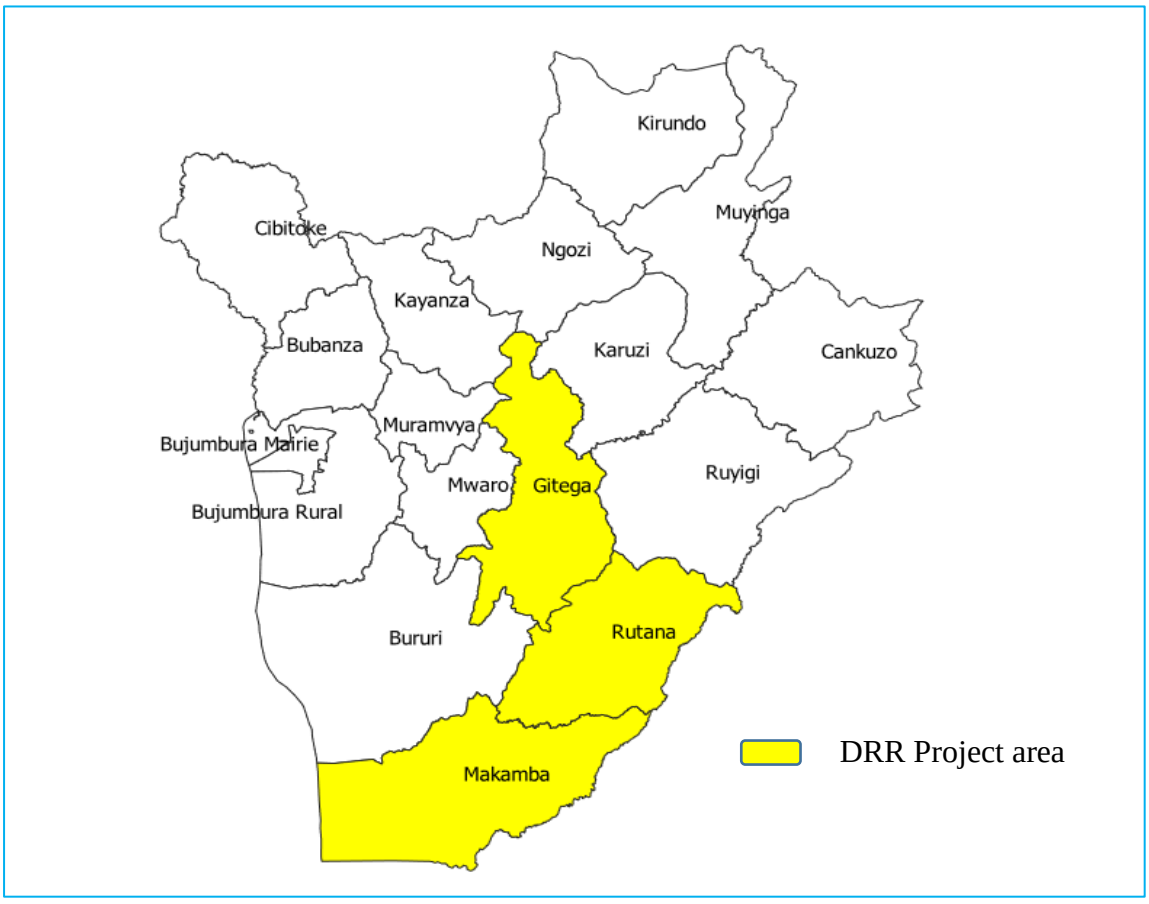
International Federation
of Red Cross and Red Crescent Societies

Baseline Survey Report

Strengthening disaster risk reduction capacity for communities hosting IDPs and returnees



April 2019

Acronyms and Abbreviations

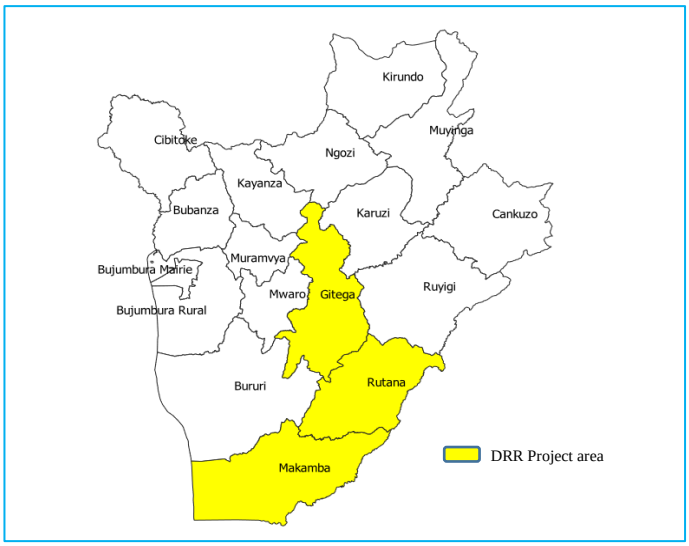
BCC	Behaviour Change Communication
BRCS	The Burundi Red Cross Society
CHAST	Child Hygiene and Sanitation Training
CLTS	Community Led Total Sanitation
DHS	Demographic and Health Survey
DRR	Disaster Risk Reduction
FAO	Food and Agriculture Organization
GDP	Gross Domestic Product
HHs	Households
IDPs	Internally displaced persons
IFRC	International Federation of Red Cross and Red Crescent
ISTEEBU	Institute of Statistics and Economic Studies of Burundi
MS	Micro Soft
NDRT	National Disaster Response Team
OFDA	Office of United States for Foreign Disaster Assistance
PHAST	Participatory Hygiene and Sanitation Transformation
PMER	Planning, Monitoring, Evaluation and Reporting
UN	United Nations
UNDP	United Nations Development Programme
USD	United States Dollar
WASH	Water, Sanitation and Hygiene
WB	World Bank
WFP	World Food Programme
WHO	World Health Organization

I. INTRODUCTION

1.1 Background Information:

The population of Burundi is more than 90% rural (Institute of Statistics and Economic Studies of Burundi – ISTEEBU, 2008) with a young population (44% under 15 years) and a high fertility rate, even if in decrease compared to previous statistics (5.5 per woman - DHS 2016-2017). Burundi has made significant progress in human development and poverty reduction since mid-2000. Burundi's economy grew between 2010 and 2014, but changes in the political environment in 2015 hit the economy and weakened the health system. Access to health is becoming increasingly difficult due to a fragile economic situation. The estimated life expectancy is 56 years. Under-five mortality is 83/1000 and maternal mortality 740/100 000. According to WHO, the leading causes of death for children under 5 are acute respiratory infections (19%), diarrhea (12%) and malaria (5%), while neonatal causes account for about 30%. Malnutrition is endemic; almost 60% of children under 5 suffer from stunting (WHO).

More than 70% of the population practices agriculture and most are subsistence farmers. The density of the population, the degradation and the erosion of the grounds make this agriculture difficult to have a sufficient food production. More than 60% of the population lives below the national poverty line (UNDP, 2018). About one third of households are food insecure, ranging from severe (7%) to moderate (25%) (WHO). About half of the population does not have access to improved sanitation. Food insecurity is alarmingly high: almost one in two households (around 4.6 million people) are food insecure (WFP, 2014 and 2016). Burundi suffers from low agricultural productivity: though agriculture employs about 80% of the population, the sector contributes only about 40% of GDP. There is very limited access to water and sanitation, and less than 5% of the population has electricity (World Bank, 2018).



