IOSR Journal of Economics and Finance (IOSR-JEF)
e-ISSN: 2321-5933, p-ISSN: 2321-5925.Volume 11, Issue 1 Ser. VII (Jan – Feb 2020), PP 62-68
www.iosrjournals.org

Social Sector Development of Assam: A Study of Its'InterDistrict Variation

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ABSTRACT
This paper is a research-based paper basically on secondary sources. The study is on the development dimensions of social sector of Assam with special attentionwithregional variation. Districts areconsidered as a small unit to the state for the purpose. These are ranked on the basis of their development in Social Sector. For ranking the districts, hereused Principal Component Analysis (PCA) as a tool. Further convergence test is done for testing the hypothesis.
Key words: Social-Sector, Development, PCA, Infrastructure.

I. INTRODUCTION

Development is not only a processnow a days, rather a multifaceted process. Various economists defined it differently. Today the concept is gradually becoming wider. It encompasses new areas every day. Normally,by development we understand a positively changing environment of different economic aspects of a nation. But in real sense it incorporates more than economic ingredients. Recentlysocial dimension occupiesa lion portion of development paradigm with a heavy weight in measurement. Human development now a day's fail to interpret social development properly.Renowned economist Amartya Sen interpreted the term development through capability. According to Sen the ultimate goals of development are to build human capabilities and to enlarge human opportunities (Mazumdar 2003).

While human development focuses on good health conditions of an individual in isolation, social development views same good health conditions but in with social environment as against isolation. (Mukherjee and Banerjee 2009). Social development not only relate with human capabilities but also it considers social infrastructure, social institutions and the mechanism of social-conversion.

SOCIAL SECTOR DEVELOPMENT

Social infrastructural outcomes are considered as Social Sector Development. Outcomes are the attainments of any physical infrastructure. Social sector development is measured by indicators of life expectancy at birth, rate of infant mortality, literacy rate, and school enrolment ratio, (Mukherjee and Banerjee 2009, p8). Mere infrastructure development without its real attainment is like a country with growth, but without development. Likewise, a regions real development could be judged only after assessing the outcomes of the physical infrastructure.

So, in this work an attempt has made to study both infrastructure and the outcomes simultaneously for districts of Assam. Here is considered the following variables for different periods.

II. REVIEW OF LITERATURE

Development is stem, social sector is branch. Branches arealways neglected while assessing the "tree of development". But the social sector is only real area through which human development could be judged properly. In the words of Ghose B. and De P., enormous studies have been taken place on regional disparities in India but very less study have been conducted relating to the impact of social sector and economic development. (Ghose and De 2004, p46).

While discussing about development, researcher or social scientist have considered mostly the physical infrastructure. But in reality, proper development is far away from society except adequate social development.

Few important literatures are Myat and Khin, (1999) who have elaborately discussed the necessity of social-sector development in a state in a technical paper on social development. They have identified four major factors such as health, education, fitness and standards which are responsible for uplift of a nation of market dominated economy like Myanmer. Shinde, (2010) has examined the temporal progress of social-sector viz. primary education, public health, housing etc. of Maharashtra, regarding Kolhapur districts in his thesis "Social Sector Development in rural Maharashtra: a case study of Kolhapur district". The researcher has used simple

growth rates, averages, percentage change for analysis in order comprehend the growth of social sector. The basic investigation of Natha's thesis (2013) was to assess and examine inequalities of Andhra Pradesh's social sector development across its districts. With the objectives of identifying development status of social-sector of various regions the researcher has also been investigating regional disparities in budgetary allocations of the government of Andhra Pradesh. For analysis he used coefficient-of-variation and composite-index for the years of 1980-81 and 2009-10.

Another few literatures like Chowdhury (1990), Paras, (1995), Thangjam (1999), Narain and Bhatia (1999), Rai and Bhatia (2004), Raychaudhuri and Halder (2009)etc. are basicallyconcentrates on various socio-economic development issues and inter-district disparities. Most of them used PCA for identifying and categorizing their districts.

Similarly,Jhingran and Sankar (2009), studied about the educational disparities of India taking 500 districts from different states. On the other hand,Fazlollah, (1988)'s paper "An Empirical Assessment of Center-Periphery Hypothesis in International Economic Relations" was a theoretical paper which is based on dependency theory and studied about all related theoretical aspects from H.W. Singer, Raul Prebisch, Gunnar Myrdal to Johan Gultang.

III. METHODOLOGY

Objectives of the study:

The study pursued the objectives as follows

(i) To determine inter-district disparities in social-sector development among the districts of Assam.

(ii) To evaluate disparities in the level of development and to classify the districts into different categories.

(iii) To explore and analyze the association between "social infrastructure" and "Social outcomes" among the districts of Assam.

(IV) To provide suggestions for balanced development of Assam.

