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## Inadequate rural infrastructure and services increasing regional disparities and hindering socio-economic growth

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### Abstract:

Poor rural infrastructure is the main hindrance for development, where scarcities of rural development institutions further worsen development prospects. Rural infrastructure and services like education, health, safe drinking water, sanitation, nutrition etc. should therefore, be brought together in the form of an essential compulsion to improve the socio-economic condition of the rural people. The present study is placed within the growing field of interest in government policy and its impact on the distribution of infrastructure in a geographically underprivileged area. There are several themes running through the study like, infrastructural and institutional impact on social status, models of service provisions, imbalance in development with respect to infrastructure, effect of communication, transportation on economy and regional disparity linked with non-availability of other rural development institutions. The results of the study may be made applicable to maintain balanced infrastructural development and eradicate institutional disparity at the meso and micro level to fight against social and economic unfairness. The model developed through research can be implemented anywhere, at least on an experimental basis..

**Keywords:** Rural Infrastructure, Imbalanced Development, Regional Disparities, Socio-Economic Growth.

### 1. Introduction

#### 1.1 Background:

Infrastructure is indeed indispensable for economic growth (Rostow, 1960 and Shakirat, 2018) as it has a potential to buttress the socio-economic intensification of the nation. Several studies show that infrastructure is positively correlated to economic growth in rural areas also. Studies (Bery et al, 1974, Zhang, Zhang, Xu, and Shi, 2021) also show that low per capita income correlates with a lack of infrastructure (Zergawu, Walle, Giménez-Gómez, 2020). Therefore infrastructure, which can be a driver of rural growth, is often not available in rural areas. There are several instances that development of rural infrastructure shows the way to socio-economic growth (Datt and Ravallion, 1998) and lessen the inequalities between rural and urban areas (De and Devi, 2023).

Growth leans towards getting concentrated in a few large cities and creates a wide gap between the big cities and their rural countryside (Berry, 1969). Some other studies noted that the growth did not trickle down, the unemployment remained high despite economic growth, the population continued to grow at a high rate, the health and education standards were low and the growth of industrialization was leading to development of slums in the cities (Gunnar Myrdal, 1968). There is no theory of development helping in meeting adequate standards of nutrition, health and education, as it is not known precisely which financial, fiscal and human resources and policies produce these desirable results (Streeten, 1994). Development is by its nature social. It represents social values. Its means are social processes and institutions. All development is social development in the sense that people are the central purpose of development (Korten, 1990). The 'Inverted U-shape' theory (Kuznets, 1955) and empirical studies (Williamson, 1965) based on this U-Shape theory show that regional disparities increase initially with economic growth and decrease gradually after a certain stage.

An assessment of India's failure to address fundamental deprivation must go beyond this limited focus, and note the role it has played in that failure through inadequate public participation in basic education, healthcare, social security and related fields (Dreeze & Sen, 1995). Prabhu (1998) examines the issues concerning the linkages between economic growth and social sector development in the context of developing countries. India, according to her, has been identified as a country with low levels of human development where the linkages between growth and social opportunities have been weak. She has also classified Indian states into four distinct categories like first category states which have attained a high level of social development despite modest levels of income, second category states which have high per capita income and relatively poor levels of social development, third category states where neither the economic nor the social opportunities have been realized and the fourth category consists of those states where the differences between social and economic opportunities are not large.

#### 1.2 Statement of the problem based on review of literature:

Availability of rural infrastructure and ease to use plays a crucial role in maintaining the quality of human resources. These facilities can, therefore, be regarded as an important indicator of economic and social well-being. Not only do they constitute the most basic human needs, but they also contribute greatly to the efficiency of the labour force. There are five dimensions of accessibility concept like physical, social, financial, institutional, and time (Tighe, 2006) where easy access to these facilities helps people to get required services (Barret et al., 2001). As per the classification of Indian states by the different scholars, NE India belongs to fourth category as social and economic opportunities are not large in these areas (Prabhu, 1998, Fan et al., 2000b; Palmer-Jones, 2003; Salethet al. 2003).

Improvement of the status of rural residents is greatly influenced by the type, quality and quantity of infrastructures placed there and with regular maintenance. For example, sources of drinking water, condition of personal hygiene, nature of environmental sanitation, nutritional status, literacy levels and the overall socio-economic condition of the community must be the focus of attention for the sustenance of a viable rural development. Infrastructure helps in fostering economic growth, social development and poverty (Bradshaw, 2006) reduction ensuing human resource development (Kessides, 1993). Rural infrastructure affects farmers' income and agricultural production and plays an important role in rural development. In order to make certain uninterrupted progress and sustainable development of rural transportation, it is indispensable to establish a set of policies and regulations and capital investment related to the supervision of rural infrastructure (Jin, Xiangbin, Dong, Dong, & Ding, 2021).

