The Role of WASH in Livelihood Security: Challenges and Opportunities in the Case of Bora Woreda

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ACKNOWLEDGEMENT

- Catholic Relief Services CRS, Matt Davis, Art Kirby, and Katherine Cunliffe. For their technical and financial support.
- Million Water Alliance-CNHF: Rafael Callejas, Susan Dundon and Daniel Smith. For their technical and financial support.
- University of Okloham, David Sabanti and Jim F. Camberlain for giving me opportunity to attend 2013 OU Water Conference.
1. INTRODUCTION

Access to safe water is among the top priorities in almost every region in Ethiopia.

- Only 42% and 17% of rural households have access to potable water and improved sanitation facilities respectively (Baseline Survey for National Nutrition Program, Ethiopia, 2009/2010).
- Access to WASH facilities is far below the above figures in the study area (Bora woreda/district)
- The causes for low access rates lack of awareness, complex hydro-geological conditions, lack of resources and a conducive environment to develop the appropriate infrastructure, and environmental degradation.
- These low access rates contribute to high water-borne and fecal-borne disease incidence, skin and eye diseases (Demographic and Health Survey (DHS, 2005)).
Location of Study Area
2. PROBLEM STATEMENT

- In the woreda there are 21 deep boreholes and out of these 29% was non-functional in the same year reported for the zone considering only the physical functionality.
- Over 90% of the water sources developed have high fluoride content that is more than 4 milligram per liter, where 1.5 milligram is maximum permissible limit for drinking water (WHO 1996).
- Limited Awareness on implementing behavior related activities including sanitation, hygiene and water quality.
Health impact of high level fluoride in Water

- Affects human health resulting to the extent of crippling
- Affects social value (mainly discoloration of teeth develops shame, reduces beauty mainly for females)
- Weakens bone and result in reduction of energy which largely affects production
- Elders claim that it also affects fertility
Dental Floursis

Skeletal Floursis
3. OBJECTIVE

The main objectives are to:

- explore the existing water supply schemes in the study area;
- assess the technical, social and institutional factors that hinder the impacts of rural water supply, sanitation and hygiene in the study area;
- assess the impacts of rural water supply, sanitation and hygiene on the livelihood of the user communities in the study area;
- assess factors hindered communities from using innovative technologies (Defluoridation);
- assess the quantity of water used by households in relation to proximity of water sources and its socio-economic and health impacts;
Research questions:

- What are the types and status of rural water supply schemes in the study area?
- What are the technical, social and institutional factors that hinder the impacts of rural water supply, sanitation and hygiene on the livelihood of the user community in the study area?
- What are the impacts of rural water supply, sanitation and hygiene on the livelihood of the user communities in the study area?
- What are the factors that hinder communities from using innovated technologies?
4. RESULTS/FINDINGS

4.1. Socioeconomics Characteristics

Agriculture:

- Farming  93%
- Trade     4%
- Crafts    5%

Total       100%

Income annual: From crop 69% and from livestock 31%
4.1 Water and Sanitation

- 77.6% of the total sampled households in all villages collected water from surface water and only 17% improved latrine.

- The same household survey study indicated that target communities spent a median of 291 minutes (range 80.1 – 467.8) to travel to and from their houses during dry season, including waiting time; during the rainy season that time was reduced from 80.1 to 58 minutes.

- The median distance to primary water sources was calculated to be 9 kilometers` (range 2.7 – 15.6 kilometers) during the dry season and 1.9 kilometers during the rainy season. The target communities relied on surface water for 5 months during the past year.
4.3 Education

The study shows that about

- 58% of the respondents were illiterate and
- 8% the respondent households can read and write having basic education in the study community. It was found that the illiteracy rate in the study area was very high.
- School drop out mainly for girls is very high. This is mainly related to poor sanitation facilities and absence of water both for school and community
5. THE IMPACTS OF WATER SUPPLY ON LIVELIHOOD OF PEOPLE IN BORA WOREDA

- Forty eight point four percent (48.4%), 36.1% and 15.5% of the respondents indicated that the major problems in their include spending more time in fetching water, problems related to water borne diseases and high drudgery for women & children to fetch water respectively.

