

A geographical analysis of Social Well-being in Bihar

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Abstract-Social well-being is a state of affairs where the basic needs of the populace are met. The concept of social well-being and other welfare approaches have been recognized in the literature for many years but this particular field of study has been left relatively unexplored in India for long time. The present study investigates the level of social well-being considering parameters within two broader subgroups of income and education, and accident and crime in Bihar. Quantitative methodology was adopted for analysis of secondary data that ultimately delineated the required findings. Results derived from the study portrayed mixed and varied level of inter-district social well-being in regard to both the broader subgroups of dimensions selected for the study. Present status of Bihar highly solicits such studies of well-being across different parameters.

Introduction-The geography of social well-being offers new approaches to social and urban geography by incorporating a wide range of conditions, relating to the well-being of the society and the quality of individual life. The study of social well-being is mainly directed towards the welfare issues such as poverty, hunger, deprivation, mal-nutrition, crime, income, distribution of assets, social disorder and access to various social services like health care and education. This corresponds to a major shift in social concern, from narrow economic criteria of development or progress to broader aspects of the quality of life (Hussain, 2003:57). The concept of social well-being and many other related aspects has been recognized in the literature for many years. Bossard (1927) was perhaps the first to have worked on the issue and problems related to the social well-being. Since then, several geographers, sociologists, economists and social scientists have been involved in the studies of social well-being, quality of life, human development and various other welfare approaches. Many studies have been carried out, especially in the western world; regarding well-being of the population and society, inequalities and imbalances in terms of welfare condition, socio-economic-cultural disparities, level of human development and many more related subjects.

Talking in context to dimension selected for the study, i.e. income and employment, the impact of income and employment on the living

standards and overall quality of life is beyond disputes. Money is most vital requirement to fulfill the basic needs and the provider the access to various goods and services. At the same time, the income has the direct bearing on the personal power, prestige, status and security as well.

Detailing in regard to other dimension of accident and crime, accidents and cases of crime are those unfortunate and undesired occurrences which take place in every human society in varied degrees. They cause a definite disorder and disruption in the general functioning of human life and social activities.

Objectives of the study

Under these circumstances the present study makes an attempt-

- (1) to gauge social well-being regarding income and education
- (2) to examine the level of social well-being in terms of accident and crime

Methodology-The present research work is basically a descriptive and diagnostic one as it seeks to gain familiarity with new sets of spatial phenomena, concerning the social well-being of the state of Bihar, and at the same time it attempts to gain new insights into the problem concerning the theme of the research.. It heavily relied on the secondary sources of data, which were collected from the local and regional offices, health centres, government offices and other such directorates. Quantitative methodology is broadly implemented with different tools of investigation being Z-score, standard deviation and other measures of association and dispersion.

Selection of variables-The measurement of the well-being in terms of income and employment has been done at the district level, with the help of Six variables, Viz.

1. Percentage of population living below poverty line, 2001.
2. Per Capita Gross District Domestic Product (199-00 prices), 2006-07.
3. Percentage of main workers, 2001.
4. Workers engaged in other than agricultural activity (%), 2001.
5. Person day employment (in lakh), 2009-10 under NREGS.
6. Fund utilization under NREGS (%), 2009-10.

Parameters have been taken for the analysis of the level of accidents and crimes in Bihar such as:-

1. Percentage of Murder to total murder of the district, 2009-10.
2. Percentage of dacoity total dacoity of the district, 2009-10.
3. Percentage of Robbery to total Robbery of the district; 2009-10.

4. Percentage of Burglary to total Burglary of the district 2009-10.
5. Percentage of Theft to total theft of the district 2009-10.
6. Percentage of Kidnapping to total kidnapping of the district, 2009-10.
7. Percentage of Riot to total Riot of the district, 2009-10.
8. Percentage of accidents to total accidents of the district, 2010.
9. Percentage of total accidents to total fatal accidents of the district, 2010.

Study area-The study area of the current work includes the state of Bihar. The land locked State of Bihar is situated between 24^o 20² N and 27^o 31² N latitude and 83^o 19² E and 88^o 17² E longitudes. The State of Bihar is regionally located is the east-central part of India with Nepal lying on its North, Jharkhand to the South, West Bengal to the East and Uttar Pradesh to the West. Spreading over an area of 94,163 Sq.Km. Bihar is the 12th largest State of India, with a population of 10,40,99,452 (2011) Bihar is the 3rd most populous state in the country.

Level of Well-Being in terms of Income and Employment-The computed Z-score (Table 1) portrays that ‘Very good’ income and employment conditions prevail in the only one district of Patna having the composite index value above 1.2. Patna district has shown the highest level of well-being in terms of all variables specially the GDDP, which is relatively much higher than the others districts of the State.