Therefore to design the reference frame of the facilities available for disposal to mankind in rural areas, even in the form of non-institutions like private doctors, private shops delivering fertilizers and pesticides for agricultural development, different water sources etc. have been taken into account and it is opined that anything which makes capable human being to be productive and live in a quality life has been considered, hence, they are termed as Rural Infrastructure and Services.

On the other hand, urban amenities such as roads, water supply, health, education and transport are being continually improved (Misra, 1978). Wang, Zhang and Guangji, (2013) analyzed the influence of rural infrastructure construction on agriculture GDP that impact effect of rural power consumption and rural water conservancy construction (Dhawan, 1988; Shah, 1993; Vaidyanathan, 1999; Narayanamoorthy and Deshpande, 2005) and also rural road construction which indicate that each rural infrastructure of productivity is effective on promoting agriculture growth (Antle, 1984).

Another study attempts to better understand the nexus between infrastructure development and the agriculture output across 256 district of Indian states and also the pattern of rural infrastructure development of the country over the years to identify the future priorities (Narayanamoorthy, Munir, 2006). **Francoise & Kilkenny (2011)** formalizes and demonstrates how transport infrastructure between rural areas helps Third World countries deal with crop failures.

Telecommunication can save fuel and time and transport cost and can reduce migration from rural to urban area (Sharma, 2014).

Therefore, the need of the hour is to bridge the gap in order to achieve the twin objectives of economic growth and social justice. On the basis of this broad canvas of the study, the following objectives have been set out:

### Research Objectives

1. To identify rural infrastructure and services prevailing in the study area;
2. To examine developmental disparities and to identify, at micro level, the causes attributable to;
3. To observe the relationship between Infrastructure and Rural Services and socio-economic condition of sampled villages to make a comparison

### Research Design

Previous research studies relating to the present study have been comprehended to eight dimensions which influence the outcome of the socio-economic development with Government support. Each dimension comprises of few variables. The following table –Table1- depicts the dimensions, corresponding variables and the previous reference.

### Research Variables

Dimensions	Variables	Previous Research Studies
Developmental Disparity	Increase in agricultural Production	Dissou and Diddic (2013), Suraj Jacob (2014)
	Increase in income level	E. Corong, L. Dacuycuy, R. Reyes, A. Taningco (2013)
	Awareness Improvement	Suraj Jacob (2014), Datt and Ravallion (1998)
Infrastructure Development	Development of roads	Romer (1986, 1990), Lucas (1988) and Barro (1990), (Barret et al., 2001) DOE (2010), Duclos J-Y, Araar A (2006) Romp and de Haan (2005)
	Availability of drinking water	
	Improvement of Sanitation System	
	Availability of Sanitation System	
	Improvement of irrigation system	
	Improvement of telecommunication system	
Economic Growth	Improvement of energy supplies	
	Enhancement of Agricultural Productivity	World Bank (1994), Sahoo and Dash (2009), Antle, (1984)
	Enhancement of Nonagricultural productivity	Estache and Fay (2009) and Gramlich (1994)
	Improvement of non-agricultural employment	Dissou Y, Didic S (2011) Kessides (1993)

Social Justice	Enhancement of Local Govt Units (LGU)	Nicola M. Pless and Jenny Appel (2012) Kessides (1993)
	Availability of LGU representatives	
	Availability of advocacy/NGOs/HR activists	
Literacy Level	Availability of schools	Suraj Jacob (2014)
	Quality of teaching	
	Quality of students	
Public Transportation System	Availability of public transportation system	Straub et al. (2008) Dissou and Didic (2011)
	Accessibility of public transportation system	
	Frequency of public transportation system	
Public Communication System	availability of landline telephone services	World Bank (2007) Mabogunje (1976) Sharma (2014)
	availability of mobile telephone services	
	availability of internet services	
	availability of cable TV network	
	availability of news papers	
	availability of Post Offices	
Rural Health Institutions	Rural Health services	Nketiah-Amponsah (2009), Ega Janse van Rensburg-Bonthuyzen , Michelle Engelbrecht , Francois Steyn , Nandi Jacobs , Helen Schneider & Dingie van Rensburg (2008)
Financial Institutions	Scheduled Commercial Banks (SCBs), Regional Rural Banks (RRBs), Micro Finance Institutions (MFIs)	Ega Janse van Rensburg-Bonthuyzen , Michelle Engelbrecht , Francois Steyn , Nandi Jacobs , Helen Schneider & Dingie van Rensburg (2008), Binswanger <i>et al.</i> , 1993, Ramachandran and Swaminathan, 2002,

