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A Micro level Analysis of health care infrastructure of Malda district, West Bengal, India

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Abstract

Health is the key concept of human development. This present paper seeks to identify the block level health care infrastructure of Malda District. Economic development, social development and educational developments are dependent on good health. Health condition dependent on no of hospitals, no of doctors, no of health centre, no of nurse and no of beds in a hospitals. Public Health expenditure under the district of Malda is so low that there have been hunger and starvation deaths in different blocks of Malda district. The district is divided into three categories. These are develop health condition, developing health condition and under develop health condition.

Keywords:Population Ratio, Dimension Index, Health Index, Doctors – Population Ratio, Medical institution – Population Ratio, Family Welfare Society, Universal Health Coverage.

1. Introduction

Nutrition, health and education are the three inputs accepted as significant for the development of human resources. Health is the level of functional or metabolic efficiency of a living organism. The problem with offering a definitive account of health is apparent in the World Health Organization's (WHO) definition. In 1947, the WHO offered the following statement about health: "Health is a state of complete physical, mental, and social well-being, and not merely the absence of disease and infirmity." there is a great deal that must be unpacked in this rather broad definition of health. What does the WHO mean by "complete"? Moreover, what does it mean by the use of "physical," "mental," and the supposed distinction between these two terms? further, what does the WHO have in mind when it employs "social" and "well-being" to define "health?" Finally, what is the meaning of "disease" and "infirmity" in the WHO's definition of health?

In any modern society, the capacity to live long and fulfilling lives is a critical human ability that relates, in demographic terms, to human life expectancy. Life expectancy depends on a number of proximate factors which include the general health status of the population, the status of public health and hygiene, the status of maternal and child health, the extent of coverage by public healthcare services available to the population, the incidence of morbidity and disease, the regional endemicity of diseases if any, and so on. Before assessing current health situations in Malda district in terms of these aspects, a broad overview may first be obtained of the existing public healthcare system in the district. Physical health can be defined as a state in which all the body parts are anatomically intact and are performing their physiological functions perfectly and harmoniously.

Health is a common theme in most cultures. In fact, all communities have their concepts of health. Traditionally health is conceived as "absence of disease". At the individual level, it cannot be said that health occupies an important place. It is usually subjugated to other needs defined as more important e.g. wealth, power, prestige, knowledge, security etc. Health is often taken for granted and its value is not fully understood unless it is lost.

Health is one of those terms which most people find it difficult to define, although they are confident of its meaning. Therefore many definitions of health have been offered with the terms. Some of them are:

- a. "The condition of being sound in body, in mind and spirit, especially freedom from physical disease or pain" (Webster).

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- b. "Soundness of body or mind, that conditions in which its functions are duly and efficiently discharged" (Oxford English Dictionary).
- c. "A condition or quality of human organism expressing the adequate functioning of the organism in given condition, genetic and environmental".

2. Literature Review

Bloom *et al.* (2004), Webber (2002), Knowles and Owen (1997) focuses on the labour productivity effects of health on economic growth where an improvement in health leads to an increase in per capita income directly as each individual is able to produce more per unit of labour input (Jocelyn Finley, 2007). So, without any doubt, health makes an important contribution to human development process and because of this, health was identified as a component of human development in the Human Development Report 1990 (UNDP 1991). Even assessing the situation, World Bank has shifted from an emphasis on promoting economic growth (i.e. commission on International Development, 1969) to include a focus on health, education and social exclusion (World Development Report, 2001).

In Alford's terms (1975), community individuals and groups represent "repressed structural interests." Government political support for these groups is intended to enhance their role in relation to more dominant structural interests in health care decision making.

Abusaleh, S. (1999, p. 132) [10] rightly pointed out that health is an indicator of well-being that has direct implications not only for the quality of life but also indirect implications for the production of economic goods and services. According to Eyles John (1987, p. 8) [11] health, in positive sense, is a functional ability or capacity to work. Trewartha, G.T. (1969, p. 106) [12] stated that health has both the negative and positive aspects depending upon the presence and absence of disease respectively.

Rosenblatt, R.A. and Moscovice, I.S. (1982, p. 59) [14] took into account different types of diseases of chronic and acute groups as the indicators of health condition. Park, J.E. and Park, K. (1991, pp. 12-14) [13] also considered sweet breath, a good appetite, sound sleep, normal blood pressure and several other signs as indicators of good health.

