



STATUS OF RURAL HEALTH INFRASTRUCTURE OF ASSAM

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Abstract

Improvement in health and longevity is not considered simply as a by-product of development but considered as a means of development and reduction of poverty. It is a very important component of human development as well. Ill-health leads to capability deprivation and hence poverty, which again stands for a low standard of living implying low intake of food, malnutrition, lack of basic amenities such as poor housing, clothing, safe drinking water and sanitation facilities. Thus recognizing the importance of health, the government of India and its different states has also been making continuous efforts to improve the same of the people, more prominently since the launch of the National Rural Health Mission (NRHM) in 2005. However, it has been claimed that health care infrastructure as well achievements in health of the country particularly of Assam is not satisfactory. Further, various reports by the government of India reflects the glaring inequalities in health care infrastructure and in different health related parameters among different states of the country. Similar is the story regarding states of the districts of Assam. In this paper, therefore, attempt has been made to analyze the status of health of different districts of Assam and the existing health care infrastructure of the state.

Introduction

Improvement in health and longevity is not considered simply as a by-product of development but considered as a means of development and reduction of poverty. It is a very important component of human development as well. Ill-health leads to capability deprivation and hence poverty, which again stands for a low standard of living implying low intake of food, malnutrition, lack of basic amenities such as poor housing, clothing, safe drinking water and sanitation facilities. Thus recognizing the importance of health, the government of India and its different states has also been making continuous efforts to improve the same of the people, more prominently since the launch of the National Rural Health Mission (NRHM) in 2005. However, it has been claimed by many (e.g., Bhandari & Dutta, 2007; Baru *et.al.*, 2011) that health care infrastructure as well achievements in health of the country is not satisfactory. Further, various reports by the government of India reflects the glaring inequalities in health care infrastructure and in different health related parameters among different states of the country. Similar is the story regarding states of the districts of Assam. In this paper, therefore, attempt has been made to analyze the status of health of different districts of Assam and the existing health care infrastructure of the state.

Data Source and Methodology

The present paper is based both on primary and secondary data. The secondary data sources are the Census of India, DLHS, NRHM and other government publications. The paper is a descriptive one.

Discussion

The health status of a country or a state depends to a great extent on the availability of health-related infrastructure. But health-related infrastructure takes on a wider role than mere physical infrastructure. Apart from the health care centres, dispensaries and hospitals, the manpower required for the smooth functioning of those institutions are also included in health-related infrastructure. At the same time to maintain a sound health, access to safe drinking water, toilet and housing is also essential. Thus, health status of a country or a state not only depends on the health care infrastructures but also on some other basic infrastructure.

Physical Infrastructure

Based on the predetermined population norm, the health care delivery system of India is of three tiers: the CHCs, the PHCs and the Sub-Centres. The sub-centre with one Auxiliary Nurse Midwife (ANM) and one male Multi-Purpose Worker (MPW) is the most primary health care providing institution in the rural areas and supposed to be at each village for every 5000 population in plain areas and for every 3000 population in hilly/tribal/desert areas. The Primary Health Centre (PHC) is the second tier of health care unit set up by the State government for the rural people with population between 20,000 (hills) to 30,000 (plains). It acts as a referral unit for six sub-centres and is direct control of a medical officer. The doctor is supported by fourteen paramedical and other staff. Finally, Community Health Centres (CHC) are set up at the uppermost tier to cover a population between 80,000 (hills) to 1,20,000 (plains) with four specialist doctors (*viz.*, Surgeon, Physician, Gynaecologist, and Paediatrician) and twenty-one paramedical and other staff. A typical CHC should have thirty in-door beds with Operation Theatre, X-ray, Labour Room, and Laboratory facilities. A CHC is a referral centre for four PHCs within its jurisdiction. After the National Rural Health Mission (NRHM), it has been observed that the health infrastructure as well as the health



status of the rural people of Assam improved satisfactorily. Yet, the achievements are not at par with the national level which is reflected from different health related indicators. Thus, in this section, an attempt is made to provide an idea about the existing physical infrastructure of the districts of Assam and the gap thereof. The table:1 gives the idea about the existing physical health infrastructure of Assam.