Table1: The mapping of dimensions and the variables

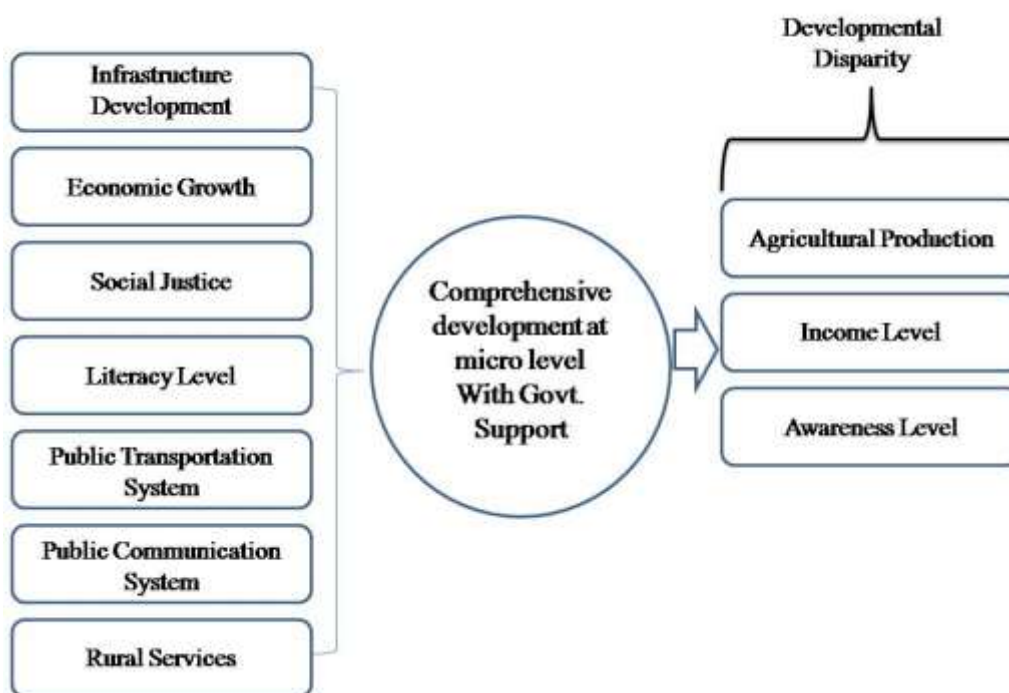


Figure 1: Proposed Research Model - Variables

The Figure 1 shows the research model, where disparity in development and subsequent support from the government determines economic development of a village. Developmental disparity is the dependent variable consisting of enhancement of agricultural production, enhancement of income and improvement of awareness of opportunities. There are seven dimensions consisting of twenty nine items as mentioned in Table 1.

## 4.2 Sampling Design

### Sampling plan and Data Collection

For the purpose of this study, it was imperative to choose one district of the state Tripura where disparity can be traced on the basis of allocation of infrastructure and services and subsequently two *Panchayats* was selected having highest and lowest composite Z-score for micro level study (Gaur. Archana, 1985). The composite Z-score provides the basis for assigning ranks to each of the *Panchayats*. The units having the highest composite Z-score was given 1st rank (Most Developed *Panchayat*) and the lowest (Least Developed *Panchayat*) composite Z-score was given the last rank on the basis of 44 variables as mentioned in Annexure 2. Further, investigation was also made to find out the importance of the infrastructure and services on the Most Developed *Panchayat* (MDP) and Less Developed *Panchayat* (LDP) by collecting primary data with the help of pre-framed questionnaire and adopting Focus Group Discussion, Semi Structured Interview (SSI) and In-depth Interview.

