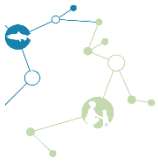
PILOT STUDY REPORT

Project: Wash from the start: Local conditions for children's access to water



1. EXECUTIVE SUMMARY

Tanzania being one of the countries in the global south, many studies on access to clean and safe water following the Sustainable Development Goal 6 set out are being conducted. Findings from those studies have consistently documented the water sector as continued struggle in the country. However, the empirical reports do not indicate the local conditions for children's access to water. The main purpose of this study was to collect and analyse information to identify children access to water, sanitation and hygiene (WASH), understanding of water and local conditions underlying its uses.

The study assessed the availability of water sources at school compound; the distance from school and or home to water sources, children understanding of water in urban and rural backgrounds in Mainland Tanzania. A mixed–method research approach was employed.

A total number of 240 preschool children and 20 preschool/kindergarten teachers were involved in the study. The data were collected using structured interview for preschool teachers, observation tool and preschool children's drawing analyses, field notes as well.

Findings indicated that there are blockages that hinder children access to water, sanitation and hygiene in both urban and rural areas. Children's understanding of water is limited with less use of water resources in teaching and learning processes. Moreover, the scarcity of water sources and poor water system available in most of areas were pointed out as the main hindrances for children's access to water.

These findings have implications for modification of the main study to be carried out in the region.

2. BACKGROUND

- BACKGROUND INFORMATION ABOUT WORLD AND NATIONAL PROJECT

Water is the most important resource in all spheres of human development. Water as a global resource, it has many uses ranging from domestic to industrial sectors. For domestic uses, there should be clean and safe water and improved sanitation and hygiene services in order to eliminate the likelihood of the eruption of water-related diseases. Limited or no access to clean water and sanitation has important health implications, particularly for children(Ly, Pierce et al. 2022). Young children who are consistently exposed to unprotected water sources that have been contaminated by fecal matters are often affected by life-threatening diarrhea and other water-related diseases (Usman, Gerber et al. 2019). In areas where there is limited or no water sources, children and women spend most of their time looking for water resources. Searching for water sources is a daily chore for over 2 billion women and children across the globe, who spend more than six hours each day hauling water from various sources to their homes (Unicef and UNICEF 2016). There were multiple negative effects associated with water scarcity on the provision of ECCE, including: less joyful learning, disruptions of study time, eye diseases, skin diseases and diarrhoea (Mtahabwa 2018).

WaterAid and Save the Children, Finland (2010) contends that in a regular WASH programme, children are often seen as agents of change and, in the name of child participation, very often end up being burdened with disproportionate responsibility.

Access to water sanitation and hygiene is a global agenda. Increasing access to improved drinking water and sanitation services is one of the MDGs that Tanzania, along with other nations worldwide, has adopted, and one of the current SDGs that Tanzania has also ratified. Goal six of the SDGs emphasizes the need for "access to adequate and equitable sanitation and hygiene for all". MDGs have been translated into the local context through MKUKUTA of which targets aim at increased access to clean, affordable, and safe water, sanitation, decent shelter, and a safe and sustainable environment, thereby reducing vulnerability to

environmental risks (URT, 2010). The current Tanzania Development Vision (TDV) 2025 is intimately linked to the availability of sufficient water resources (USAID, 2020).

The study focuses on local conditions for children's access to water in Tanzania and other nations from around the world. This will also help to identify different practical conditions put into use from one country to another and how they infringe the rights of children's access to water.

- SHORT RATIONALE OF THE PROJECT IN MY COUNTRY-TANZANIA

Findings from various recent studies in Tanzania about water resources and landscape indicates that distance; fewer water points and dirty water are among the main challenges rural communities face in accessing clean water. In other hand, cost and irregular supply are the main challenges for urban Tanzanians. However, 40 percent of its population, some 21 million people, lack access to improved drinking water and more than double that figure, almost 43 million people, lack access to improved sanitation (World Bank, 2018). Water collection is still a time consuming exercise and remains primarily the responsibility of women and children.