Hypotheses:

The study will address the following hypotheses-

(i) There are no significant association between "social infrastructure" and "social outcomes" of districts in Assam. (H0: ß=0)

(ii) No discrimination exists among the districts of Assam for "Social Infrastructure development" and "social sector development" for the period of 2004 -2014.

Sources of data:

The research work carried out from secondary source of data. The main sources of data are

i. "Statistical Hand book of Assam", Directorate of Economics and Statistics, Assam, 1994, 2004 and 2014

ii. Economic Survey of Assam, Directorate of Economics and Statistics, Assam. 2004-2005, 2014-2015.

iii. Census Report of India, Government of India, 1991, 2001 & 2011

iv. Human Development Report of Assam, Govt. of Assam.

v. NEDFI data bank, 2005-06, 2006-07, 2007-08

Period covered by the Study:

The research work covers a 20 years period with data from three points of time, viz: 1994. 2004 and 2014.

Method of study:

In this work, effort has been done to calculate inter-district inequalities for"social sector development" in Assam. It will reproduce the district ranking of Assam for 1994 to 2014. As far as variables are concern used a large set of variables for both infrastructure and outcomes. Large set of data have been used, broadly in three categories such as (i) Health, (ii) Education, (iii) Housing and Sanitation.

So, far statistical and econometric analysis, efforts have been done here to construct composite indices out of multiple indicators for Social Sector developmentindex(SSDI)using Principal Component Analysis (PCA).

IV. RESULTSAND DISCUSSIONS

Social-Infrastructure Outcome index and district rankings:

The composite indices of infrastructure outcomes calculated for all districts and ranked them. Ranking of districts and their respective index (SIDI) values are given in

Table1. In case of development, Kamrup district found highly developed in Assam, whereas Dhubri is occupying the last position.

Table 1. Ranking and value of social sectordevelopment index

		1994		2004		2014	
Sl. No.	Districts	SSDI	Rank	SSDI	Rank	SSDI	Rank
1	Kokrajhar	0.319147	**20**	0.48012	**14**	0.342715	23
2	Dhubri	0.281883	**23**	0.422563	**17**	0.353576	22
3	Goalpara	0.319662	**19**	0.516472	**12**	0.483108	13
4	Barpeta	0.29589	**21**	0.523503	**10**	0.487086	11
5	Morigaon	0.405592	**12**	0.327367	**23**	0.496702	10
6	Nagaon	0.480203	**07**	0.524931	**9**	0.450043	16
7	Sonitpur	0.421451	**11**	0.529352	**8**	0.484345	12
8	Lakhimpur	0.429269	**10**	0.612299	**5**	0.511376	7
9	Dhemaji	0.390326	**16**	0.461134	**16**	0.50567	9
10	Tinsukia	0.440195	**02**	0.466167	**15**	0.44742	17
11	Dibrugarh	0.622138	**03**	0.563994	**6**	0.575195	4
12	Sivasagar	0.634195	**09**	0.484586	**13**	0.58037	3
13	Jorhat	0.592342	**04**	0.627114	**3**	0.603725	2
14	Golaghat	0.573774	**06**	0.665243	**2**	0.506185	8
15	Karbi Anglong	0.371245	**17**	0.519007	**11**	0.411209	20
16	Dima Hasso	0.396072	**14**	0.350563	**22**	0.405147	21
17	Cachar	0.577297	**05**	0.5617	**7**	0.433918	18
18	Karimganj	0.395261	**15**	0.390822	**21**	0.477276	14
19	Hailakandi	0.400535	**13**	0.421983	**18**	0.460072	15
20	Bongaigaon	0.33971	**20**	0.414711	**20**	0.532756	6
21	Kamrup	0.818221	**01**	0.697635	**1**	0.68211	1
22	Nalbari	0.47717	**08**	0.615562	**4**	0.56576	5
23	Darrang	0.293976	**22**	0.418117	**19**	0.41309	19

Source: prepared by the researcher

Regardingsocial sector development index, Kamrup district has achieved first rank in all the three periods. Dhubri slipped to the last position in 1994, i.e. 23rd in SSDI and improved slightly in 2004 again slips to 23rd position in 2014. But Dhubri was in better position for infrastructure as compared to outcomes which was as 7th rank in 1994 and 8th position in 2004 and 13th position in 2014. Bongaigaon is the only district whose development is drastic in both infrastructure and attainment during 1994 to 2004. Kokrajhar, Dhubri, Nagaon, Sonitpur, Tinsukia, Golaghat, KarbiAnglong, Dima-Hasao, Cachar and Hailakandi have experienced deterioration in development.

Classifications of Districts: Categorization of districts as per SSDI for 2014.

Different values of Mean and Standard deviation are as follows.

Mean =0.4873.

SD=0.08006.