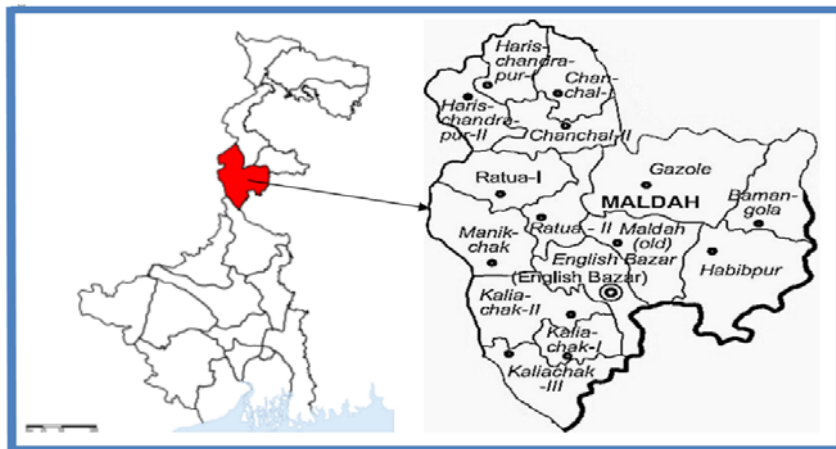
According to Pandey, B. N. (2002, p. 95) [16] health is one of the important factors of sustainable development in agriculture. He stressed that health and work are intimately related to each other. Kuppuswami, B. 1975, pp. 78-83) [15] interpreted health as an instrumental value and said that a

healthy man is able to work efficiently. Ill health causes great unhappiness to the family and also constitutes a social loss. It prevents the increase in labour inputs and efficiency. Similarly, Sudha, S.N. & Singh, A. (1983, p. 48) [17] also gave emphasis on health of labour and said that productivity of farm labour greatly depends on both the physical and mental health.

3. Study Area

The District is situated between the latitude and longitude figures of 24°40'20"N to 25°32'08"N and 88°28'10"E and 87°45'50"E respectively and surrounded by Bangladesh and South Dinajpur in the east, Santal Parganas of Jharkhand state in the west, Uttar Dinajpur in the north and and Murshadabad in the south. Malda, the southern most of the North Bengal district is comprised within the Jalpaiguri Division. The district consist with two subdivisions, that is Sadar and Chanchal, and English bazar is the headquarters station of the district as well as the Sadar subdivision. Malda is called the gateway of North Bengal. According to the 2011 census Malda district has a population of 3997970. Malda has a sex ratio of 939 femals for every 1000 males, and a literacy rate of 62.71%. In human development terms, the potentialities in Malda district become more complex. Since the economy of the district is primarily rural, with the Old Malda-English bazar municipalities being the only urban settlements of major consequence, livelihood opportunities for the district population have derived mainly from agriculture or other farm-based activities including the agricultural trade. However, with the high density of human settlement and the low availability of cultivable land, there is limited room for expansion at this economic base. In terms of the size of the population to be served, healthcare needs in Malda district are greatest across the densely settled Diara blocks. Within the Tal region, Harischandrapur 2 and Ratua 1 also have pressing health needs, in keeping with the size of their population. In the Barind blocks however, healthcare needs have to be assessed from an altered perspective, since in addition to the expected population load, cognisance must also be taken of the remoteness of Barind villages and the relative isolation of their population from referral services made available by the District Hospital at Englishbazar. Even so, the system loads on the public healthcare network are lower in the Barind blocks because of population factors. Only in Gajol block, which has a large population because of its large relative size, are the block-level healthcare institutions obliged to carry a heavier load.

Location Map of Malda District



4. Objectives

The major objectives of the proposed research are

1. To find out the block level Health Index of the Malda district.
2. To determine the major factor responsible for this level of less development.
3. To categorize blocks into three categories, they are develop health condition, developing health condition and under develop health condition.

5. Methodology

The data are exclusively based on secondary sources. Census of India (2001, 1991), Malda District Human Development Report (2009), and District Statistical Handbook of Malda (2010-11) [1] provide most of the data required for the study. The parameters for calculating the health index are as follows:-

1. Number of medical institution (including PHC, RH/BPHC) per 10000 populations.
2. Number of hospital beds per 10000 populations.
3. Number of hospital doctors per lakh populations.
4. Number of pharmacists & lab staff per 10000 populations.
5. Number of Govt. nurse per 10000 populations.
6. Number of health sub-centres per 10000 populations.
7. Number of female health assistants per 10000 populations.

