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Water Scarcity on Human Resources in Gumel Local Government Area, Jigawa State, Nigeria

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Abstract
This work aimed at finding ways to minimizing the effect of water scarcity in human resources in Gumel local government area of Jigawa state. In carrying out this work two types of instrument were used in collecting data i.e. the personal interview and questionnaire. Based on the above finding the habitants should make use of mechanical and chemical measures to sterilize the water gained from local sources. Thus, the significant of this work is that, it serves as useful education document for the entire people of Jigawa State Nigeria and as a useful reference to scholars.

Introduction
Water is the vital resources for human and animals consumptions, universally, man plant and animals need water. Therefore, the provision of water is indispensable and integral conferment in upgrading the quality of life in any human society as well as the plants species.
It was agreed that all people whatever their stage of development and their social economic condition have the right to have access to water for their basic needs.
Without water life is impossible because, animals and plants could not grow (Riyard 1990), human consumption of water every day for adult four to five liters for his body to work successfully. All these include the water in his foods as well as the water that he drinks (Ahmed 1999).
On the other hand, water is the backbone of every human activity like building, construction of roads, agricultural activities, (e.g. farming, irrigation, fishing and rearing of animals both small and big ones).
Running of institutions like hospitals, schools both primary, secondary and tertiary institution and need water. Even students would find it difficult to concentrate in their academic activities if water is not available. Business activity is another sector in human activities that requires water for achieving the goals of that business. For example dying which are the oldest human activities for the peoples of Nigeria need water. Also local soup ingredient such as Daddawa is another important economic activity among the Hausa Communities.
Scarcity of water affects the life and the health of people in many ways like drinking, cooking and washing of clothes and plates, sewages disposal etc
The scarcity of domestic water supply is glaring and severe in the rural areas.
Today about 1.1 billion still live without improved water supply and not surprisingly most of these people are poor in the world and with poorest health (UNICEF conference, 2002).
Globally it is estimated that about 75% of the planet (earth) surface is covered by water yet only 2.5% of the water is fresh, and only 1% of the fresh water is accessible in the form of ground water and surface more importantly only one third of accessible water can be used.
World health organization (WHO) estimated that 1.2 million people lack a satisfactory or safe water supply.
The earth is divided into two, fifty percent (50%) of water and the reaming fifty percent (50%) of land is divided into two, twenty five is cultivated and the remaining 25% is where people live and carryout different activities.
In developing countries like Nigeria, many people lost their lives as a result of scarcity of water. People were drinking polluted water from Streams, Rivers, ponds, shallow well, and shallow pond in their farms (fallow) and in their surroundings. Tobi (2011), said that, 10% of the disease in developing countries are cause by contaminated water and poor sanitation measure. People were poor; since their economic activities were poor they were facing series of problems in their day to day activities. Boreholes provisions are not easy for common man to construct.
In some areas the depth of a well can take twenty to twenty five meters below the plain. These force some people to drink any water they found from any water body especially in rural areas.
Water scarcity is a great problem among the population of the world not only Africa or Nigeria a world health organization (WHO) conducted a survey on the availability of portable water in sixty seven developing countries (Muhammad 2002). Showed the following in urban communities only 57% of the population had house connection, while 18% have reasonable access to stand pipe making total of 75% or 390 million people. While in rural area only 20% of the population or 248 million people have reasonable access to safe water, if both rural and urban population is considered together only 35% of 618 million people were adequately served with portable water.

From the above information, sixty five percent (65%) of the world population were facing water shortage, especially rural areas where eighty percent (80%) faced water shortage problems in the world.

Statement of the problem

The following research questions have been formulated:-

1. What are the main problems of shortage/scarcity of human activities?
2. What are the main problems confronting the water shortage on human activitie?
3. Will water scarcity positively or negatively does affect the activities of human?
4. For how long the water can be fetched?(i.e the distance)
5. By what quantity water is required?
6. Do people purchase water from vendors?
7. Do they construct wells or reservoirs?
8. What measures to be taken for the solution of these problems?

Aims and objectives

1. The aims and objectives of this work is to find out how water scarcity affects human activities
2. To find out the approximately distance of the water sources from the town
3. Find out major resources of drinking water for the people
4. To relate items spent on water fetching on human activities
5. To know the various ways of finding solutions to these problems
6. To identify which wells among the others best and suitable.
7. To know for how long that the problem been existing among the people

Justification of the work

It's important to know that, the work is significant by the following ways;

i. It would serve as useful education document for the entire people of Jigawa state and Nigeria in general
ii. It would also be useful as a reference to scholars.
iii. It would enable the people of Gumel and its surroundings to reappraise their role in upbringing the development of adequate potable water to their area.
iv. It also help to serve as an insight to those in authority.