Burundi government's efforts at poverty reduction are constrained by myriad challenges, such as a weak rural economy; a heavy reliance on development aid; economic policy that does not allow for the equitable distribution of resources; vulnerability to environmental events; and strong population growth. The only positive trend is the fertility rate, which decreased from an average of 6.4 to 5.5 children per woman between 2010 and 2017.[1]

[1] https://www.worldbank.org/en/country/burundi/overview

1.2 Overview of Burundi Red Cross Society

The Burundi Red Cross Society (BRCS) is accepted as the leading humanitarian agency in Burundi, with a countrywide presence. It has employees at national headquarters (68), provincial level (18 Branches, with 99 employees), municipal level (communes, with 119 staff), and *Collines* level (2,936 Red Cross units in *Collines* or hills), as well as a network of 610,000 volunteers. The BRCS has a pool of 40 specialized National Disaster Response Team (NDRT) volunteers who are trained in first aid, emergency needs assessments, SPHERE standards, WASH and camp management. BRCS is the main implementing partner of many United Nations (UN) agencies because of the consistency they provide and their extensive presence throughout the country.

1.2 Overview of the project

A combination of continuing internal displacement and increasing number of returnees has placed a strain on host community resources and weakened local capacity to prepare for and respond to disasters. Of the total internally displaced persons (IDPs) numbers, 45% have been in displacement since 2015, and a further 30% have been in displacement since 2016, highlighting the long-term nature of the problem, and its attendant impacts. Immediate effects of the ongoing displacement include increased environmental degradation, overstretched water and sanitation infrastructure, increased food insecurity as some of the land for agriculture is occupied by IDPs, and reduced community capacity to plan and implement risk reduction measures as energies are focused on meeting survival needs.

This project, therefore, aims to contribute to increased community capacity in disaster risk reduction (DRR) that combines rehabilitation of key water and sanitation infrastructure, and strengthening community structures for enhanced risk reduction, and community resource management. Risk reduction efforts aims to cover all the key hazards identified in the BRCS contingency plans for the three provinces, which include floods, cholera epidemics, landslides, and bush fires.

1.3 Objectives of the project:

The overall goal of the ``S*trengthening disaster risk reduction capacity for communities hosting IDPs and returnees*`` *project is* to strengthen community capacity in disaster risk reduction in three provinces hosting more IDPs and returnees in Makamba, Rutana and Gitega Branches. This will be achieved through training, establishment of community risk reduction structures, rehabilitation of key water and sanitation infrastructure, and community mobilization for improved management of community structures. The program will target 84,500 people in the three provinces, of which 25,680 will be IDPs (representing 60% of the total IDPs in the three provinces. The project duration will be one year, from September 2018 to end August 2019 with a budget of USD 500, 000.

1.4 Project Objectives and outputs

Specifically, the project seeks to achieve two objectives as highlighted below:

Objective 1: To strengthen national and subnational Disaster Risk Reduction (DRR) coordination mechanisms, and structures

Output 1.1: Strengthen the Capacity of DRR Community committees
Output 1.2: Strengthen national and subnational DRR coordination mechanisms

Objective 2: To strengthen the community disaster risk reduction capacity through rehabilitation of key water and sanitation infrastructure, hygiene promotion, and strengthening management systems for the WASH structures.

Output 2.1: Rehabilitation of key water sources
Output 2.2: Promotion of good hygiene practices
Output 2.3: Promotion of household latrine construction

1.5 Objectives of the baseline Survey

The main objective of the survey was to conduct an assessment that will enable Burundi Red Cross Society (BRCS) to track the projects' results based on benchmark indicators. Using indicators derived from the projects' M&E plan, the baseline will be used as the basis for measuring change during the final evaluations.

2 METHODOLOGY

Burundi Red Cross Society (BRCS) and International Federation of Red Cross and Red Crescent Societies (IFRC) conducted this baseline survey internally to enable the Disaster Risk Reduction (DRR) project develop benchmark indicators that will be used for measuring progress and achievements. Initially, a baseline survey ToR was drafted and shared with all actors who provided feedback that guided the exercise which was conducted in the project sampled *collines* in Gitega, Rutana and Makamba provinces in Burundi. The methodology employed was mainly qualitative and targeted household respondents.

2.1 Sampling

The TOR also detailed how the sample size of the survey was calculated based on the following formula: Sample size $n = [DEFF*Np(1-p)]/ [(d^2/Z^2_{1-\alpha/2}*(N-1)+p*(1-p)]$ [2] which gave us 381 households (HHs) as survey sample size based on the population size as well as the confidence limit of 95% and margin of error of 5%. This is scientifically acceptable representative sample. See table 1 below on sample distribution.

All nine communes targeted be the project were sampled and at least 30% of collines were to be targeted per commune ensure the representativeness of the sample size. At colline level, the rule was that the enumerator randomly selects the HH to interview with a sampling step of nine (9) HHs in order to give an equal chance to all HHs to be interviewed. Before the data collection started, the team decided during the training that the fifth HH should be interviewed. Some advantages of this approach is that, it enabled the team to perform an analysis of the data collected with a lower margin of error, because the sampling occurred within specific boundaries because the whole process was randomized. Therefore, the findings of the baseline enables representation of the entire population hence allows the data to provide accurate

[2] Results from OpenEpi, Version 3, open source calculator—SSPropor. Print from the browser with ctrl-P or select text to copy and paste to other programs.

insights into baseline indicators. In total 384 HH were interviewed for the baseline survey and the sample size distributed as indicated in the table below.

Table 1: Sample distribution by province

Province	Commune (s)	Sample size	Percent (%)
1) Gitega	Bukirasazi	35	9%
	Itaba	35	9%
	Makebuko	36	9%
Subtotal		106	28%
2) Makamba	Kibago	55	14%
	Mambanda	48	13%
	Vugizo	52	14%
Subtotal		155	40%
3) Rutana	Gitanga	41	11%
	Mpinga Kayove	39	10%
	Rutana	43	11%
Subtotal		123	32%
Total		**384**	**100%**

2.2 Survey tools, Data collection and management

The questionnaire was designed to cover all thematic areas of the project including water, hygiene, sanitation, disaster risk reduction as well as community engagement and accountability as crosscutting issue. For each thematic area, questions were formulated by the experts and sent to BRCS Planning, Monitoring, Evaluation and Reporting (PMER) team for setting up in KoBo Collect. Once the question finalized an integrated into Kobo, a link was shared with all actor and IFRC PMER team for checking. The final version in one of the annexes of the report.

The selection criteria of the enumerators were that they are residents of the selected communes, available during the data collection process, understand French and Kirundi and able to use smartphones. Based on these criteria, the three Branches invited enumerators with experience who have been previously been trained on KoBo. These enumerators were then refreshed on KoBo Collect and taken through the questionnaire just to ensure all enumerator are conversant with the approach, sampling households, dos and don'ts, interview skills and ethical considerations. The enumerators training was hosted by the BRCS Gitega Branch and was facilitated by BRCS, PMER team and the DRR Project Officer. Data collection the households was done in all the nine targeted communes and by the trained enumerators. Twenty volunteers (eight (8) volunteers in Gitega, six (6) in Makamba and five (5) in Rutana) were trained on mobile data collection before commencing the data collection.

For quality control purposes, a field supervision was organized by the project team on a day to day basis. The BRCS, PMER Coordinator reviewed daily data collected and provided remedial feedbacks for improving the data quality where there were any issues of data quality. The cleaned data was analyzed using MS Excel and desegregation by gender and by province where possible for interpretation and inferencing.

3 THE FINDINGS OF THE BASELINE: STATISTICS FOR ALL INDICATORS

3.1 Socio-Demographics information

3.1.1 Household Respondent Characteristics

From the baseline survey findings, 384 HH were interviewed in Gitega, Makamba and Rutana provinces as presented in table 2 below. Overall majority of respondents were from Makamba (40%) reflecting the high population size of the province while 51% were female and 49% male accurately reflecting on the Burundi national male to female ratio of the total population proportions.