Table: 1 Health Infrastructure Gap of Assam

Particulars	Required	In position	shortfall
Sub-centre	5841	4621 ^s	1220
Primary Health Centre	953	1014 ^s	+
Community Health Centre	238	151 ^s	87
Health worker (Female)/ANM at Sub Centres & PHCs	5579	8723	+
Health Worker (Male) at Sub Centres	4604	2386	2218
Health Assistant (Female)/LHV at PHCs	975	452	523
Health Assistant (Male) at PHCs	975	0	975
Doctor at PHCs	975	1478	+
Obstetricians & Gynecologists at CHCs	109	69	40
Pediatricians at CHCs	109	20	89
Total specialists at CHCs	436	122	314
Radiographers at CHCs	109	65	44
Pharmacist at PHCs & CHCs	1084	1303	+
Laboratory Technicians at PHCs & CHCs	1084	1243	+
Nursing Staff at PHCs & CHCs	1738	2795	+

^sdata for 2015, + Surplus.

Source: RHS Bulletin, March 2012, M/O Health & F.W., GOI& Rural Health Care System in India, 2015

From the above Table: 1 gap in the health infrastructure of Assam is observed in certain health care related infrastructure. There is a huge gap in case of the sub-centre- the primary unit that makes first contact with the people. As per the Rural Health Mission report (2015), the required sub-centre for the state is 5841, while the existing number of the same is only 4621. Thus, there is short fall of 1220 sub-centres which is about 21 per cent of the total requirement. Similarly, there is the shortfall of CHCs (36.55 per cent). Thus, apart from the PHCs, there is also the shortfall of basic physical health infrastructure in the rural areas of Assam. The similar is the story in case of the manpower requirement also. Although, the in-position doctor at the PHCs is more than the requirement, there is dearth of specialist doctors in the CHCs of Assam. There is scarcity of radiographers also. Thus, lack of specialist doctors and radiographers make the rural health care system of Assam cripple which is reflected in different health outcome parameters such as the low life expectancy at birth, high Infant Mortality Rate and Maternal Mortality Rate etc. The Table: 2 give an idea about the district wise physical health infrastructure of rural Assam.

Table:2 (a) District wise Physical Health Infrastructure of Rural Assam

Sl. No.	Name of the District	SCs		PHCs		CHCs	
		2008	2015	2008	2015	2008	2015
1	Barpeta	264	264	50	51	6	6
2	Bongaigaon	57	84	39	30	4	3
3	Baksa	157	157	30	41	2	5
4	Cachar	270	270	30	33	1	5
5	Chirang	83	86	25	25	2	3
6	Darrang	170	163	30	30	4	6
7	Dhemaji	98	98	21	22	3	4
8	Dhubri	246	246	43	44	6	8
9	Dibrugarh	231	231	25	30	5	7
10	Goalpara	151	151	41	41	2	5
11	Golaghat	144	144	40	40	4	4
12	Hailakandi	105	105	12	13	2	3



13	Jorhat	144	144	42	44	4	5
14	Kamrup (Rural)	280	280	25	71	3	11
15	Kamrup (Metro)	152	152	47	25	9	3
16	Karbi Anglong	152	145	47	46	5	5
17	Karimganj	221	218	27	29	2	5
18	Kokrajhar	159	161	45	45	4	4
19	Lakhimpur	156	156	28	30	5	8
20	Morigaon	123	123	33	36	2	5
21	Nagaon	357	354	74	80	2	5
22	Nalbari	121	121	45	47	7	9
23	Dima Hasao	65	65	11	11	2	2
24	Sivasagar	219	219	42	45	2	4
25	Sonitpur	274	275	53	58	3	7
26	Tinsukia	164	164	23	23	5	6
27	Udalguri	147	142	24	24	3	3
	Total	4609	4621(.26)	975	1014(4.00)	108	151(39.81)

