15); off-shore and in-shore lining at Tuticorin; average wholesale prices ruling at Tuticorin for forty-one species of fish; number and distribution of fishermen. List of the principal food fishes caught at Tuticorin. Average monthly and annual quantity of the produce obtained by the chief fishing methods employed at Tuticorin.

Fish curing yards; number of ticket holders; markets; average quantity of fish cured; number of boats engaged in fishing.

Fish traffic (imported into Calcutta in maunds or lbs.)

Total imports of fish into Calcutta via all routes.

395

Report on Fisheries of Eastern Bengal and Assam, by K. C. De.

Report of the Chief Inspector of Mines in India -

Department of Mines, India. (Annual.)

Mineral production of India - Department of Geological Survey of India, Part II. (Annual.)

Quinquennial review of the Mineral production of India, published by the Director, Geological Survey of India. (Quinquennial.)

Statistics relating to the Production and Consumption of Salt in India - Commercial Intelligence Department (now published as a supplement to the Indian Trade Journal). (Annual.)

Report on the Production and Consumption of Coal in India - Commercial Intelligence Department, (Supplements to the Indian Trade Journal). (Annual.)

#### Nature of Information

Statistics relating to inland fish traffic; table comparing the average prices of the better varieties of fish with the prices 20 years ago and with the prices of goats meat.

MINERALS

Number of mines regulated by the Indian Mines Act; average number of persons employed daily; output of minerals during the year under report. Analysis of figures relating to output of coal and coke. Number of mines opened and closed during the year under report. Fluctuations in the output of the principal minerals raised from mines classed under the Indian Mines Act.

Total value of minerals (forty) for which returns of production are available; quantity and value of various minerals; building materials, etc., for various provinces of India; special statement regarding output, prices, export and import of coal and average number of persons employed in coal-fields; export of manganese, saltpetre; import of kerosene oil; mineral concessions granted; classification of licenses and leases.

Output and value of minerals for which returns of production are available; amount and value of imports of minerals and of products obtained directly from minerals; value of imports of products of a more finished nature manufactured almost entirely from minerals or mineral products; production of chromite and coal. Average pit's mouth value (per ton) of coal extracted from the mines in each province; comparison of the Indian and Japanese coal statistics; relation of consumption to production of coal; coal consumed on Indian Railways; coal carried for foreign railways; imports and exports of coal; output of Indian coal by provinces; accidents in coal-fields; number of persons employed in coal industry; output of coal per person employed at Indian mines, and below ground; output of copper; exports and imports of copper and brass; production of diamond, etc.

Manufacturers, issues, imports, exports, and movements of salt in India.

Production of coal in each province and State of India, and at each time; total production and consumption of coal in India; average price of Indian, Welsh and Natal Coal at Calcutta, Bombay and Karachi; average number of persons employed daily in the coal mining industry in India; quantity and value of foreign coal imported into British India, and of Indian coal exported, and the supply available for India; quantity of coal, wood and oil fuel consumed on Indian Railways; list of Joint-Stock coal companies at work in India with their financial portion; comparative statement of the production and consumption of coal in India and Japan.

A Bibliography of Indian Geology and Physical Geography, with an Annotated Index of Minerals of Economic value, by T. II. De La Touche, published by Order of the Government of India, 1918.

Sketch of the Mineral Resources of India, by T. H. Holland, D.Sc., F.R.G.S., Director, Geological Survey of India, 1908.

India's Mineral Wealth, by J. Coggin Brown (Oxford University Press, Bombay), 1925.

Note on the mineral production of Burma, compiled by the Financial Commissioner, Burma, and published each year.

The mineral resources of Burna, by N. M. Penzer - (George Routledge and Sons, 1922).

#### Nature of Information

Value of twenty-five minerals extracted in India. A detailed catalogue of all the minerals in various provinces. The note under each mineral gives the outturn, but not in all cases. The minerals included are those for which approximately trustworthy returns are furnished.

Total value of minerals for which regular returns of production are available. The work gives much information regarding the production, or imports and exports, of coal (Gondwana and Tertiary), chromite, gold, manganese, tin ore, mica, salt, rock-salt, salt-petre, jadestone, petroleum, kerosene, etc.

Number of mineral concessions granted. Average annual value of certain Indian, minerals produced during the periods 1898-1903, 1904-1908, 1909-1913, 1914-1918 and in 1919, 1920 and 1921. The value represents either export values or is based on prices without duty.

Details of the production of coal (Gondwana and Tertiary), iron-ore, manganese, petroleum, salt, tin; and exports of mica, manganese, etc., are given for the years 1917-1922.

This publication gives the figures for non-Act mines, as well as those coming under the Indian Mines Act.

