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Estimation of Socio-Economic Development of Different Districts in Kerala[1]

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SUMMARY

The level of development of different districts of Kerala was obtained with the help of composite index based on optimum combination of thirty nine socio-economic indicators. The district-wise data for the year 2001-02 in respect of these thirty nine indicators were utilized for all the fourteen districts of the State of Kerala. The level of development was estimated separately for agricultural sector, industrial sector, infrastructural facilities and overall socio-economic sector. The district of Thrissur was ranked first and the district of Wayanad was ranked last in the socio-economic development. Wide disparities were observed in the level of development among different districts. Infrastructural facilities are found to be positively associated with the socio-economic development.

For bringing about uniform regional development, potential targets of various socio-economic indicators have been estimated in respect of low developed districts. These districts require improvements of various dimensions in some of the indicators for enhancing the level of development.

Key-words : Composite index, Potential targets, Model districts, Developmental indicators.

1. INTRODUCTION

Economic planning has been used in the country as an instrument for bringing about uniform regional development. Although the resource transfers are being executed to the backward regions through a number of instruments like subsidies and central assistance. Yet regional disparities in terms of development in different sectors of economy is not declining over time. Development is a multi-dimensional process which is used for improvement of level of living. For focusing the attention of scientists, planners, policy makers and administrators on the problems of the estimation of disparities, in the level of development, a seminar was organized jointly by the Planning Commission, Government of India and State Planning Institute, Government of Uttar Pradesh during April, 1982. Realizing the seriousness and importance of the problems of estimation of level of development, the Indian Society of Agricultural Statistics conducted a series of research studies in this direction. The level of socio-economic development for different states was evaluated for 1971-72 and 1981-82 (1991). The socio-economic variables were analyzed taking state as a unit of analysis. The study revealed that there were wide disparities in the level of development in different states. For making a deeper analysis on the estimation of level of development, the data mostly pertaining to the year 1991-92 were analyzed at the district level. Studies on the estimation of level of development at district level have been completed for the states of Orissa (1992, 1993), Andhra Pradesh (1994), Kerala (1994), Uttar Pradesh (1995, 2001), Maharashtra (1996), Karnataka (1997, 2003), Tamil Nadu (2000) and States of Southern Region (1999). Studies were also conducted for estimation of level of development of different districts of Assam and Hilly States (2004) utilizing the developmental indicators for the year 2001-02. It was found that the entire part of the low developed district is not backward but some part is better developed. This year, the study is conducted in the State of Kerala analyzing the district level data on socio-economic variables for the year 2001-02. The study throws light on the association of development in different sectors of

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economy. The improvements needed in different indicators for enhancing the level of development are suggested.

Kerala is very rich in the production of cash crops like coconut, arecanut, cashewnut, pepper, rubber etc. The main food crop of the State is rice. According to 2001 Population Census, the population of Kerala is about 3.18 crores. The crude birth and death rates are 17.3 and 6.6 respectively. The infant mortality rate in the State is 11.0. The life expectancy of the people in the rural area of the State is about 69.3 years for males and about 75.8 years for females. Literacy rate in the State is about 90.9 per cent as against 65.4 per cent at all India level. The growth rate of population from 1991 to 2001 in the State is about 9.4 per cent whereas it is about 21.3 per cent at all India level during the same period.

In the present study, the level of development is estimated separately for agricultural sector, industrial sector, infrastructural facilities and overall socio-economic field. It would be of interest to estimate the level of development at district level since there has been a growing consensus about the need of district level planning in the country. Knowledge of level of development at district level will help in identifying where a given district stands in relation to others.

2. DEVELOPMENTAL INDICATORS

Impact of development cannot be captured fully by any single indicator. Moreover, a number of indicators when analyzed individually, do not provide an integrated and easily comprehensible picture of reality. Hence there is a need for building up of a composite index of development based on optimum combination of various developmental indicators. Each district faces situation factors of development unique to it as well as common administrative and financial factors. Indicators common to all the districts have been included in the analysis for evaluating the level of development. Composite indices have been obtained for different districts by using the data on the following developmental indicators.