The Health Index (HI) is the simple arithmetic average of seven parameters

HI = 1/7 (Number of medical institution per 10000 populations + Number of hospital beds per 10000 populations + Number of hospital doctors per lakh populations + Number of pharmacists & lab staff per 10000 populations + Number of Govt. nurse per 10000 populations + Number of health sub-centres per 10000 populations + Number of female health assistants per 10000 populations).

To work out the Dimension Index of individual parameters the following formula has been used:

Dimension Index = (Actual Value – Minimum Value) / (Maximum Value – Minimum Value)
(Human Development Report, 2002)

6. Results and Discussion

Health Index of Malda:- Health condition of an individual depends on his/her age, social group, educational achievement, economic condition, and cultural system, personal habits and life style as well as on the types and nature of environment in which he/she spends life. Health index depend on life expectancy of birth. In any modern society, the capacity to live long and fulfilling lives is a critical human ability that relates, in demographic terms, to human life expectancy. Life expectancy depends on a number of proximate factors which include the general health status of the population, the status of public health and hygiene, the status of maternal and child health, the extent of coverage by public healthcare services available to the population, the incidence of morbidity and disease, the regional endemicity of diseases if any, and so on. Before assessing current health situations in Malda district in terms of these aspects, a broad overview may first be obtained of the existing public healthcare system in the district. Health condition of the developing region’s population is generally not good because of poor education, poor nutrition and calorie intake, nutritionally inadequate diet, under-nourishment, malnutrition, lower per capita income, poor accessibility of health and educational facilities, lower per capita and national expenditure on health and education, poor housing quality, unsafe drinking water, poor sanitation, variety of diseases, increasing environmental pollution, high fertility and mortality as well as low life expectancy. All these characteristics are closely related to each other and make the general health of the people poor. The Government Hospitals by and large provide near about hundred percent of the health-cares to the Dalits in the state. At present the efficiency of treatment in the Govt. Hospital has gone to the poorest level. Anyone desiring satisfactory health-care is to depend on the private doctors or private hospitals. Since the charges of treatment in the private hospital is exorbitantly high and the deposit prior to admission needs huge rupees, it is now beyond doubt that the Dalits do not find any space of their treatment in the private capacity. Dalits are very often found to die of mal-nutrition and without proper treatment.

Table 1: Selected indicators for calculating Health Index (HI) in Malda district.

Name of CD Blocks	Number of medical institution per 10000 populations	Number of hospital doctors per lakh populations	Number of hospital beds per 10000 populations	Number of pharmacists & lab staff per 10000 populations	Number of Govt. nurse per 10000 populations	Number of health sub-centres per 10000 populations	Number of female health assistants per 10000 populations
Harischandrapur 1	0.25	3.08	4.86	0.31	1.05	1.29	1.05
Harischandrapur 2	0.15	2.02	1.36	0.10	0.45	1.16	1.21
Chanchal 1	0.17	5.74	4.82	0.57	1.38	1.38	1.44
Chanchal 2	0.18	1.82	1.39	0.12	0.36	1.21	1.45
Ratua 1	0.18	2.30	1.61	0.23	0.41	1.29	1.20
Ratua 2	0.19	2.49	1.68	0.19	0.31	1.24	1.55
Gajol	0.17	3.39	2.21	0.27	0.68	1.70	1.66
Bamangola	0.31	3.93	3.06	0.39	0.71	1.81	1.73
Habibpur	0.16	2.66	2.08	0.27	0.48	2.24	2.18
Old Malda	0.23	0.76	0.61	0.30	0.46	1.68	1.90
English bazar	0.13	1.77	1.19	0.18	0.35	1.33	1.11
Manikchak	0.19	2.80	1.73	0.33	0.42	1.45	1.49
Kaliachak 1	0.13	1.29	0.93	0.19	0.26	1.09	1.25
Kaliachak 2	0.14	1.89	1.18	0.19	0.38	1.23	1.37
Kaliachak 3	0.11	1.41	1.02	0.18	0.32	1.09	1.16

Source: District Human Development Report (2009)

Among the illnesses and health hazards that are endemic to certain parts of Malda district, several are associated with water and recur annually in flooded areas. Kalazar occurs

along with several other vectorborne diseases in areas where water gets impounded after the monsoon rains. Between 2001-2005, a total of 1524 cases were recorded in the district