Table 2: Sample size by branch

Province	Male	Female	Total
Gitega	55%	45%	28%
Makamba	52%	48%	40%
Rutana	48%	52%	32%
Total	**49%**	**51%**	**100%**

In Makamba, 4 HHs (1%) refused to be interviewed and the analysis is based on 380 fully completed questionnaires. Most of the household respondents were married (75%) while 14% are single with 8% having been widowed. 62% were household heads while 38% weren't. 62% of these respondents who are not household heads were wives, 34% are children while 4% are others accounted for a paltry. In addition, 85% of household respondents had lived in the targeted zone for over five (5) years meaning they have good knowledge of the disaster and risks in their respective regions.

Table 3: Respondent Characteristics

Respondents characteristics	Percent (%)
Gender of Respondents	
Male	49%
Female	51%
Head of Household	
Yes	62%
No	38%
Marital Status	
Married	75%
Widowed	8%
Single	14%
Divorced	3%
Number of years living in the area	
Under one year living in the area	2%
1 to 5 years living in the area	13%
Over 5 years living in the area	85%
Literacy levels	
Illiterate	18%
Adult literary level	11%

Primary	49%
Secondary	18%
University	4%
Collinear elected	29%
Member of community comity	44%
Member of BRC	20%

3.1.2 Membership in community committees

The survey sought to assess whether the households were actively engaging in community committees or activities and findings indicate that 7% of respondents are locally elected at collinear level while 44% are members of community committees (Water point management committee with 3% and 41% who are member of church community committee) and 20% are members of Burundi Red Cross Society. The other statutes are mainly students with 18% and no specific statuses with 19% of respondents.

Table 4: Respondents statuses the community

Respondents status in community	Gitega	Makamba	Rutana	Total
Collinear elected	12%	5%	7%	7%
Member of water point management committee	2%	4%	4%	3%
Member of church committee	40%	36%	48%	41%
BRCS member	23%	18%	18%	20%
Other	23%	37%	24%	29%

The findings also show that 23% respondents from Gitega are members (volunteers) of the Burundi Red Cross Society, 18% of respondents from Makamba and 18% from Rutana are RC members. The importance of engaging community committees is that there is an easy entrance point and ready support during disaster or emergencies.

3.1.3 Household information and source of livelihood

According to the World Bank, Burundi is the second most densely populated country in Africa with about 470 inhabitants per square kilometer. Burundi's economy is heavily reliant on the agricultural sector which, despite the extreme paucity of arable land, employs 80% of the population. Poverty overwhelmingly affects small rural farmers and households. The survey findings reveal that, the main source of livelihood for most households in Gitega, Rutana and Makamba in the target areas just like in most parts of Burundi is farming as 86% of the respondents are engaged in it. Other sources include formal employment (8%), paid labor (4%) and others including burning charcoal, volunteering, un-employed accounted for 2%. This

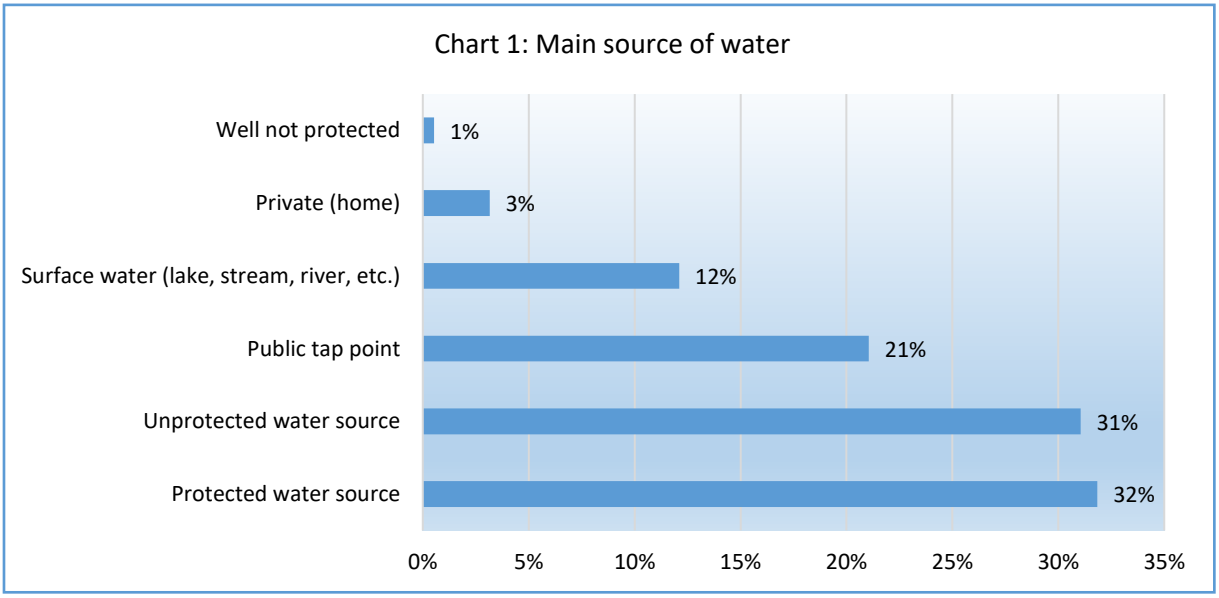
finding mirrors Burundi Vision 2025 which says that about 90% of the Burundian population is living in the country wide live in the countryside exploiting their farmland[3].

Regarding house ownerships, 92% of interviewed HH own their houses while 8% do not own the houses they live in, they hence pay rent to landlords. Of the total household respondents 15% said they have people living with disabilities while the rest didn't have any members suffering from disabilities. Majority (80%) of the households have school going children between 6 to 17 years' old. Across all the three provinces, there is an average of three children per household with 6 to 17 years old attend school.

3.5 Water supply and usage

Poor management of water sources is a very big problem in the intervention areas. Most of the water sources (protected or unprotected) in the areas surveyed not managed by a committee be it water management committees or Water user associations (WMC or WUA), however these committees are weak. From the survey findings, 32% of the households use water from protected water sources, and 31% use water from unprotected water sources. It is notable that 21% of respondents said they use water from public tap and 3% use water from private (tap installed inside the HH). However, 13% are still using unsafe water as said by 12% respondents who use surface water and 1% who use water from unprotected well. This figure shows that there is still community need in term of water.

The findings of this evaluation therefore mirror the World Bank report that states that there is very limited access to water and sanitation, and less than 5% of the population has electricity (World Bank, 2016).



[3] Burundi Government: Vision 2025, Page 30/104, 2011

In Rutana households mostly use the surface water such lake, stream and river while Makamba households mostly use the water from a protected water source. However, 51% of respondents said that the main water source is not guaranteed and in Rutana with a high score of the water source without guarantee on the year with 69% as given in the table 5 below.

Table 5: Reliability of water sources round the year

Water source reliability	Gitega	Makamba	Rutana	Total
No	35%	44%	69%	49%
Yes	65%	56%	31%	51%
Total	29%	40%	31%	100%

Asked about reliability of water sources in a normal rainfall year, 51% of the respondents said the water source is reliable while 49% said it is not reliable pointing more to the problem of water. See table 5 above for more details per province. Asked what alternative water sources were available during certain times, the 36% said they use unprotected water sources while 24% said they go to on other protected source regardless of distance and 18% use water from rain. This points to the importance of protecting other sources of water around the project areas.