1. Forest area (%)
2. Net area sown (%)
3. Area sown more than once (%)
4. Area under paddy
5. Area under food crops
6. Area under spices and contiments
7. Area under fruits
8. Area under vegetables
9. Area under oilseeds
10. Area under plantation crops
11. Productivity of rice
12. Productivity of coconut
13. Productivity of arecanut
14. Productivity of Tapioca
15. Productivity of raw cashewnut
16. Productivity of black pepper
17. Productivity of banana
18. Productivity of cocoa
19. Area irrigated
20. Fertilizer consumption
21. No. of total livestock population
22. Percentage of main workers
23. No. of industrial cooperative societies
24. No. of small scale industries
25. No. of medium and large scale industries
26. No. of handloom cooperative societies
27. No. of registered factories
28. No. of persons employed in factories
29. Population density
30. Sex ratio
31. Literacy rate
32. Achievements under self-employment programme
33. Length of road
34. No. of post offices
35. No. of schools
36. No. of retail medical shops
37. Per capita income
38. No. of foreign tourists
39. No. of domestic tourists

A total of thirty nine developmental indicators have

been included in the analysis. These indicators may not form an all inclusive list but these are the major interacting components of development. Out of thirty nine indicators, twenty two are directly concerned with the development in agricultural sector. Six indicators depict the progress of development in industrial sector and the rest eleven indicators describe the availability of infrastructural facilities in the district.

3. METHOD OF ANALYSIS

Variables in respect of various indicators are taken from different population distributions and they are recorded in different units of measurement. Hence the values of these variables are not quite suitable for combined analysis. The values are transformed and standardized and their transformed values are used for combined analysis. The best value of transformed variable for each indicator (maximum/minimum value depending upon the direction of impact of indicator on development) is obtained. The square of the transformed variable from the best value is calculated. The inverse of the coefficient of variation is used as weights for combining the impact of various indicators on development. The statistical procedures given by Narain *et al.* (1991) are applied to obtain the composite index of development in the combined analysis. The value of composite index is non-negative. Smaller values of composite index indicate high level of development and higher values indicate low level of development. Based on developmental distances and composite index of development, model districts have been identified and potential targets of different indicators have been obtained for low developed districts.

4. RESULTS AND DISCUSSIONS

4.1. The Level of Development

The composite indices of development have been obtained for different districts for agricultural sector, industrial sector, infrastructural facilities and overall socio-economic sector. The districts have been ranked on the basis of developmental indices. The composite indices of development along with the rank of the district are given in Table 1.

It may be seen from the table that in case of agricultural development, the district of Palakkad is ranked first and the district of Thiruvananthapuram is ranked last. The composite indices of development vary from 0.71 to 0.91. In case of industrial development, the district of Ernakulam is found to occupy the first position and the district of Kasaragod is on the last place. The composite indices of development vary from 0.40 to 0.80. As regards infrastructural facilities, the district of Thrissur is on the first place and Wayanad is on the last position. The composite indices vary from 0.24 to 0.81. In case of overall socio-economic development, Thrissur

Table 1. Composite Index of Development (C.I.)

S.No.	District	Agriculture		Industry		Infrastructure		Socio-economic	
		C.I.	Rank	C.I.	Rank	C.I.	Rank	C.I.	Rank
01.	Thiruvananthapuram	0.91	14	0.43	03	0.40	07	0.70	08
02.	Kollam	0.77	03	0.40	02	0.39	06	0.62	02
03.	Pathanamthitta	0.90	13	0.72	11	0.34	02	0.69	07
04.	Alappuzha	0.89	11	0.57	06	0.38	05	0.68	05
05.	Kottayam	0.76	02	0.62	08	0.47	08	0.67	04
06.	Idukki	0.77	04	0.77	13	0.72	13	0.85	13
07.	Ernakulam	0.82	08	0.40	01	0.56	10	0.73	10
08.	Thrissur	0.83	09	0.52	04	0.24	01	0.60	01
09.	Palakkad	0.71	01	0.54	05	0.65	11	0.75	11
10.	Malappuram	0.78	06	0.67	09	0.53	09	0.72	09
11.	Kozhikode	0.89	12	0.60	07	0.36	04	0.68	06
12.	Wayanad	0.83	10	0.73	12	0.81	14	0.92	14
13.	Kannur	0.77	05	0.67	10	0.35	03	0.62	03
14.	Kasaragod	0.80	07	0.80	14	0.68	12	0.83	12

is on the first position and Wayanad is on the last place. The composite indices of development vary from 0.60 to 0.92.