Sources: Rural Health Care System in India, 2015 & NHM, 2008, Assam

Thus, the above Table: 2 (a) reflect the existing physical health infrastructure of 27 districts of Assam. It has been noticed that there is a marginal increase in the number of SCs from 4609 in 2008 to 4621 in 2015 and PHCs from 975 to 1014 during the same period. However, about 40 percent rise in the number of CHCs has been observed between 2008 and 2015. Thus, although there is an increase in the numbers of the SCs, PHCs and CHCs, still the existing infrastructure is not as per the requirement of the rural population of the state which can be understood from the Table: 1. The following Table: 3 provide an idea about the population served by the SCs, PHCs and CHCs and thereby a gap in those physical infrastructures.

Table: 2(b) District wise Physical Health Infrastructure of Rural Assam

Sl. No.	Name of the District	SCs in 2015		PHCs in 2015		CHCs in 2015	
		Nos.	Population Served*	Nos.	Population Served*	Nos.	Population Served*
1	Barpeta	264	5857	51	30319	6	257711
2	Bongaigaon	84	7488	30	20966	3	209665
3	Baksa	157	5973	41	22874	5	187567
4	Cachar	270	5263	33	43065	5	284231
5	Chirang	86	5195	25	17873	3	148942
6	Darrang	163	5356	30	29100	6	145501
7	Dhemaji	98	6509	22	28993	4	159462
8	Dhubri	246	7096	44	39672	8	218195
9	Dibrugarh	231	4687	30	36087	7	154658
10	Goalpara	151	5762	41	21222	5	174024
11	Golaghat	144	6730	40	24229	4	242288
12	Hailakandi	105	5820	13	47012	3	203719
13	Jorhat	144	6053	44	19812	5	174344
14	Kamrup (Rural)	280	4911	71	19368	11	125013
15	Kamrup (Metro)	152	1427	25	8677	3	72309
16	Karbi Anglong	145	5816	46	18334	5	168669
17	Karimganj	218	5133	29	38585	5	223797
18	Kokrajhar	161	5169	45	18493	4	208050
19	Lakhimpur	156	6095	30	31693	8	118851
20	Morigaon	123	7188	36	24559	5	176825
21	Nagaon	354	6933	80	30678	5	490847
22	Nalbari	121	5693	47	14656	9	76545
23	Dima Hasao	65	2332	11	13783	2	75807



24	Sivasagar	219	4753	45	23132	4	260239
25	Sonitpur	275	6364	58	30177	7	250038
26	Tinsukia	164	6483	23	46225	6	177198
27	Udalguri	142	5592	24	33087	3	264698
	Total	4621	5801	1014	26437	151	177530

Sources: Rural Health Care System in India, 2015 & NHM, 2008, Assam;

*Calculated by the author.

As it is mentioned in the earlier section that the average number of population to be served by a SC is 5000 and following the criterion, it is observed that except Kamrup (Metro), Dima-Hasao, Sivasagar and Kamrup (Rural) the number of population served by each districts are higher than the norm laid down. On the other hand, the situation is somewhat better in case of the PHCs. It is observed from the above table: 2 (b) that except Barpeta, Cachar, Dhubri, Dibrugarh, Hailakandi, Lakhimpur, Nagaon, Sonitpur, Tinsukia and Udalguri, the other districts have surplus CHCs to serve population. Thus, the average number of population to be served by a PHC is 26437 for the state Assam which is less than the minimum norm of 30000 populations in the hilly areas and 20000 populations in hilly areas. Finally, in case of the CHCs, the number of population to be served by a single CHC is 80,000 population in the hills to 1,20,000 in the plains. Thus, it is observed that there are only four districts viz., Kamrup (Metro), Lakhimpur, Dima Hasao and Nalbari, where the minimum norm of population to be covered is met which means that the basic rural infrastructure in terms of SCs and CHCs are not adequate. This also further reveals the heavy dependence either on the district hospitals or on the private sector hospitals. In fact, today, due to insufficient health care provisions everyone has to rely on the health care services rendered by the private hospital. Further, the poor rural public health facilities across the country pushed the entire rural health care system to a white elephant making a total failure to attract, retain and ensure regular presence of the specialised medical professionals (See Table: 1). The Table: 3 reflects health attainment of the state specially in the rural areas of Assam with respect to six variables: Infant Mortality Rate (IMR), Under Five Mortality Rate (UMR-5), Maternal Mortality Rate (MMR), Total Fertility Rate (TFR), Crude Birth Rate (CBR) and Crude Death Rate (CDR).