This study will have a great role to play to individual preschool children. Children benefit a lot for their health and welbeing, enjoy learning and develop as a whole if they live in a place where they can access clean and safe water, improved sanitation and hygien. As such, from experiencing the prevailing conditions for them to access water, sanitation and hygiene they will become agents of change in their adulthood as they develop contrasting perspectives on the existing situation.

Moreover, the study will be significantly important to the government of the United Republic of Tanzania executive bodies, policy makers, individual preschool teachers and other stakeholders to focus on conditions that tend to impede preschool children's access to water; use of water resources in teaching and learning as well.
This study calls for curriculum developer in collaboration with curriculum implementor and other stakeholders to closely advise the government on amendments of the existing education policy so as to accommodate provisions addressing the rights of all preschool children access to water, sanitation and hygiene (WASH).

- PARTNERS IN THE PILOT STUDY

The national team in partnership with a Local Non-Governmental Organisation namely Tanzania Early Childhood and Community Development-TECD worked together in obtaining

various documents and data required for the project. The partnership developed was not legally affirmed as there are no supporting documents being issued.

3. METHODOLOGY AND PROCEDURES

In Tanzania, the study used stratified sampling to select schools. Data were collected from five regions whereby five schools from each were selected. For the purpose of ensuring that there is equal opportunity for every preschool child to participate in the study, the study used a simple random sampling method to select them. About 240 preschool children were selected from twenty five schools (our target was to get 100 preschool children from each region).

To obtain an understanding of the children's access and understanding of water resources and landscape, 20 preschool teachers were selected– one preschool teacher from each school was selected basing on permanent and pensionable employment category.

To make the study hold a meaningful content, as it is typically qualitative in nature, we developed observation tool and interview questions for preschool teachers in regard to our context to get understanding from sampled respondents with contented experiences of preschool children teaching and learning.

Data Analyses

To determine children understanding of water resources and landscape, their drawings were collected and sorted into two groups; the first group for children drawings which can be clearly interpreted as children understanding of water and the second group for children drawings which cannot clearly be interpreted as children understanding of water.

To identify covariates for availability of water, frequencies and correlations among the variables were manually calculated.

Content analysis approach was used to analyse the qualitative data. The data were collected in Kiswahili, transcribed then translated from Kiswahili into English. The data collected were subjected to descriptive analyses which involved a systematic set of procedures by coding and classifying them to ensure that the important constructs and theme emerge. Themes were organised into theoretical constructs which were later developed into theoretical narratives to bear a link between the focus of the study and participants' experiences.

4. TANGIBLE AND INTANGIBLE OUTCOMES

- Examples of photos children's drawings, maps, descriptions, didactic descriptions of what have been done, field stories

Below are examples of children's drawings from where data were collected.