4.2 Different Stages of Development

For relative comparisons among different districts with regard to level of development, it appears appropriate to assume that the districts having the composite indices less than or equal to (Mean – SD) are high level developed whereas the districts with composite indices greater than or equal to (Mean + SD) are low level developed. Districts with composite indices in between (Mean) and (Mean – SD) are high middle level developed and the districts having composite indices in between (Mean) and (Mean + SD) are low middle level developed. On the basis of above classifications, districts are put in four stages of development as high level, high middle level, low middle level and low level. Table 2 presents the classification of districts lying in different stages of development along with the percentage of area and population.

In case of agricultural sector, five districts namely Kollam, Kottayam, Idukki, Palakkad and Kannur are better developed as compared to other districts of the State. These districts cover together about 44 per cent area and 34 per cent population : Three districts namely Ernakulam, Malappuram and Kasaragod are high middle level developed. These districts cover the area of about 20 per cent and population of about 25 per cent. The districts of Alappuzha, Thrissur, Kozhikode and Wayanad are low middle level developed. Great care should be taken to implement the developmental programmes relating to growth and progress in agricultural field. These four districts cover about 23 per cent area and 28 per cent population. Two districts namely Thiruvananthapuram and Pathanamthitta

Table 2. Area and population under different levels of development

Level of Development	Name of Districts	Area (%)	Population (%)
	Agriculture		
High	Kollam, Kottayam, Idukki, Palakkad, Kannur	44.4	33.5
High Middle	Ernakulam, Mallappuram, Kasaragod	20.4	24.9
Low Middle	Alappuzha, Thrissur, Kozhikode, Wayanad	22.7	27.6
Low	Thiruvananthapuram, Pathanamthitta	12.5	14.0
	Industry		
High	Thiruvananthapuram, Kollam, Ernakulam	18.1	27.9
High Middle	Alappuzha, Thrissur, Palakkad, Kozhikode	28.5	33.3
Low Middle	Pathanamthitta, Kottayam, Malappuram, Wayanad, Kannur	35.0	31.5
Low	Idukki, Kasaragod	18.4	7.3
	Infrastructural Facilities		
High	Pathanamthitta, Thrissur, Kannur	22.2	20.9
High Middle	Thiruvananthapuram, Kollam, Alappuzha, Kottayam, Kozhikode	27.3	40.0
Low Middle	Ernakulam, Palakkad, Malappuram	26.6	29.3
Low	Idukki, Wayanad, Kasaragod	23.9	9.8
	Socio-economic		
High	Kollam, Thrissur, Kannur	21.8	25.1
High Middle	Thiruvananthapuram, Pathanamthitta, Alappuzha, Kottayam, Malappuram, Kozhikode	37.0	47.2
Low Middle	Ernakulam, Palakkad	17.3	17.9
Low	Idukki, Wayanad, Kasaragod	23.9	9.8

covering about 12 per cent area and 14 per cent population are low developed. Special developmental programmes should be initiated in these districts for enhancing the level of agricultural development.

In industrial sector, three districts namely Thiruvananthapuram, Kollam and Ernakulam are better developed as compared to other districts. These districts cover about 18 per cent area and 28 per cent population. The districts of Alappuzha, Thrissur, Palakkad and Kozhikode are high middle level developed. The area and population covered by these districts are 28 per cent and 33 per cent respectively. Five districts namely Pathanamthitta, Kottayam, Malappuram, Wayanad and Kannur covering about 35 per cent area and 31 per cent population of the State are found to be low middle level developed. Two districts namely Idukki and Kasaragod are low developed. These districts cover about 18 per cent area and 7 per cent population. Special programmes for enhancing the level of industrial development should be encouraged in these districts.

Infrastructural facilities are very important for enhancing the level of development. Three districts namely Pathanamthitta, Thrissur and Kannur are better equipped with infrastructural facilities in respect of road transport, communication system and medical facilities. These districts cover about 22 per cent area and 21 per cent population. The districts of Thiruvanathapuram, Kollam, Alappuzha, Kottayam and Kozhikode covering about 27 per cent area and 40 per cent population of the State are high middle level developed in infrastructural facilities. Three districts namely Ernakulam, Palakkad and Malappuram are low middle level developed. These districts cover about 27 per cent area and 29 per cent population. The districts of Idukki, Wayanad and Kasaragod are low developed in infrastructural facilities. These districts cover about 24 per cent area and 10 per cent population.