Table: 3 District Wise Health Outcome of Assam

District Name	IMR			UMR-5			MMR ^s	TFR	CBR			CDR		
	T	R	U	T	R	U			T	R	U	T	R	U
Barpeta	43	44	-	58	62	-	325	2.4	20.4	21.1	14.6	6.6	6.7	6.1
Bongaigaon	48	50	-	61	65	-	325	2.1	19.2	20.5	11.3	6.1	6.3	5.0
Baksa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cachar	53	56	37	69	74	44	288	2.9	25.3	26.2	21.6	7.3	7.4	6.5
Chirang	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Darrang	70	71	-	91	93	-	325	2.3	20.4	20.8	10.8	8.1	8.1	6.9
Dhemaji	37	37	-	45	47	25	314	2.4	22.6	22.9	19.9	4.5	4.5	4.2
Dhubri	69	69	-	87	90	-	366	2.5	21.8	22.9	14.6	7.0	7.3	5.4
Dibrugarh	51	52	44	65	70	51	436	2.0	19.2	20.3	15.8	7.4	7.9	5.8
Goalpara	53	55	-	70	74	-	325	2.4	21.6	21.9	18.2	6.7	6.7	5.9
Golaghat	56	59	-	71	75	-	436	2.3	21.5	21.5	21.2	8.0	8.3	6.0
Hailakandi	52	54		87	92	-	288	3.7	30.6	32.5	19.3	6.8	6.9	-
Jorhat	50	52	45	62	66	48	436	2.0	19.3	20.0	17.4	7.9	8.2	7.1
Kamrup (Rural)	39	57	16	49	74	19	325	1.9	17.8	20.9	14.9	5.6	7.4	3.9
Kamrup (Metro)	39	57	16	49	74	19	325	1.9	17.8	20.9	14.9	5.6	7.4	3.9
Karbi Anglong	60	64	45	78	84	52	288	2.3	20.8	21.7	17.7	7.1	7.3	6.4
Karimganj	65	66	-	77	79	-	288	3.2	25.6	26.2	17.2	7.0	7.1	-
Kokrajhar	57	78	-	101	107	-	325	2.6	22.5	23.0	17.9	7.6	7.8	5.4
Lakhimpur	48	50	-	58	61	-	314	2.5	23.3	23.8	19.8	6.7	7.0	4.3



Morigaon	63	64	20	78	80	23	314	2.6	23.0	23.3	16.4	8.0	8.1	6.0
Nagaon	62	65	45	79	85	48	314	2.7	23.7	25.1	17.8	8.0	8.3	6.8
Nalbari	58	59	-	81	83	-	325	2.0	18.5	18.7	12.1	7.3	7.4	3.9
Dima Hasao	54	62	46	65	81	50	288	2.1	18.3	19.4	17.4	5.6	7.1	4.4
Sivasagar	56	59	-	72	74	-	436	2.0	19.0	19.2	16.7	8.1	8.2	6.6
Sonitpur	61	64	35	73	77	39	314	2.0	18.9	19.1	17.1	6.4	6.5	5.5
Tinsukia	50	52	42	66	69	50	436	2.3	20.5	21.8	15.5	7.5	6.6	5.6
Udalguri	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Assam	55	59	31	71	77	36	347	2.4	21.2	22.2	16.4	7.0	7.4	5.3
India	40	44	27	52	58	32	178	2.6	21.4	22.9	17.3	7.0	7.5	5.6

Source: Annual Health Survey, 2012-13; SRS Bulletin, September, 2014, ^sData pertaining to 2011-12.