Table 1: Calculation for Composite Z Score of Income and employment parameters

SR. NO	DISTRICTS	BPL	GDDP(Rs)	Main Work	Other activity	Person days	Fund utility	Composite z score
1	PATNA	2.52	5.74	1.35	3.16	2.51	2.04	2.89
2	NALANDA	0.98	-0.15	0.54	-0.12	0.66	0	0.32
3	BHOJPUR	1.41	-0.05	0.08	0.44	0.53	1.17	0.59
4	BUXAR	1.41	-0.18	-0.01	0.16	-0.49	0.33	0.2
5	ROHTAS	0.14	0.14	-0.34	0.43	-0.48	0.5	0.07
6	KAIMUR	0.14	-0.25	-0.86	-0.7	-1.22	0.22	-0.44
7	GAYA	-0.61	-0.07	0.61	-0.12	0.02	-0.06	-0.44
8	JEHANABAD	-0.31	-0.24	-0.42	-1.11	-0.3	-0.11	-0.41
9	ARWAL	-0.09	-0.44	-0.81	-0.66	-1.34	-1.57	-0.82
10	NAWADA	-1.46	-0.39	0.1	-0.43	-0.64	-1.06	-0.65
11	AURANGABAD	-0.83	-0.23	-0.79	-0.29	1.04	0.8	-0.05
12	SARAN	1.16	-0.32	0	0.52	-0.99	0.14	0.09
13	SIWAN	-0.35	0.03	-0.98	0.27	1.56	0.92	0.24
14	GOPALGANJ	-0.54	-0.21	-0.43	-0.29	-1.08	-0.36	-0.48
15	MUZAFFARPUR	0.11	0.18	0.76	0.93	1.08	-0.48	0.43
16	EAST CHAMPARAN	-0.63	-0.31	0.99	-0.36	1.88	-0.1	0.24
17	WEST CHAMPARAN	-0.12	0.06	-0.41	-0.57	-0.21	0	-0.21
18	SITAMARHI	-0.53	-0.42	1.76	-0.09	0.13	-1.43	-0.1

19	SHEOHAR	-0.53	-0.67	1.6	-1.05	-1.15	0.49	-0.22
20	VAISHALI	-0.64	-0.1	1	0.64	-0.29	-0.15	0.08
21	DARBHANGA	-0.3	-0.27	-0.17	0.43	1.38	-0.83	0.04
22	MADHUBANI	-1.44	-0.28	-0.69	-0.65	-0.28	1.16	-0.36
23	SAMASTIPUR	-1.09	0	0.78	0.37	0.4	-1	-0.09
24	MUNGER	1.26	0.86	-0.89	2.24	-0.91	-1.96	0.1
25	BEGUSARAI	0.6	0.49	0.36	2.79	-0.15	1.16	0.88
26	SHEKHPURA	1.26	-0.34	0.63	-0.13	-1.31	0.65	0.12
27	LAKHISARAI	1.26	0.04	0.5	0.34	1.19	1.65	0.83
28	JAMUI	1.26	-0.45	-1.84	-0.53	-0.42	-0.31	-0.38
29	KHAGARIA	-0.01	-0.09	-0.72	-0.23	-1.03	-1.49	-0.59
30	BHAGALPUR	0.93	0.45	-1.42	0.69	0.17	1.31	0.36
31	BANKA	0.93	-0.3	-2.27	-1.12	0.48	1.44	-0.14
32	SAHARSA	-0.43	-0.16	-1.02	-0.58	1.64	-0.06	-0.1
33	SUPAUL	-0.43	-0.36	-0.53	-1.17	0.42	-1.1	-0.53
34	MADHEPURA	-0.35	-0.43	-0.4	-1.23	-0.87	-1.04	-0.72
35	PURNIA	-1.44	-0.32	1.34	-0.72	-1.38	-1.08	-0.6
36	KISHANGANJ	-0.35	-0.29	2.32	-0.49	-0.79	-0.89	-0.08
37	ARARIA	-2	-0.5	0.44	-1.05	0.2	-0.15	-0.51
38	KATIHAR	-0.86	-0.19	-0.18	0.29	0.05	1.24	0.06

Source: Calculated by author

Categories	Composite Z score values	Districts
Very Good	Above 1.2	Patna (1)
Good	1.2 to 0.60	Begusarai, Lakhisarai (2)
Moderate	0.60 to 0.0	Bhojpur, Muzaffarpur, Nalanda, Bhagalpur, East Champaran, Siwan, Buxar, Seikhpura, Munger, Saran, Vaishali, Rohtas, Katihar, Darbhanga. (14)
Poor	0.0 to -0.60	Gaya, Aurangabad, Kishanganj, Samastipur, Sitamarhi, Saharsa, Banka, West Champaran, Sheohar, Madhubani, Jamui, Jehanabad, Kaimur, Gopalganj, Araria, SupualKhagaria, Purnia (18)
Very Poor	Below -0.60	Nawada, Madhepura, Arwal. (3)

The districts having Z-score value varying between 0.60 and 0.0 are considered as having moderate income and employment conditions of well-being. There are 14 districts which come under this category. They are Bhojpur, Muzaffarpur, Nalanda, Bhagalpur, East Champaran, Siwan, Buxar, Sheikhpura, Munger, Saran, vaishali, Rohtas, Katihar, and Darbhanga.