With respect to overall socio-economic development, the districts of Kollam, Thrissur and Kannur are found to be better developed in comparison with other districts of the State. These districts cover about 22 per cent area and 25 per cent population of the State. Six districts namely Thiruvananthapuram, Pathanamthitta, Alappuzha, Kottayam, Malappuram and Kozhikode are high middle level developed. These districts cover about 37 per cent area and 47 per cent population. Two districts namely Ernakulam and Palakkad are found to be low middle level developed. These districts cover about 17 per cent area and 18 per cent population of the State. The districts of Idukki, Wayanad and Kasaragod are found to be low level developed. These districts cover about 24 per cent area and 10 per cent population of the State. These districts were also low developed in overall socio-economic field during 1991-92. Special steps should be taken to enhance the level of development in these districts.

4.3 Inter-relationship among Development of Different Sectors of Economy

It is quite essential and important that the impact of development in different sectors of economy should be in proper direction. This will improve the level of living of the people. The development in various sectors should flourish together in the State. Similarly, system of education envisages all round development of manpower and human resources required for various socio-economic activities. The correlation coefficients between agricultural, industrial, infrastructural facilities and socio-economic developments of different districts are given in Table 3.

Agricultural development is not associated with industrial development. Infrastructural facilities are also not found to be associated with agricultural development. Overall socio-economic development is also not found to be influenced by the agricultural development in the

Table 3. Correlation coefficients

Factors	Agricultural Development	Industrial Development	Infrastructural Facilities	Socio-economic Development
Agricultural Development	1	–0.119	–0.431	–0.124
Industrial Development		1	0.446	0.565*
Infrastructural Facilities			1	0.937**
Socio-economic Development				1

* Significant at 5% level ** Significant at 1% level

State. Industrial development is not associated with infrastructural facilities but it is affecting the socio-economic development in the positive direction. Infrastructural facilities are found to be highly associated with socio-economic development. Suitable steps should be taken to make proper use of infrastructural facilities for enhancing the level of development in agricultural and industrial sectors.

4.4 Potential Targets of Developmental Indicators for Low Developed Districts

It is observed that there are wide disparities in the level of development of different districts. It would be quite useful to examine the extent of improvement needed in developmental indicators for enhancing the level of development of low developed districts. This information is essential for re-adjusting the resources for enhancement of development in the backward areas. For estimation of potential targets, model districts have been identified for low developed districts. Three districts have been found to be low developed in overall socio-economic field. Model districts for these three low developed districts are identified and given in Table 4.

Table 4. Model districts

Low developed districts	Model districts
Idukki	Pathanamthitta, Kottayam, Kannur
Wayanad	Kollam, Pathanamthitta, Kottayam, Kannur
Kasaragod	Kollam, Pathanamthitta, Alappuzha, Kottayam, Malappuram, Kannur

It may be seen that the districts of Pathanamthitta, Kottayam and Kannur are model districts for all the three low developed districts. In comparison to low developed districts, model districts are better developed.

Potential targets of various indicators have been estimated for low developed districts. Actual achievements and potential targets (in brackets) of various important indicators in respect of low developed districts are given in Table 5.

It may be seen that the values of the potential targets are very high for some of the indicators. Suitable action as indicated below is needed to achieve the potential targets and enhance the level of socio-economic development of low developed districts.

Idukki

This district is low developed in industrial sector. Infrastructural facilities in respect of transport and communication systems are poor. Overall socio-economic development is low. About half of the area of the district is covered by forest. Productivity of some of the crops is found to be low. Action is needed to enhance the productivity of crops. Immediate action is required to improve the level of development in industrial sector. Enhancement in industrial cooperative societies should be made and number of small, medium and large scale industries should be increased. Improvements are required for enhancing the literacy rate. Medical facilities require improvement. The district is attracting foreign and domestic tourists. Action should be taken to enhance the facilities for the tourists. Per capita income of the people of the district will enhance if the place is developed to attract tourists.

Wayanad

The district is low developed in overall socio-economic field. Infrastructural facilities are also poor. Productivity of some of the cash crops is low and it requires improvement. Steps should be taken to enhance the livestock population and its products. Number of handloom cooperative societies should be increased. There are only a few number of medium and large scale industries in the district. Their number should be increased. Steps are required to be taken to enhance the number of factories in the district. This will improve the level of standard of living of the people. As compared to other districts of the State, the literacy rate is low. This may be improved. Action should be taken to explore the possibility of developing some of the area of the district as tourists spot. Transport and medical facilities should be enhanced.