It is thus, clear from the Table: 3 that the health status of the rural areas is poorer than the urban areas. Among the 27 districts of Assam, Darrang has the highest IMR of 70, as against state average 55 and 40 of India. There are only two districts, viz., Kamrup (both rural and metro) and Dhemaji whose IMR is lower than the national average. On the other, in case of the state level comparison, there are nine districts whose IMR is lower than the state average. Moreover, rural (59) and urban (31) gap in IMR is also observed. Similarly, looking at the UMR-5 indicator, it is observed that in some districts like Kokrajhar (101), Darrang (91), Hailakandi (87) and Dhubri (87), the rate is very high as compared to both the state (71) and the national average (52) in 2012-13. The same is the case for the MMR also. In some of the districts like the districts of upper Assam (viz., Golaghat, Jorhat, Sivasagar, Dibrugarh and Tinsukia), it is as high as 436 per 1 lakh live births. In fact, both IMR (54) and the MMR (347) of the state along with Madhya Pradesh in case of IMR (54) are highest in the country which reflects the pitiable health status of Assam. Thus, it is need of the hour to study thoroughly about the health status of Assam and more particularly to MMR, because, in spite of having high human development (see Assam Human Development Report, 2001 & Buragohain, 2014), some of the districts performance in the sphere of health sector is not satisfactory. Higher MMR also reflects that the mother care in these districts is even poorer than the districts having low literacy rate, low per capita income, high IMR and UMR-5 and low health care infrastructure. While regarding the TFR, the districts nearby to the border areas of Assam and dominated by the minorities of the state are the highest. The reasons for this can be well explained by the demographers. Illiteracy, ignorance and might be the illegal migration from the neighbouring countries together with an intention to make themselves in the region majority in numbers. Similarly, while studying about the Crude Birth Rate (CBR), we have noticed that the birth rate is quite high in the districts having border with the neighbouring countries and the districts of lower Assam and middle Assam. The gap in the birth rate is also observed between the rural and the urban areas. The similar is the case for the Crude Death Rate (CDR). Thus, it can be concluded that the health status of the state Assam as a whole is not satisfactory; and among the districts again there is inequality in the achievements regarding the health.

It has already been mentioned that the Infant Mortality Rate (IMR) and Maternal Mortality Rate (MMR) of Assam is the highest in the country. Both the IMR and the MMR is determined by many factors including the accessibility of maternal cares received during the pregnancy period and the mode of delivery. Thus, in this section an attempt has been made to analyze the accessibility of the maternal health care facilities of Assam and to analyse the same six indicators viz., percentage of mother's who received any form of ante natal care, mother's who received full ante natal care, mother's who received ante natal care from the government source, institutional delivery, delivery at government hospital and safe delivery are considered. The Table: 4 provide an idea about the district wise accessibility of the maternal health care facilities of Assam with special reference to the rural areas.