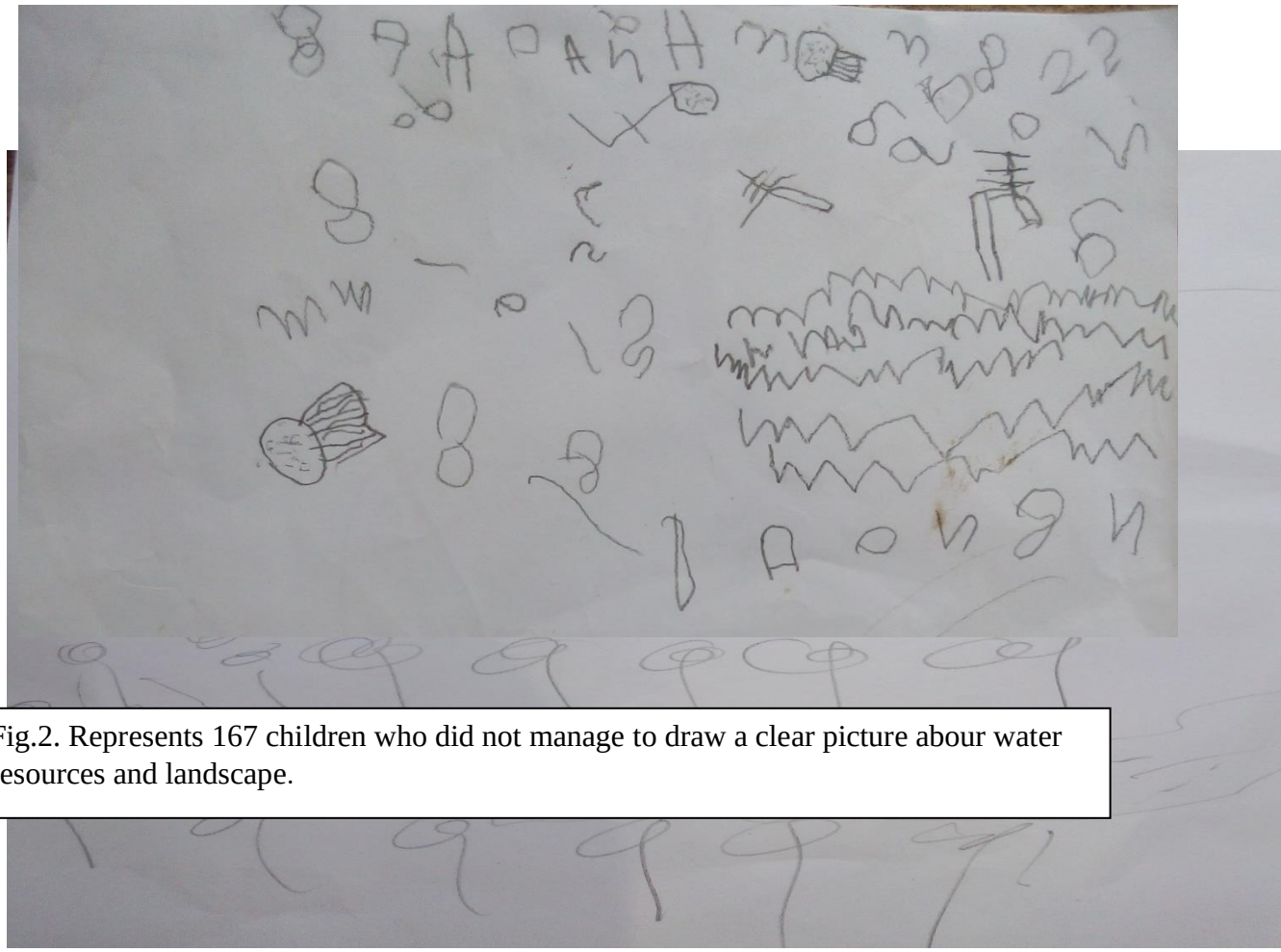


Fig.2. Represents 167 children who did not manage to draw a clear picture abour water resources and landscape.

- THE OUTCOMES OF THE PILOT WHICH WERE SEEN AND NOT SEEN

Fig.1. Represents 73 children who were able to draw pictures about water sources and landscapes. Pictures drawn are indications of children's understanding of water and where water is accessible. In the picture there is water tap, ground water well and river.

schools there were a number of preschool children in one class ranging from 100 to 200 children and the sole teacher with no early childhood education profession. Five schools were having less than 100 preschool children in a single class. More interesting; in some schools there were no permanent employed teachers who teaches in kindergarten/preschool class.

Moreover, 73 out of 240 preschool children which is 30.4% of the sampled children were able to draw a picture which can clearly be interpreted as children understanding of water resources and landscape whereas 167 out of 240 preschool children which is 69.5% of the sampled

children were not able to draw a picture that can clearly be interpreted as a representation of children understanding of water.

Likewise, 20 preschool teachers were employed in the study. Teaching pre primary class in most schools is considered as a role of female teachers. Among 20 teachers who were involved in the study only 04 teachers were men, the rest were female teachers with ages ranging from 30-55 years old. The observation made determined that there is no permanent teachers for preschool class in almost all schools visited. Teachers who were interviewed are below two years of experience teaching in preschool class.

Basing on the interview questions asked; 09 teachers which are 45% of the sampled population explained about their preschool children understanding of water; they gave out children's specific practice in regard to water uses for children. They also explained conditions that hinder children access to water which includes: parent's restriction on children from water collection in school, scarcity or lack of water sources nearby school compounds and poor water systems available in their areas leading to the establishment of strict rules for children's access to water. The rest, 11 preschool teachers which is 55% of the sampled population explained their preschool children understanding of water in terms of domestic chores uses. Climatic conditions of a particular place were mentioned as a contributing factor in setting some conditions for children's access to water.

