

## Chapter 3

### Approach to Imbalances: Identifying Backwardness and Regional Imbalances\*

1. This chapter presents a brief review of past approaches dealing with the problems of regional imbalances/backwardness, followed by an overview of the indicators employed by various bodies to identify and delineate the backward areas, along with the methods employed in constructing the index of development / backwardness. In view of the fact that drought-prone areas constitute a substantial proportion of the State's total area and as these areas may be categorized as being 'fundamentally backward', the spread of these areas is included in our analysis.

#### 3.1 Brief Review of Past Approaches:

2. The concern for regional growth and backward area development in the country found expression only in qualitative terms in the first phase of the planning period up to the mid-sixties. This was followed by an elaborate statistical exercise by the Planning Commission in 1967 through which it analyzed and described at some length the extent of inter-state and inter-regional variation in consumption, unemployment, land holding, rural investment and debt, agricultural development, educational and health facilities, roads, etc. Impact of certain key rural development programmes like the adoption of improved agricultural practices, minor irrigation, soil conservation, school facilities, drinking water supply and other village facilities was also specifically examined. In so far as this statistical exercise by the Planning Commission posed and dealt with the problem of regional disparities, for the first time officially in quantitative terms, acquired special significance.

3. This detailed analysis by the Planning Commission did help sensitise the then Government to initiate action on the policy front to tackle the problem of backwardness, the focus was limited though to the industrial backwardness.

\*This chapter has benefited from the following sources and is gratefully acknowledged.

1. Report on General Issues Relating to Backward Areas Development , National Committee on the Development of Backward Areas, Planning Commission, Govt. of India, Nov.1981.
2. D.M. Nanjundappa and R.K. Sinha (Eds.), Backward Area Development: Problems and Prospects, Sterling publishers, New Delhi, 1982.
3. Report of the Fact Finding Committee on Regional Imbalance in Maharashtra, Govt. of Maharashtra, Planning Dept., Bombay, April 1984.
4. "Federal Resource Transfer and Inter-state Equity". Planning Department, Govt. of Karnataka, August 1993, (Mimeo).
5. Report of the Eleventh Finance Commission, Government of India.

### **3.2 At the National Level:**

#### **Pande Committee:**

4. In 1968, the Government of India appointed a Working Group on Identification of Backward Areas, commonly known as the Pande Committee. The focus of the Committee (as per the terms of reference) was to develop criteria and identify industrially backward districts in the country so that incentives for industrial development could be provided.

#### **Wanchoo Committee:**

5. Subsequently, another working group commonly known as the Wanchoo Committee, was appointed to suggest financial and fiscal incentives in order to remove the industrial backwardness. This Committee suggested a number of incentives like the excise subsidy, the transport subsidy, the concessional finance, the liberalized import and supply of scarce raw materials, etc.

#### **Fourth Five Year Plan and onwards :**

6. Thus by the early 70s, the problem of regional balance had come to the fore more prominently. The concern for backward-area development continued to grow during the fourth plan period, manifesting itself in its policy objectives for agriculture, where along with maximization of production, the remedying of imbalance was given equal prominence. This period was also marked by an intense debate on the incidence of poverty across states. Infact, the resolution setting up the National Commission on Agriculture (1972) dealt explicitly with the problem of regional balance. All these developments resulted in starting of various programmes like Special Programmes for Dry Land Areas, Drought-prone Area Programme, the Integrated Hill Area Programme and Integrated Development of Tribal Areas Programme.

#### **The Target- Group Approach:**

7. Another important policy measure which exerted its impact though not in a direct manner on the development of backward areas was the one which envisaged tackling the problems of the target groups in the community through enhancing their development opportunities and incomes. Special programmes introduced to tackle the problems of small/marginal farmers and agricultural labourers may be cited as examples in this respect. However these programmes suffered from a variety of inadequacies in terms of their implementation and thereby failed to make a significant dent in the development of backward areas.

#### **The Basic Needs-Oriented Approach :**

8. In spite of variations in the potentials for growth in the different backward areas, or because of it, there is a need to ensure equity in the distribution of minimum social consumption, if we cared for the tolerable standard of human welfare. This concern led to the formulation of a National Minimum Needs Programme(MNP) in India in which the backward areas were given specially favoured treatment. Lack of systematic area planning

to facilitate the implementation of this programme along with the lack of funds/ resources acted as inhibiting factors in realizing the expected results of this programme approach.

9. It emerges from the foregoing discussion that the problem of regional balance and backwardness did attract the attention of the planners in the country. Nevertheless what was missing was an adequate attention to the impact of factors other than economic, such as historical, cultural and social on regional backwardness. A clear concept of backwardness seemed to be missing. Consequently many of the special schemes recommended by the planners till then to tackle the problems of backwardness turned out to be mere palliatives without a lasting solution.

10. Seen against this background, the Planning Commission setting up (i) an internal Committee headed by Prof. S. Chakravarty to look into the questions of backward area development during the course of the Fifth plan (1974-79) and (ii) the National Committee on the Development of Backward Areas (NCDBA) during the course of the sixth plan assumes a great deal of significance.

11. Of these two committees, the former committee (The Chakravarty Committee on Backward Areas) did not finalize its report, but a draft report [which is extracted by the NCDBA] helps understand its approach.

12. This Committee, in its draft report, noted that though Backwardness is a relative concept, areas with different kinds and severities of backwardness can be identified. Such an identification should be based on an objective study of the geographic differences in the character and severity of backwardness. The approach to the identification of backward areas has, therefore, to be based on a set of what may be called 'partial indicators of development and under-development'. It made an index based exercise for the identification of backward districts (for details see, NCDBA Report, Annexure 4.1).

13. In view of the fact that the Chakravarty Committee did not finalise its report, the Planning Commission did not consider the recommendations of this Committee.

### **National Committee on the Development of Backward Areas:**

14. The National Committee on the Development of Backward Areas with Sri. B. Sivaraman, the then member of the Planning Commission as Chairman and Dr. D.M. Nanjundappa (presently Chairman, HPC FRRI), among others, as a member had the terms of reference as follows:

- (i) To examine the validity of the various concepts of backwardness underlying the definitions in use for present policy purposes and recommend the criteria by which backward areas should be identified.
- (ii) To review the working of :
  - (a) the existing plans for dealing with the general developmental problems of backward areas like Tribal Sub-Plans, Plans for Hill Areas etc., and

- (b) the existing schemes for stimulating industrial development in backward areas such as the schemes for concessional finance, investment subsidy, transport subsidy, sales tax concessions etc. similar schemes in the agricultural and allied fields like DPAP, and general measures for tackling the problems of poverty and unemployment with a view to find out their efficacy in the removal of backwardness; and
- (iii) To recommend an appropriate strategy or strategies for effectively tackling the problem of backward areas, classified, if necessary, according to areas, causes of or prescribed remedies.

15. The NCDDBA evolved an innovative method in identifying and classifying the backward areas in the country, in the sense, instead of relying upon any indicators of development/backwardness or indexes there of (either sectoral or composite), it settled upon recommending the following six types of problem areas as backward:

1. Chronically drought-prone areas
2. Desert areas
3. Tribal areas
4. Hill areas
5. Chronically flood affected areas
6. Coastal areas affected by salinity

16. These six categories, the NCDDBA observed, can be viewed as six types of fundamental backwardness. In this sense an area may suffer from the handicap of more than one type of fundamental backwardness. It believed that the six types of fundamental backwardness identified would help identify the areas where suitable area specific development strategies could give results.

### **Finance Commissions and Planning Commission:**

17. Due credit has to be given to the Indian official bodies, such as Finance Commissions and the Planning Commission, for having recognized backwardness/poverty as a criterion in financial resource allocation from the centre to the states. These bodies have tried to operationalize this criterion through adopting various proxies for backwardness/poverty, such as per-capita income, inverse of per-capita income multiplied by population, distance from highest per-capita income, disparity in development, percentage of SCs and STs, etc. for actual resource allocation. A brief resume of criteria adopted for inter-state distribution of financial resources (sharable taxes and duties) by the Finance Commissions and of Central assistance for State Plans by the Planning Commission that follows in succession makes this point clear.