Statement showing the quantity and value of amber, building materials and road metal, china clay, gold, ironore, petroleum, platinum, etc., and statistics of labour employed in production of the above minerals are given.

The average annual output (for 1915-1918) in respect of precious stones, lead and silver ore, tin, tungsten ore, salt, antimony and petroleum are given, together with imports and exports of precious stones, tin, etc., and an estimate of the consumption of minerals in Burma, compared with production.

#### LARCE SCALE INDUSTRIES

Large Industrial Establishments in India - Commercial Intelligence Department. (Annual.)

Joint Stock Companies in British India and in the Indian States.

Statistical Abstract for British India - Commercial Intelligence Department. (Annual.)

Number of establishments and persons employed in the principal industries in each province and in the Indian States; list of factories which come under the Indian Factories Act in each district of the different provinces of India, and the average number of persons employed by them.

It gives only a complete list of industrial establishments.

The information available in this publication is only about cotton, jute, woollen and paper mills and breweries, and relates to the following items:-

Number-capital-looms-spindles, persons employed production (quantity), value of production is also given for paper and woollen mills. For jute mills no production statistics are given and additional information on mill consumption in bales of 400 lbs. each, is published. Figures relating to brewerics are all the same except in regard to capital, which is not recorded.

Cotton Pressing Factories and Cotton Spinning Mills in India - Commercial Intelligence Department. (Annual.)

Monthly Statistics of Cotton Spinning and Weaving in Indian Mills - Commercial Intelligence Department. (Monthly.)

Report on the working of the Indian Factories Act in the Provinces.

#### Nature of Information

Number of pressing factories and spinning mills in each district. Names of factories, situation and owners or agents.

Quantity (in lbs.) of yarn spun and woven goods produced; detailed statements of the quantity (in lbs.) and the count of yarn; description, value and quantity (in lbs. and their equivalent in yards) of woven goods are also given.

Enumeration of factories.

#### COTTAGE INDUSTRIES

Industrial Survey Reports of each district of the United Provinces of Agra and Oudh (1922-24).

Notes on the Industries of the United Provinces, by A. C. Chatterjee, (1908).

Industrial Survey of the Central Provinces and Berar, (1908-09).

A survey of the Industries and Resources of Eastern Bengal and Assam for 1907-08, by G. N. Gupta, M. A., I.C.S. The statistical information as available in the publications in connection with this important survey is noted below:-

Production per man, firm or family; daily, monthly or annual outturn per firm, of various cottage industries in a district. Total outturn from some industries in a district; the quantity and value of production of important cottage industries are also given in a few cases. Number of turnovers, quantity and value of bye-products; percentage of the wastage of raw-material in production, the quantity of finished articles produced in relation to raw-materials used, and the cost of production, are very soldorn and imperfectly dealt with. Machinery, number of works, number of working days, number of men engaged, wages, sometimes the total annual wages paid in a factory, are also available in some cases. Profits are given per head or per family or per article manufactured, but sometimes the daily or monthly or annual profits are given. Prices of the rawmaterial imported or the finished articles sold or exported are also noted.

This work discusses the trade returns and local consumption, and sometimes the number of employees engaged with regard to the cotton, silk, woollen, oil and oil-seed, dycing and printing, leather, iron and steel, brass and copper industries, flour, ghi, sugar, tobacco and other produce.

Information relating to the number of persons engaged, imports and exports, production, rate of production, cost of raw-material and of production, prices of finished goods, and profits, or to some of these items, is available with regard to the cotton, woollen, silk and lace, pottery, tanning and leather, dyeing and calico printing, and brass and copper industries.

The statistical information given about textile and connected industries, leather, fish industry, iron and steel work, oil industry, and production of raw silk, relates to the following items:-

Population supported by the industries, exports and imports, available raw-material, capital invested, number of gins, forges, etc., estimates of cloth consumption and prices of leather.

(a) Report on the Survey of Cottage Industries in Bengal - Department of Industries, Bengal, 1924.

(b) Supplementary Report on the Survey of Cottage Industries in Bengal, for the districts of Mymensingh, Nadia and Faridpur - Department of Industries, Bengal.

A summary of the Cottage Industries in the districts of Bengal - Co-operative Societies, Bengal.

Handbook of Commercial Information, Madras, by M. E. Couchman, I.C.S. - Department of Industries.

Monographs on the various industries issued between 1895 and 1910 by the various Provincial Governments.

(These relate to cotton and woollen fabrics, silk, dyes and dyeing, gold and silver, wire and tinsel, leather and tanning, paper, pottery, glass, stone, wood and ivory carving, iron and steel, brass and copper, and manufactures from wood.)