Level of social well-being in terms of accident and crime:-The derived Z-Score to show the levels of accident and crime in Bihar (Table 2) reveal that as many as 7 districts have come out with very good level, here the composite Z-Score value is above 0.60.

Table 2: Calculation for Composite Z Score of Accident and Crime parameters

Sr.NO.	DISTRICTS	Murder	Deceitly	Robbery	Burglary	Theft	Kidnapping	Riot	Accident	Fatal Accident	Composite Z score
1	PATNA	-4.18	-2.13	-4.42	-5.34	-5.29	-3.14	-2.73	-2.82	-4.81	-3.87
2	NALANDA	-0.68	0.81	0.05	-0.1	0.08	-0.07	0.33	0.05	-0.34	0.01
3	BHOJPUR	-0.57	-0.74	-0.73	0.04	-0.24	0.28	-0.18	0.76	-0.06	-0.16
4	BUXAR	0.44	-0.42	-0.19	0.15	0.13	0.57	0.09	0.18	0.28	0.14
5	ROHTAS	-0.96	-2.21	-1.07	-0.48	-0.57	-0.41	-0.12	0	-0.28	-0.68
6	KAMUR	0.29	0.4	0.26	0.4	0.33	0.84	0.53	0.4	0.79	0.47
7	GAYA	-1.09	-2.62	-1.97	-0.52	-0.81	-0.25	-0.95	-1.74	-1.08	-1.23
8	JEHANABAD	0.7	0.24	0.75	0.27	0.25	0.8	0.59	-0.08	0	0.39
9	ARWAL	1.08	0.81	1.02	0.68	0.63	1.27	1.7	0.89	0.96	1
10	NAWADA	0.14	0.81	0.6	-0.65	0.43	0.45	0.92	0.15	-0.23	0.29
11	AURANGABAD	-0.31	-0.17	0.44	-0.16	0.04	0.55	-0.62	-1.32	-0.34	-0.21
12	SARAN	-0.59	-0.25	-0.55	-0.25	-0.31	-0.79	-1.17	-0.75	0.06	-0.51
13	SIWAN	0.05	-0.34	0.02	0.24	0.11	-0.74	-0.33	0.37	-0.91	-0.17
14	GOPALGANJ	1.38	0.81	0.48	0.22	0.35	-0.32	0.23	-0.15	-0.23	0.31
15	MUZAFFARPUR	-1.26	-2.3	-0.76	-1.09	-1.41	-2.27	-1.85	-3.24	-0.28	-1.61
16	EAST CHAMPARAN	-0.03	-0.83	-0.04	0.37	0.32	0.21	0.44	0	-0.57	-0.01
17	WEST CHAMPARAN	0.78	1.13	0.81	0.8	0.7	0.89	0.8	0.35	0.73	0.78
18	SITAMARHI	0.24	-0.99	0.26	-0.17	-0.26	0.53	0.23	0.37	0.23	0.05
19	SHEOHAR	1.12	0.07	0.93	0.74	0.68	1.2	1.56	0.89	0.9	0.9
20	VAISHALI	-0.89	0.07	-0.4	-0.66	-0.38	-1.78	-1.24	-1.99	-1.36	-0.96
21	DARBHANGA	0.4	0.24	0.57	0.15	-0.1	-0.1	-0.95	0.1	0.56	0.1
22	MADHUBANI	0.14	-0.34	0.2	0.25	-0.24	-0.88	-1.14	0.21	0.11	-0.19
23	SAMASTIPUR	-0.72	0.48	-0.49	-0.19	-0.03	-1.66	-0.93	-0.6	0.34	-0.42
24	MUNGER	-1.66	-0.58	-1.16	-0.32	-0.4	-1.35	-2.13	0.45	0.62	-0.72
25	BEGUSARAI	0.74	1.05	0.99	0.53	0.56	0.45	1.02	0	-0.57	0.53
26	SHEKHPURA	1.1	1.05	0.78	0.75	0.63	1.14	1.31	0.79	0.34	0.88
27	LAKHISARAI	0.7	-0.01	0.54	0.4	0.57	0.82	0.81	0.91	0.79	0.61
28	JAMUI	-0.01	-0.34	-0.13	0.45	0.48	0.75	0.68	0.98	0.96	0.43
29	KHAGARIA	0.33	0.56	0.69	0.73	0.54	0.92	0.45	0.64	0.62	0.61
30	BHAGALPUR	0.14	1.05	0.32	-0.4	-0.42	0.05	0.16	-0.26	-0.11	0.06
31	BANKA	0.18	0.48	0.54	0.12	0.52	0.63	0.87	0.52	0.73	0.51
32	SAHARSA	0.78	0.81	0.08	0.46	0.57	0.63	-0.33	0.64	0.96	0.51
33	SUPAUL	0.54	0.64	0.69	0.54	0.51	0.37	0.07	0.92	0.62	0.54
34	MADHEPURA	0.5	0.97	-0.31	0.69	0.48	0.48	0.18	0.46	0.23	0.41
35	PURNIA	0.01	0.4	0.44	0.22	0.42	-0.29	0.62	0.13	-0.57	0.16
36	KISHANGANJ	0.83	0.97	0.84	0.38	0.52	0.65	0.96	0.84	0.34	0.7
37	ARARIA	0.52	-0.42	-0.61	0.49	0.25	0.08	0.05	0.55	0.79	0.19
38	KATIHAR	-0.18	0.81	0.54	0.27	0.36	-0.51	0.06	0.41	-0.23	0.17