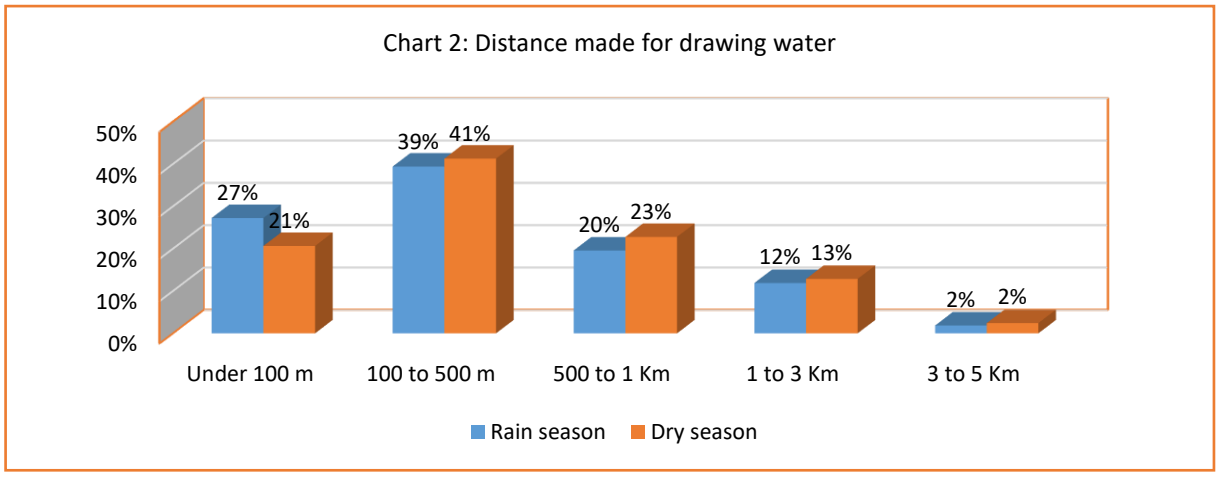
Table 5: Alternative water source for those whose water sources are unreliable.

Alternative water source	Gitega	Makamba	Rutana	Total
Other	1%	4%	1%	2%
Surface water	7%	4%	30%	18%
Water from rain	0%	5%	2%	3%
Well unprotected	2%	0%	0%	1%
Public tap	2%	4%	0%	2%
Private tap	54%	7%	24%	13%
Water source unprotected	54%	25%	33%	36%
Water source protected	21%	38%	10%	24%

Proper community management of the water and tariff payment have been shown to be the key factors contributing to the long-term sustainability of water schemes especially other household sources other than the normal ones.

3.6 Distances to water sources and time spent

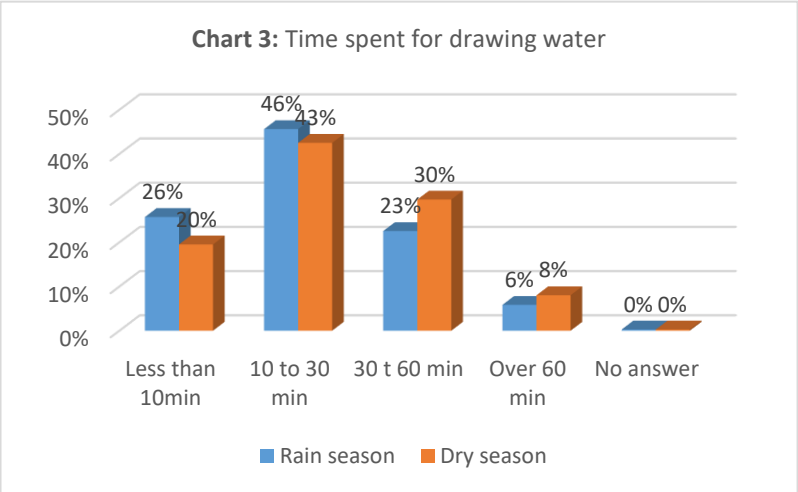
Indeed, 27% of respondents said they go under 100m for draw water in rain season while it is 21% in dry season. In addition, 20% said they go on 500m to 1 Km to draw water in dry season while it is 23 % in dry season. Cross tabulation per province on distance made for drawing water from a water source in the rain season as well in dry season is given in the following table.



More diversity in terms of water sources is seen during the dry season with people relying and using water from more unprotected sources because of water scarcity and shortage. Vulnerability increases during this time leading to increased diarrhoeal and water-related diseases due to lack of access, adequacy and reliability of water. From the findings, households in Gitega travel longer distances to access the water sources compared to Makamaba and Rutana provinces.

Table 6: Distance made for drawing water per province

Distance made for drawing water from source	Gitega		Makamba		Rutana	
	Rain season	Dry season	Rain season	Dry season	Rain season	Dry season
Less than 100m	25%	16%	19%	16%	39%	30%
100m to 500m	31%	30%	45%	42%	40%	50%
500m to 1 Km	17%	25%	24%	27%	16%	15%
1 Km to 3 Km	21%	22%	11%	13%	5%	5%
3 km to 5 Km	6%	7%	1%	1%	0%	1%



It is noted that most targeted households spend 10 minutes to 30 minutes to draw water from sources, 46% of respondents said they use 10 to 30 minutes for drawing water during the rainy season while is 43% during the dry season. Overall, over 60% of respondents said they use less

than 30 minutes for drawing water during rainy season as well as during dry season. The normal in Burundi is that all household should spend at least 40 minutes for drawing water form water source.

Table 7: Time taken to collect water by HHs

	Gitega		Makamba		Rutana		Total	
Time	Rain season	Dry season	Rain season	Dry season	Rain season	Dry season	Rain season	Dry season
Less than 10min	19%	12%	23%	20%	35%	26%	26%	20%
10 to 30 min	43%	32%	47%	44%	45%	50%	46%	43%
30 t 60 min	25%	40%	26%	31%	17%	19%	23%	30%
Over 60 min	13%	16%	3%	5%	3%	5%	6%	8%
No answer	0%	0%	1%	1%	0%	0%	0%	0%

Women (60.6%) and children (38.3%) are the ones with the responsibility of fetching water within the households. This brings in the dynamics of gender roles within households as children instead of schooling have to travel long distances to fetch water putting their lives also at risk.

3.2.1 Water storage and drawing

Further to water treatment, safe storage using only-drinking-water containers are recommended to prevent contamination. However, this survey notes that most of the respondents used the drinking water storage containers for other purposes such as watering animals, bathing/washing, carrying and storing food. Safe storage containers are those with narrow neck (10 cm or less) and are covered (CDC 1995). In this baseline survey, 73% of respondents said that they store the water for drink in a closed container while 27% use containers without cover. In Rutana 83% of respondents store water using container with lid, Makamba (79%) and 53% in Gitega province.

Table 8: Container used for water storage

Container used for water storage	Gitega	Makamba	Rutana	Total
Plastic container of 20-25l and with lid	53%	79%	83%	73%
Plastic container of 20-25l and without lid	30%	3%	3%	11%
Metal wide with lid	0%	0%	1%	0%
Others wide without lid	17%	18%	13%	16%

In addition, most of respondents said they use unsafe water, only 15% said they treat their water before they drink it. Comparing the three provinces, 17% of respondents from Gitega said they treat water before using followed by Rutana with 17% and Makamba with 3%. The most used technic for water treatment is boiling it (52%) and filtration (31%). Other methods used are chlorination (7%) and settling.

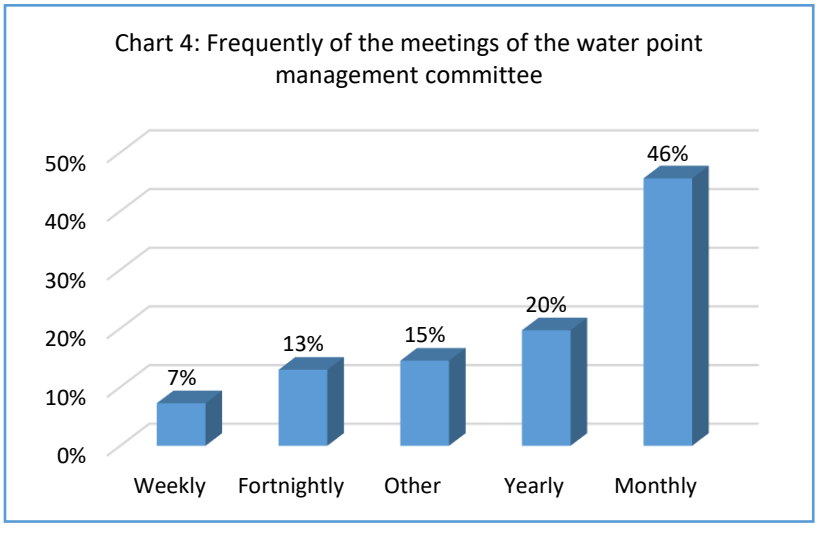
Finally, on drawing water from containers, 48% of respondents said the use goblet with short handle while 40% use cup with long handle and 12 % used cup without wrist or on other tools. This means that all those who don`t use a goblet with long wrist can pollute their water when drawing it from its storage container.