On the other hand the observation were made through 25 primary schools whereas identified 11 schools located in urban and the other 05 schools located in rural areas were having some water taps though no regular water available. The remaining schools depend on either, ground water wells, rivers and seasonal dams which are far away from school or home for about 2 to 5(estimated) kilometres. The study also observed children playing around water sources, miss use of available water with no reason.

In all schools there were no water tanks/reservoirs that were found, no drawings indicating water resources and landscape in schools, no use of water resources in teaching and learning processes, children participation in water reservation as well. The observation being made did not manage to see schools practising any being water purification process in order to ensure that there is clean and safe water for children drinking at school. In other hand, there is no collaboration between parents and teachers in facilitating children understanding of water resources and landscapes.

- WHAT HAS BEEN ACHIEVED AND NOT ACHIEVED,

Things that were achieved

Our national team managed to develop tools for data collection which are: observation tool and interview questions for preschool teachers that helped in collecting data from twenty five (25) schools, 10 schools from West Zone and five from each zone for Lake Zone, Coastal Region and South Highlands zone. We also managed to get four (04) research assistants who were willing to work as volunteers in data collection. Moreover, this pilot study employed 240 preschool/kindergarten children and 20 preschool teachers from the mentioned regions.

THINGS THAT WERE NOT ACHIEVED

Since Tanzania is a big country with an area of 947,000 square kilometres has a population of about 61,741,120 people who live in different geographical areas and climatic conditions from region to region. The study was supposed to collect data from at least all regions so as to generate data from more diverse contexts. The study failed to achieve data from Northern Zone and Central Zone due to limited budget and time.

The study also supposed to employ large number of preschool teachers (at least 10 from each zone) and preschool children (at least 100 from each zone) but ended up getting 20 preschool teachers and 240 children leading to a small size of sampled population.

The study did not test children's understanding of water using simple structured (closed-ended) questionnaire. Drawings merely were referred to in determining their understanding of water resources and landscapes.

Besides, the study did not manage to get field stories from children of 0-8 years old as they were not able to express themselves.

Moreover, parents were not involved in the study to determine their understanding on conditions for children's access to water in their community.

The study did not carry out documentary review to determine the local conditions for children's access to water, sanitation and hygiene in their respective community.

Lastly, the study did not manage to interview school head teachers on children's access to water and measures taken to ensure that there is regular supply of clean and safe water.

5. FORMATIVE ASSESSMENT (PICKED UP FROM FIELD NOTES, INFORMAL DIALOGUES AND GROUP CONVERSATIONS) FROM THE PERSPECTIVES OF:

- Children

Drawing for children was an enticing activity. Though they (children) sit on desks that are not of their size (no child sized furniture) they were interested in participating in the study. The number of children on one desk was more than four (04). The prevailing situation acts as a handicap for children teaching and learning process. Teachers do not use water as a teaching resource leading to children failure to conceptualize water resources and water landscapes.

- Staff

Education officers and teachers in most of schools we visited welcomed and accorded us with necessary assistance where required. No unethical practices were experienced from any of the person being a staff member of a particular office. Some teachers claim to have no enough knowledge or skills to facilitate learning of young children

- Researchers

Many studies focus on children's access to clean and safe water, improved sanitation and hygiene (WASH) at school in general. They don't focus on local conditions for children's (preschool children in particular) access to water.

- Others

Other stakeholders hold the view that, in Tanzania, pre primary children are not involved in any school activities like collection and reservations of water due to their age level. Lack of lessons about water for early year's children contributes much for their failure to value water sources and landscapes. That is why you find children playing around water sources. While at school the only thing that counts for them is to be taught how to master cognitive skills (reading, writing and arithmetic) merely. They also believe that this study will bring some changes in people's perspectives about preschool children participation in protecting water sources and landscapes.

6. SUMMARY OF THE MAIN OUTCOMES AND WAY FORWARD

It can be concluded that children's access and understanding of water resource and landscape vary from one place to another within the context of Mainland Tanzania. In most areas there is scarcity of water sources and or poor system of water services leading to the infringement of children's right to access clean and safe water.