Table-4 District Wise Accessibility to the Reproductive Health Care Facilities

District Name	Mothers who received any Ante-natal Check up (%)			Mothers who received full Ante-natal Check up (%)			Mothers who received Ante-natal Care from Govt. Source (%)			Institutional Delivery (%)			Delivery at Hospital (%)			Safe Delivery (%)		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Barpeta	94.0	93.7	98.1	14.0	12.9	27.4	89.6	91.0	74.0	52.3	49.6	84.7	45.0	44	56.7	57.6	55.1	87.3
Bongaigaon	92.6	92.1	98.6	16.3	15.4	26.9	92.9	95.3	67.7	54.8	52.0	86.6	49.1	48.6	54.8	65.0	62.7	90.7
Baksa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cachar	95.6	95.2	97.7	17.8	16.7	24.0	50.3	52.3	39.8	64.8	61.5	82.4	54.1	53.6	57.1	69.4	66.6	84.3
Chirang	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Darrang	91.3	90.9	-	17.1	16.0	-	91.3	92.5	-	63.0	62.4	-	57.6	57.7	-	67.1	66.3	-
Dhemaji	94.9	95.0	94.3	11.0	16.0	-	92.4	93.1	84.2	72.3	71.6	80.3	69.5	69.3	71.3	77.3	76.7	84.5
Dhubri	88.7	87.8	97.9	7.6	7.1	13.2	94.1	95.0	85.1	42.4	38.7	82.6	39.3	36.8	66.7	50.7	47.4	87.5
Dibrugarh	97.3	97.0	98.6	29.3	29.4	29.1	66.3	67.4	61.9	81.2	79.3	89.1	54.7	55.4	51.8	86.5	85.1	92.4
Goalpara	94.8	94.6	97.8	14.6	14.3	19.0	97.5	97.9	91.6	55.6	54.7	68.0	51.3	51.0	54.3	67.2	66.5	77.7
Golaghat	96.1	95.8	98.2	18.4	18.4	18.3	76.8	79.4	55.5	73.0	71.3	87.5	59.6	61.7	42.2	82.2	81.0	92.4
Hailakandi	93.8	93.4	-	12.2	12.5	-	54.6	56.0	-	42.1	37.5	-	35.9	34.9	-	45.2	40.9	-
Jorhat	97.6	97.6	97.9	24.3	21.3	35.4	72.5	76.0	59.9	80.8	80.3	82.5	64.9	69.0	50.1	86.1	85.5	88.2
Kamrup (Rural)	98.5	98.5	98.4	29.9	25.7	35.3	79.5	95.0	59.7	84.7	82.1	87.9	64.4	74.9	51.0	87.4	84.9	90.7
Kamrup (Metro)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Karbi Anglong	88.1	86.0	96.6	7.2	5.5	14.2	87.5	86.8	90.2	59.5	54.6	80.1	55.3	51.2	72.4	68.9	65.1	84.8
Karimganj	92.2	92.0	-	11.4	11.2	-	50.1	51.4	-	38.2	36.7	-	30.2	30.4	-	44.1	42.8	-
Kokrajhar	93.8	93.5	-	8.7	9.0	-	96.6	97.1	-	58.8	57.5	-	56.2	56.0	-	66.0	65.1	-
Lakhimpur	98.2	98.4	-	21.2	20.7	-	91.4	92.3	-	85.7	85.4	-	80.7	81.1	-	87.3	87.1	-
Morigaon	97.2	97.2	97.2	25.4	25.4	26.0	96.2	96.3	91.9	68.3	67.8	83.3	64.5	64.3	70.2	72.4	71.8	86.5

Nagaon	92.6	91.8	98.4	18.4	17.9	21.8	71.2	73.1	57.7	57.9	54.4	80.1	48.7	47.2	59.0	66.9	64.2	84.3
Nalbari	98.4	98.4	-	24.9	24.4	-	83.6	83.9	-	87.4	87.3	-	73.6	74.0	-	89.9	89.8	-
Dima Hasao	90.8	85.1	96.6	15.7	14.2	17.2	92.6	91.3	93.7	69.3	56.0	82.3	66.3	53.9	79.1	76.4	64.9	84.3
Sivasagar	98.2	98.2	99.3	19.5	19.3	22.4	72.1	73.1	57.7	87.0	86.5	94.4	67.2	68.1	53.8	90.5	90.2	94.4
Sonitpur	94.8	94.6	97.0	19.2	18.1	29.0	78.0	79.1	67.8	63.6	62.0	78.5	50.2	50.7	45.2	67.0	65.6	80.7
Tinsukia	97.2	96.9	98.7	18.4	16.8	27.7	57.2	57.0	57.8	75.9	74.0	86.6	48.1	48.4	46.5	79.6	78.0	89.0
Udalguri	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Assam	94.8	94.2	98.0	18.4	17.0	27.3	71.8	73.3	62.5	65.9	62.9	84.5	54.6	54.6	54.6	71.6	68.9	87.9