Table 9: Tool used to withdraw water from storage container

Tool used to withdraw water	Gitega	Makamba	Rutana	Total
Pot with long handle	35%	47%	35%	40%
Short handled cup	50%	43%	53%	48%
Pot without handle	3%	3%	11%	12%

3.7 Community Participation and Sustainability of Infrastructure

The community participation and sustainability of hydraulic infrastructures is based on the water point committee management well as the water point maintenance/reparation. The baseline results show that only 52% of respondents said they do have a committee for their water point. The last province with few water points committee managements is Makamba with 41% of respondents who said they don't have the WPMC while Gitega is the first with a high coverage in terms for WPMC with 71% and Rutana has 48%. This figure means there are some water points without management committee which influence negatively the sustainability of the hydraulic infrastructures.



However, those committees do not regularly hold their meetings because 66% of respondents said they organize their meetings at least once per month.

Furthermore, only 24% declared they promptly (immediately) maintain/repair their water point in cases of breakdown while 31% do it after a month and 30% said that the water point committee is responsible for rehabilitation/maintain.

Regarding the responsibility of water point rehabilitation/reparation,30% of respondents said is local administration which maintain/repair the it, also 30% said is the water point management committee while 2% said NGO such as BRCS said by 85% in Rutana and World Vision International said by 37% in Gitega province. In terms of water point construction, 54% declared having contributed by giving money as a fee (53%), bringing in local material (20%), and bringing in labor (25%).

Table 10: Participation during water source construction

Contribution of water source construction	Gitega	Makamba	Rutana	Total
No	9%	56%	69%	46%
Yes	91%	44%	31%	54%

Over two thirds of the overall respondents do not treat their water before drinking. Those who treated their drinking water preferred boiling (57%) followed by filtration (26%), add bleach/ chlorine (15%) and solar disinfection (2%).

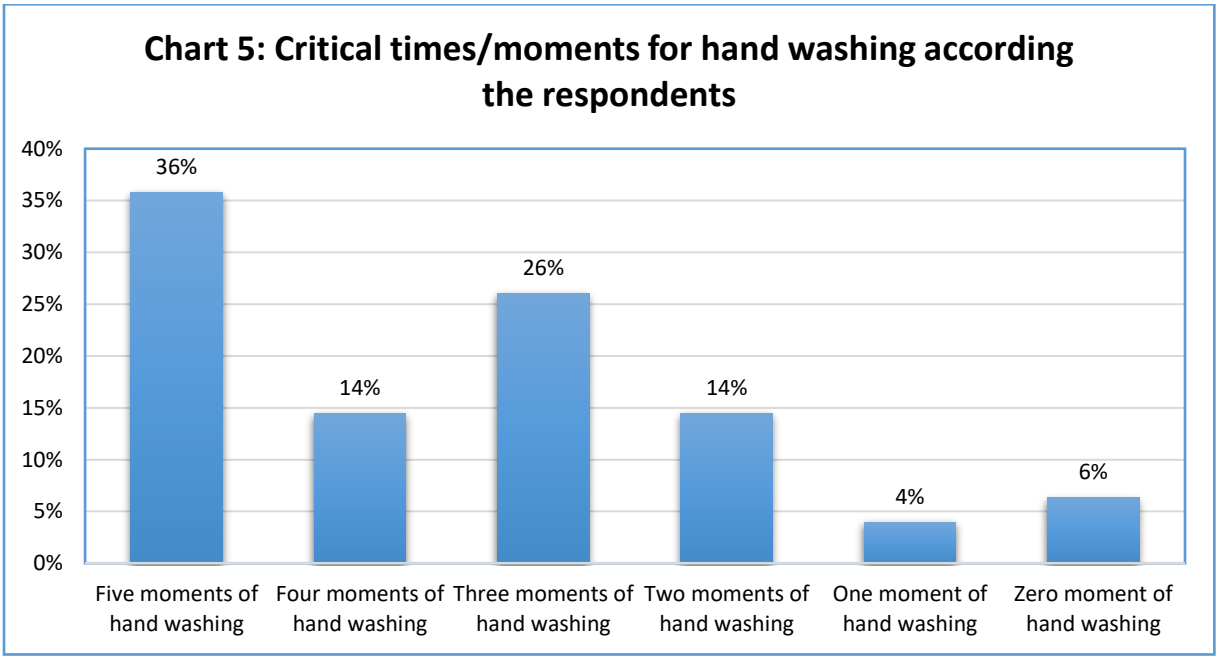
3.8 Hygiene Practices

The study sought to understand if the communities know of the critical times for hand washing and findings reveal that the main critical moments for: hand washing are before eating, after toilet, before cooking, after handling children's feces, before breastfeeding. The baseline findings (see table 11 below) show that the communities overwhelming know the critical times for hand washing. The figure is 99% declare it is important to wash their hand before eating, 86% after toilet and 85% before preparing food. However, 56% said it is important to wash their hand after handling children`s feces and 54% before breast feeding. More details per province in the table below.

Table 11: Knowledge of critical times for hand washing

Critical times for hand washing	Gitega	Makamba	Rutana	Total
Before eating	98%	99%	99%	99%
After toilet	77%	99%	80%	86%
Before preparing food	71%	93%	88%	85%
After eating	58%	72%	85%	72%
After handling children`s feces	60%	70%	37%	56%
Before breast feeding	46%	60%	54%	54%
After carrying some work	2%	18%	42%	21%
Others	1%	0%	1%	1%

Findings from the baseline survey show that households are knowledgeable that many communicable diseases can be effectively managed by improving the sanitation, hygiene and water usage practices. However, infrastructure development and policies alone in the project area can enhance filling the existing gap of knowledge and practice of drinking water and sanitation.



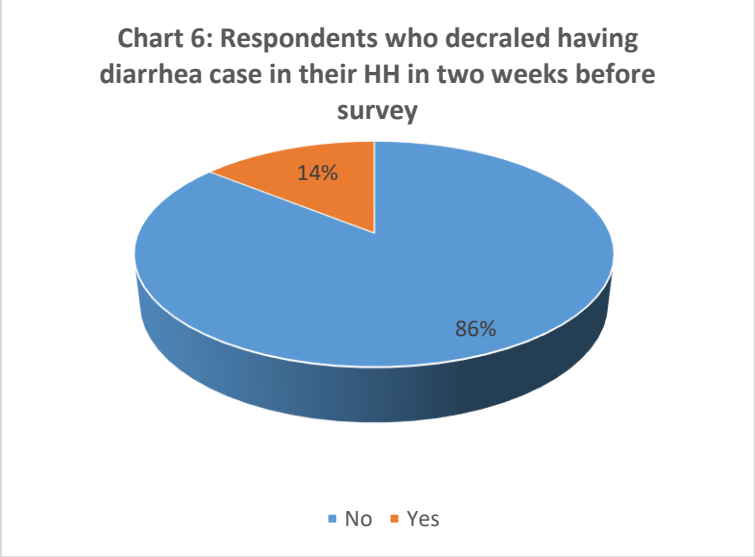
Data shown on the above graph mean that few people don't wash their hand at critical times/moments. Indeed, only 36% of respondents said they wash their hand at all the five critical times. At least, all respondents should wash their hand three times but only 26% of respondents said they wash their hand three time. Serious yet, 6% of them said they don't wash their hand while 4% said they wash their hand only at one time.