#### Nature of Information

Statistical information is available on the following items for the various districts of Bengal:-

Number of people or families, and of firms, shops or factories engaged in the different cottage industries. Yearly consumption of raw-materials, prices of raw-materials, appliances, finished goods. Cost of their repairs and cost of production. Rates of production and total yearly outtum. Average earnings of a worker (monthly or daily), hours of work and trade statistics.

It is a reprint of the summary of the cottage industries in the districts of Bengal compiled from the Industrial reports of Messrs. Collins, Cunning, Gupta and Swain. The information relates to the distribution of persons engaged in important industries, the percentages of industrial to total population, annual production (not in all cases), etc.

Production in the various industries, including fisheries, (quantity and value), prices and foreign trade (quantity and value).

The nature of statistical information available in these monographs is as given below:-

Cost of raw-material, total cost of production, prices of articles sold, rates of profits (per article, family or worker), wholesale or retail prices of finished goods, estimated outturn for some industries. Information about population and wages of cottage workers, and export and import trade in raw-materials used for manufacture and in finished articles, is also given. Indira Hirway and Piet Terhal, Towards Employment Guarantee in India, Sage Publications, New Delhi, 1994, Pp. 283, Price, Rs 295/-.

The attempt in this book is to compare the variety of public works programmes (PWP) launched for employing surplus rural labour and evaluate their success. Their success is assessed on three counts: How far do they (i) alleviate poverty, (ii) support economic development, and (iii) help environmental protection.

After evaluation, the programmes are graded as highly successful (HS), Successful (S), moderately successful (MS), and not successful (NS). The choice of countries for this purpose is guided by the availability of data on public works programmes for the above three objectives.

The book is divided into three parts. Part I is devoted to non-Indian experiences such as those in China, Netherlands and former East Pakistan which later became Bangla Desh. Part II is devoted to the Indian experience in the three states of, Maharashtra, Karnataka, and West Bengal. The main focus is on India and the idea is to see how far one can learn from each experience. Part III is devoted to a closer look at the PWP in Gujarat, to see the long term effects of the programmes. This was facilitated because of the greater familiarity of the authors to Gujarat works.

After evaluating the achievements of the cases studied, China seemed to be at the top followed in that order by the Netherlands. Maharashtra's Employment Guarantee Scheme, East Pakistan, West Bengal and Karnataka's land army corporations with Gujarat having its National Rural Employment Programme and Rural Landless Employment Guarantee Programme having been placed at the bottom. This is so far as poverty alleviation is concerned; in respect of contribution to development East Pakistan is ahead of Maharashtra and others. In the matter of environmental protection, only China and Netherlands seem to make deliberate attempts in this direction. It is concluded that employment guarantee is not the only way to ensure social security in the context of rural public works. The patterns of China (Communitarian model), Maharashtra (Right to work model) Netherlands (right to income mode) have some advantages and some disadvantages through the first three have the advantage of security.

The overall picture that emerges is not very positive. It is not easy to use labour surplus for transforming an underdeveloped economy into one with a minimum of unemployment.

Turning to India, the authors feel that there is a strong need for an all India Employment Guarantee Scheme based on rural public works. administrative and financial, However organisational support needed for such works has not been forthcoming. Moreover, public administration needs to be reformed radically. Further, for evaluation, the third aspect viz... environmental protection, gets mostly neglected because of the high priority given to poverty alleviation and economic development.

Initially the PWP were started in times of disaster to give relief to the affected poor. But gradually the idea of developing these reliefworks to absorb routinely unemployed rural labour took root. The idea was to create rural assets and develop the economy. Some scholars suggested a creation of reverse link by starting routine decentralized rural works programmes which could absorb disaster needs of more employment. These latter came up because of increasing number of disasters every decade.

The objective of the present book is to focus on development work programmes situated in rural areas, which are not primarily investment oriented. At least 50 to 60 per cent component of the total cost of the projects has to be on wages. Wages should not be too small and should be paid regularly. Assets created by the projects should alleviate poverty and they should be directed towards the basic needs of labour. Thus they should promote irrigation, and help develop small and marginal farms, as well as, common property resources. The main idea is to raise the bargaining power of the poor labourers with the traditional employers and develop backward areas into productive ones.

As far as India is concerned salinity of soil, sinking water tables, degraded forests, etc., are the problems and hence watershed development, afforestation programmes, soil conservation deserve priority. Government has to enhance the labour absorbing capacity of the economy. Otherwise employment guarantee can be too heavy a burden for the government to bear. There is also a possibility that inequality will be increasing because the assets created will be used by the better-to-do and labourers will be getting only the wages. priority in such programmes, East Pakistan's case seemed moderately successful initially. But ithad

Intending India to be the focus, seven studies compared in this book had different sociopolitical settings as well as contents of the public works.