Tripura's Human Development Index (HDI) corresponds to the 'medium' level of achievement as per international norms. The district-level Human Development Indices for Tripura indicate that then West Tripura District ranks first, followed by then other districts and Dhalai District. Two districts (first and last HDI Rankings) have been taken into consideration for conducting the study on the basis of latest HDI ranking. It is imperative to mention here that Backward Region Grant Fund (BRGF) is implemented only in Dhalai district to meet the critical gap in rural infrastructure related to roads, power, education, water supply, health etc. To extract the good and concise (Dillman, 2000 and Hill et al. 2003) research findings, 100 samples each from MDP & LDP of two districts is considered well-enough for the study and comparison.

A pilot study was carried out with 30 respondents. Using probabilistic sampling techniques and confidence interval approach for sample size determination, a total of 406 samples was considered for the study. In confidence interval approach, sample size  $n = (Z\sigma)^2 / E^2$  where Z is confidence level,  $\sigma$  is the standard deviation and E is allowable error of this estimate. The paper estimates the sample size at 90 per cent confidence level with 10 per cent allowable error level.

### Sample Distribution:

Districts		Total <i>Panchayats</i> of the selected Districts	<i>Panchayats</i> (Based on Z- Score)		Total HHs as Samples
			Out of MDPs	Out of LDPs	
			MDP-1	LDP-1	
Districts based on HDI Ranking	District Achieved First Rank on HDI (DAFR-HDI)	164	100	100	200
	District Achieved Last Rank on HDI (DALR-HDI)	137	103	104	207
Total HHs as Samples			203	204	407

Table 2: Sample Distribution, (HHs: Households)

### 4.3 Statistical Design:

Z-score method was adopted. Z-score method depicts for multi-dimensional growth and structural changes in social systems, a new strategy of focusing attention upon certain favoured places to achieve wider regional goals is now being increasingly advocated in many countries. Multiple regression analysis was used to specify the causes acting behind this dispersion. The method has been done taking eight components as a whole like Different irrigation facilities, Machinery inputs, Educational facilities, Health facilities, Transport & Communications, Financial Institutions, Other Institutions and Rural Development Institutions persist in the area or away. The index denotes different dimension of progress in this block as well as the widespread deprivations that persist for the population of these *panchayats*. It is important, for analytical research in rural development and for practical purpose, that the combined indicator must be simple and comprehensible to the practitioner of development administration, so that the various developmental schemes could effectively be implemented and targeted to the designated beneficiaries.

## 5.0 Data Analysis

### 5.1 Data Analysis at Meso Level

The survey method was followed to collect primary data is complete enumeration of infrastructure in every *Gram Panchayat* and household survey of the four *Panchayats* to find out the receivers of services from different existing infrastructures. Each and every household of these four *panchayats* have been interrogated about their perception on services catered through infrastructure with the help of pre-framed schedules and questionnaires. Total 407 households have been taken randomly as the samples from the four *panchayats* (one each MDP-1 & LDP-1 from West Tripura District & Dhalai District) for the study. In the present study all these households have been treated as the primary units of survey. PRA method, Semi Structured Interview (SSI) and In-depth Interview have also been carried out in every sample villages.

Study has also been made to find out the importance of the infrastructure on the most developed *Panchayats* (MDP) and less developed *Panchayats* (LDP) by adopting:

1. Focus Group Discussion
2. Semi Structured Interview (SSI)
3. In-depth Interview

On the basis of 44 indicators tabulated under three broad heads, the *Gram Panchayats* (GPs) have been classified into different developmental hierarchies. This study confines within the area of the extreme most developed *Panchayats* having highest number of infrastructure within half to one kilometer proximity range and extreme least developed *panchayat* of the block having least number of infrastructure.

For determining the rank of the settlements in terms of the cumulative value of the selected variables, the method of 'Z-score Transformation' has been used.

After a thorough analysis at the Block Level (Meso) the following villages were identified for household survey (Micro Level).

Name of the Gram Panchayat/ ADC Villages	Name of the Rural Development Block	West Tripura District (MDP)	Dhalai District (LDP)
West Malidhar	Chowmanu		LDP
Gandacharra	Domburnagar	MDP	
Belabor	Dukli	MDP	
Dhupchera	Old Agartala		LDP

Table 9: Sampled Villages (enumerated from z-score method)