Table 2: Health Index (Hi) Of Malda District

Name of CD Blocks	Index of medical institution per 10000 populations	Index of hospital doctors per lakh populations	Index of hospital beds per 10000 populations	Index of pharmacists & lab staff per 10000 populations	Index of Govt. nurse per 10000 populations	Index of health sub-centres per 10000 populations	Index of female health assistants per 10000 populations	Health Index (HI)
Harischandrapur 1	0.7	0.466	1	0.447	0.705	0.174	0	0.499
Harischandrapur 2	0.2	0.253	0.176	0	0.170	0.061	0.142	0.143
Chanchal 1	0.3	1	0.991	1	1	0.252	0.345	0.698
Chanchal 2	0.35	0.213	0.184	0.043	0.089	0.104	0.354	0.191
Ratua 1	0.35	0.305	0.235	0.277	0.134	0.174	0.133	0.230
Ratua 2	0.4	0.347	0.252	0.191	0.045	0.130	0.442	0.258
Gajol	0.3	0.528	0.376	0.362	0.375	0.530	0.540	0.430
Bamangola	1	0.637	0.576	0.617	0.402	0.626	0.602	0.637
Habibpur	0.25	0.382	0.346	0.362	0.196	1	1	0.505
Old Malda	0.6	0	0	0.426	0.179	0.513	0.752	0.353
English bazar	0.1	0.203	0.136	0.170	0.080	0.209	0.053	0.136
Manikchak	0.4	0.410	0.264	0.489	0.143	0.313	0.389	0.344
Kaliachak 1	0.1	0.106	0.075	0.191	0	0	0.177	0.093
Kaliachak 2	0.15	0.227	0.134	0.191	0.107	0.122	0.283	0.173
Kaliachak 3	0	0.131	0.096	0.170	0.054	0	0.097	0.078

Source: Calculated by the author.

Table 3: Categorization of the blocks of Malda District according to Health Index (HI).

Health Index (HI) range	Category	No. of blocks	Name of blocks
above 0.5	Comparatively more developed blocks	3	Chanchal 1, Bamangola and Habibpur
0.3 -0.5	Comparatively developed blocks	4	Harischandrapur 1, Gajol, Old Malda and Manikchak
less than 0.3	Comparatively less developed blocks	8	Harischandrapur 2, Chanchal 2, Ratua 1, Ratua 2, English bazar, Kaliachak 1, Kaliachak 2 and Kaliachak 3

According to the result of Health Index, blocks of Malda district are categories into three groups such as:

6.1 Comparatively more developed blocks (Health Index value = above 0.5)

Only three blocks are included in this group. These are Chanchal 1 (0.698), Bamangola (0.637) and Habibpur (0.505). According to health index value Chanchal 1 block ranked first position. In the Chanchal 1 block number of hospital doctors, number of hospital beds, number of pharmacists & lab staff and number of Govt. nurse is better position comparison to other blocks. Chanchal-I block enjoys an advantage of location of district head quarter and subdivision headquarter respectively are having different types of medical facilities, moreover, well connectivity with means of transportation and communication facility. In respect of medical institutions Bamangola block ranked highest position out of 15 blocks in Malda district. Index of health

sub-centres and index of female health assistants is maximum in Habibpur block. However, in Bamangola block small size with very low inter spacing of settlements with well connectivity by means of transportation and communication has good accessibility to the available medical facilities. These are the positive factors of high level of health development in this study area.

6.2 Comparatively developed blocks (Health Index = 0.3 - 0.5)

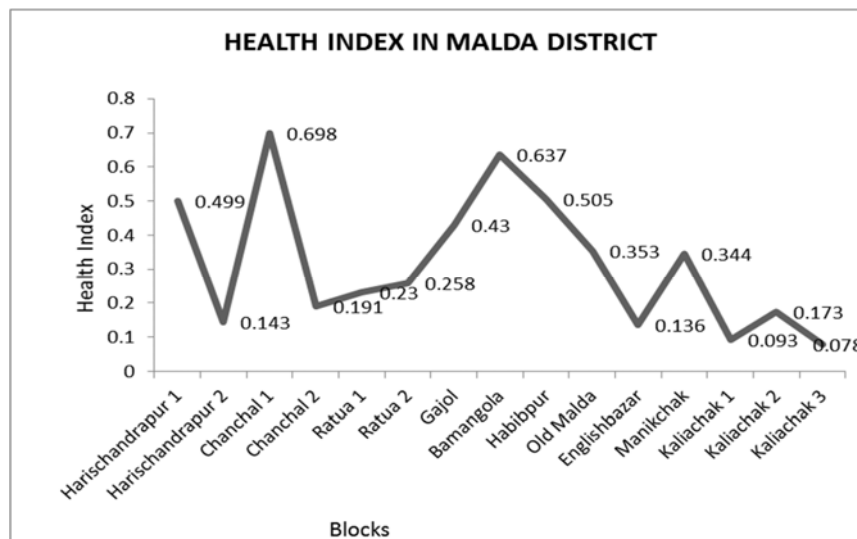
Blocks with index value between 0.3 – 0.5 are considered as ‘Comparatively developed blocks’ blocks. There are four blocks in this category. These are Harischandrapur 1 (0.499), Gajol (0.430), Old Malda (0.353) and Manikchak (0.344). Index of hospital beds per 10000 populations of Harischandrapur 1 is maximum and female health assistants are very bad condition out of 15 blocks of Malda district. All selected parameters of health index in Gajol and Manikchak block of Malda district are satisfactory. Number of hospital doctors and number of hospital beds of Old Malda block are lowest position than the other blocks of Malda district.