Kasaragod

This district is low developed in industrial sector, infrastructural facilities and overall socio-economic field. Net area sown and area sown more than once may be enhanced by creating more irrigation facilities. Productivity levels of Rice, Tapioca, Black Pepper and Cocoa require improvement. Fertilizer application should be enhanced. Number of small, medium and large scale industries should be increased. Literacy rate should be enhanced. Transport and medical facilities should be increased.

Table 5. Potential targets and actual achievements

S.No.	Indicators requiring improvements	Low developed districts					
		Idukki		Wayanad		Kasaragod	
01.	Net area sown	0.44	(0.78)	0.54	(0.78)	0.68	(0.78)
02.	Area sown more than once	0.23	(0.31)	0.74	(0.74)	0.14	(0.38)
03.	Productivity of rice	34	(37)	36	(37)	31	(48)
04.	Productivity of coconut	40	(59)	47	(59)	73	(73)
05.	Productivity of arecanut	94	(104)	45	(104)	200	(200)
06.	Productivity of tapioca	32	(34)	34	(34)	24	(30)
07.	Productivity of raw cashewnut	60	(94)	88	(94)	103	(103)
08.	Productivity of black pepper	55	(55)	29	(39)	29	(39)
09.	Productivity of banana	85	(89)	68	(89)	101	(101)
10.	Productivity of cocoa	53	(64)	37	(64)	23	(138)
11.	Fertilizer consumption	207	(244)	118	(244)	27	(244)
12.	Number of livestock population	326	(326)	153	(228)	202	(228)
13.	Main workers (%)	35	(39)	43	(43)	27	(39)
14.	Number of industrial cooperative societies	41	(147)	165	(165)	43	(147)
15.	Number of small scale industries	84	(249)	44	(249)	67	(249)
16.	Number of medium and large scale industries	27	(34)	5	(34)	2	(34)
17.	Number of handloom cooperative societies	10	(75)	4	(75)	8	(75)
18.	Number of registered factories	32	(191)	14	(191)	27	(198)
19.	Literacy rate (%)	89	(95)	86	(95)	85	(95)
20.	Number of schools	47	(72)	29	(72)	53	(89)
21.	Number of retail medical shops	22	(50)	15	(50)	24	(59)
22.	Per capita income (00)	282	(282)	222	(235)	212	(235)
23.	Number of foreign tourists (00)	269	(269)	6	(176)	7	(221)
24.	Number of domestic tourists (000)	384	(384)	205	(311)	135	(311)

Some areas of the low developed districts are found to be better developed. Studies made for evaluating the level of development at smaller say block or gram panchayat level will throw more light on the problems of enhancing the level of development. Location specific recommendations may be given on the basis of such studies.

5. CONCLUSIONS

The broad conclusions emerging from the study are as follows:

(i) With respect to overall socio-economic development, the districts of Kollam, Thrissur and Kannur are found to be better developed in comparison to other districts of the State. The districts of Idukki, Wayanad and Kasaragod are low developed. Special care should be taken for implementing the developmental programmes in these districts.

(ii) Five districts namely Kollam, Kottayam, Idukki, Palakkad and Kannur are better developed in agricultural sector whereas three districts namely Thiruvananthapuram, Kollam and Ernakulam are better developed in industrial sector. The districts of Pathanamthitta, Thrissur and Kannur are having better infrastructural facilities.

(iii) Infrastructural facilities are highly associated in positive direction with the overall socio-economic development. Industrial development is also associated in the positive direction with the infrastructural facilities. Agricultural development is not found to be associated with

industrial and overall socio-economic developments.

(iv) Entire part of the low developed districts is not low developed but some parts are low middle or high middle level developed.

(v) Wide disparities in the level of development have been observed between different districts.

(vi) For enhancing the level of development of low developed districts, model districts have been identified and potential targets of various developmental indicators have been obtained. The low developed districts require improvement of various dimensions in the developmental indicators. The level of development at smaller level say block or gram panchayat level should be evaluated and location specific recommendations for improving the level of development may be given. This will help in identifying the low developed blocks or gram panchayats and with location specific recommendations quick improvement in the level of development may be made.

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