Table 12. Means of hand washing

HW	Gitega	Makamba	Rutana	Total
Other	13%	2%	0%	5%
Hand washing facility	1%	6%	6%	5%
One container without soap or ash	17%	6%	6%	9%
One by one in same container without soap/ash	69%	86%	89%	82%

Regarding how they wash their hands, the situation comes very serious because 82% of respondents said that they wash one by one but without soap/or ash while only 12% do it properly means use handwashing facility and/or use soap/ash. Only 5% use handwashing facility with soap or ash.

Findings on handwashing reveal that 14% of the respondents had someone who suffered from diarrhea two weeks just before the survey. Gitega province had the highest number of households with 18% of respondents declared having diarrhea case in the two weeks before the survey and Makamba and Rutana have same percentage which is 13%.



In Burundi just like the rest of Africa, water and sanitation hygiene practice are responsible for 90% of diarrhea-related mortality. Although piped water facility in the rural regions in Burundi have increased, there are still many households who use surface water as the primary source of water as shown above. On the other hand, the finding reveal that despite limited improvement in drinking water facilities in rural regions, the trend of the sanitation is still on a slow track, with a big percentage of the total rural population in the target districts not having toilet facilities.

Table 13. Number of diarrhea cases mentioned in the two weeks before the survey

Number of cases	Total	Gitega	Makamba	Rutana
1 case	50%	53%	47%	50%
2 cases	22%	32%	11%	25%
3 cases	15%	5%	16%	25%
More than 3 cases	13%	11%	26%	0%

On the management of diarrhoea, more than 63% said they consult the health facility and/or use oral rehydration salt, 28% said they refer to traditional medical attendant or combine the health facility and traditional professionals. Comparing the three provinces, 81% of respondents from Rutana said they go the health facility while is 74% from Gitega and 37% from Rutana. Respondents from this last province 26% said they don't do anything to care diarrhoea disease.

3.9 Access and knowledge on Sanitation

According to the baseline findings, 99% of respondents said they defecate in the latrine, 100% (Gitega) said they defecate in latrine while it is 99% from Makamba as well as Rutana. However, only on

observation, 97% confirmed they do have latrine but 4% of respondents refused to that their latrines be observed. Those who do not have a latrine mainly refer to the poverty as the main reason for lacking latrines, which means that they cannot self-build a latrine but share it with their neighbors. It should be noted that operational management and design affect the fill-up rates and post fill-up management operations of latrines in the areas targeted. The baseline survey therefore argues for a need to link information and awareness to users, construction artisans and households on appropriate vault volumes and management practices.

The following table presents results from observation of latrines conducted by the enumerators when they visited various households.

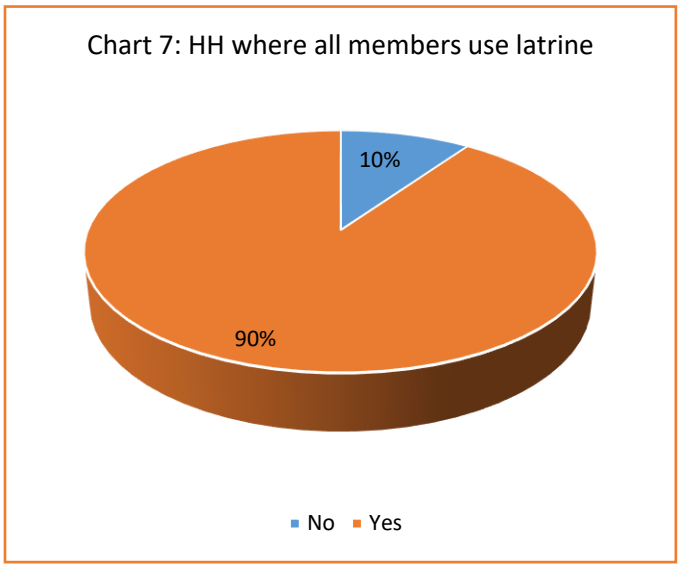
As shown in the table above most of the household have pit latrines (99%) but only 3% can be said to be in very good or good condition (25%). Almost half of the toilets observed are in low condition (48%) with the most affected area being Gitega where an overwhelming 80% toilet observed are in low state.

Table 14. Type of latrine after observation.

Type of latrine	Gitega	Makamba	Rutana	Total
Pit latrine	100%	98%	100%	99%
Latrine with seat	0%	2%	0%	1%
Floors wet	80%	28%	60%	52%
Floors dry	20%	72%	40%	48%
Good condition	7%	36%	26%	25%
Low state	80%	23%	49%	48%
Satisfactory state	13%	33%	25%	25%
Very good	0%	7%	0%	3%
General cleanliness clean/polished/swept	38%	76%	48%	56%
General cleanliness dirty/unpolished/unwept	62%	24%	52%	44%
Walls cleaned	36%	75%	48%	56%
Walls uncleaned	64%	25%	52%	44%
Concrete slab	9%	13%	3%	9%
Wooden slab	67%	61%	67%	65%
Earthen slab	25%	26%	30%	27%
Latrine with house not guaranteeing privacy	66%	45%	49%	52%
Latrine with house guaranteeing privacy	34%	55%	51%	48%

In addition, 52% of them do not have shelter guaranteeing privacy while only 56% do have a general cleanliness clean/polished/swept. The general cleanliness of the toilets is also wanting with just about half latrine meeting the condition, same is also reflected in regard to privacy issues. This project is premised

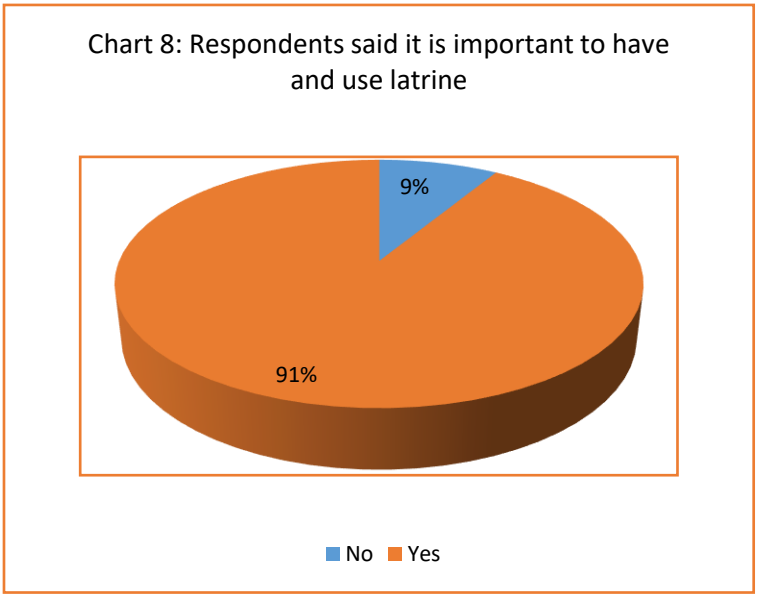
on the fact that proper sanitation services have a fundamental role in improving people's health, economic stability, dignity, and protection of the local environment. Therefore, adequate and safe sanitation supports good health and prevent disease outbreaks hence proper human excreta disposal has greater importance in the target communities. Moreover, appropriate human waste disposal controls the spread of diseases and minimizes transmission of water-related diseases as they reduce public health and environmental risks.



Regarding latrine use, 90% of respondents said that all HH members uses latrine while 10% said that some HH members don't use the latrine noting that the latrines are difficult to use for a certain category especially children while other said culture 94%). Gitega has a low rate of respondents saying all member sue latrine (82%) while it is 91% in Makamba and 96% in Rutana. The reason why some HH members don't use latrine are the following, not easy for some HH members (66%), not sure for some HH members (22%) and culture (4%). This therefore shows the need to behavior change campaigns to elevate access and use of toilets amongst all the household members.