Maharashtra's scheme was supported with commitment by political leaders and administrators. Kamataka's Land Army Corporation (LAC) was autonomous by the nature of a corporation. West Bengal had a communist government. Its programme had relative success in implementation of land reforms, organised rural labour and fairly decentralized democracy reflected in powerful panchayat bodies. In such a setting it was interesting to examine how PWP works.

In Gujarat, the growth pattern was basically capitalist and the works were centrally sponsored. This was again a different setting.

Netherland's experience was included largely to see how a developed western capitalist country manages programmes. In fact these inspired Comilla experiment in former East Pakistan. It was found successful initially but not later. In all the experiments discussed above, there was free-market oriented democratic political setting. But one had a different political scenario in the Chinese case with a Communist Government. Here one saw central planning on the one hand and peoples communes on the other. This case according to the authors was selected because India and China had many similarities. But democracy and 'no democracy' make a world of difference.

At the outset it was noted that the Chinese case topped as successful among all the seven cases. It certainly reduced poverty of the rural population by organizing the rural economy at the cost of repressing freedom to a considerable extent. Netherland's programme was relatively small coupled with forced nature of employment; the gains in income seemed small to regard it as successful in terms of poverty alleviation. Maharashtra's programme was big and it seemed successful. But being very close to the programme, I could see the corruption, inefficiency and non-sustainability of the programme. Although sustainability deserves a very high priority in such programmes, East Pakistan's case seemed moderately successful initially. But it had its qualitative and quantitative weaknesses. Karnataka and Gujarat did not succeed in alleviating poverty, while West Bengal's performance was somewhat better.

Objective of economic development is a complex one involving aspects of organisation, planning, designs, preparation, implementation and follow-up. Herein economic and political setting seems of overriding importance. The Chinese programme was started with economic development as the object and it could not be implemented otherwise. Netherland's programme contributed to the economy due to its efficient handling by the able hands of the Dutch Waste Land Development Corporation. East Pakistan experiment probably failed because of the wrong choice of projects. Maharashtra had an appropriate choice of projects but was deficient in implementation and follow-up. West Bengal size of work programme was small combined with deficient planning and follow-up.

As far as environmental protection was concerned, except in the Chinese and Netherlands programmes, no deliberate attempt was aimed at it in other cases.

It is however very difficult to reduce inequality, nor can the public works programme be sustainable. The planning of works has to be tailored to the local economy through decentralisation. This decentralized planning of public works should be integrated with mainstream planning efforts.

The problems of fixing wage rates, selection of projects keeping in view the local decision making, administrative control at higher levels of public authority, regional planning, add to the problems of administering the programme.

Socio-political dimensions of the country also determine the nature of public works programme. What is the main objective behind the programme? Is it alleviation of poverty? Or is it using the surplus labour for economic development without much priority for poverty alleviation? Is it income guarantee? The answers to these questions depend on the political ideology of the government. If the programmes are sustainable it is possible for the workers to form trade unions or labour cooperatives. The burden of PWP is going to be too heavy because rate of growth of the labour force is going to be 2.5 per cent per annum. During 1951-87, employment grew at the rate of 2.1 per cent per annum in India. This too is declining and especially so in respect of agricultural employment. One wonders whether this kind of vast labour mass can be absorbed in India. Is it possible to open so many public works profitably? As far as my experience in the Maharashtra Employment Guarantee Scheme goes it was very difficult to open such large numbers of projects. Many of these projects, such as percolation tanks, were of no use.

From the various experiences a few lessons could be learnt: One was the need of political commitment. Second, no programme can be based on unreal assumptions about the sociopolitical characteristics of society, whether they are improving, etc. as in Jawahar Rozgar Yojana. Third, continuity and sustainability seemed necessary to attain important role in economic change which can again be achieved by long term planning. Fourth, public works should be in tune with macro-economic prevalent processes. Fifth, a combination of central planning with decentralisation of planning and implementation are needed for success. In my view this is very difficult to achieve in a democracy. Sixth, multilevel planning framework should be based on carefully formulated priorities and goals.

Seventh, weak socio-economic position of labourers on public works is reflected in poor wages, repression, low share in permanent benefits of the works, poor health conditions which in piece rate wage system results in low wage rates. Because the programmes are misused by politicians and intermediaries they should be managed carefully, monitored continuously and evaluated systematically.

The overall emerging picture is however not encouraging. None of the programmes are highly successful and when successful it is only for a short period. Reason for failure of the programmes in India was that there was no political commitment to the programmes except in Maharashtra. Secondly, there seemed a need for radical improvement in public administration including decentralization, professionalisation and debureaucratisation of the administration.

The cost-benefit analysis of such works is however difficult to do. If not the Government where do the poor go for help? Hence improved implementation and administration of the PWP seems the only way out.

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