**Finance Commissions:****Criteria adopted for Inter-State Distribution of Financial Resources**

Resources	Criteria
<b>i. Income Tax</b>  First F.C. (1952)  Second F.C.(1957)  Third F.C. (1961)  Fourth F.C (1965)  Fifth F.C (1969)  Sixth F.C (1973)  Seventh F.C. (1978)  Eighth F.C. (1984)    Ninth F.C. (1989)    Tenth F.C (1995)    Eleventh F.C. (2000)	80% population, 20% collection  90% population, 10% collection  80% population, 20% collection  80% population, 20% collection  90% population, 10% assessment  90% population, 10% assessment  90% population, 10% collection  22.5% population, 10% assessment, 22.5% inverse of per capita income multiplied by Population, 45% distance of per capita income  22.5% population, 10% assessment, 11.25% inverse of per capita income, 45% distance of per capita income, 11.25% index of backwardness.  20% population, 60% distance of per capita income, 5% area, 5% index of infrastructure, 10% tax effort.  10% population, 62.5% income (distance method)7.5% area , 7.5% index of infrastructure 5% tax effort, 7.5% fiscal discipline.
<b>ii. Union Excise Duties</b>  First F.C. (1952)  Second F.C. (1957)  Third F.C. (1961)	100% population  90% population, 10% adjustments  Population major basis, but some adjustments made on the basis of relative financial

Resources	Criteria
Fourth F.C. (1965)	<p>weakness; disparity in development, percentage of SCs and STs etc.</p> <p>80% population, 20% relative economic and social backwardness; as measured by 7 indicators:</p> <ul style="list-style-type: none"> <li>(i) Per capita gross value of agricultural production;</li> <li>(ii) Per capita value added by manufacture;</li> <li>(iii) Percentage of workers (as defined in the census) to the total population;</li> <li>(iv) Percentage of enrolment in classes I to II to the population in age group 6-11;</li> <li>(v) Population per hospital bed;</li> <li>(vi) Percentage of rural population to total population and</li> <li>(vii) Percentage of population of Scheduled Castes and Tribes to total population.</li> </ul>
Fifth F.C. (1969)	<p>80% population, 20% economic and social backwardness, - 2/3 of which distributed only among the states with per capita income below per capita income of all states average in proportion to the shortfall multiplied by population and the rest on the basis of index of backwardness consisting of 6 indicators:</p> <ul style="list-style-type: none"> <li>(i) Scheduled Tribes population;</li> <li>(ii) Number of factory workers per lakh population;</li> <li>(iii) Net irrigated area per cultivator;</li> <li>(iv) Length of railways and surfaced roads per 100 square kilometers;</li> <li>(v) Shortfall in number of school going children as compared to those of school going age;</li> <li>(vi) Number of hospital beds per 1000 population.</li> </ul>
Sixth F.C (1973)	<p>75% population, 25% relative economic and social backwardness, the distribution of this portion should be in relation to the distance of the States per capita income from that of the state with the highest per capita income multiplied by the population of the state concerned.</p>
Seventh F.C. (1978)	<p>Equal weightage to followings:</p>

Resources	Criteria
Eighth F.C. (1984)	<p>(a) Population 1971 Census, Per capita state income (arrived at by projected population 1976);</p> <p>(b) Percentage of poor in the total population;</p> <p>(c) formula for revenue equalization as worked out by the Commission.</p> <p>In the 40% :</p> <p>(a) 25% on population basis;</p> <p>(b) 25% on the basis of inverse of per capita income multiplied by population and</p> <p>(c) 50% on the basis of distance of per capita income of the state multiplied by population</p> <p>Rest of the 5% exclusively for the states showing deficits on revenue account after devolution of taxes and duties.</p>
Ninth F.C. (1989)	<p>25% population, 12.5% on income adjusted total population .</p> <p>12.5% on index of backwardness;</p> <p>33.5% on distance of per capita income;</p> <p>16.5% on deficits after devolution;</p>
Tenth F.C (1995)	<p>20% Population, 60% distance of per capita income, 5% area, 5% index of infrastructure, 10% tax effort.</p>
Eleventh F.C. (2000)	<p>10% Population, 62.5% distance (income method)</p> <p>7.5% area, 7.5% index of infrastructure, 5% tax effort, 7.5% fiscal discipline</p>

- Source:** 1. “Federal Resource Transfer and Inter-state equity” , op.cit.,  
2. Report of the Eleventh Finance Commission

18. However, the criterion of per-capita income or its related versions as measures of backwardness/poverty have their own limitations in reflecting the relative status and deprivation aspects in terms of various components and segments of a given economy, for instance, relative levels of health, nutrition, education, employment, and infrastructure. To put it differently, variations in per-capita income [or its related versions] do not reflect fully the variations in socio-economic, cultural, institutional, administrative and historical components of development. Therefore the shortcomings of per-capita income or its variations as a criterion for determining relative regional backwardness/development have

had increasingly come to be appreciated with the passage of time finding expression in a parallel stream as it were, in the form of upgradation and special problem grants awarded by the Finance Commissions and also in evolving the criteria for allocation of finances to local bodies.

### **iii. Upgradation and Special Problem Grants:**

19. The mechanism of upgradation grants was devised from the sixth Finance Commission onwards to correct the disparities in the provision of administrative and social services across the states. This is not to overlook the efforts of the earlier Commissions for improvement and augmentation of services through special purpose grants. The fact that these earlier Commissions undertook these measures even in the absence of specific mandate for making earmarked provision through special purpose grants reflects their sensitivity to address the problem of regional imbalances.

20. The Sixth Finance Commission identified nine sectors, developmental as well as non-developmental and provided upgradation grants to nineteen states that were below the all-state average in terms of per capita expenditure in those sectors. The Seventh Finance Commission confined these grants to non-developmental sectors and omitted from the purview of these grants such states that were assessed to be in pre-devolution revenue surplus, and thereafter it determined the needs of the remaining states in the identified sectors basing on the comparative data in physical terms rather on the per capita expenditure. The Eighth Finance Commission followed the same criteria as that of the Seventh Finance Commission and provided grants for two development sectors, namely education and health, besides for certain non-development sectors. Moreover it provided grants to some states towards special problems too. Although the terms of reference of the Ninth Finance Commission did not make any specific mention of the upgradation or special problem grants, it did make provision for these grants atleast in its first report (1989-90). The Tenth Finance Commission covering non-developmental as well as developmental sectors recommended upgradation grants for those states that were assessed by it to be in pre-devolution deficit on revenue account. It also provided special problem grants to all the states. The Eleventh Finance Commission identified 12 sectors for upgradation grants and made both deficit and surplus states eligible for such grants on the reasoning that even in the case of latter category there was a scope for further improvement according to the norms developed by the Commission. In addition, it provided grants for certain special problems too, which are unique to each state.

### **iv. Local bodies:**

21. Recognition of backwardness may also be discerned in the dispensation of the Eleventh Finance Commission in determining the inter-se share of states in the amounts indicated by them for the rural and urban local bodies. In a refreshing contrast to the Tenth Finance Commission, which adopted population as the sole criterion for allocation of adhoc grants to the states ; rural population for the Panchayats and slum population for the municipalities, the Eleventh Finance Commission gave weightage to factors like distance from highest per capita income and geographical area, in order to take into account the inter-state differentials in the level of social and economic development.



22. The Eleventh Finance Commission recommended that the amounts of Rs.1600 Cr and Rs.400 Cr provided by them for the Panchayats and Municipalities , respectively, for each of the five years (2000-05) be distributed among the states on the following criteria and weights:

1. Population	40 per cent
2. Index of decentralization	20 per cent
3. Distance from highest per capita income	20 per cent
4. Revenue Deficit	10 per cent
5. Geographical area	10 per cent

**Planning Commission :**

23. Details of criteria adopted by the Planning Commission for Central assistance to State Plans are as follows :-

<b>Central Assistance to State Plans (General Category)*</b>	
Formula as in 1969	60% population, 10% tax efforts, 10% to the states with per capita income below national average per capita income, 10% on on-going irrigation and power projects, 10% to special problems.
Formula as in 1989	60% population , 10% tax effort, 20% to those states with per capita income below national average, 10% to special problems.
Formula as in 1990	55% to population, 5 per cent to fiscal management, 20% to those states with per capita income below the national average, 5% on the basis of distance of the per capita income from the highest per capita income state, 15% to special problems.
Formula as in 1991	60% on population, 7.5% on performance, 20% to those states with per capita income below national average, 5% on distance of the per capita income from that of the highest per capita income state, 7.5% to special problems.

\*General Category States exclude special category States which include Assam, Himachal Pradesh, Jammu and Kashmir, Manipur, Meghalaya, Nagaland, Sikkim, Tripura. Higher priority and more liberal grant/loan assistance is given to special category States.

### 3.3 At the State level:

24. The discussion made above, about the approaches to regional imbalance/backwardness gives a bird's eye view of such approaches at the national level. But it is noteworthy that on this vexed problem of regional imbalance/backwardness, Government of Karnataka took certain initiatives and measures, thanks to the policy guidelines put out by the State Planning Department.

25. As in the case of the Five Year Plans of the country, a growing concern for regional imbalance may be seen in the documents of the Five Year Plans of Karnataka too, especially beginning with the Fifth Five Year Plan (1974-79). Mysore State Draft Fifth Five Year Plan stated: "The Plans of the state so far have laid emphasis on overall development through an aggregate and sectoral strategy than on regional planning with a bias towards a redressal of the peculiar problems and deficiencies of the various regions. Imbalances noticed among the districts are due to differences in resource-endowment, socio-economic institutions and responsiveness to developmental opportunities. Further, it must be noted that very highly backward areas got added when the State was reorganized and this explains why the process of reducing regional imbalances has been slow.....Along with the shift in strategy from emphasis on higher growth rate to growth with more of employment the State shall move forward bringing about reductions in regional disparities, prevention of concentration of economic power and bringing up a union between technological modernization and socio-economic institutional innovation" In fact, it formally stated that the state should make deliberate efforts at reducing imbalances as one of the objectives within the nine enumerated objectives.