For households with children who don't use latrine, 65% of respondents said they put the stool for the young children in the latrine while others put it in a pit and/or in a garden or bush. In addition, 8% of respondents said they share their latrine with their neighbors and reason and most of them (56%) said they share with less than 5 HH. Gitega comes first with 14% of respondents said they share their latrine with others HH while it is 8% in Rutana and 7% in Makamba.

91% of them said it is proper to have a latrine while 9% said it not important. In Rutana province, 16% of respondents said there no importance to have and use latrine while it is 9% in Gitega and 2% in Makamba. This calls for increased campaigns for households to build more latrines to reduce diseases related to open defecation.



The reason provided by many respondents for having a proper latrine is to prevent diarrheal diseases. However, 28% of respondents said there is still open defecation in the communities but 83% of them said the open defecation is not good. 63% of respondents from Gitega said there still is open defection, 20% (Rutana) and 11% in (Makamba). The baseline finding noted also that 22% of respondents from Gitega do not mind open defecation doesn't while it is 17% (Rutana) also do nod mind open defecation.

3.10 Disaster risk reduction

Disaster Risk Reduction (DRR) aims to reduce the damage caused by natural hazards like earthquakes, floods, droughts and cyclones, through an ethic of prevention. Disasters often follow natural hazards. A disaster's severity depends on how much impact a hazard has on society and the environment. In the surveyed areas, the main natural disaster faced in the five-last years by respondents are heavy rains (62%) followed by violent winds (61%) and flooding (34%). Others are natural disaster like drought (26%), epidemic diseases (15%), landslide (14%), fire (5%) and others such as road accidents.

Table 15. Main type of natural disaster in five last years

Mains natural disasters	Gitega	Makamba	Rutana	Total
Flooding	52%	23%	32%	34%
Fire	2%	0%	12%	5%
Landslide	16%	14%	11%	14%
Drought	53%	4%	29%	26%
Epidemic	33%	2%	15%	15%
Others	3%	17%	1%	8%
Violent wind	70%	46%	72%	61%
Heavy rain	76%	40%	73%	62%
No answer. Don't know	0%	4%	5%	3%

The three biggest disasters are heavy rain as said by 35%, violent wind (27%) and flooding (18%) while the leading natural disaster per province are heavy rain in Gitega (76%), violent wind in Makamba (40%) and heavy rain in Rutana (73%).

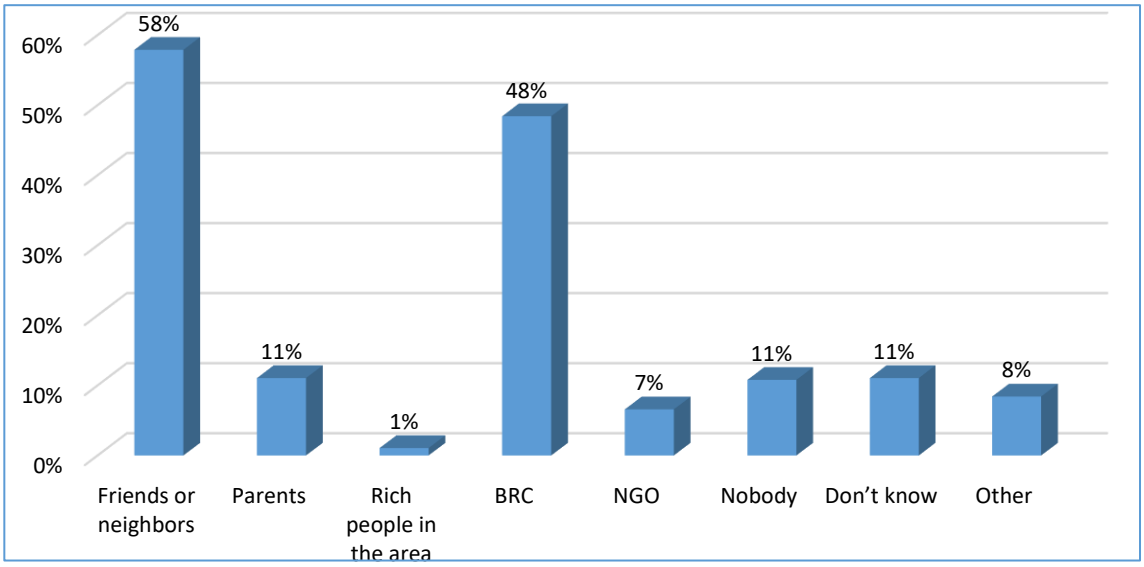
In all the three provinces, about 16% to 29% of respondents said they have experienced these natural disasters from one to three times in their lifetime. However, only 32% of respondents declared they do not know any measures to apply for mitigation and/or preventing those disasters occur. On crosstabulation, 59% of respondents from Gitega don't know any mechanisms used to predict the disaster while it is 27% in Makamba and 15% in Rutana province. BRCS will therefore support this in awareness and preparedness for disasters within these communities.

Table 18. Mechanisms to be taken when a disaster occurs.

How to rely for helping during disaster	Gitega	Makamba	Rutana	Total
Evacuate everybody to a safe place	54%	66%	39%	54%
Evacuate some people to a safe place, but leave some people behind	6%	19%	3%	9%
Secure important documents	20%	26%	2%	16%
Secure productive assets	12%	15%	0%	9%
Bring livestock to safe areas	23%	20%	19%	20%
Prepare emergency supplies	15%	29%	24%	23%
Strengthen the house against wind/rain	51%	15%	49%	37%
None	1%	14%	3%	6%
Don't know	9%	20%	14%	15%

Since projects alone cannot reduce the severity of natural disasters, the main opportunity for reducing risk lies in reducing vulnerability and exposure. The survey notes that reducing these two components of risk requires identifying and reducing the underlying drivers of risk, which are particularly related to poor economic and urban development choices and practice, degradation of the environment, poverty and inequality and climate change, which create and exacerbate conditions of exposure and vulnerability. Addressing these underlying risk drivers will reduce disaster risk, lessen the impacts of climate change and, consequently, maintain the sustainability of development

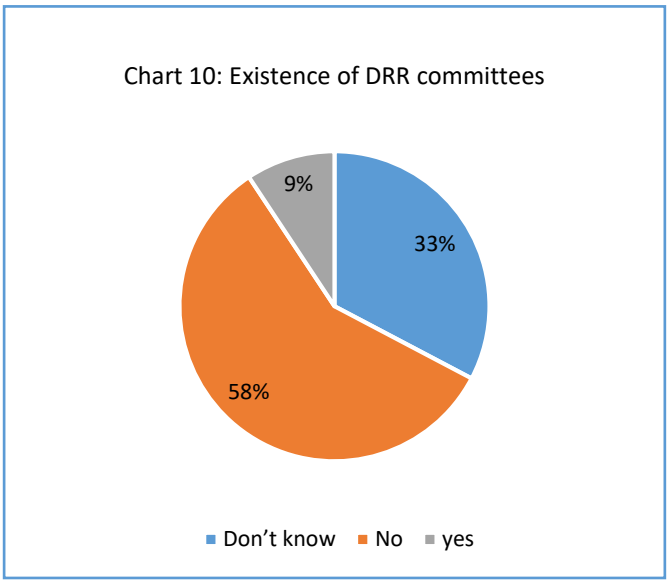
Chart 9: Actors to whom HH should refer when disaster occur in their HH



Looking to the above graph, most of the respondents said they refer to friends (58%) and Burundi Red Cross (48%) when natural disaster occurs. Other humanitarian actor said by respondents are relatives, said by 11%. However, 11% said they don't have nobody to whom they could refer when natural disaster occurs and another NGO (World Vision International).

Furthermore, 57% of respondents declared they don't have an organized way to warn people about disaster and it 62% in Makamba province while it is 54% in Gitega as well as in Rutana. Only 13% of respondents said they do have an organized way to warn people about disaster and Gitega has 20% while Makamba has 10% as well as Rutana.