Source: Annual Health Survey, 2012-13, Assam



The Table: 4 reflects about the accessibility of the maternal health care facilities of Assam with special reference to the rural areas of Assam. It appears from the table that with regard to the indicator mother's who received any Ante natal Check-up (ANC) is satisfactory for the state. But when it is about the mother's who relieved full ANC, then it is a matter of great concern because in some of the districts like the Karbi-Anglong, it is as low as 7.2 per cent ; while in case of the rural areas it is 5.5 percent indicating a more deplorable situation in the rural areas. Again, if the same is compared for the state of Assam then we find that overall 18.4 percent of the total mother received full ANC; while the figure is 17.0 and 27.3 per cent for the rural and urban areas respectfully. This factor may be responsible for higher rate of MMR in the state. On the other hand, institutional delivery rate in Assam is not satisfactory. The rate is hovering from 42.1 per cent in Hailakandi to 87.4 per cent in Nalbari; while that of the state is 65.9 per cent. Further, a huge gap in the case of institutional delivery between rural and urban area is observed which reflects the actual status of rural health scenario of Assam. For example, in Dhubri district the institutional delivery rate for the rural area is only 38.7 percent as compared to the 82.6 per cent for the urban areas. Similarly, the gap in case of the state is also remarkable with 62.9 per cent for the rural areas and 82.6 per cent for the urban areas. Thus, it is observed that the institutional delivery rate in the urban areas is higher than the rural areas and the gap is quite unacceptable. Similar is the case for the safe delivery. The percent of safe delivery in the urban areas is higher than the rural areas and in some of the districts this rate as below 50 percent, viz., Karimganj (44.1) and Hailakandi (45.2); the same is for the state is 71.6 percent. This factor may further augment both IMR and MMR rate. At the same time, when we compare about two important parameters relating to the reproductive health care facilities, viz., mothers who received ANC from government source and delivery at government hospitals, it is observed that the rural people take more ANC from the government sector. It is also observed that in the districts of Barak Valley, there is a very large gap between mothers's receiving any ANC and ANC received at government source which implies that for receiving ANC, people of the districts are largely depending on the private sector. Further, it is now a fact that a great majority of people preferred health care services from the private sector. They are reluctant to take the health care services from the private sector with an expectation of getting better quality services. Thus, it can be concluded that the reproductive health care services of the state is also not satisfactory and a visible inequality between rural and urban areas is observed with an inclination towards the private sector health care services.

Supporting Infrastructure for Health:

Accessibility to safe drinking water, housing, toilet facility always contributes positively to a better health. Lack of access to safe drinking water is one important cause behind many waterborne diseases. According to WHO, about 1.2 billion people have lacking access to clean and safe drinking water and about 3.4 million people die each year as result of the water-borne diseases. Similar is the case for lack of access to toilet facilities, pucca houses and electricity. Considering the importance of the accessibility to safe drinking water, toilet facilities, electricity and housing, an attempt has been made here to look into the matter. The Table: 5 give an idea about district wise accessibility of some selected social infrastructure in the rural areas of Assam.

Table: 5 District Wise Accessibility of some selected Social Infrastructure in the Rural Areas of Assam

District	Households having Access to Pucca House	Households having Access to Safe Drinking Water	Households having Access to Toilets	Households having Access to Electricity
Barpeta	15.08	88.81	69.80	19.39
Bongaigaon	17.13	62.77	49.20	23.50
Baksa	9.30	70.33	38.70	22.73
Cachar	22.65	32.00	77.60	22.85
Chirang	11.71	44.97	24.00	19.47
Darrang	13.84	88.71	47.60	20.08
Dhemaji	8.23	79.90	40.30	17.07
Dhubri	17.56	85.60	23.50	11.55
Dibrugarh	29.49	93.23	74.20	39.77
Goalpara	22.30	64.42	62.10	35.58
Golaghat	15.67	86.55	65.10	30.81
Hailakandi	21.90	19.25	81.90	26.51
Jorhat	25.69	70.64	58.90	42.64
Kamrup (Rural)	27.38	82.74	57.00	35.60