Sl. No.	Infrastructure Facilities	Dhalai District		West Tripura District		Infrastructure Facilities to be developed
		ADC Villages	Gram Panchayat	ADC Villages	Gram Panchayat	
1.	Z-Irrigation	+++	+	X	X	
2.	Z-Machinery Input	+++++	+++++	X	+	
3.	Z-Education	++	XX	++	XX	
4.	Z-Health	XXX	+	XXXXX	+++++	Health facilities of ADC villages of Both districts
5.	Z-Transport & Communication	XXX	+++	XXXXX	++++	Transport and communication of ADC villages of Both districts
6.	Z-Other Institutions	XX	++	XXX	+++	other institutions (market, PDS, electricity) of ADC villages of West Districts
7.	Z-Financial Institutions	XX	++	XX	++	Financial Institutions of ADC villages of Both districts
8.	Z-Rural Dev. Institutes	XX	+	X	+	
9.	C-Z Score	X	+++++++ +++++	XXXXXXXXXX XXXXXXXX	+++++++ +++++	More emphasis has to be given in the ADC villages of West Tripura District

Table 10: Source: Computed by the Researchers based on z-score method,

+ = somewhat good, ++ = Good, +++ = Very Good and X = Somewhat Bad, XX = Bad, XXX = Very Bad, (Score 0 to 25) = + or X

## 5.2 Data Analysis at the Micro Level

### Hypotheses Development

The study focuses on whether there is any significant difference in the economic development of the villages in Tripura with respect to the contribution of the factors like infrastructure, economic activity and education using Government support.

### Regression Analysis

As per the model the developmental disparity is caused by seven dimensions measured through thirty one variables. Hence following regression is used

Equation1:

Developmental Disparity = B0+ B1 Infrastructure Development + B2 Economic Growth + B3 Social Justice + B4 Literacy Level + B5 Public Transportation System + B6 Public Communication System + B7 Rural Services

Research Model

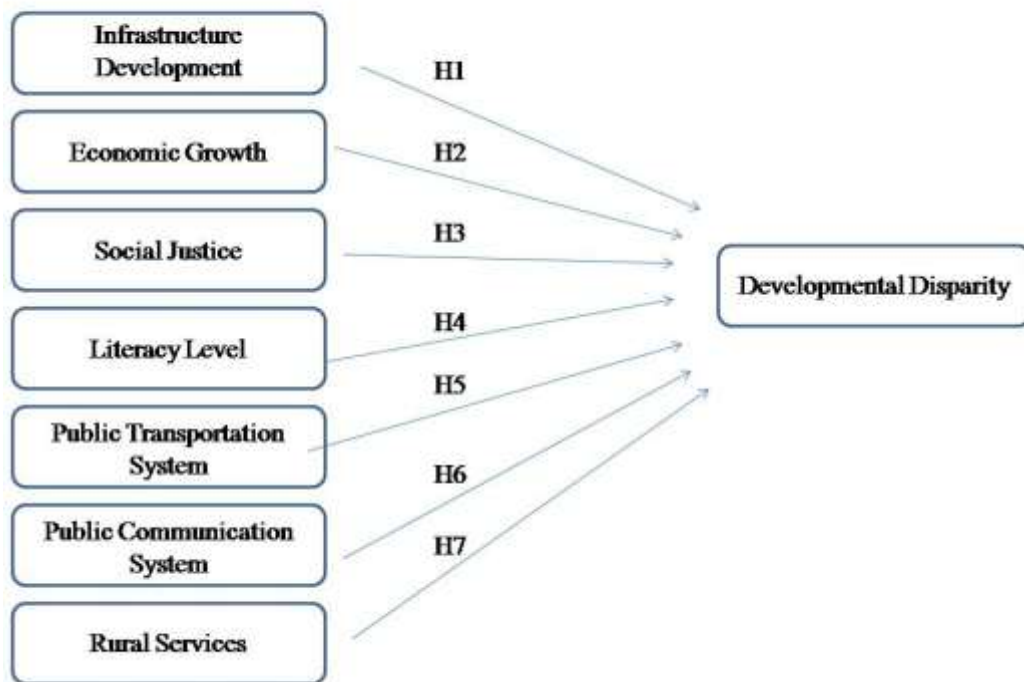


Fig7: Proposed Research Model – Regression

Research Hypotheses

- H1: There is a significant positive relationship between the development disparity of the village and infrastructure development.
  - H2: There is a significant positive relationship between the development disparity of the village and economic growth.
  - H3: There is a significant positive relationship between the development disparity of the village and social justice.
  - H4: There is a significant positive relationship between the development disparity of the village and literacy level.
  - H5: There is a significant positive relationship between the development disparity of the village and public transportation system.
  - H6: There is a significant positive relationship between the development disparity of the village and public communication system.
  - H7: There is a significant positive relationship between the development disparity of the village and rural service.
- Thus the multiple regression equation will be:

$$DV=B0+B1 IV1+B2 IV2+B3 IV3+B4 IV4+B5 IV5+B6 IV6+B7IV7$$

Result

Model is Significant

The study has been conducted with the help of a structured questionnaire which was administered to four hundred seven respondents. The sample size was determined using the probability sampling method of confidence interval approach.