26. The Sixth Five Year Plan of Karnataka continued this exercise and approach and it came to the conclusion : "The approach and policies outlined in the foregoing have reduced the regional imbalances to a considerable extent..... It is to be noted that the imbalances still persist. It is to be hoped that the two tier planning process which has been introduced very recently coupled with other programmes will help in achieving the regional balance in a reasonable period of time. The problem of regional balance is a long run problem and the policies outlined above have to be pursued continuously. **However, the concept of perfect regional balance is an utopian concept and it is difficult to achieve.** The reasonable objective should be one of achieving higher standard of living, especially, for the subsistence population living in rural areas. .... Intensive block planning was proposed to be done bringing together all plan schemes, special programmes including Employment Affirmation Scheme. This should facilitate proper integration of the schemes under an area approach with the block as the unit. The extension of the two tier planning process to the block level, the lowest tier, bringing within it the cluster of villages approach, is expected to help in reducing intra-district imbalances substantially."

27. Karnataka Government also started decentralized planning at the district level in 1978 and in addition to identifying the district sector and State sector schemes put into operation a criteria for allocating financial resources giving a weightage of 50 percent for backwardness as measured by agricultural output, irrigation, industrial output, roads and railway facilities, financial infrastructure, medical and health facilities, unemployment, power supply, problems of weaker sections and special problems of areas like Malnad and Drought prone areas.

28. The following shows the weightage given for 12 indicators for determining the resource allocation.

Sl.No.	INDICATOR	Weightage [Per Cent]
1.	Population	50
2.	Agriculture backwardness as measured by the value of agricultural output per hectare	5
3.	Backwardness in irrigation as measured by the proportion of irrigated area to net area sown	5
4.	Backwardness as measured by the value of Industrial output	5
5.	Backwardness in communication as measured by road and railway mileage, for 100 Sq.Km/lack population	2½
6.	Backwardness in financial infrastructure as measured by size of population served by each Commercial and Co-operative bank	2½
7.	Backwardness in medical and health facilities as measured by the number of hospitals Per 1000 population/bed population ratio	5
8.	Backwardness in power supply: [a] As measured by the proportion of villages electrified      2 ½ [b] As measured by per capita consumption of power      2 ½	5
9.	Problems of weaker section: [a] As measured by the proportion of SCs/STs in population      2 ½ [b] As measured by the proportion of landless agricultural labour      2 ½	5
10.	Local Tax effort	5
11.	Special problems of Malnad area and Drought prone areas: [a] As measured by the area under Forest      2 ½ [b] As measured by the rural population of drought prone area      2 ½	5
12.	Incidence of unemployment as measured by the proportion of registrants at the Employment Exchange [with appropriate adjustment wherever necessary]	5

29. It is indeed a sad commentary on the sincerity of the efforts by the State Government in reducing regional imbalance in so far as clear policy guidelines and/or

determined efforts in this direction are conspicuous by their absence since the Seventh Five Year Plan.

30. To revive the concern and interest of the State Government in evolving a regional development policy as it were, the State Planning Board brought out a paper on “An Approach to the IX Five Year Plan of Karnataka: Some Suggestions” (authored by the then Deputy Chairman, State Planning Board, Dr. D.M. Nanjundappa) after discussion at its meeting held in May 1997. **Inter-alia**, it said: “ The extant criteria for distribution of plan funds should be revised with a view to facilitating further weightage being given for the relatively backward districts, measured in terms of per capita income and supplemented by a comprehensive development index built on indicators of backwardness.”

31. “In formulating the IX Plan the routine approach of District Allocation on the basis of an objective criteria now followed may have to be supplemented by equalization grants. In other words, instead of relying only on the finances provided, efforts should be made to equalize the level of services obtaining in the backward districts in comparison with the State average and also reduce intra-district disparities. This is to be achieved by looking into the actual physical level of various services including social and infrastructural, and make a more effective dent on regional disparities. The Panchayat Raj institutions are to be fully involved in the formulation and implementation of schemes of all sectors within the district and also the utilization of equalization of grants for achieving better inter-district balance in the matter of development”. It is unfortunate this did not find favour with the then State Government.

32. While discussing the approaches to regional imbalance, specific to Karnataka, we have to mention indeed the setting up of Regional Development Boards in 1991 and thereafter (Hyderabad-Karnataka Development Board, Malnad Area Development Board, Bayaluseeme Development Board), ostensibly with the objective of reducing the regional imbalances, through supplementing the planned efforts with special funds allocated for the purpose. Whether these Regional Development Boards have been able to fulfill the objective with which they were set up as well as their role, relevance and utility are discussed thoroughly in a later Chapter of this Report. However, we would like to mention that HPC FRRI commissioned an independent study for evaluating the impact of these Boards on the development process in Karnataka and the results are incorporated in that chapter.

33. One more major step taken up by the State Government impacting on regional imbalances, though not in explicit terms, yet deserves to be mentioned, is the setting up of the Second State Finance Commission in 1995. This Commission was required to develop principles and norms for the development of resources from the State to the Panchayat Raj institutions. The Commission submitted the report in 1996. It recommended that the Zilla Panchayat may be given 40 percent, Taluk Panchayat 35 percent and Gram Panchayat 25 percent out of the total money to devolve to these institutions. Its concern was also to provide a reasonable share to urban local bodies as well as Panchayat Raj institutions. The Commission recommended the following criteria for distribution of 85 percent of resources among the Panchayat Raj institutions as shown below [15 percent was recommended for urban Local Bodies]:

<b>Criteria</b>	<b>Weightage [%]</b>
Proportion of Rural Population	28.31
Proportion of Rural Area	28.31
Road length per 100 Sq.Km.	9.44
Illiteracy Rate and No. of Persons per Hospital Bed	18.88
Total weight	84.94
Rounded off to:	85.00

34. Obviously, the Second State Finance Commission was not asked in its Terms of Reference to keep in view the requirements of reducing regional imbalances in making their recommendations. However, to a very limited extent, the weightage given for illiteracy rate, road length, hospital bed strength does indicate that there was recognition of backwardness in their dispensation. Whether and to what extent the criteria favoured or went against the reduction of imbalances amongst the districts is discussed elsewhere in our Report.

### **3.4 Identification of Backward Areas: Committees and Indicators**

35. An effective tackling of the problems of backwardness and regional imbalances requires proper identification and delineation of backward areas with appropriate indicators which indeed is a complicated exercise.

36. Many of the official bodies set up or appointed by the Central Government / the State Government(s) have attempted over time in identifying the indicators of backwardness/development. A brief resume of such attempts that follows will be useful for the purpose of our own study on the redressal of regional imbalances.

#### **Third Five Year Plan:**

37. Dwelling upon the indicators of development, the Third Five Year Plan document noted: "For assessing levels of development in different regions, indicators of development based on agricultural production, industrial production, investment, unemployment, electricity consumption, irrigated area, value of output by commodity producing sectors, level of consumption expenditure, road mileage, primary and secondary education and occupational distribution of population are useful". (Para 23) "As a comprehensive indicator of economic progress, estimates of state income are of considerable interest in studies of development in different states and regions .....". (Para 24)

#### **Pande Committee:**

38. The Pande Committee, referred to earlier, recommended the following criteria for identifying backward (industrially) districts.

1. Distance from larger cities and large industrial projects
2. Per-capita income

3. Population engaged in secondary and tertiary activities
4. Factory employment
5. Non/under-utilization of economic and natural resources

39. Subsequently the Planning Commission with the approval of National Development Council recommended the following criteria.

1. Per-capita foodgrains/commercial crops production
2. Proportion of agricultural workers
3. Per-capita industrial output (gross)
4. Factory employment or employment in secondary and tertiary activities
5. Per-capita consumption of electricity
6. Length of surfaced roads and railway mileage in relation to population

### **The Fifth and the Sixth Five Year Plan of Karnataka:**

40. Karnataka's Fifth and Sixth Five Year Plans, for the first time, made use of an exercise carried out by Dr .D. M. Nanjundappa, the then Economic Adviser (Presently the Chairman, HPC FRRI) and his colleague Sri. M. Basavana Goud, the then Deputy Director, District and Regional Planning unit of Economic Adviser's Division of Planning Department, Govt. of Karnataka to measure backwardness of districts in Karnataka at four points of time:1960-61, 1970-71, 1974-75 and 1976-77. This exercise identified 22 indicators of development, as shown below, broadly relating to four typologies: demographic and occupational pattern , land utilization and agricultural development, industrial development and infrastructure facilities, to compute a Composite Index of Development.

1. Density of population
2. Proportion of urban population to total population
3. Proportion of non-agricultural workers to total workers
4. Percentage of net area sown to total area
5. Double cropped area as per cent of net area sown
6. Percentage of net area sown to cultivable land
7. Per hectare yield in cereals
8. Per hectare yield in pulses
9. Per hectare yield in oil seeds
10. Number of industrial establishments as per cent to State total
11. Net Area irrigated as per cent of net sown area
12. Number of vehicles per lakh population
13. Road length in Km. per 100 Sq. Kms area

14. Number of Bank offices per lakh population
15. Value of turnover per regulated market
16. Percentage of literates to total population
17. Number of schools per lakh population
18. Number of University Educational institutions per lakh population
19. Number of health units per lakh population
20. Number of hospital beds per lakh population
21. Percentage of villages and towns electrified
22. Number of irrigation pumpsets energised as percentage of State total.