- Looking only from domestic use perspective, 10.5%, 55.9 and 33.4% of the respondents confirmed that the developed water sources saved more time available for productive activities & more social & domestic activities, improved health of family members, and relieved drudgery for women and children respectively. This implies access to safe and adequate played multiple roles in the livelihood of the community.
In general:

- About 36% of respondents asserted that they experienced changes in livelihood following water supply interventions (22% claimed increased income and 14% increased livestock productivity).

- Similarly, 57% of the respondents’ asserted that the health of family members had been significantly improved after they started to use improved water supply.
Interviewee responses as to why water sources were needed in terms of time, health, and workload:

<table>
<thead>
<tr>
<th>Activity Description</th>
<th>#</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>More time were spent to fetch water</td>
<td>47</td>
<td>48.4</td>
</tr>
<tr>
<td>Problems related to water born diseases</td>
<td>35</td>
<td>36.1</td>
</tr>
<tr>
<td>Drudgery for women &amp; children to fetch water</td>
<td>15</td>
<td>15.5</td>
</tr>
<tr>
<td>Total</td>
<td>97</td>
<td>100.0</td>
</tr>
<tr>
<td>Missing</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>
Interviewee responses on benefits gained from improved water supply

Interms of health, women work load, time and other

<table>
<thead>
<tr>
<th>Description of Activities</th>
<th># R</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>More time is available for productive activities &amp; more social &amp; domestic activities</td>
<td>10</td>
<td>10.5</td>
</tr>
<tr>
<td>Health of family members has improved</td>
<td>55</td>
<td>55.9</td>
</tr>
<tr>
<td>Relieved drudgery for women and children</td>
<td>33</td>
<td>33.4</td>
</tr>
<tr>
<td>Total</td>
<td>98</td>
<td>100</td>
</tr>
<tr>
<td>Missing</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td></td>
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</tbody>
</table>
Interviewee responses on the impacts of improved water supply in terms of income, human health and livestock

<table>
<thead>
<tr>
<th>Description</th>
<th>#R</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household income has improved</td>
<td>20</td>
<td>20.6</td>
</tr>
<tr>
<td>Health of the family has improved</td>
<td>66</td>
<td>68.0</td>
</tr>
<tr>
<td>Productivity of livestock has improved</td>
<td>11</td>
<td>11.3</td>
</tr>
<tr>
<td>Total</td>
<td>97</td>
<td>100.0</td>
</tr>
<tr>
<td>Missing</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
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</table>
FOCAL GROUP DISCUSSION (FGD)

- It created moral satisfaction to the user community and improved the childcare of mothers.
- It relieved the drudgery of women and empowered them economically by having
- Water at home for livestock and generating income from selling the livestock.
- It increased the participation of women in political and social activities in some kebeles.
KEY INFORMANTS

Domestic
Time saved, workload reduced, health improved

SSI Irrigation
Production and HH Income increased
CONCLUSION

The study indicated that:

- improved water and sanitation had a significant impact on people’s wellbeing as well as the management of water supply systems through involvement of the community during planning, implementation and monitoring supports.

- Involving community members brought new insights into long term sustainability of water supply and sanitation systems.

- Impacts observed included significant improvements in household income and livelihood security, increased school attendance with better child care, social and cultural benefits such as reductions in stress levels, increased status and self-esteem, better family and community relations, and increased ability to observe religious rites and customs.
Recommendations

The study identified areas that need further intervention and research. As a result the following are recommended:

- Institutional capacity building,
- Maintenance and operation,
- Strengthening of community involvement,
- Selection of appropriate technology, (deflouridation)
- Rain water harvesting: this source is high potential and should be considered at all level (institution, community, and household).