A Study of Water Availability in Slum Areas of Shillong

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Abstract

We are facing the age of rapid Urbanization. According to CIA total 53.6 % of world Population living in Urban areas and the rate of Urbanization is 2.05 % annually (2014). Urban settlement often brings the feature of slum population which associates with poverty, malnutrition, sanitation, water supply and many more basic infrastructural problems. Rapid Urbanization has made the condition a critical one and slum population growing rapidly keeping space with urban population. As per the UNINHABTAT report (nov 2013) estimated world slum population is 863 million which was 650 million in 1990 and 760 million in 2000. According to Census of India estimated slum population in India is near about 13.7 million which is 17.4% of Urban population (2011 census). Slum areas are unit of Urban poverty with insignificant Urban amenities like water supply etc. In the present study we have tried to assess water supply and water fetching condition in notified slum areas of Shillong .

Key words- Urbanization, Slum growth, Urban amenities, Improved water source

Introduction

The urban population of the world has grown rapidly from 746 million in 1950 to 3.9 billion in 2014. Asia, despite its lower level of urbanization, is home to 53 per cent of the world's urban population, followed by Europe with 14 per cent and Latin America and the Caribbean with 13 per cent. The world's urban population is expected to cross six billion by 2045. India also facing a rapid urban growth. In 1951 only 17.29% Indians were city dweller in 2011 that jumped to 31.16 %. Urban population also associated with slum population and in developing countries it is most significant feature. In India it is difficult to compare slum population with previous census, because the 2011 Census covers all 4,041 statutory towns in India, as compared to 2001 when only statutory towns with population over 20,000 were covered. The 2001 data had set India's slum population at 15% of the total population. As per the 2001 census total 86304 persons of Meghalaya living in slum area. Shillong is the capital of Meghalaya (India) with its magnificent natural beauty. There is a normal

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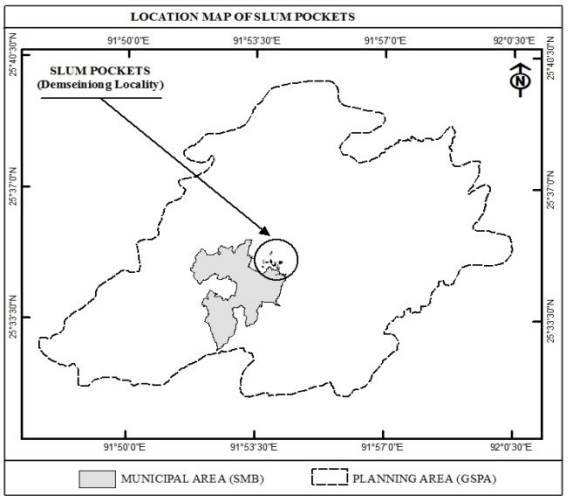
trend of slums to concentrate on city fringe area. The same nature we have found during our study.

Objectives and methodology- The study was undertaken to access the major source of water supply and water fetching distance in each slum. Taking this prime focus total 329 family in 7 slum pockets of Demseiniing was selected. Whole sample survey method was taken into consideration (for family survey) to analyze actual form of mentioned goal and Demseiniong locality is selected for its fringe location. Within 329 family 258 family were responded (as remain houses were locked). Water source categorized into 6 parts like Individual tap, Public tap, Pond/tank, tube well/bore well, River/Canal/Spring/lake and others. While water fetching distance subdivide into following category---- less than 0.5 km,0.5-1km,1-2km,2-5km and more than 5km. Collected data filtered and processed in Excel-2007 and Arc GIS 9.3, Google Earth Pro-6 are used for mapping purpose.



The Study Area- Shillong is the capital city of Indian state Meghalaya and districts headquarter of East Khasi Hills District. Shillong is the 330th most populous city of India with altitude 1496 meter .According to 2011 census total Population of the city is 143007. Shillong Urban agglomeration area had Population growth rate 19.8 % between 1991 to 2001 and estimated growth rate between 2011 to 2021 is 15.5%. Demseiniong is located in the Nort east side of Shillong municipal area which is also fringe area of the city. There are total 7 notified slum pockets in Demseiniong locality within 25'35'30"N to 25'34'30"N latitudes and 91'53'15" E to 91'54'45"E longitudes. All slums are notified in the year 1991 and have average age 40 to 50 years.