### **Chakravorthy Committee:**

41. Chakravorthy Committee referred to earlier chose the following 14 indicators:

1. Density of Population per sq.km of area.
2. Percentage of agricultural workers to total working force.
3. Gross value of output of foodgrains per head of rural population.
4. Gross value of output of non-foodgrains per head of rural population.
5. Gross value of output of all crops per head of rural population.
6. Percentage of establishments using electricity to total number of establishments (manufacturing and repair)
7. Percentage of household establishments using electricity to total number of household establishments.
8. Percentage of non-household establishments using electricity to total non-household establishments.
9. Number of workers in Registered factories per lakh of population.
10. Length of surfaced roads per 100 sq.kms of area.
11. Length of surfaced roads per lakh of population.
12. Percentage of male literates to male population.
13. Percentage of female literates to female population.
14. Percentage of total literates to total population.

It may be noted however that there is much overlap among the chosen indicators.

**Fact Finding Committee on Regional Imbalance in Maharashtra (commonly known as Dandekar's Committee) 1983-84:**

42. While generally sharing the NCDBA's reluctance to use a single indicator, composite or otherwise to identify backward areas/districts, the Dandekar's Committee, did not accept the idea of setting aside all quantitative data and instead identifying backward areas/districts on the basis of types of fundamental backwardness. Noting that monitoring regional inequalities, which essentially has to be done at the sectoral level, as pointed out by the NCDBA, the Dandekar's Committee proposed to examine disparities in development and measure the backlog of the districts lagging behind in each sector in much greater detail so that the disparities are identified in operationally meaningful terms.

43. As a preliminary to such sectoral examination of the disparities, the Committee reviewed the status of some indicators of development across the districts.

These indicators were:

1. Per capita domestic product;
2. Per capita consumer expenditure;
3. Per capita domestic product originating in agriculture and allied activities sector;
4. Per capita domestic product originating in Registered manufacturing sector;
5. Percentage of Urban population;
6. Percentage of workers engaged in activities other than agriculture and such occupations as mining, quarrying, livestock, forestry, fishery, hunting, plantations, orchards, etc;
7. Per capita consumption of electricity;
8. Per capita bank credit and bank deposits and credit/deposit ratio;
9. Male and Female literacy ;
10. Percentage of scheduled tribes, scheduled castes, Nav Bhaudas and agricultural labour in the population.

44. This general review was followed by examining the disparities between districts in each of the selected sectors. These disparities in development and the backlog of districts lagging behind were assessed in terms of such physical achievements. Having done so, it presented estimates of financial cost of making up the backlog.



### 3.5 Constructing Index of Development:

45. Having chosen a number of indicators, indicating levels of development in fields, some closely related and others not so closely related, these need to be combined into a single index of overall development or composite index of overall development, to facilitate comparison across regions/districts etc.<sup>1</sup>

46. This is done firstly by converting all the indicators to a common base (by rank ordering all the units or by converting all indicators to corresponding indices with a common base as 100) and secondly by combining them into a single index on the basis of weights assigned to the individual indicators. The resulting index may be called the Index of Overall Development or Composite Index of Development.

47. It is while assigning weights to the individual indicators that the problem of computing composite index gets ticklish. As rightly noted by the NCDDBA, “there is as yet no acceptable method of aggregation”. ( NCDDBA Report ,Para 4.17, P.36)

48. In order to construct a composite index, Chakravarty Committee gave equal weights to all indicators. The exercise carried out by Dr. D.M. Nanjundappa and Sri. M.B. Goud mentioned earlier relied upon the relative sectoral allocations of plan expenditure in the preceeding years to generate weights for the individual indicators.

49. There is one more method of aggregating a number of indicators into a single indicator called the method of principal component analysis. In this method inter-correlations among the indicators in the original set are made use of to reduce the latter into a smaller number of indicators . However this method loses its credibility and usefulness if any one of the new set of indicators does not explain a substantial proportion of the variance and does not have the expected signs on the weights attached to each of the original indicators.

### 3.6 Our Approach:

50. On considerations of certain homogeneity in physical and socio-economic conditions, and suitability for local planning, the NCDDBA recommended that the primary unit for the identification of backwardness should be the development block. It is a

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1. From the operational stand point, the National Committee on the Development of Backward Areas however, expressed its reservation about the composite index on the count it does not help in classifying districts into problem categories . In the event, it explored the possibilities of using simple measures like the percentage of population below the poverty line or the rate of unemployment or the value of domestic product per-capita. Such measures were also noted as unsatisfactory. Paucity of data for adequate number of indicators districtwise and talukwise for all states made NCDDBA to feel that building up of composite index was riddled with difficulties. It also examined whether instead of using an overall index, it may be easier to define sectoral indices to identify backwardness with respect to specific sectors of development. The Committee observed such indices may be of use in the monitoring of regional inequalities at the sectoral level. But as a general answer to the problem of identifying backward areas, the sectoral index approach is not very promising. (See the Report of this Committee, Ch.4 for details).

coincidence that there is one to one correspondence between a development block and a taluk in Karnataka. In spite of it, earlier exercises done in the Planning Department, Govt. of Karnataka could not go below the district-level mainly due to lack of essential data for the different indicators at the taluk-level

51. It is noteworthy that we have made an attempt to identify the backwardness at the taluk level in Karnataka notwithstanding the hazards in terms of time and effort in building up the stupendous database on a comprehensive set of development indicators for the purpose.

52. The situation with regard to data at the taluk-level for the different indicators has certainly undergone a marked improvement over the years, but it is not entirely devoid of difficulties in obtaining them in the form and manner in which we would like to have them for purposes of analysis. It is no exaggeration that in our attempt to get taluk-wise data on different indicators for our study, we have explicitly contributed to strengthening the base and quality of data at the taluk-level, thanks to the cooperation and willingness in supplying them by the several departments concerned. Taluk-wise data supplied to us by the individual departments have been scrutinized thoroughly for their veracity and only in cases of doubtful validity have been modified by substituting them with the values of the neighboring taluk/s or the district average depending on the contingent circumstances. However cases warranting such modifications in data are far and few, and have been duly indicated in appropriate places.

### **Old Regions Vs. Taluk:**

53. There is a view prevalent in North Karnataka that in the study of regional imbalances and for suggesting measures for their redressal, the erstwhile regions of Hyderabad-Karnataka area, Bombay-Karnataka area, Kodagu and Madras Bombay-Karnataka area, may be kept in tact so that differential allocations of funds can be done by providing larger amounts to these regions which are considered as backward in relation to Mysore-Karnataka. In other words, the newly added regions are backward when compared to Mysore-Karnataka and it would benefit better the backward regions. This argument has several weaknesses.

54. First, it takes it for granted that Mysore-Karnataka, as a whole, has developed uniformly in all districts and it is only the other regions which have to be raised to that level. This is not necessarily so. While Mysore-Karnataka has for historical reasons registered relatively a higher level of development, this is not so in respect of intra-Mysore-Karnataka region. There are disparities from one district to another and also from one taluk to another. Similarly, if we take Hyderabad-Karnataka or Bombay-Karnataka region, it cannot be asserted that the entire region has not registered any development at all. As we have shown in Chapter 4 "**Imbalances in Karnataka: Then and Now**", very substantial improvement in output, income and infrastructure have taken place between 1956 and 2000; but due to lower base with which they started in 1956, again for historical reasons, the relative development registered through the Annual and Five Year Plans and also Externally Assisted Projects implemented in those areas, the rate of growth has not been adequate to reach the Mysore-Karnataka level, though the increase in output and income have escalated several-fold. Second, the imbalances in development are themselves the outcome of the Macro Approach to planning adopted since independence and continued in a sense even

now although decentralized planning and the Panchayat Raj system are expected to have replaced it by Micro Planning at the grass roots level. The Zilla Panchayat plans have most of the outlays tied to the sectoral schemes and very little free funds are available to make up the imbalances that obtain in their area. Thus, Micro-planning is a step in the right direction for strengthening the planning and implementation methods. For that purpose, as already stated, even the National Committee on the Development of Backward Areas itself had recommended that the **primary unit for the identification of the backwardness should be the Development Block** which in Karnataka is almost co-terminus with the Tehsil or revenue Taluk. Third, Government Order appointing the High Power Committee for Redressal of Regional Imbalances very specifically states : "In Karnataka there are districts belonging to erstwhile Bombay-Presidency, Hyderabad-Karnataka, Kodagu and the old Madras Presidency which have different level of development. Within these regions also there are inter-district disparities. The Committee may assess such disparities and broadly the disparities between the South Karnataka and North Karnataka". This should make it very clear that the study has to go by districts and the comparison is not only between one district and another in only North Karnataka but it is also in comparison with the relatively developed region like South Karnataka which has districts at varying levels of development. Again, the Order has asked the Committee to suggest appropriate strategy for the development of districts/regions lagging behind others so as to minimize inter-district and inter-regional disparities in development indicators. To answer these Terms of Reference, the Committee has felt that the appropriate strategy for development should be the taluk so that intra-district variations can also be studied and this will help micro planning that can become very effective for the redressal of imbalances. Fourth, there is a feeling that by studying the imbalances in the entire State, the funds that may be recommended for making up the shortfalls in North Karnataka will also get distributed to South Karnataka. If this is so, South Karnataka can also argue why more funds should go to North Karnataka at their cost. Any region or district or taluk which is lagging behind should get the attention both of analysis and resource allocation. Sharing among the regions and supporting each other can alone take Karnataka to a higher level of development and prosperity. Fifth, if the old regional demarcation at the time of integration is even now continued in our attempt to analyze and reduce disparities, there seems to be no point at which people in these regions would emotionally feel that they are all belonging to the Kannada speaking State, Karnataka. The feeling of belonging to one or the other sub-regions, whatever might be the reason, will continue and is an obstacle to emotional integration and the feeling of oneness within the State. Finally, when the High Power Committee had interaction with the Chief Minister and his senior Cabinet colleagues, the Chief Minister who presided over the meetings emphasized that the Committee should provide a comprehensive Report so that it should help in achieving balanced development of the State. The Committee are pleased that our approach in adopting a taluk for identification of imbalances / backwardness and its measurement would be more appropriate in terms of setting and achieving a goal of balanced development and sustain it in the coming years.