6.3 Comparatively less developed blocks (Health Index = less than 0.3)

There are eight blocks in this category. These blocks are Harischandrapur 2 (0.143), Chanchal 2 (0.191), Ratua 1 (0.230), Ratua 2 (0.258), English bazar (0.136), Kaliachak 1 (0.093), Kaliachak 2 (0.173) and Kaliachak 3 (0.078). These blocks are lowest is all parameters of health index. In the Harischandrapur 2 block index of pharmacists & lab staff per 10000 populations is lowest position comparison to other blocks in the study area. Index of Govt. nurse per 10000 populations and Index of health sub-centres per 10000 populations of Kaliachak 1 block are last ranking out of 15 blocks of Malda district. In the Kaliachak 3 block index of medical institution per 10000 populations and index of health sub-centres per 10000 populations is very bad position

comparison to other blocks of Malda district in West Bengal. Government's allocation of medical facility could not keep pace with the growth of population which led to the gradual

declining of the level of health development in these blocks. Figure 1



6.4 Cause of Less Development of Health Conditions in Malda District

1. Lack of hospitals, health centres and others health instructions. Village area of district health centres is very bad than the urban areas.
2. Maternal and child health conditions are not sufficient. Maternal and child health problems in the rural areas of

3. Poverty and unemployment of rural area is large numbers.
4. Women health conciseness is bad in rural area.
5. Lack of sufficient food in BPL population.

Table 4: Maternal & Child Health Situation in Malda District 1998-199

District	% of Girls married under 18yrs.	% 3 rd & higher order births reported	Crude Birth Rate	% safe deliveries	% pregnant women receiving double Tetanus Toxoid doses	% eligible couples adopting modern FP	%children completing immunisation	% low birth weight babies
Malda	56.7	51	30.8	29.7	74.2	31.9	38.9	4.4

Source: Health on the March, GoWB, 2003-04

6.5 Suggestive Measure for Improvement in Health Conditions

1. Increasing number of hospitals and primary health centres.
2. Better implementation of various governmental plans such as National Rural Health Mission Scheme, Scheme of Universal Health Coverage for the infrastructural attainment is required.
3. Improvement of proper development planning.
4. Motivate health conciseness in rural women.

7. Conclusion

Health is the important measure to overall development of any region. Sanitation, safe drinking water, toilet facility and sewage facility are the important agent of health. Availability of health centres, hospitals, ambulance is very important to develop a regional health. In a nation, there is a good health the nation develop all kinds human development like education, income, social status. A huge section of the rural areas is succumbing to deaths which could be avoided to a great extent with safe drinking water, proper sanitation, may be with some very elementary medicines. Rural health services which form the backbone of public health system, is lacking in basic infrastructure, staff and essential medicines.

There is an urgent need to strengthen the implementation of all the rural and Urban Health Care programmes and improve infant and young child feeding practices among lactating women. However most of the patients in Government Hospitals have to wait hours after hours for treatment. The sufficient manpower is an important prerequisite for the efficient functioning of the Rural Health Infrastructure. Social stratification system determines the living conditions, privileges, obligations and cultural traditions surrounding the life of a person which in turn affect his perceptions regarding health, knowledge of health care and accessibility to health resources. Kaliachak-I and Kaliachak-III blocks of the study area lie under the comparatively less developed in each broad group of health index i.e., number of medical institution (including PHC, RH/BPHC) per 10000 populations, number of hospital beds per 10000 populations, number of hospital doctors per lakh populations, number of pharmacists & lab staff per 10000 populations, number of Govt. nurse per 10000 populations, number of health sub-centres per 10000 populations and number of female health assistants per 10000 populations.

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