As a result of the pilot study, researchers managed to identify the need to modify our toolkits by adding some items on the observation tool and improve the research design which will inform the substantive study.

The study should not rely on data to be collected using children's drawings, observation/field notes and preschool teachers' interview merely, rather there should be questionnaire for preschool children and interviews for head of schools and parents on children's access and/or understanding of water, sanitation and hygiene — how they ensure the availability of safe and clean water at schools and home respectively.

In addition, there should be some guidelines/instructions on taking field stories in relation to children's access to water, sanitation and hygiene. Such understanding and modifications may not have been well achieved without giving such detailed attention to the pilot study.

It is our hope that the project team will use this information to make some modifications of the main study to be carried out thereupon.

REFERENCES

Ly, A. M., et al. (2022). "Revisiting the Impact of Clean Water and Improved Sanitation on Child Mortality: Implications for Sustainable Development Goals." Sustainability **14**(15): 9244.

Mtahabwa, L. (2018). "Early childhood care and education in waterscarcity villages in Tanzania: The Case of Ng'hong'onha Village, Dodoma." Journal of Humanities & Social Science **7**(1).

Unicef and UNICEF (2016). "Strategy for water, sanitation and hygiene 2016-2030."

United Republic of Tanzania (2010) National Strategy for Growth and Reduction of Poverty II: Ministry of Finance and Economic Affairs. Dar es Salaam, Tanzania

Usman, M. A., et al. (2019). "The impact of drinking water quality and sanitation on child health: Evidence from rural Ethiopia." The Journal of Development Studies **55**(10): 2193-2211.

WaterAid and Save the Children Finland (2010) Child Rights Based Water, Sanitation and Hygiene (WASH) Promoting the Survival and Development of Children. The Ministry for Foreign Affairs of Finland. https://www.ohchr.org/sites/default/files/Documents/Issues/Water/Participation/WaterAid5

APPENDIXES

1. OBSERVATION TOOL.

OBSERVATION GUIDE

A. PRELIMINARY INFORMATION

Researcher's Information/Code: …….

Starting time…….. Ending time……

Region…….……

District…..……...

Name of School…….....

Ward ……...

Number of children in the class: Boys: …….. Girls: ……. Total: …….

Number of teachers who teach pre primary class: ……..

Teachers' highest level of education: ……..

Visiting Date ……

B. AVAILABILITY OF WATER

- Distance from school to nearest water source (estimated in kilometers) ……
- Average distance from children's homes to nearest water source (estimated in kilometers)……..

DESCRIPTIONS:

1. Represents the availability of water source or particular item(as mentioned) at school surrounding
2. Represents the absence of water source or particular item(as mentioned) at school surrounding

ITEM DESCRIPTION	AVAILABLE(1)	NOT AVAILABLE (2)
i. Availability of water taps		
ii. Availability of well		
iii. Availability of river(s) or lake		

iv.	Water tanks/reservoir		
v.	Children holding bottles for drinking water		
vi.	Availability of Tippy tap		

C. UNDERSTANDING OF WATER AND CONDITIONS UNDERLYING ITS USES

DESCRIPTIONS:

√ Represents YES

× Represents NO

ITEM DESCRIPTION		YES (√)	NO (×)
i.	Drinking of dirty water		
ii.	Playing around water sources		
iii.	Misuse of available water		
iv.	Drawings indicating how children access water		
v.	Drawings indicating stages of cleaning hands		
vi.	Pictures showing different uses of water		
vii.	Posters indicating children prohibition from fetching water		
viii.	The use of water resource in teaching and learning		
ix.	Participation of children in collection of water		
x.	Participation of children in water reservation		

2. INTERVIEW QUESTIONS FOR PRESCHOOL TEACHERS

Interview guide for preschool teachers

a) Demographic information

i. Highest level of education

ii. Number of children in your kindergarten class

iii. Job experience (years working as a preschool teacher)

b) Guiding questions

i. How do you explain your kindergarten pupils/children's understanding of water?

ii. Can you please, clarify (mention children's specific practice) which happened?

iii. Tell me more about it (referring to practice on number 2 above)

iv. Is there anything else we have not discussed about children's understanding and experiences with water which you would like to tell me?