55. After examining the adequacy and the availability of disaggregated data at the taluk-level in respect of as many as 61 indicators, we have finally settled upon 35 indicators in building up a satisfactory integrated or composite index of development. In selecting these indicators, in addition to data considerations, we are guided, with due deference to the Chakravarty Committee's Report on Backward areas, by their appropriateness (i) in reflecting the relative variations in development among various areas and sectors, (ii) in

covering a range of development aspects without a serious overlap among themselves. Thirty five indicators selected are as follows:

1. Percentage of total cropped area to net area sown
2. Percentage of area under foodgrains to total cropped area
3. Percentage of area under horticultural crops to total cropped area
4. Percentage of area under commercial crops to total cropped area
5. Percentage of net area irrigated to net area sown
6. Fertilizer (NPK) consumption in kilogram per hectare (total cropped area)
7. Number of tractors per 1000 hectares area sown
8. Livestock units per lakh rural population
9. Per capita bank credit (Commercial and regional rural banks) to agriculture (in rupees)
10. Number of industrial units per lakh population
11. Percentage of industrial workers to total main workers
12. Per capita advances by banks (in rupees)
13. Number of bank branches per lakh population
14. Number of enterprises engaged in trade, hotels and transport per lakh population
15. Number of post offices per lakh population
16. Number of telephones per lakh population
17. Road length in kilometers per 100 square kilometers
18. Proportion of villages having access to all weather roads
19. Railway track in kilometers per 1000 square kilometers
20. Number of motor vehicles per lakh population
21. Number of co-operative societies (agri and non-agriculture) per lakh population
22. Proportion of electrified villages and hamlets to total villages and hamlets
23. Number of regulated markets and sub-markets (equivalent regulated market) per lakh population
24. Number of doctors (govt. and private) per 10,000 population
25. Number of government hospital beds per 10,000 population
26. Literacy rate (in percentage)
27. Pupil -Teacher ratio (1 to 10 standard)
28. Percentage of Children out of school in 6-14 age group
29. Number of students in government and aided first grade degree colleges per lakh population
30. Percentage of habitations having drinking water facility of 40 or more lpcd
31. Sex ratio
32. Percentage of urban population to total population
33. Percentage of SC and ST population to total population
34. Percentage of non-agricultural workers to total workers
35. Percentage of agricultural labourers to total main workers

### 3.7 Benchmark for Measuring Relative Backwardness:

56. Apart from the selection of indicators, a basic issue that arises is the benchmark that is to be adopted as a yardstick for measuring relative disparities or backwardness of the districts/taluks in the State. It is arguable that if a policy decision like doubling the per capita income in Karnataka within a period of ten years were to be adopted, one benchmark could be the present level of the per-capita income<sup>2</sup>. We have already pointed out elsewhere the limitations of applying per capita income for measuring backwardness.

57. Therefore we reject adopting present level of per capita income as the benchmark. There are also suggestions to the effect that imbalances are to be identified and measured in terms of deprivation in respect of several items vis-à-vis norms based on the ideal of adequacy of consumption of different items for sustenance and the access to various basic minimum needs. To some extent the Committee has discussed this aspect in the chapter on “Deprivation and Basic Minimum Needs”. If a similar approach is to be adopted for measuring backwardness, the norm would be almost sky-high apart from sounding to be utopian, prescribed in respect of them by authorities like the UNDP and so on. Therefore on pragmatic consideration we have found it sensible and desirable to look at the present level of development of the state as a whole with reference to the selected indicators. Average level of development at the state level will serve as the benchmark for measuring the deviations, either above or below of districts/taluks, which would throw light on the nature and depth of imbalances/backwardness

### 3.8 Drought-Prone Areas and Backwardness:

58. It may be recalled that the NCDDBA identified chronically drought-prone areas, as being one among the six types of fundamental backwardness. It is useful in this context to understand the characteristics and spread of drought-prone areas in Karnataka.

59. If drought may be defined, in non-technical terms, as unusually low availability of water/soil moisture in the region considered, affecting established activities like crop-production and domestic water supply, the eastern half of Karnataka, located in the rain shadow area of both the south-west and north-east monsoons is drought-prone. It is interesting to note that the south is more prone to severe droughts than the north, contrary to the popular impression. But, this is no consolation to the north, as extreme or severe droughts of longer duration are more likely in the north than in the south (RamaPrasad, “Drought Hydrology in Karnataka”, IISc, Bangalore).

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2. It may also be noted that per capita income of all taluks has not been attempted by any of the Statistical Organisations of the Central or State Governments mostly due to non-availability of disaggregated data at the taluk level. For the first time, HPC FRRI has computed per capita income of all 175 taluks in Karnataka; and has given it in the report with a view to illustrating the problems encountered in computing the per capita income at the taluk-level, and with the hope that from the operational point view, will stimulate the strengthening of data base at the taluk level, and will also promote research in refining the methodology. Preferring the veracity of our estimates to ground-reality, we have not made use of them in our analysis of disparities or backwardness.

60. Based on the meteorological data on rainfall for 60 years (from 1901 to 1960) from about 500 stations which were supposed to be representative of the country, and the data on availability of irrigation facilities (the latter data used for excluding taluks or equivalent units having 30 percent or more of the cultivated areas irrigated), the Irrigation Commission(1972) identified drought-prone areas, among others, in Karnataka. These estimates were however modified by the Task Force on Integrated Agricultural Development of the Drought-prone Areas, appointed by the Planning Commission for the purpose of programme-planning. Details of drought-prone areas in Karnataka as per the Irrigation Commission and the Task Force are shown in Table: 3.1

**Table : 3.1**

**Areas Identified as Drought-prone in Karnataka by the Irrigation Commission and the Government of India Team**

Area in 000sq.kms

Sl.NO.	District	Total area of the district	DP Area as democrated by Irrigation Commission	Percentage Of Col. 4 to Col. 3	DP Area as identified by Government of India Team	Percentage of Col.6 to Col. 3
col. 1	col. 2	col. 3	col. 4	col. 5	col. 6	col. 7
1	Bijapur	17.1	17.1	100.0	10.6	61.99
2	Gulbarga	16.2	16.0	98.77	5.7	35.19
3	Dharwar	13.7	4.1	29.93	4.7	34.31
4	Raichur	14.0	7.6	54.29	3.6	25.71
5	Bellary	9.9	9.8	98.99	1.0	10.10
6	Belgaum	13.4	-	-	5.6	41.79
	North Karnataka	84.3	54.6(56.5)	64.77	31.2	37.01
7	Chitradurga	10.9	10.4	95.41	6.6	60.55
8	Kolar	8.2	7.5	91.46	5.1	62.20
9	Tumkur	10.6	9.5	89.62	4.6	43.40
10	Chickmagalur	7.2	-	-	1.4	19.44
11	Mysore	11.9	8.5	71.43	-	-
12	Hassan	6.8	3.0	44.12	-	-
13	Bangalore	8.0	-	-	-	-
14	Mandya	4.9	3.1	63.27	-	-
	South Karnataka	68.5	42 (43.5)	61.31	17.7	25.84
	<b>State</b>	191.1 <b>(19 Distr- icts Total)</b>	96.6(100.00)	50.54	48.9	25.58

**Note:** Figures in parentheses are percentages to the DP Area in the state.

**Source:** Adapted from N.K. Jaiswal and N.V. Kolte, "Development of Drought-Prone Areas" NIRD, Hyderabad, App.3.2

61. Restricting our attention to the Irrigation Commission data, it may be seen from the table that about 50.5 percent of the state's total area is classified as drought-prone. The extent of drought-prone areas within 14 districts listed in the table ranged from 44.1 percent in Hassan to 100 percent in Bijapur. About, 54.6 thousand sq.kms (or 56.5 percent) of the State's drought-prone area was found in North Karnataka, and the remaining 42 thousand sq.kms (or 43.5 percent) in South Karnataka. (We prefer not to comment on the extent of drought prone area as per the Govt. of India team, as it was for the specific purpose of initiating integrated programme of development in selected drought prone areas). Districts(12) and taluks(88) identified as drought-prone in Karnataka by the Irrigation Commission(1972), Government of India are shown in Table 3.2.

