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Ground Level Survey on Sambalpur In the Perspective of Smart Water

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1. INTRODUCTION

Water is one of the five essentials which compose Nature. Others are earth (soil), space (sky), air and fire. Human Geographers, especially the determinists, believe that these elements of nature also determine the social nature of human beings. The possibility tend to believe that with the help of science and technology man can control nature and make use of or create these elements for its survival and sustenance. In our day to day life we depend on these five elements of nature to assorted extents. In the early days of human civilization these resources (except fire) were in great quantity and there were very few users. As time passed, population increased and the progressive population went for recognized legislations, agricultural modernization, and industrial urbanization thereby increasing competition among people and Nations to possess and utilize these resources for consumption, comfort and commoditization. (Joy et al., 2006).

The scenario of water resources in the earth revels that though the resources are abundant in quantity, the amount of availability is very less. The total volume of hydrosphere of the earth is distributed in the oceans (97.2 %); in glaciers, ice caps and ice sheets (1.8%), ground water (0.9%), fresh water in lakes, inland seas and rivers (0.02%) and atmospheric water vapor (0.001%) (Baboo B, 2009). Ground water and fresh water are useful or potentially useful to humans as water resources. These imply that availability of water for human beings and the flora and fauna is limited. However, most of it is contained in sea and ocean and saline and cannot be put to human use unless treated properly. Desalination process is very luxurious and third world countries would find it difficult. Water, available for human use is a scarce commodity and we cannot survive without it. Hence human beings must sensibly utilize this sweet water. Besides consumption by humans and other living organism for health and sustenance water has several uses in and as irrigation, industry, pollution control, chemical solvent, fire extinguisher, recreation etc. Water is considered a purifier of persons and place in most religions in terms of ritual washing/ablution, immersion, ritual bath of the living and the dead etc. Sometimes people talk of the sacred or holy rivers like the Ganges and the Cauvery in India may be because of its multiple use and description in religious scriptures. Water plays an important role in the world economy as it functions as a solvent for a variety of chemical substances and facilitates industrial cooling and transportation. Approximately 70% of freshwater is consumed for agriculture, 20% for industry and 10% for domestic use (Baboo B, 2009).

Water is a precious natural resource and one of the most essential requirements of all living being. Regions with the highest growth rate are not having access to water both in terms of quality and quantity. Indian cities receive intermittent water supply. From the dawn of human history, water has been an essential requirement for the survival of humans and ecosystems (Biswas, 2006). The colorless, odorless, and tasteless liquid known as water is indispensable for all sorts of growth development of human kind, animals and plants. As water is a key resource and we can never produce more water, water running deserves priority in the development and preservation of any area (Jethoo and Poonia, 2011). India has been always lucky in having plentiful fresh water reserves, but the increasing population and overexploitation of surface and ground water over the past few decades has resulted in water scarcity in many regions of the country. In years to come, water, the need of life, is possibly to pose greatest challenge on account of its increased demand with population rise, economic development, and shrinking supplies due to over exploitation and pollution. In India, with development, the demand of water is increasing both in urban and rural areas. This may create increased tension and dispute between these areas for sharing and command of water resources (Shaban A, 2008).

2. Review of Literature:

The colorless, odorless, and tasteless liquid known as water is indispensable for all sorts of growth development of human kind, animals and plants. As water is a key resource and we can never produce more water, water running deserves priority in the development and preservation of any area (Jethoo et al, 2011). A standard for water was identified thirty years ago. In 1977, the United Nations determined the concept of a water used standard to meet people's basic need for water. "all people, whatever their stage of development and their social and economic conditions, have the right to have access to drinking water in quantities and of a quality equal to their basic needs" (United Nations 1977). There has always been a large disparity in the access to water supply and sanitation of people in different levels of consumption expenditure in urban areas. A large majority of poor people do not get the lowest quantity of water for their daily use but the progressivity in the pricing of water in most of the states and cities and as a result a large portion of this subsidized facility is used by the higher income population. The result in wastage and non-priority use of water (Kundu, 1991).

Disparities for an access to drinking water persisted in rural and urban areas. In the urban areas absence of progressive pricing, a very large proportion of subsidized water was using by the higher income groups. The distribution pattern was more impartial in rural areas in comparison to urban areas. At the organization level pricing be able to be used to reducing inefficiencies in water usage and would help reallocating it to other priority uses. In the rural areas, where most of the households have low incomes to pay for water need to be given high priority in terms of accessibility to clean and safe drinking water (Reddy & M S Rathore, 1993). Residential water is used for household purposes, such as drinking, food preparation, bathing, washing clothes, flushing toilets, and watering lawns and gardens. According to the guidelines for Drinking Water Quality, WHO defines residential water as being "water used for all usual domestic purposes including consumption, bathing and food preparation" (WHO, 1993). Standards for residential water use vary with climatic

conditions, life style, culture, technology and economy. There is no fixed data to estimate the amount of water needed to maintain acceptable of minimum living standard (Zhang, 1999). According to the WHO about 1.8 million people die in drinking polluted drinking water and from diarrhea diseases annually worldwide. The declining trend in the use and provision of basic amenities needs immediate attention at the policy level. The main reason for this decline is the low efficiency in managing resources like drinking water, where distribution and transmission losses are high. Policy-making should also focus on demand-side aspects like increasing water use efficiency, recycling and promotion of water saving technologies (V Ratna Reddy, 2001).