Thank you so much for your time

3. SAMPLE OF INTERVIEWEE RESPONCES

Question One (1): How do you explain your kindergarten pupils/children's understanding of water?

Respondent One: My students know that water is life. Water is used for drinking, bathing, cooking, watering flowers, and vegetable gardens. With that little I can explain how children understand water.

Respondent Two: They understand that water is used for drinking, cooking, bathing and washing clothes, as well as watering animals such as cows, goats, chickens and ducks.

Respondent Three: Personally, I have never followed up to find out what the children know about water. Maybe it would be a topic on the outline I would teach.

Question Two (2): Can you please, clarify (mention children's specific practice) which happened?

Respondent One: Children use water in various activities such as: washing clothes, washing dishes, cleaning the class, watering flowers, cleaning toilets, bathing, and cooking. There are no conditions that prevent any children from using the water. Children play with water especially in the rainy season when it rains but in the dry season access to water becomes difficult even at home.

Respondent Two: As a teacher, I often see children carrying water for drinking in small containers and using it to drink during class or during break time. But some get drinking water from the school water tape or houses nearby the school.

Respondent Three: Watering the flowers, children use water to water the flowers. The water they use comes with it from their homes and some fetch from the school water tape though it is not regularly available. Water from the tape can be accessed once in a week.

Question Three (3): Tell me more about it (referring to practice on number 2 above)

Respondent One: Due to climate change, especially during the summer, children are unable to get water to drink at school. Also, this situation causes some to come to school dirty, i.e. not washing their uniforms due to lack of water and some say even their livestock dies for lack of water. During the rainy season, wells and ditches are full of water, so you find children playing with water by swimming in pools, catching fish and sometimes engage in play like build a house, but when it comes to summer, water becomes a big challenge, many wells dry up and sometimes the water does not flow from water taps at all.

Respondent Two: Watering flowers, a large part of our school compound is filled with some flowers, the flowers depend on water so that they can sprout and grow well. Students water the flowers using water. As I said at the beginning, the water used to irrigate is brought by students from their homes. They carry it in five-liter gallon, and other water is fetched from the school water tape and from the wells of the school's neighbors. In fact, due to the challenge of water availability, students are prohibited from fetching water, especially the youngest children.

Respondent Three: In fact, I don't know more than seeing them playing with water, whether it's clean or dirty, regardless. Children prefer to play various children's games such as pretend play, building mud houses and pretending to be irrigated

Question Four (4): Is there anything else we have not discussed about children's understanding and experiences with water which you would like to tell me?

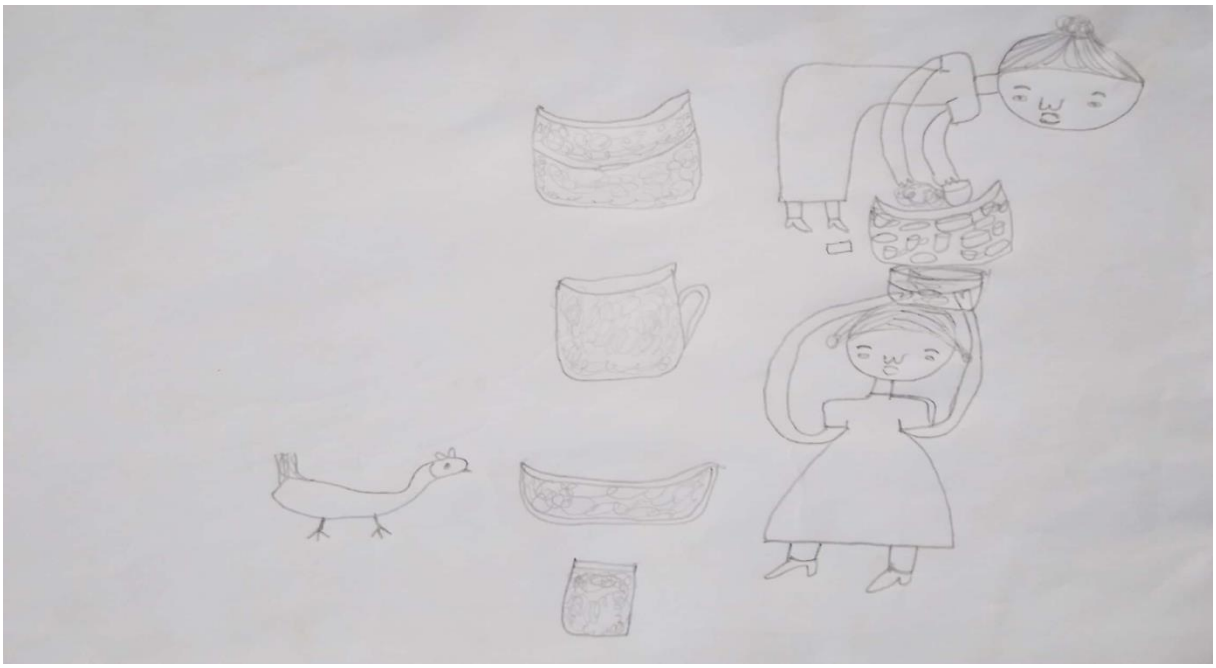
Respondent One: Something that we have not discussed is about the availability of permanent water sources in the areas where the children spend most of their time, especially in schools. If they were found, they would reduce the carrying of water from home as it is not safe to drink.