62. It may be pointed out that out of these 88 taluks identified as drought affected, 50 taluks belong to South Karnataka and 38 taluks to North Karnataka. Of these 88 taluks, 70 taluks (41 taluks in South Karnataka and 29 taluks in North Karnataka) belong to the category of backward taluks as identified by the HPC FRRI (see Table 3.3). Further, when we take all 106 taluks (50 taluks in South Karnataka and 56 in North Karnataka) considered by the state for its drought relief measures, 69 taluks (34 in North Karnataka and 35 in South Karnataka) in all are common between backwardness and drought-prone areas (For details see Table:3.4).

**Table 3.2**

**Districts(12) and Taluks (88) Identified by the  
Irrigation Commission(1972) as Drought Affected in Karnataka**

<b>South Karnataka</b>	<b>North Karnataka</b>
<p><b>Chitradurga District</b></p> <ol style="list-style-type: none"> <li>1. Challakere</li> <li>2. Hiriyur</li> <li>3. Davangere</li> <li>4. Molakalmuru</li> <li>5. Jagalur</li> <li>6. Hosadurga</li> <li>7. Chitradurga</li> <li>8. Holalkere</li> </ol> <p><b>Bangalore District</b></p> <ol style="list-style-type: none"> <li>1. Hoskote</li> <li>2. Doddaballapur</li> <li>3. Nelamangala</li> <li>4. Kanakapura</li> <li>5. Magadi</li> <li>6. Rammanagaram</li> <li>7. Anekal</li> <li>8. Devanhally</li> <li>9. Channapatna</li> </ol>	<p><b>Dharwad District</b></p> <ol style="list-style-type: none"> <li>1. Ron</li> <li>2. Gadag</li> <li>3. Ranebennur</li> <li>4. Mundargi</li> </ol> <p><b>Gulbarga District</b></p> <ol style="list-style-type: none"> <li>1. Shahpur</li> <li>2. Yadgir</li> <li>3. Chincholi</li> <li>4. Sedam</li> <li>5. Gulbarga</li> <li>6. Aland</li> <li>7. Afzalpur</li> <li>8. Chitapur</li> <li>9. Jeevargi</li> <li>10. Shorapur</li> </ol>

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**Table 3.2 (concluded)**  
**Districts(12) and Taluks (88) Identified by the**  
**Irrigation Commission(1972) as Drought Affected in Karnataka**

South Karnataka	North Karnataka
<p><b>Hassan District</b></p> <ol style="list-style-type: none"> <li>1. Channarayapatna</li> <li>2. Arsikere</li> <li>3. Holenarsipura</li> </ol> <p><b>Kolar District</b></p> <ol style="list-style-type: none"> <li>1. Srinivaspur</li> <li>2. Gudibanda</li> <li>3. Chickballapur</li> <li>4. Gauribidanur</li> <li>5. Bagepally</li> <li>6. Kolar</li> <li>7. Bangarpet</li> <li>8. Chintamani</li> <li>9. Mulbagal</li> <li>10. Malur</li> </ol> <p><b>Tumkur District</b></p> <ol style="list-style-type: none"> <li>1. Madhugiri</li> <li>2. Sira</li> <li>3. Turuvekere</li> <li>4. Tiptur</li> <li>5. Kunigal</li> <li>6. Pavagada</li> <li>7. Chicknaikanahally</li> <li>8. Koratagere</li> <li>9. Gubbi</li> </ol> <p><b>Mysore District</b></p> <ol style="list-style-type: none"> <li>1. Chamarajanagar</li> <li>2. Hunsur</li> <li>3. Gundlupet</li> <li>4. Nanjangud</li> </ol> <p><b>Mandya District</b></p> <ol style="list-style-type: none"> <li>1. Malavalli</li> <li>2. K.R.Pet</li> <li>3. Nagamangala</li> <li>4. Pandavapura</li> </ol>	<p><b>Raichur District</b></p> <ol style="list-style-type: none"> <li>1. Lingasugur</li> <li>2. Deodurga</li> <li>3. Yelburga</li> <li>4. Kustagi</li> <li>5. Koppal</li> </ol> <p><b>Bellary District</b></p> <ol style="list-style-type: none"> <li>1. Bellary</li> <li>2. Siruguppa</li> <li>3. Hadagalli</li> <li>4. Kudligi</li> <li>5. Mallapuram</li> <li>6. Hospet</li> <li>7. Sandur</li> <li>8. Harapanahalli</li> </ol> <p><b>Bijapur District</b></p> <ol style="list-style-type: none"> <li>1. Bijapur</li> <li>2. Indi</li> <li>3. Sindgi</li> <li>4. Bagewadi</li> <li>5. Jamakhandi</li> <li>6. Bilgi</li> <li>7. Muddebinal</li> <li>8. Mudhol</li> <li>9. Bagalokot</li> <li>10. Hungund</li> <li>11. Badami</li> </ol>

Source: Adapted from the Report of the Irrigation Commission, 1972, Ministry of Irrigation and Power, New Delhi, Vol.1 ., Appendix 8.1



**Table: 3.3**  
**Taluks identified as Drought affected by the Irrigation Commission(1972), which are identified as Backward by HPC FRRI.**

South Karnataka	North Karnataka
<p><b>Mysore District</b></p> <ol style="list-style-type: none"> <li>1. Hunsur</li> <li>2. T. Narasipur</li> <li>3. Nanjangud</li> <li>4. Gundlupet</li> <li>5. Kollegal</li> <li>6. Chamarajanagar</li> <li>7. Periyapatna</li> </ol>	<p><b>Bijapur District</b></p> <ol style="list-style-type: none"> <li>1. Hunagund</li> <li>2. Badami</li> <li>3. B.Bagawadi</li> <li>4. Indi</li> <li>5. Sindagi</li> <li>6. Muddebihal</li> <li>7. Bilgi</li> </ol>
<p><b>Kolar District</b></p> <ol style="list-style-type: none"> <li>1. Mulbagal</li> <li>2. Gauribidanur</li> <li>3. Gudibande</li> <li>4. Bagepalli</li> <li>5. Bangarpet</li> <li>6. Srinivaspur</li> <li>7. Chintamani</li> <li>8. Malur</li> </ol>	<p><b>Dharwad District</b></p> <ol style="list-style-type: none"> <li>1. Mundaragi</li> <li>2. Ron</li> </ol>
<p><b>Hassan District</b></p> <ol style="list-style-type: none"> <li>1. Arasikere</li> <li>2. Channarayapatna</li> <li>3. Holenarsipura</li> </ol>	<p><b>Gulbarga District</b></p> <ol style="list-style-type: none"> <li>1. Gulbarga</li> <li>2. Sedam</li> <li>3. Shorapur</li> <li>4. Aland</li> </ol>
<p><b>Bangalore District</b></p> <ol style="list-style-type: none"> <li>1. Anekal</li> <li>2. Magadi</li> <li>3. Kanakapura</li> <li>4. Hoskote</li> <li>5. Channapatna</li> </ol>	<ol style="list-style-type: none"> <li>5. Jeevargi</li> <li>6. Afzalpur</li> <li>7. Chincholi</li> <li>8. Shahapur</li> <li>9. Yadgir</li> <li>10. Chittapur</li> </ol>
<p><b>Chitradurga District</b></p> <ol style="list-style-type: none"> <li>1. Challakere</li> <li>2. Hiriyur</li> <li>3. Molakalmuru</li> <li>4. Holalkere</li> <li>5. Jagalur</li> <li>6. Hosadurga</li> </ol>	<p><b>Raichur District</b></p> <ol style="list-style-type: none"> <li>1. Lingasugur</li> <li>2. Koppal</li> <li>3. Deodurga</li> <li>4. Yelburga</li> <li>5. Kushtagi</li> </ol>

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<b>Table: 3.3 (concluded)</b>	
<b>Taluks identified as Drought affected by the Irrigation Commission(1972), which are identified as Backward by HPC FRRI.</b>	
<b>South Karnataka</b>	<b>North Karnataka</b>
<p><b>Mandya District</b></p> <ol style="list-style-type: none"> <li>1. K.R.Pet</li> <li>2. Malavalli</li> <li>3. Nagamangala</li> <li>4. Pandavapura</li> </ol> <p><b>Tumkur District</b></p> <ol style="list-style-type: none"> <li>1. Turuvekere</li> <li>2. Kunigal</li> <li>3. Madhugiri</li> <li>4. Gubbi</li> </ol>	<p><b>Bellary District</b></p> <ol style="list-style-type: none"> <li>1. Siraguppa</li> <li>2. Hadagalli</li> <li>3. Sandur</li> <li>4. Kudligi</li> <li>5. Harapanahalli</li> </ol>
<ol style="list-style-type: none"> <li>5. Sira</li> <li>6. Pavagada</li> <li>7. Korategere</li> <li>8. C.N.Halli</li> </ol>	