	Tripura State			Dhalai District			West Tripura District		
	Mean	Std. Deviation	N	Mean	Std. Deviation	N	Mean	Std. Deviation	N
<b>Development Disparity</b>	3.33	1.319	407	3.16	1.247	204	3.5	1.369	203
<b>Infrastructure Development</b>	3.85	1.213	407	3.67	1.21	204	4.02	1.194	203
<b>Economic Growth</b>	3.07	1.294	407	3	1.214	204	3.15	1.368	203
<b>Social Justice</b>	2.84	1.614	407	3.19	1.346	204	2.48	1.778	203
<b>Literacy Level</b>	4.88	1.197	407	4.67	1.38	204	5.09	0.937	203
<b>Public Transportation</b>	3.58	1.518	407	3.59	1.618	204	3.56	1.416	203

System									
Public Communication System	4.13	1.267	407	3.86	1.381	204	4.4	1.077	203
Rural Health Services	4.93	1.169	407	4.71	1.219	204	5.15	1.075	203

Table 11: Descriptive Statistics

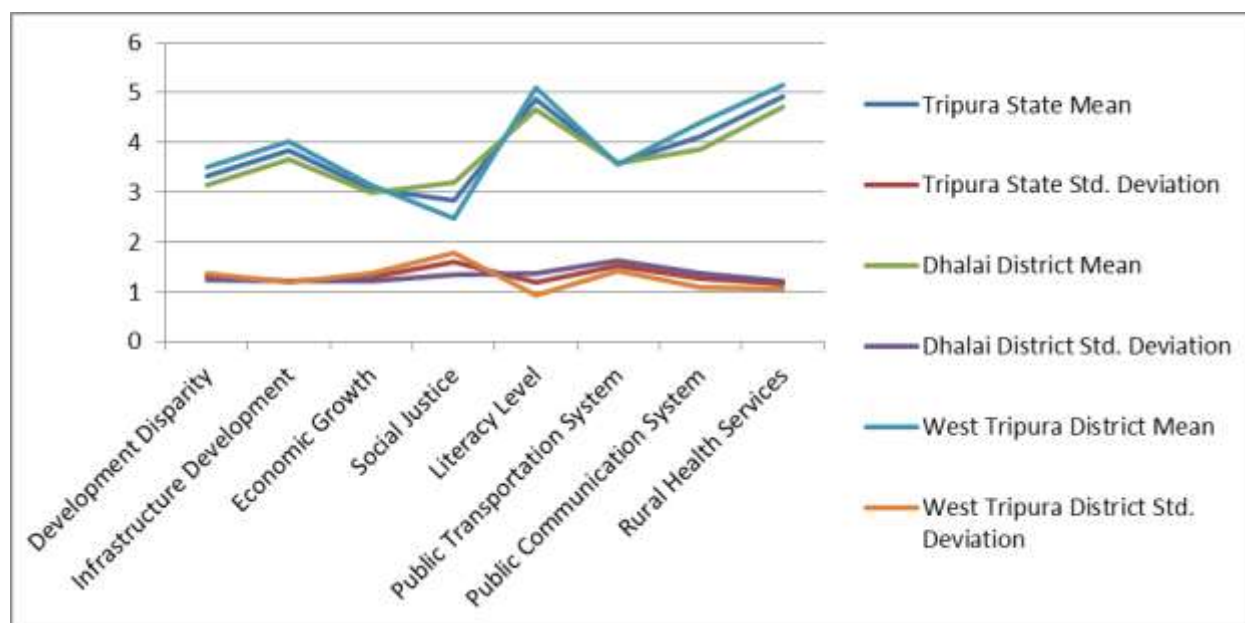


Fig8: Comparison of Descriptive Statistics between the state and districts

GP/ADC	Tripura State			Dhalai District			West Tripura District		
	Cronbach's alpha	No of items	No of cases	Cronbach's alpha	No of items	No of cases	Cronbach's alpha	No of items	No of cases
	0.864	8	407	0.872	8	204	0.864	8	203
Dukli							0.769	8	103
Old Agartala							0.734	8	100
Ambassa				0.633	8	107			
Dombur				0.859	8	97			

Table 12: Reliability Statistics

Instrument's reliability was conducted and the Cronbach's alpha; value was calculated at different point for different number of collected samples. The final value of Cronbach's alpha was 0.864 for N=407 covering entire sample population which is good to run the next series of tests.