Source: Calculated by author

Categories	Composite Z score values	Districts
Very Good	Above 0.60	Arwal, Seikhpura, Sheohar, West Champaran, Kishanganj, Lakhisarai, Khagaria (7)
Good	0.60 to 0.10	Jehanabad, Supaul, Banka, Gopalganj, Kaimur, Saharsa, Madhepura, Nawada, Jamui, Begusarai, Araria, Purnia, Katihar, Buxar, Darbhanga, (15)
Moderate	0.1 to -0.4	East Camparan, Nalanda, Bhagalpur, Sitamarhi, Aurangabad, Siwan, Madhubani, Bhojpur (8)
Poor	-0.4 to -0.90	Samastipur, Saran, Vaishali, Rohtas, Munger, (5)
Very Poor	Below -0.90	Gaya, Muzaffarpur, Patna (3)

The districts of this category are Arwal, Sheikhpura, Sheohar, West Chmparan, Kishanganj, Lakhisarai and Khagaria. In recent years many works, to prevent the accident and crime, have been done in these districts. The basic infrastructure is favorable in these districts. Fearless condition of society is the main cause of very good level of well-being in term of criminal accidents.

The 15 districts namely Jehanabad, Supaul, banka, Gopalganj, Kaimur, Sharsa, Madhepura, Nawada, Jamui, Begusarai, Araria, Purnia, Katihar, Buxar and Darbhanga have come out with good level of accident are crime the composite Z-score values for these districts have crashed out to be varying percentage 0.60 and 0.10, Eastern, these districts where centre for various types of criminal offences and incidence of accidence was regularly reported, but now with the government institutions are watching and patrolling by the problem and ministration, besides construction and repair of district roads recurring control over accident and lives was possible.

Conclusion-Concluding in context to income and education variables, very good condition of social well-being in terms of income and employment has been found in one district namely Patna. Good condition occurs in two districts namely Begusarai and Lakhisarai. However, the fourteen districts fall in the moderate condition such as Bhojpur, Muzaffarpur, Nalanda, Bhagalpur, East Champaran, Siwan, Buxar,Seikhpura, Munger, Saran, Vaishali, Rohtas, Katihar, Darbhanga Level of social well-being in terms of income and employment is poor in 18 districts namely Gaya, Aurangabad, Kishanganj, Samastipur, Sitamarhi, Saharsa, Banka, West Champaran, Sheohar, Madhubani, Jamui, Jehanabad, Kaimur, Gopalganj, Araria, SupualKhagaria, and Purnia while very poor condition is found in Nawada, Madhepura and Arwal districts.

With respect to well-being in terms of accident and crime very good condition which means accident and crime rate are lower, is found in the Arwal, Seikhpura, Sheohar, West Champaran, Kishanganj, Lakhisarai, and Khagaria districts. Good condition occurs in Jehanabad, Supaul, Banka, Gopalganj, Kaimur, Saharsa, Madhepura, Nawada, Jamui, Begusarai, Araria, Purnia, Katihar, Buxar, and Darbhanga districts. East Camparan, Nalanda, Bhagalpur, Sitamarhi, Aurangabad, Siwan, Madhubani, and Bhojpur, these districts (8) are in moderate category.

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