Mean + SD = 0.56736.

Mean-SD=0.40724.

Table 2. Categorization of districts as per SIOI for 2014

Districts	**Index Value**	**Rank**
Highly Developed (>0.56736)		
Kamrup Metro	0.68211	1
Jorhat	0.603725	2
Sivasagar	0.58037	3
Dibrugarh	0.575195	4
Upper Middle Developed Districts (0.4873-0.56736)		
Nalbari	0.56576	5
Bongaigaon	0.532756	6
Lakhimpur	0.511376	7
Golaghat	0.506185	8
Dhemaji	0.50567	9
Morigaon	0.496702	10
Lower middle Developed Districts (0.40724-0.4873**)**		

Barpeta	0.487086	11
Sonitpur	0.484345	12
Goalpara	0.483108	13
Karimganj	0.477276	14
Hailakandi	0.460072	15
Nagaon	0.450043	16
Tinsukia	0.44742	17
Cachar	0.433918	18
Darrang	0.41309	19
Karbi Anglong	0.411209	20
Low developed Districts < 0.40724		
Dima Hasso	0.405147	21
Dhubri	0.353576	22
Kokrajhar	0.342715	23

Source: prepared by the researcher

For 2014 districts are categorized as highly developed, upper middle developed, lower middle developed and low developed from top to bottom as per their rankings. Districts with composite-index greater than or equal to 0.5674 are considered as highly developed. Under this category four district, namely Kamrup metro, Jorhat, Sivasagar and Dibrugarh are falling. Because of having a composite index value with less than 0.4052, three districts namely Dima Hasao, Dhubri and Kokrajhar are falling under low developed category in 2014. Remaining all other districts coming with category of middle level developed.

Categorization of districts as per SSDI for 2004 and 1994

Here also categorized the districts for 2004 and 1994 into four categories on their development status as signified by composite index revealed the following:

Mean =0.5041.

SD=0.09818 .

Mean + SD = 0.60228 .

Mean-SD=0.40592.

Table 3. Categorization of districts as per SSDI for 2004

Social sector Development		
Districts	CI	**Rank**
Highly Developed >0.60228		
Kamrup	0.697635	**1**
Golaghat	0.665243	**2**
Jorhat	0.627114	**3**
Nalbari	0.615562	**4**
Lakhimpur	0.612299	**5**
Upper Middle Developed (0.5041-0.60228)		
Dibrugarh	0.563994	**6**
Cachar	0.5617	**7**
Sonitpur	0.529352	**8**
Nagaon	0.524931	**9**
Barpeta	0.523503	**10**
Karbi Anglong	0.519007	**11**
Goalpara	0.516472	**12**
Lower middle developed Districts (0.40592-0.5041)		
Sivasagar	0.484586	**13**
Kokrajhar	0.48012	**14**
Tinsukia	0.466167	**15**
Dhemaji	0.461134	**16**
Dhubri	0.422563	**17**

Hailakandi	0.421983	**18**
Darrang	0.418117	**19**
Bongaigaon	0.414711	**20**
Low developed Districts < 0.40592		
Karimganj	0.390822	**21**
Dima Hasso	0.350563	**22**
Morigaon	0.327367	**23**

Categorization of districts as per SSDI for 1994

Table 4. Categories of districts on SSDI 1994

Social SectorDevelopment index 1994		
Districts	CI	**Rank**
Highly Developed>0.58101		
Kamrup	0.818221	1
Sivasagar	0.634195	2
Dibrugarh	0.622138	3
Jorhat	0.592342	4
Upper Middle Developed (0.0.4468-0.58103)		
Cachar	0.577297	5
Golaghat	0.573774	6
Nagaon	0.480203	7
Nalbari	0.47717	8
Lower Middle Developed Districts (0.31258-0.4468)		
Tinsukia	0.440195	9
Lakhimpur	0.429269	10
Sonitpur	0.421451	11
Morigaon	0.405592	12
Hailakandi	0.400535	13
NCHills	0.396072	14
Karimganj	0.395261	15
Dhemaji	0.390326	16
Karbi Anglong	0.371245	17
Bongaigaon	0.33971	18
Goalpara	0.319662	19
Kokrajhar	0.319147	20
Low developed Districts < 0.31258		
Barpeta	0.29589	21
Darrang	0.293976	22
Dhubri	0.281883	23

Source: Prepared by the researcher

Convergence test:

The result of convergence test shows that the rates of growth of social infrastructure outcomes development indices of districts are negatively related to initial level of their development. This implies that disparities in social infrastructure outcome development have converging tendencies over the period from 1994 to 2004.

From the convergence test β value is found "-0.555", this provides strong evidence of convergence between districts as coefficients of β are negative. The following table5. shows convergence between districts regarding social infrastructure outputs.