Determine slum and its basic problems- The notification of slums is made under the Meghalaya Slum Areas (improvement and Clearance) Act 1973 Which states that an area may be declared as a slum if some or any combination of or all the factors given below are determined to safety, health or morals of the people of the aarea

It is unfit for human habitation

- If there is dilapidation, overcrowding, faculty arrangements and

- If design of such buildings suffers from narrowness or faculty arrangements and design of such buildings, narrowness of streets, lack of ventilation, lack of sanitation facilities, where are detrimental to safety, healthy or moral of the people of the area (section - 1)

In the mentioned criteria, in the city there are total 19 notified slums and all they are located on private lands, except for two slums Jhulupara and Harijan colony. Total slum population of state is 86304 and total population of notified slums in Shillong city is 78929. The population of slum area is 23.82% of total population of GSPA. Population of slum dwellers within SMB area is 49.48%. The population of slum areas is 23.82% of total population of GSPA. The slum population of Shilong is 91.45% of total Population of notified slums of Meghalaya state. (CDP)

These are the following main problems of the slum area

- Absence or shortage of basic services viz. Water supply, sanitation, drainage, access roads, paved lanes and street lighting etc.
- Majority of slum dwellers are dependent on shared toilets and water stand posts. Most of the toilets are bucket flush type or dry pit latrines and the sewage is directly discharged into open drains creating extremely unhygienic conditions.
- Overcrowding, most of slum dwellers are living in rented house often located on marginal land, which having very poor living conditions and infrastructure.
- Absence of employment opportunities and lack of social services like schools, health facilities, community facilities etc.

Considering the above mentioned problems we decided to make case study on nature of water supply and water fetching Distance. So, we selected Demseiniong locality for this purpose.

Case Study On Demseiniong- Demseiniong locality Is a slum within shillong municipal board with population 1169. It is notified asa slum in 1991 under slum areas (improvement and clearance) Act 1973. We conduct our filed survey from Dec 2014 to Feb 2015 with the help of Miss. Pasualina Lamarai, Miss. Iaidapbiang Nongrum Pomtiah, Miss. Juliya Kajini,Mr. Abhishek Bisharad and Mr. Jacob Mawthah. During the survey we identified seven cluster zone with their name like Umkelear/ Bihari colony slum (67 family), Sukhdeb Rai slum(15 family), Dutta Resident Slum(21 family),Demseiniong lll slum (113family),Assam Rifle Parmaw slum Part A (53 family), and Assam Rifle Parmaw slum Part B (42 family).

Result and Discussion

As mentioned earlier we make 6 categories to access the nature of water supply and 5 categories for water fetching distance. On this criteria two slum pockets Bihari colony and Near polo petrol pump have nature of Tubewell/ Borewell/Ha while other brings the nature of public tap. It may be pointed out that the nature of water supply is decided based on the majority of depended responded. Bihari colony and Demseiniong-III are slum pockets with fetching distance 0.5 to 1 km while rest of the slum pockets getting water within 500 m distance. The complete nature of water source and water fetching distance can be illustrated by following table and diagrams.

Slum Details			Nature of Water Supply						Water Fetching Distance				
Locality / Shnong Name	SL No.	Slum Name	Individual Tap	Public Tap	Tubewell/Bore well /Handpump/ Open Well	Tank/Pond	River/Canal/ Lake/Spring	Others	Less than 0.5kms.	0.5 to 1.0km.	1.0km to 2.0km	2.0 to 5.0km.	More than 5.0km
Demseiniong	1	Umklear / Bihari Colony Slum	Tubewell/Borewell/Handpump/Open Well						0.5 to 1.0km.				
	2	Sukhdev Rai Slum	Public Tap						Less than 0.5kms.				
	3	Dutta Resident Slum	Public Tap						Less than 0.5kms.				
	4	Near Polo Petrol Pump Slum	Tubewell/Borewell/Handpump/Open Well						Less than 0.5kms.				
	5	Demseiniong-III Slum	Public Tap						0.5 to 1.0km.				
	6	Assam Rifles Parmaw Slum Part-A	Public Tap						Less than 0.5kms.				
	7	Assam Rifles Parmaw Slum Part-B	Public Tap						Less than 0.5kms.				

It is note worthy that 58.91% family of Demseining are depended on public tap, 26.36% on tube well/ Bore well and only 8.91 % family possess private tap. On respect of water fetching distance 39.53% family collect water within 500 m and 37.30% have to fetch water from 0.5 to 1 km distance. There is a great pressure on basic services in this locality. Almost 59% population depend on pipeline which is has almost 4 hr water supply per day. Water collection condition can be illustrated by photo plates which indicate pressure on urban amenities.

Normally water fetching distance vary with the availability of water, large people depend on public tap so it is difficult to get water easily by covering few more distance. That is why responds prefer time consuming water fetching with less than 500m water fetching distance.

But it is light of hope that Government of Meghalaya concern about the situation. Department Of Urban Affairs in 2007 prepared CDP and come under JNNURM. Various urban developments schemes are also in process. Rajeev Awas yojna is in survey phase. We hope these all efforts will tackle the problems of urban slums.

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