Kamrup (Metro)	33.47	35.64	64.70	51.73
Karbi Anglong	7.21	37.58	48.50	22.60
Karimganj	28.78	23.61	83.70	23.41
Kokrajhar	20.42	55.60	24.90	18.58
Lakhimpur	18.53	52.70	53.70	23.47
Morigaon	16.02	88.10	57.20	23.63
Nagaon	21.23	83.13	78.40	27.57
Nalbari	27.00	96.03	63.70	39.51
Dima Hasao	8.05	15.62	57.10	24.54
Sivasagar	28.25	79.97	71.90	45.20
Sonitpur	26.61	42.51	55.00	28.29
Tinsukia	31.18	91.26	77.30	52.54
Udalguri	23.09	63.47	41.50	29.14
Assam	20.29	68.30	59.60	28.40
India	66.10*	82.70	46.90	67.2

Source: District Census Handbook, Assam, Census of India, 2011; House listing & Housing Census, 2011. *NSS 65th Round.

The Table: 5 show that the people residing in the pucca houses are very low in the districts of Assam and in some districts like the Karbi-Anglong (7.21 percent), Dima-Hasao (8.05 percent), Dhemaji (8.23 percent) and Baksa (9.30 percent), it is even less than 10 percent of the total households; far below than both the national (66.10 percent) and state average (20.29 percent). Thus, it can be concluded that the housing condition of the people of the districts of Assam as a whole is not satisfactory. Again, as mentioned earlier that access to safe drinking water is essential in the sense that it can reduce many waterborne diseases and reduce to great extent mortality especially the infant mortality. But, it is observed here that except few districts, access to safe drinking water of the districts of Assam are not satisfactory and as a whole (68.70 percent) it is much less than the national average (82.70 percent). In some districts like the Dima-Hasao (15.62 percent), Hailakandi (19.25), the percentage of the households having access to safe drinking water is very low which is a matter of concern to public health. On the other hand, with respect to access to toilet facilities, Assam's position (59.60 per cent) is better than the national average (46.90 percent). However, in districts like Chirang, Dhubri and Kokrajhar it is far below than both the state and the national average. Thus, apart from the access to safe drinking water, access to toilet is also a major concern for public health. There is also poor access to electricity facility across the districts. Thus, it is concluded that some of the basic infrastructure required to maintain a good health is not satisfactory in the state of Assam and may be responsible for high IMR, MMR, under 5 Mortality rate etc.

In lieu of Conclusion

From the above discussion, it has been observed that the health status among the rural population of Assam is not at all satisfactory. It is the need of the hour to take appropriate measure to improve the health status of the people by providing quality health care services along with food security, safe drinking water, housing, toilet and electricity. Since, health is a matter of the state and hence it is duty of the state government to adopt appropriate measure to provide best health care facilities to everyone residing in Assam. But due to apathy of the State government in adopting and implementing different schemes and also polarization of schemes for the benefit of only a segment of the people make the entire exercise of making a healthy society futile. Of late, nexus of politics-bureaucracy and rent seekers make not only health sector but also education sector cripple and this is the reason behind why the people of Assam even the people from the rural areas are reluctant to take health care facilities as well as the educational facilities under the public sector. Shifting of health care from the public to private sector compel the people to borne heavy financial burden and since in many cases treatment option is only with the private sector and therefore, poor people can't afford those highly costly treatments and have to die without proper medical treatment. Therefore, the state government has to take necessary measure to improve the rural health care infrastructure as well as recruit enough manpower so that a healthy environment is created where everyone can get the opportunity to treat their health related problems in the rural areas itself. Further, efforts must be taken to provide the people with safe drinking water, toilet facilities, housing and electricity. Food security; creation of both self-employment and employment opportunities; quality education facilities; access to banking and all weather roads are also essential requirement for improving the health status of the people of Assam. Last but not the least, it can be concluded that the rural health care infrastructure as well as the health status of the people of the rural areas of Assam are not satisfactory and without a



concerted effort from the government both central and state, particularly the state, it can't be expected that the fate of them will be improved in near future.

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