Table-5. -Coefficients (SSD)

Model	Unstandardized coefficients		Standardized coefficients		
	β	Standard error	β	T	Pro.
Constant	0.288	0.040	-	7.152	0.000
Independent	-0.555	0.087	-.813	-6.406	0.000

There are disparities concerning both social infrastructure and social outcomes between districts of Assam and narrowing down gradually over time.

V. MAIN FINDINGS:

The research work conducted with a primary objective to study regional variations of Assam along with their district status. Accordingly, here prepared a series of composite-indices and ranked them on the value of their respective index. It makes easy to compare the districts each other. These have been done for three consecutive periods i.e. 1994, 2004 and 2014. Simultaneously functional relationship among infrastructure and outcomes has conducted between the two. Main findings of whole research work summarize in brief as follows.

1. In Social Infrastructure Outcome index Kamrup achieved first rank in all the periods.
2. Dhubri was the last position i.e. 23rd in SSDI in 1994 and remaining almost constant for the entire period.
3. One third districts are in a position to upgrade their SSDI status. These are Goalpara, Barpeta, lakhimpur, Dhemaji, Sivasagar, Jorhat, Bongaigaon, Nalbari are the only districts whose development is drastic in both infrastructure and attainment during 1994 to 2004.
4. Although Dima Hasao has well equipped infrastructure in social sectors yet its attainment was comparatively very low even bottom level position in Assam.
5. The development disparities were very high in Dhubri, whose ranking was the last among 23 districts in outcomes, in spite of having a good number of infrastructures.
6. There was 22% population under highly developed category as social infrastructure outcomes in 1994 which declined to 15% in 2014. But as low developed category there was 18% population of Assam in 1994 which is reduced to 6% approximately, which is a good sign for the state.
7. Regarding overall social development five districts, Kamrup, Jorhat, Sivasagar, Dibrugarh and Nalbari were found as better developed and classified as highly developed in Assam. These districts cover about 19 % of total area and 22 % of total population of Assam during 1994.
8. The result reveals that, rate of growth of Social Infrastructure development indices of districts are negatively associated with initial level of their development which implies that disparities in social infrastructure development show converging tendencies over the period from 1994 to 2014.

VI. SUGGESTIONS:

Though social sector development does not relate directly with economic growth but it enhances the growth process and pushes the economy into an accelerated zone for development. So, it should be chief duty for the government that, accompanied with the economic infrastructure, social infrastructure should be invested simultaneously for balanced development. In LDC like our country India and its state's, public expenditures should occupy predominant place in their annual budget.

All districts are not equally liable for overall underdevelopment of Assam, similarly all indicators also not equally responsible for assigning few districts as low developed category. Some specific areas (indicators) of low developed category districts are even as high as compared to developed categories.So, it should be taken at most care in formulating government development policy for removing regional disparities.

Another noteworthy point is that if the infrastructures, i.e. physical resources are underutilized than outcomes are definitely unfavorable towards development. Therefore, steps should have taken to proper utilization of social infrastructure so that maximum number of individuals benefited from them. Regional disparities could be eradicated if the government gives special attention on the basic weaknesses in the crucial sector of the economy. The leader should try to utilize the unutilized resources of a region to overall benefit of Assam and not only for the privileged handful of unscrupulous people.

Awareness among rural masses on health, education, hygiene and superstition are the essential conditions for eradicating the rural urban disparities. Mainly the widespread superstitions among the masses of Assam are the root cause of all social evils of Assam. As a result recently we have lost two of our Indian icons. Further suspicion of "dyni", "hupadhora" is still prevailing in the rural area of Assam. Strict awareness campaign from both governments, social activist, NGOs etc., strict tourist policy, can only develop the social sector among the districts of Assam.

VII. CONCLUSSIONS:

This research work initiated with a main objective to examine inter district disparities of Assam in social sector development. From the above findings we can draw the conclusion that few districts of Assam specifically Kamrup and Nalbari are highly developed in social infrastructure outcomes. Here districts have ranked on their corresponding composite index value separately for social sector development.

In this study found disparities between districts of Assam. More specifically widespread gaps have found among infrastructure and actual attainments across different periods of the districts. Despite few districts as Kamrup, Nalbari and Jorhat keeps their development status over the time period for both social infrastructure and social sector development. All these districts recorded as highly developed. Except these few districts remaining all other districts are highly fluctuated in nature in their developmental position. Another noteworthy point is that all indicators are neither wholly responsible for high development nor low development of districts. It is found that Dima-Hasao, Jorhat, Kamrup and Nalbari are better in position and two districts Udalguri and Baksa recognized as low developed over the period for social infrastructure development.

The study is limited on the ground that it covers only a limited time period. Further work is admissible covering a long time period. Further here is trying to include more indicators as possible as with data availability constraints. Still remains so many indicators out of purview.

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