3. Statement of the Problem:

The literature reviewed above reflects that there is no much study on water utilization and consumption pattern. Though, few scholars have done some study on water but they are mostly confining to the demand and supply of water in urban areas. Significantly, very less study has conducted on consumption and utilization pattern of water resources and particularly in urban areas of Odisha. The rapid increase in the population, depleting water resources and improved consumer needs are going to create a difficult situation in urban areas. It creates problem in agricultural sector. Market-oriented development with new needs in sectors like the entertainment industry, the building Industry, new technologies with increasing water needs, improved supply in shopping malls, etc have brought a serious challenge in the case of water distribution in urban areas. The supply of water in the urban areas is going to be a serious challenge in the future. Therefore, an urgent need is felt to develop an inclusive water policy for urban areas which satisfactorily addresses the growing needs of citizens and various sectors. Keeping all these issues in mind the present study made an attempt to explore the problem of water resources in Sambalpur town and also the consumption and utilization pattern of water resources of various households in the study areas.

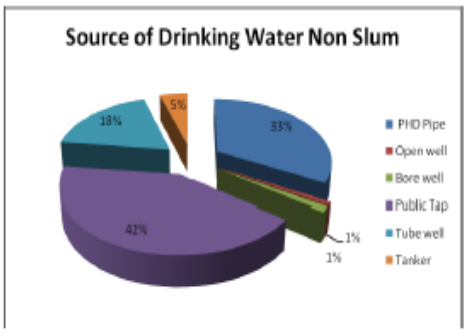
Objective of the Study:

- To explore the issues or problems relating to the water resources in study area.
- Try to understand the utilization and consumption pattern of different household in the study area.

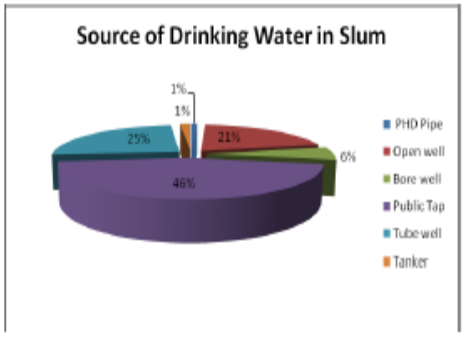
4. Analysis and Findings

During field work it was observed that households living in different parts of the town are facing lots of problem in getting safe drinking water and water for other domestic consumption. There are many thing which leads to wastage of water. People are not aware about the wastage of water. Both the literate and illiterate people are responsible for the problem. Communication plays an important role between Municipality and people of the town. Due to lack of communication between Municipality and households most of the households are not able to conserve the water resources for their consumption. Irrespective of geographical location households from different areas had shown their grievances towards

the irregularity in timing of water supply during field work. The poor piping system and unequal distribution of water have dragged various stakeholders into the land of conflict. One of the most important thing is Municipality provide more water for the industrial uses rather than agricultural uses. Wastage and theft of water and illegal connections and high system loss were observed during field work. It is observed from the primary survey that as high as 40-50 % of both non slum and slum households depend on public stand post. While 2013 Urban Water Policy claims to provide 100% households with piped water connection, the reality differs. The data collected from the field reveals that while around 33% of households in non slum areas are having piped water connection only 1% in slum areas is having piped water connection (Figure No.3.1 & 3.2). It shows that all most all the slum areas households are deprived from safe piped water. The question raised here whether the poverty, administrative incapability or administrative constrains are major constrain in making those vulnerable more deprived. Though in every election they get a big promise from all parties but thereafter they are being neglected because of lack of voice and wealth. During field work people from both slum and non-slum areas show their grievances regarding availability of water and the problem they are facing during summer. They are spending much of their valuable times in fetching safe drinking water. While in slum areas the women are spending around 3-4 hours per day for collecting the water from public taps, women in non slum areas are spending 2 hours per day during midsummer.



(Source: City Sanitation Plan of Sambalpur)



(Source: City Sanitation Plan of Sambalpur)

Fig.1. Source of Drinking Water in Slum Area

District	Population	Source of Water Supply	Total No. of wards covered with piped Water
Sambalpur	195812	1. Hirakud Reservoir 2. Ayodhya Sorabar of River Mahanadi	Fully Covered- 25 Partly- 04 Total- 29

Table No 1: Statement on Water Supply and Demand Status

(*Source: Water supply status in 103 ULBS+2, census towns of Odisha.*)

Rate of Demand in LPCD	Rate of Supply in LPCD	Total no. of Functional HP &TWs	Total no. of Stand Posts

135 litres	218 litres	618	965

Table No.2: Total Water Demand and Supply

Purpose	Amount of Consumption (in litre)	
	Non-Slum	Slum
Drinking	25	20
Bathing	65	40
Domestic	55	40
Gardening	30	00
others	15	25
Total	190	125

Table No 3: Daily Water Consumption of the Households

Location of households	Problems Faced	
	Yes	No
Slum	40	10
Non-Slum	21	19

Table No 4: Distribution of Households on the basis of Problems Facings in Water Supply

Sl. No	Types of Household	Areas	Percentage
1	Non slum	Budharaja	100%
2	Non slum	Ainthapali	100%
3	Non slum	J.M. Colony	99.3%
4	Non slum	L.N. Lane	99.7%
5	Non slum	Dhanupali	99.8%
6	Slum	Durgapali	38%
7	Slum	Tahanlapara	46%
8	Slum	Sahupara	41%
9	Slum	Thelkopara	53%
10	Slum	Kalibadi	39%

Table No 5: Households Satisfaction towards the regularity of water supply

Sl. No	Types of Household	Percentage
1	Non Slum	80.2%
2	Slum	12.7%

Table No 6: Percentage of household Paying Water Bill

Sl. No	Types of Households	Percentage of Household Complained	Percentages of Complain solved
1	Non Slum	38.8	36.2
2	Slum	64.2	16

Table No 6: Percentage of complain registered and solved by the higher authority

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