**Table 3.4**  
**Backward Taluks identified by HPC FRRI which are included for Drought Relief Mesures by the Govt. of Karnataka**

<b>South Karnatka</b>	<b>North Karnataka</b>
<p><b>Bangalore(Rural) District</b></p> <ol style="list-style-type: none"> <li>1. Magadi</li> <li>2. Hoskote</li> </ol> <p><b>Kolar Disrict</b></p> <ol style="list-style-type: none"> <li>1. Bagepalli</li> <li>2. Sidlaghatta</li> <li>3. Malur</li> <li>4. Srinivasapura</li> </ol> <p><b>Tumkur District</b></p> <ol style="list-style-type: none"> <li>1. Koratagere</li> <li>2. Pavagada</li> <li>3. Turuvekere</li> <li>4. Kunigal</li> <li>5. Sira</li> </ol> <p><b>Chitradurga District</b></p> <ol style="list-style-type: none"> <li>1. Challakere</li> <li>2. Hosadurga</li> <li>3. Jagalur</li> </ol>	<p><b>Bellary District</b></p> <ol style="list-style-type: none"> <li>1. Kudligi</li> <li>2. Sandur</li> <li>3. Siraguppa</li> </ol> <p><b>Gulbarga District</b></p> <ol style="list-style-type: none"> <li>1. Chincholi</li> <li>2. Chtapur</li> <li>3. Sedam</li> <li>4. Afzalpur</li> <li>5. Shahapur</li> <li>6. Gulbarga</li> </ol> <p><b>Bidar District</b></p> <ol style="list-style-type: none"> <li>1. Humnabad</li> </ol> <p><b>Belgaum District</b></p> <ol style="list-style-type: none"> <li>1. Athani</li> <li>2. Soundatti</li> <li>3. Gokak</li> <li>4. Hukkeri</li> </ol>

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**Table 3.4 (concluded)**  
**Backward Taluks identified by HPC FRRI which are**  
**included for Drought Relief Measures by the Govt. of Karnataka**

South Karnataka	North Karnataka
4. Molakalmuru	5. Bailhongal
5. Hiriyur	6. Raibagh
6. Holalkere	
<b>Shimoga District</b>	<b>Bijapur District</b>
1. Channagiri	1. Bilgi
2. Shikaripura	2. Sindagi
3. Honnali	3. Bijapur
4. Soraba	
<b>Mysore District</b>	<b>Uttara Kannada District</b>
1. Chamarajanagar	1. Siddapur
2. Hunsur	2. Supa
3. Kollegal	
4. Krishnarajanagar	<b>Dharwad District</b>
5. Gundlupet	1. Kalghatgi
	2. Mundargi
<b>Mandya District</b>	3. Hirekerur
1. Krishnarajpet	4. Shioggaon
2. Malavalli	6. Shirahatti
3. Nagamangala	7. Kundagol
	8. Byadgi
<b>Hassan District</b>	9. Haveri
1. Arasikere	10. Navalgund
2. Channarayapatna	
3. Arkalgud	<b>Raichur District</b>
4. Belur	1. Kushtagi
5. Holenarasipura	2. Lingasugur
	3. Sindhanur
<b>Chickmagalore District</b>	
1. Tarikere	

63. Detailed statistics on drought years experienced by each of the taluks in Karnataka during the last 30 years (1971-2000) are presented in Annexure 3.1. Summary information compiled out of these statistics is shown in Table :3.5

**Table 3.5:**  
**Frequency of Drought in the Taluks of Karnataka: during 1971-2000 (30 years)**

Frequency of Drought	Number of taluks experiencing drought in			
	N. Karnataka	S.Karnataka	State	Percent to the Total
1. Less than 5 years	30	40	70	40.0
2. 6-10 years	40	37	77	44.0
3. 11-15 years	11	16	27	15.4
4. 16 years	1	-	1	00.6
<b>Total No. of taluks</b>	<b>82</b>	<b>93</b>	<b>175</b>	<b>100.0</b>

**Note :**Compiled from data furnished by the Drought Monitoring Cell., Govt. of Karnataka

64. Out of 175 taluks, 70 taluks (30 in North Karnataka and 40 in South Karnataka) or 40 per cent experienced drought in less than 5 years, 77 taluks (40 in North Karnataka and 37 in South Karnataka) or 44 per cent between 6 and 10 years, 27 taluks (11 in North Karnataka and 16 in South Karnataka) or 15 per cent between 11 and 15 years and one taluk (in North Karnataka) or 0.6 per cent for a maximum number of 16 years.

### **3.9 Breaking Syndrome of Disparities, Drought and Backwardness:**

65. Characteristics of drought-prone areas are such that they put serious constraints on their development, unless tackled in a systematic way to break the barriers in their path of development. Till the middle of the Fourth Plan, the problems of drought-prone areas were tackled in an adhoc manner and were essentially in the nature of meeting their immediate crisis situation(s) through the device of scarcity relief works. While these measures did help to tide over such crisis situation(s), did not effectively contribute to the development of these backward areas. Thanks to the Report of the Task Force on Integrated Rural Development appointed by the Planning Commission, Govt. of India and subsequently the Report of the National Committee on the Development of Backward Areas, the concept of tackling the problems of drought-prone areas underwent a significant change giving place from adhoc measures to a resource-based and area-specific approach integrating various elements for the development of the backward areas. Our approach by virtue of adopting a resource-based and area-specific identification of regional imbalances/backwardness is very much in unison with this concept.

66. A major portion of the state is caught up in the drought-prone – backwardness - disparity syndrome. Policies and programmes for breaking the syndrome demand a multiple approach, each supporting the other .

**Annexure 3.1**  
**Taluk-wise Details of No. of Drought Years in the last 30 years (1971-2000)**

Sl. No.	Districts		Taluk	No of Drought years	% to Total Period*	Intensity of Drought			
						No. of Moderate Drought Years	% to Total Period*	No. of Severe drought years	% to Total Period*
1	<b>Bagalkot</b>	1	Badami	8	27	8	27	0	0
		2	Bagalkot	9	30	7	23	2	7
		3	Bilagi	5	17	4	13	1	3
		4	Hungund	5	17	5	17	0	0
		5	Jamkhandi	10	33	9	30	1	3
		6	Mudhol	7	23	7	23	0	0
2	<b>Belgaum</b>	7	Athani	13	43	11	37	2	7
		8	Bailahongala	11	37	11	37	0	0
		9	Belgaum	8	27	8	27	0	0
		10	Chikkodi	2	7	2	7	0	0
		11	Gokak	9	30	7	23	2	7
		12	Hukkeri	9	30	9	30	0	0
		13	Khanapur	3	10	3	10	0	0
		14	Raibagh	15	50	11	37	4	13
		15	Ramdurga	10	33	9	30	1	3
		16	Soundati	16	53	11	37	5	17
3	<b>Bijapur</b>	17	Basavanabagewadi	5	17	5	17	0	0
		18	Bijapur	3	10	3	10	0	0
		19	Indi	7	23	6	20	1	3
		20	Muddebihal	7	23	5	17	2	7
		21	Sindgi	6	20	4	13	2	7

Contd..

Annexure 3.1 (contd.) : Taluk-wise Details of No. of Drought Years in the last 30 years (1971-2000)

Sl. No.	Districts		Taluk	No of Drought years	% to Total Period*	Intensity of Drought			
						No. of Moderate Drought Years	% to Total Period*	No. of Severe drought years	% to Total Period*
4	<b>Dharwad</b>	22	Dharwad	8	27	8	27	0	0
		23	Hubli	6	20	6	20	0	0
		24	Kalgatgi	2	7	2	7	0	0
		25	Kundagol	15	50	13	43	2	7
		26	Navalgund	8	27	8	27	0	0
5	<b>Gadag</b>	27	Gadag	6	20	6	20	0	0
		28	Mundargi	3	10	3	10	0	0
		29	Naragund	7	23	6	20	1	3
		30	Ron	6	20	6	20	0	0
		31	Shirahatti	11	37	10	33	1	3
6	<b>Haveri</b>	32	Byadagi	9	30	7	23	2	7
		33	Hangal	2	7	2	7	0	0
		34	Haveri	8	27	8	27	0	0
		35	Hirekerur	7	23	7	23	0	0
		36	Ranebennur	9	30	9	30	0	0
		37	Savanur	3	10	3	10	0	0
		38	Shiggaon	2	7	2	7	0	0
		7	<b>Uttara Kannada</b>	39	Ankola	2	7	2	7
40	Bhatkal			2	7	2	7	0	0
41	Honnavar			3	10	3	10	0	0
42	Kumta			9	30	9	30	0	0
43	Mundagod			9	30	9	30	1	0

Contd..