N=407		Devlpmt_ Disparity	Infras tr_De vlpmnt	Eco nomi c_Gr owth	Social _Justi ce	Literacy _Level	Pub_Tra nsport_ Sys	Pub_Co mm_Sys	Rural_Health _Service
Tripura	Devlpmnt_ Disparity	1	0.482	0.643	0.332	0.227	0.255	0.358	0.335
	Infrastr_ Dev lpmnt	0.482	1	0.56	0.368	0.588	0.636	0.635	0.515
	Economic_ Growth	0.643	0.56	1	0.335	0.364	0.453	0.493	0.383

	Social_Justice	0.332	0.368	0.335	1	0.274	0.477	0.318	0.284
	Literacy_Level	0.227	0.588	0.364	0.274	1	0.706	0.601	0.449
	Pub_Transport_Sys	0.255	0.636	0.453	0.477	0.706	1	0.7	0.431
	Pub_Comm_Sys	0.358	0.635	0.493	0.318	0.601	0.7	1	0.479
	Rural_Health_Service	0.335	0.515	0.383	0.284	0.449	0.431	0.479	1
N=203	Devlpmnt_Disparity	1	0.551	0.688	0.218	0.176	0.234	0.452	0.417
Dhalai District	Infrastr_Devlpmnt	0.551	1	0.583	0.492	0.441	0.615	0.664	0.565
	Economic_Growth	0.688	0.583	1	0.222	0.278	0.399	0.567	0.435
	Social_Justice	0.218	0.492	0.222	1	0.517	0.615	0.47	0.413
	Literacy_Level	0.176	0.441	0.278	0.517	1	0.697	0.421	0.438
	Pub_Transport_Sys	0.234	0.615	0.399	0.615	0.697	1	0.667	0.386
	Pub_Comm_Sys	0.452	0.664	0.567	0.47	0.421	0.667	1	0.437
	Rural_Health_Service	0.417	0.565	0.435	0.413	0.438	0.386	0.437	1
N=204	Devlpmnt_Disparity	1	0.388	0.583	0.598	0.245	0.284	0.257	0.229
West Tripura District	Infrastr_Devlpmnt	0.388	1	0.532	0.323	0.685	0.67	0.602	0.449
	Economic_Growth	0.583	0.532	1	0.562	0.442	0.517	0.443	0.329
	Social_Justice	0.598	0.323	0.562	1	0.189	0.364	0.323	0.27
	Literacy_Level	0.245	0.685	0.442	0.189	1	0.74	0.675	0.431
	Pub_Transport_Sys	0.284	0.67	0.517	0.364	0.74	1	0.756	0.482
	Pub_Comm_Sys	0.257	0.602	0.443	0.323	0.675	0.756	1	0.471
	Rural_Health_Service	0.229	0.449	0.329	0.27	0.431	0.482	0.471	1

Table 13: Correlation among variables

From the correlation table we could infer that,

1. In the Most Developed Districts (MDVs) respondents have acknowledged the fact the role of Panchayat is positive in providing assistance but there is absence of government support in the areas of social justice, literacy level and rural health services.
2. In the Least Developed Districts (LDVs), besides the above mentioned issues infrastructural challenges are also working as an impediment to their economic development.
3. In the entire state of Tripura, the study revealed that the respondent's awareness to their basic rights have not been propagated properly.
4. Though there are schools and primary health centers constructed in every block considered for the study, the dropout rates are very high. Despite schools having teachers to teach and free treatment with medicines available at primary health centres and hospitals the respondents were unable to take the advantage of these services.

#### Result of ANOVA

	Model	Sum of Squares	df	Mean Square	F	Sig.
Tripura	Regression	338.384	7	48.341	52.484	.000 <sup>a</sup>
	Residual	367.499	399	0.921		
	Total	705.882	406			

West Tripura	Regression	205.962	7	29.423	33.206	.000 <sup>a</sup>
	Residual	172.787	195	0.886		
	Total	378.749	202			

Dhalai	Regression	147.805	7	21.815	24.655	.000 <sup>a</sup>
	Residual	167.857	196	0.856		
	Total	315.662	203			

a. Predictors: (Constant), Rural\_Health\_Service, Social\_Justice, Economic\_Growth, Literacy\_Level, Pub\_Comm\_Sys, Infrastr\_Devlpmnt, Pub\_Transport\_Sys

b. Dependent Variable: Devlpmnt\_Disparity

**Table 14: ANOVA results**

**Table 4: Significance of Model**

The table4 shows that at  $p < 0.005$  the regression model shown in table 5 is significant and can be further used to measure the developmental disparity in the villages of Tripura.