Material and methods

The work is carried out through preliminary studies and distribution of questionnaire for administering. The main motive of this research work is to assess the extent of the effect of water scarcity of human activities in Gumel together information.

Sampling and sampling procedure

This work as earlier identified focus on the effect of water scarcity of human activities in Gumel area. Thus, the Gumel people were selected to be the source of information. A designed questionnaire method was employed for the work.

One hundred and twenty (120) people were selected out from the total population of the study area which makes about 20% as suggested by Afiosorf (2004). Each one was given an equal opportunity so as to be able to respond what he was expected in the questionnaire

Instrument for data collection

This data was collect through structured questionnaire designed by the researchers, which consisted of two parts part one concern with personal information of the respondents, while the other part concerned with the questions of multiple choice types.

Method for data collection

The researcher should use one number of the household to respond the questionnaire. The technique in this system like been said one hundred and twenty person was selected to respond questionnaire on this research work

Method of data presentation and analysis

The questionnaire was sorted out to the extent that the respondent ticks were appropriate. About one hundred and twenty questionnaire were use distributed, some of these questionnaires were not returned and some wrongly filled.

The correct ones should be taken, and the sample percentage techniques of the data collected, and the data were presented in tabular forms.

Results and discussion

The data collected shows information such as age, occupation, sexes, and the purchase of water from vendors, the quality of the purchase of water, distance between water source and the house of the respondents, prices and the number of hours wasted during collection.

Finally, water demand and supply have been identified in liter per day and per capital as well as households rate of satisfactory or not by the respondent on water requirement in a day is also identified.

Presentation and analysis of the data

Table 1: Age, gender and marital status of the respondents

Age ranges	**Gender**			**Marital status**	
	Respondents	Male	Female	Married	Single
20 – 30 yrs	27	25	2	18	9
31- 40 yrs	23	18	5	23	-
41 – 50 yrs	25	18	7	25	-
51 – 60yrs	18	15	3	18	-
61 – 70yrs	11	9	2	11	-
71 – above	2`	2	0	2	-
Total	106	87	19	27	9

Source field work 2003

The data analysis clearly shown that the age ranges from 20yrs to 30years are 25% of the respondents, while 31 – 40 yrs has 22% and 41 – 50 yrs with 17% where 61 – 70 yrs of the respondent with only 10% and the remaining 2% fall under 71 yrs and above

The respondents are mostly males who constituted 82% of the total population, while the remaining 18% are females. Also most of the respondents are married. This group has a very large percentage of 90% while 8.8% are not married. This means that more water is required for the population because couples require more water than individuals (table 1)

Table 2: level of education and occupation of the respondents

School attended	No of respondent	%	Occupation	No of respondent	%
Primary school	28	Farmer		39	
Secondary school	32	Civil Artisans		17	
Tertiary	16	Servant		22	
None of the above	30	Traders		6	
Total	106	Total	106		

Source filed work 2008

Level of education

Data analysis clearly showed that 26.41% respondents attendant only primary school. 29.24% attendant secondary school 29.24% was not attendant any one of the above schools.

On other hand 37% of the population are not combining farming with other activities. 16% are artisans while 20.50% are civil servant. Other are traders with 6% and 20.50% doing other activities (table 2)

Sources of water, distance and number of hours

The analysis clearly showed that, the numerous alternative sources of water to the people at Gumel area 57% of the total respondent use tap water, while 11% use boreholes, open well has 17% and other untapped with only 2% and river with remaining 12% respectively (Table 3:)

The distance between house and water sources is also shown in this table 16.07% traveled between 1- 3 meters, while 28.30% track the distance of 50 – 100 meters before they fetch water for their domestic uses. 54.71% of the respondents use to travel to more than 100 meters to have access to water surfaces.