Annexure 3.1 (contd.) : Taluk-wise Details of No. of Drought Years in the last 30 years (1971-2000)

Sl. No.	Districts	Taluk	Intensity of Drought						
			No of Drought years	% to Total Period*	No. of Moderate Drought Years	% to Total Period*	No. of Severe drought years	% to Total Period*	
1	Bellary	44 Siddapur	8	27	7	23	0	3	
		45 Supa (Joida)	3	10	3	10	0	0	
		46 Yellapur	8	27	8	27	0	0	
		47 Sirsi	7	23	7	23	0	0	
		48 Halyal	8	27	7	23	1	3	
		49 Karwar	3	10	3	10	0	0	
		1 Bellary	5	17	5	17	0	0	
		2 Hadagali	5	17	5	17	0	0	
		3 Hagaribommanahalli	7	23	6	20	1	3	
		4 Hospet	4	13	4	13	0	0	
		5 Kudligi	9	30	8	27	1	3	
		6 Sandur	7	23	7	23	0	0	
		7 Siraguppa	8	27	8	27	0	0	
		2	Bidar	8 Aurad	7	23	6	20	1
9 Basavakalyana	6			20	5	17	1	3	
10 Bhalki	11			37	10	33	1	3	
11 Bidar	11			37	11	37	0	0	
12 Humnabad	14			47	12	40	2	7	
3	Gulbarga			13 Afzalpur	8	27	7	23	1
		14 Aland	11	37	9	30	2	7	
		15 Chincholi	4	13	2	7	2	7	
		16 Chittapur	14	47	13	43	1	3	
		17 Gulbarga	7	23	6	20	1	3	

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Annexure 3.1 (contd.) : Taluk-wise Details of No. of Drought Years in the last 30 years (1971-2000)

Sl. No.	Districts		Taluk	No of Drought years	% to Total Period*	Intensity of Drought			
						No. of Moderate Drought Years	% to Total Period*	No. of Severe drought years	% to Total Period*
4	<b>Koppal</b>	18	Jewargi	4	13	3	10	1	3
		19	Sedam	12	40	11	37	1	3
		20	Shahapur	4	13	4	13	0	0
		21	Shorapur	7	23	6	20	1	3
		22	Yadgir	4	13	4	13	0	0
		23	Gangavati	4	13	4	13	0	0
		24	Koppal	8	27	8	27	0	0
		25	Kushtagi	9	30	8	27	1	3
		26	Yalburga	9	30	9	30	0	0
		5	<b>Raichur</b>	27	Deodurga	4	13	4	13
28	Lingasugur			5	17	5	17	0	0
29	Manvi			7	23	7	23	0	0
30	Raichur			7	23	7	23	0	0
31	Sindhanur			4	13	2	7	2	7
1	<b>Bangalore Rural</b>	1	Channapatna	4	13	3	10	1	3
		2	Devanahalli	6	20	5	17	1	3
		3	Doddaballapura	11	37	11	37	0	0
		4	Hoskote	4	13	4	13	0	0
		5	Kanakapura	5	17	5	17	0	0
		6	Magadi	4	13	4	13	0	0
		7	Nelamangala	10	33	7	23	3	10
		8	Ramanagara	6	20	5	17	1	3

Contd..



Annexure 3.1 (contd.) : Taluk-wise Details of No. of Drought Years in the last 30 years (1971-2000)

Sl. No.	Districts		Taluk	No of Drought years	% to Total Period*	Intensity of Drought			
						No. of Moderate Drought Years	% to Total Period*	No. of Severe drought years	% to Total Period*
2	<b>Bangalore Urban</b>	9	Bangalore North	5	17	5	17	0	0
		10	Bangalore South	5	17	5	17	0	0
		11	Anekal	6	20	6	20	0	0
3	<b>Chitradurga</b>	12	Challakere	11	37	10	33	1	3
		13	Chitradurga	12	40	9	30	3	10
		14	Hiriyur	5	17	4	13	1	3
		15	Holalkere	6	20	6	20	0	0
		16	Hosadurga	4	13	3	10	1	3
		17	Molakalmur	10	33	8	27	2	7
4	<b>Davangere</b>	18	Channagiri	4	13	3	10	1	3
		19	Davangere	14	47	13	43	1	3
		20	Harapanahalli	3	10	1	3	2	7
		21	Harihara	4	13	4	13	0	0
		22	Honnali	9	30	8	27	1	3
		23	Jagalur	11	37	9	30	2	7
5	<b>Kolar</b>	24	Bagepalli	7	23	7	23	0	0
		25	Bangarpet	4	13	4	13	0	0
		26	Chikkaballapura	5	17	5	17	0	0
		27	Chintamani	9	30	9	30	0	0
		28	Gowribidanur	7	23	7	23	0	0
		29	Gudibanda	15	50	12	40	3	10

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Annexure 3.1 (contd.) : Taluk-wise Details of No. of Drought Years in the last 30 years (1971-2000)

Sl. No.	Districts	Taluk	No of Drought years	% to Total Period*	Intensity of Drought			
					No. of Moderate Drought Years	% to Total Period*	No. of Severe drought years	% to Total Period*
6	Shimoga	30 Kolar	4	13	3	10	1	3
		31 Malur	6	20	6	20	0	0
		32 Mulbagal	7	23	7	23	0	0
		33 Sidlaghatta	5	17	5	17	0	0
		34 Srinivasapura	4	13	3	10	1	3
		35 Bhadravathi	10	33	9	30	1	3
		36 Hosanagar	12	40	11	37	1	3
		37 Sagar	7	23	6	20	1	3
		38 Shikaripura	9	30	9	30	0	0
		39 Shimoga	11	37	10	33	1	3
		40 Soraba	13	43	11	37	2	7
7	Tumkur	41 Thirthahalli	11	37	10	33	1	3
		42 Chikkanayakanahalli	9	30	4	13	5	17
		43 Gubbi	7	23	5	17	2	7
		44 Koratagere	3	10	3	10	0	0
		45 Kunigal	3	10	3	10	0	0
		46 Madhugiri	6	20	6	20	0	0
		47 Pavagada	4	13	4	13	0	0
		48 Sira	5	17	5	17	0	0
		49 Tiptur	5	17	4	13	1	3
		50 Tumkur	3	10	3	10	0	0
		51 Turuvekere	6	20	6	20	0	0

Contd..

Annexure 3.1 : Taluk-wise Details of No. of Drought Years in the last 30 years (1971-2000)

Sl. No.	Districts		Taluk	No of Drought years	% to Total Period*	Intensity of Drought			
						No. of Moderate Drought Years	% to Total Period*	No. of Severe drought years	% to Total Period*
1	<b>Chamarajana-nagar</b>	1	Chamarajanagar	5	17	4	13	1	3
		2	Gundlupet	3	10	3	10	0	0
		3	Kollegal	11	37	11	37	0	0
		4	Yallandur	5	17	5	17	0	0
2	<b>Chick-magalur</b>	5	Chickmagalur	9	30	8	27	1	3
		6	Kadur	3	10	3	10	0	0
		7	Koppa	4	13	4	13	0	0
		8	Mudigere	7	23	7	23	0	0
		9	Narasimharajapura	12	40	12	40	0	0
		10	Sringeri	5	17	5	17	0	0
		11	Tarikere	9	30	8	27	1	3
3	<b>Dakshina Kannada</b>	12	Bantwal	4	13	4	13	0	0
		13	Belthangady	2	7	2	7	0	0
		14	Mangalore	2	7	2	7	0	0
		15	Puttur	2	7	2	7	0	0
		16	Sullya	12	40	12	40	0	0
4	<b>Hassan</b>	17	Alur	9	30	8	27	1	3
		18	Arakalgudu	12	40	10	33	2	7
		19	Arasikere	6	20	5	17	1	3
		20	Belur	9	30	8	27	1	3
		21	Channarayapatna	7	23	6	20	1	3
		22	Hassan	7	23	7	23	0	0

Contd..

Annexure 3.1 (concluded) : Taluk-wise Details of No. of Drought Years in the last 30 years (1971-2000)

Sl. No.	Districts		Taluk	No of Drought years	% to Total Period*	Intensity of Drought			
						No. of Moderate Drought Years	% to Total Period*	No. of Severe drought years	% to Total Period*
5	<b>Kodagu</b>	23	Holenarasipur	4	13	2	7	2	7
		24	Sakleshpur	10	33	9	30	1	3
		25	Madikeri	5	17	5	17	0	0
		26	Somwarpet	7	23	7	23	0	0
		27	Virajpet	8	27	8	27	0	0
6	<b>Mandya</b>	28	Krishnarajpet	7	23	7	23	0	0
		29	Maddur	3	10	3	10	0	0
		30	Malavalli	11	37	11	37	0	0
		31	Mandya	4	13	3	10	1	3
		32	Nagamangala	4	13	4	13	0	0
		33	Pandavapura	7	23	7	23	0	0
		34	Srirangapatna	7	23	6	20	1	3
7	<b>Mysore</b>	35	Heggadadevanakote	12	40	12	40	0	0
		36	Hunsur	4	13	4	13	0	0
		37	Krishnarajanagar	10	33	9	30	1	3
		38	Mysore	9	30	9	30	0	0
		39	Nanjangud	3	10	3	10	0	0
		40	Periyapatna	6	20	6	20	0	0
		41	T. Narasipur	4	13	4	13	0	0
8	<b>Udupi</b>	42	Karkala	2	7	2	7	0	0
		43	Kundapur	5	17	5	17	0	0
		44	Udupi	3	10	3	10	0	0

\* Total period 30 years.

Source: Department of Drought Monitoring Cell, Government of Karnataka.