	R	R Square	Adjusted R Square	Std. Error of the Estimate	N
Tripura	.692 <sup>a</sup>	0.479	0.47	0.96	407
Dhalai	.684 <sup>a</sup>	0.468	0.449	0.925	204
West Tripura	.737 <sup>a</sup>	0.544	0.527	0.941	203

a. Predictors: (Constant), Rural\_Health\_Service, Pub\_Transport\_Sys, Economic\_Growth, Social\_Justice, Literacy\_Level, Pub\_Comm\_Sys, Infrastr\_Devlpmnt

b. Dependent Variable: Devlpmnt\_Disparity

**Table 15: Significance of the Model**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.660	.251		2.630	.009
Infrastr_Devlpmnt	.259	.060	.238	4.300	.000
Economic_Growth	.540	.046	.530	11.686	.000
Social_Justice	.134	.035	.164	3.889	.000
Literacy_Level	-.034	.060	-.031	-.566	.572
Pub_Transport_Sys	-.234	.055	-.270	-4.220	.000
Pub_Comm_Sys	.076	.058	.073	1.306	.192
Rural_Health_Service	.066	.050	.058	1.319	.188

a. Dependent Variable: Devlpmnt\_Disparity

**Table 16: Regression Co-efficient table**

The table 6 helps in formulating the final regression equation:

$$DV=0.660+.259 IV1+.540 IV2+.134 IV3 -.034 IV4 -.234 IV5 +.076 IV6+.066 IV7$$

#### Analysis of regression result:

The model is significant since ANOVA is significant at  $p < .05$ , adjusted R-square for the entire state, Dhalai and West Tripura are 0.47, 0.45 and 0.53 respectively; hence the model is able to explain almost 50% variation in developmental disparity with respect to variation in independent variables. Due to the large sample size (over 400) the model becomes significant as value of  $R^2$  is almost 0.5 in all districts.

#### Discussion and conclusion:

The result of the study shows that there is a positive relation between the developmental disparity and rural infrastructural support from Government namely, Infrastructure Development, Economic Growth, Social Justice, Literacy Level, Public Transportation System, Public Communication System and Rural Services. The regression result reflects that the model developed through study is quite significant.

From the regression table it is evident that the independent variables have a positive impact over the developmental disparity. From the Regression analysis few important observations were made which are

1. Out of the seven dimensions literacy level has high correlation with rural health services, public communication system and economic growth indicating the fact the awareness to various Government projects and schemes can yield better response from the people if communicated properly.
2. All the six dimensions have a positive influence over the developmental disparity which means Government must extend further support in the areas of all six dimensions could positively enhance the economic development thus reducing the disparity.
3. The ANOVA and subsequent regression analysis approves of the fact that the disparity in economic development could be mitigated by the Government's sincere efforts to concentrate the six dimensions of development as considered for the study and seamlessly affect them all across the state but in order to suggest a comprehensive plan to reduce the disparity the researchers are of the opinion that merely establishing the facts behind the disparity won't help and a deeper study at *Gram Panchayat* (GP)/ Autonomous District Council (ADC) level is necessary to bring about concrete suggestions and recommendations.
4. While the regression model approves that the seven dimensions considered for the study impact developmental disparity, the Z-score matrix identifies correctly that the ADC villages in the state are suffering from lack of health facilities, transportations, financial institutions, market facilities, electricity and Public Distribution System. The entire gamut of ADC villages has formed a congregation and is demanding separate state to safeguard their ethnic identity. Such is the veracity of their anger on account of depravity which proves the model of the researchers right, the entire state is reeling under political turmoil. These demands are the indication of displacement of non-tribals and social conflict which took place in early 1980s in Tripura.

#### Future Course of Action

Though on field it was observed that the Government schemes and projects are available but since the pace of development was very slow (high correlation between infrastructure development and economic growth), there the researchers proposes to conduct a study using Participatory Rural Appraisal (PRA) method to unearth the gaps impeding economic development.

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