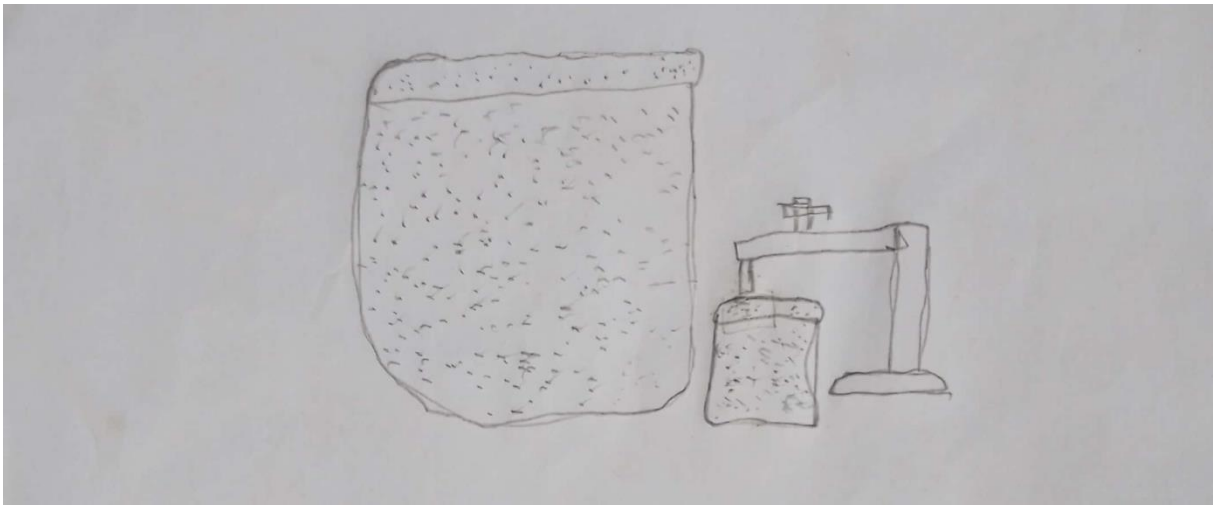
Respondent Two: Children are forbidden by their parents to bring water when we ask them to bring water. This is due to long distances where water is available.

Respondent Three: Something to add here is clean and safe water in schools. Access to clean and safe water in schools is very difficult because the available water is not safe for students. They are suitable for watering activities, and therefore I recommend having clean and safe water for them to drink while at school.

4. SAMPLE OF CHILDREN DRAWINGS

4A. CHILDREN DRAWINGS THAT CAN BE CLEARLY INTERPRETED AS CHILDREN UNDERSTAND WATER RESOURCES AND LANDSCAPE.





4B: CHILDREN DRAWINGS THAT CAN NOT BE CLEARLY INTERPRETED AS CHILDREN UNDERSTANDING OF WATER RESOURCES AND LANDSCAPE