This table shows the number of hours spends by the respondents. About 58% of the respondents spend between ½ - 1 hr before they could get water for their need. While 36% spend 2 – 3 hrs and 7% spend 4 above hr for that purpose (table 3:)

Table 3: showing source of water, distance and number of hours

Respondents	Sources	Distance	No of hours spent
9	Tap	1-30mts	½
4	Tap	1-30mts	2-3hours
9	Tap	50-100mts	½ - 1hrs
7	Tap	50-100mts	2-3 hrs
1	Tap	50-100	4hrs
23	Tap	100 and above	½ - 1hrs
9	Tap	100 and above	2 -3 hrs
1	Borehole	1-30mts	4hrs
2	Borehole	50 -100	½ - 1hr
3	Borehole	50-100	2 – 3 hrs
5	Borehole	100 and above	2 – 3hrs
1	Borehole	100 and above	4 hrs
1	Open well	1-30mts	½ - 1hr
1	Borehole	1-30mts	2-3hrs
1	Borehole	1-30mts	4hrs
5	Borehole	50 – 100	½ -1hr
1	Borehole	50 – 100	2 – 3 hrs
5	Open well	100 and above	½ - 1hr
3	Open well	100 and above	2 – 3hrrs
1	Pond	50 – 100	½ - 1hrs
1	Pond	50 - 100	4hrs
1	Pond	100 and above	½ - 1hrs
1	Pond	100 and above	2 -3 hrs
5	Pond	100 and above	½ - 1hrs
4	Pond	100 and above	2 -3 hrs
2	Pond	100 and above	4hrs
Total			

Table 4: water demand and supply

Respondents	Water demand	No of liters	Total difficult
4	120	140	-
24	1440	840	600
41	3280	1435	1845
1	60	80	-
22	1760	1760	-
14	1120	1540	-
Total	7,780	579	2,445
Mean	**730**	**54.7litres**	**22.u7litres**

The analysis of the data showed how water is distributed in Gumel. The result also shows that 106 respondents need about 7780 liters per person per day, which indicated water requirement of 73.4 liters per day but they able to get only 5795 liters. The different between demand and supply here is 1985 liters of water, which individuals difference of 23 liters. (table 4:)

Table 5: water price and quality from vendors

Respondents	Unit price per 20ltr	Quality	Percentage
5	5N	Clean	4.71
2	5N	Contain algae	1.88
71	10N	Clean contain algae	66.98
15	10	Clean contain algae	14.15
11	15		10.37
2	15		1.88
Total = 106	Mean price = 10.23		

Summary conclusion and recommendation

The aim of this chapter is to summarize the introduction of the study area, scope and limitation, back ground of the problem and some review of the literature of the area, population and water bodies in the area is also need to

be looked into the other variables are methods and instrument for data collection should also be put into consideration as well as result and analysis of the data.

Summary

The effect of water scarcity in human activities in Gumel area is the oldest problem. People did not dig open well. The population of Gumel area was over 26 thousand people in 1991 national census with nucleated pattern of settlement

Taps boreholes are the major source of water in the area as well as some open wells. The random sample technique was used the data was collected through structure questionnaire, in the process of collecting and analyzing data was discovered that more time is wasted in the process of fetching water, and unit price per 20 liters. However from the perspective of the find the respondent's feedback, the pressure of water requirement is increase due to the compact nucleated nature of settlement and the large number of couples in the area.

Conclusion

Water can no longer be considered as a free social service because it is becoming increasingly scarce due to the increase in the demand. It is been established from field investigation that, some areas get water in large quantity, but others in small amount, while some did not received single drop of water in taps. This problem became similar with research conducted in Mubi north local government (2002) where people on boreholes and taps as well as water buying form water hawkers

It is also similar with research conducted in Turbus town in Maigatari local government area of Jigawa State. The study has revealed with hand dug well and water hawkers are the two major sources in which the majority of the population depends for their water supply. The fact athwart, these problems are militating against socio-economic development of the people in the area. Among the questionnaire many respondents have brought encouraging idea towards easing an acute shortage of water. Their suggestions were categorized into the following groups or stages.

1. Those who get water supply for about seven hours a day to satisfy their needs should allow other people to fetch water from their houses. Since their houses have connected with pipe born water and they are situated at the southern part of the market where the water is drained.
2. Those with modern supply of water and pay their needs without Surplus of water
3. Those who get supply of water due to presence of electricity that they cannot get water supply without electricity.
4. Those who do get tap water all neither machine use nor electricity those people differ from others they are saying that government should construct more boreholes than to fuck the machine.

As the researchers said earlier, a respondents' call on government to make full availability and repair the machine. This is the view of those that depend on tap water. Therefore, I should call the attention of people living in Gumel area that time has changed. They should not wait for government to provide all their needs most especially the component of life (water). Also people use water wisely in all their activities. They most therefore face the challenges and make water available to the area through communal efforts.

Government should also ensure that all the machines should be put in order as well as supply of fuel in a large quantity to the machine for better result of supplying water in various area of the market. In another development, the introduction of water meters as done in some countries will reduce water shortage, misuse and have the advantage of determining and monitoring water usage as well as leakage in the water distribution system.

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