DRR succeeds in reducing risk by building the strengths, attributes and resources available within a community, society or organization – collectively known as their capacity. This project seeks to increase the resilience of communities and systems to resist, absorb, accommodate and to recover from and improve well-being in the face of multiple hazards. Activities for reducing and managing risks can therefore provide a way for building resilience to other risks. For communities with committees most of the respondents (79%) said it BRCS which is involved in capacity building. In Gitega province, 90% said BRCS while it is 71% in Makamba and 67% in Rutana.

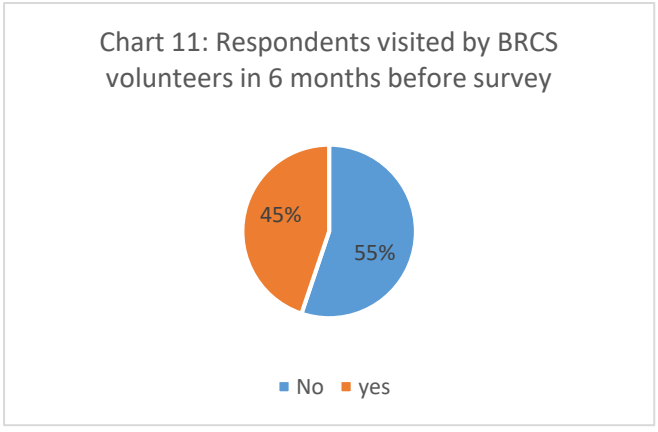


Regarding the community committee for DRR, only 9% of respondents declared there is DRR CC in their locality.

Gitega and Rutana have the same percentage (10%) of respondents said they do have a DRR committee and 8% in Makamba.

Among those said they do have a DRR committee, 11% are members but is Gitega with a relative high percentage (18%) while it is 13% in Makamba and 3% in Rutana province. Few of the DRR committee (11%) have a kind of plan of action but 18% of respondents from Gitega said their DRR committee have a plan of action while 13% from Makamba and 3% from Rutana have the plan of action. Related to the interest of takin part in DRR activities, most of the respondents are interested (79%) and 11% are somewhat interested, However, 8% are no interested and 2% don't know. Is Gitega with a high percentage of respondents (90%) interested by taking part in DRR activities and Makamba has 87% while Rutana has 61%.

3.11 Community engagement and accountability



Community engagement and accountability (CEA) is an approach to Red Cross and Red Crescent Movement programming and operations. It is supported by a set of activities that help put communities at the center of what we do, by integrating communication and participation throughout the programme cycle or operation.

CEA is the process of and commitment to providing timely, relevant and actionable life-saving and life-enhancing information to communities. It is about using the most appropriate communication approaches to listen to communities' needs, feedback and complaints, ensuring they can actively participate and guide Red Cross Red Crescent actions.

45% of respondents reported having been visited by the BRCS volunteers in two last months. Respondents from Gitega (78%) said they have been visited by BRCS volunteers in 6 months before the survey while 33% in Makamba and 30% in Rutana have been visited. The most reason for the volunteer visit is for rapid assessment, first aid simulation exercises, sensitization on FA and DRR activities. Strengthening volunteer capacity on community engagement and accountability as well as communication skills and code of conduct is required for effective involvement of communities.

When asked if they receive regular information on BRCS activities, 53% of respondents indicated in the affirmative. 63% of those that receive the information found it useful. The table below indicates the response per province. There is therefore need to increase information sharing activities in the provinces (especially in Makamba and Rutana), using community trusted channels as well as engage communities to ascertain the information that they need.

Table 19. Keys indicators of CEA cross tabulated per province.

CEA keys indicators	Gitega	Makamba	Rutana	Total
HH receiving information on BRCS activities	84%	40%	43%	53%
Information received is useful	95%	51%	50%	63%
HH participating in BRCS activities	79%	41%	36%	50%
Right to complain on BRCS activities	86%	39%	37%	52%
Knowledge feedback mechanism	99%	35%	28%	52%

When asked if they have a right to complain on BRCS activities and whether aware of how to give feedback/raise complains, majority of respondents in Gitega 86% and 99% respectively were aware. Only 39% and 37% in Makamba and Rutana respectively believe they have a right to complain. Of these respondents, only 35% and 28% knew how to give feedback. This therefore calls for greater sensitization of the communities and establishing of feedback mechanisms in consultations with the communities in the project areas.

4.0 CONCLUSION AND RECOMMENDATIONS

4.1 CONCLUSION

In conclusion, the baseline had been conducted in all three targeted Branches Gitega, Rutana and Makamba. The data collected and analyzed allowed us to figure out the initial situation regarding the thematic area of the current project: Strengthening disaster risk reduction capacity for communities hosting IDPs and returnees (Makamba, Rutana, and Gitega. The data analysis focused on the following subjects:

- Water access and use
- Community participation in hydraulic infrastructure management
- Latrine access and use
- Hygiene
- Disaster risk reduction,
- Community engagement and accountability.

4.2 RECOMMENDATIONS

- Based on the findings of this evaluation, the project should develop actions to enhance capacities of the community in terms of water and sanitation access and use trough infrastructures construction and sensitization.
- In terms of community engagement and accountability, the project should ensure that the community members regularly participate, contribute and are able to rise their complaints and feedbacks with a focus in Makamba and Rutana based on the baseline findings.
- As the focus is DRR, all major risks of disaster have been identified per branch as well as capacity available. All activities of this projects will contribute to reduce those risk by focusing on the region with a high need based on the baseline findings.
- The project should consider these additional proposed actions to address the WASH conditions, behaviours and practices in the intervention areas through the findings presented above. Health education messages need to be customized for low literacy levels; in this case the women and more interactive approaches like PHAST should be used. Behaviour change communication (BCC) is a key action point that cannot be overemphasized for hygiene and sanitation practices.
- Handwashing with water and soap/ash at critical times, and especially after defecation should be encouraged. Needless to mention, almost all the population surveyed used shared toilets with some practicing open defecation as an alternative to toilet use even when one is available. In as much as this may be considered to be lack of sanitation facilities, or lack of their maintenance, it is a learned behaviour that does not see its importance and the associated handwashing with soap/ash after defecation, as necessary. The project needs

to promote the understanding of contamination effects resulting from open-defecation and non-washing of hands at key times.

- Community Led Total Sanitation (CLTS) approach should be considered in some areas to the achievement of Open Defecation Free (ODF) villages.
- The creation and training of water management committees (WMCs) should be a high priority for project and community members, including training addressing governance and finances. Formal management and tariff payment system creates ownership and in essence, discouraging dependency during occasional breakdowns resulting to non-functioning water sources and water unavailability. There's need for community members to be sensitized to understand the need for water payment. The funds are used for operation and maintenance of the scheme, ensuring its operation and sustainability in the long run.
- Lack of treatment can lead to waterborne diseases that are entirely preventable. All these arise from communities' perception of water safety and the benefits associated with them. Health education regarding water treatment, handling, and storage should be customized and done in a localized manner. The community education should ideally be done in collaboration with the volunteers who were reported by the communities to be their source of information.

Annexes

1. **Questionnaire**

https://ee.humanitarianresponse.info/preview/::hWMOAGfO

2. **Terms of reference.**

https://kc.humanitarianresponse.info/forms/875c4c21b46d415e8b069d5243487850

3. **Terms of reference.**

Context and Justification

Problem Statement: A combination of continuing internal displacement and increasing number of returnees has placed a strain on host community resources and weakened local capacity to prepare for and respond to disasters. Of the total IDP numbers, 45% have been in displacement since 2015, and a further 30% have been in displacement since 2016, highlighting the long-term nature of the problem, and its attendant impacts. Immediate effects of the ongoing displacement include increased environmental degradation, overstretched water and sanitation infrastructure, increased food insecurity as some of the land for agriculture is occupied by IDPs, and reduced community capacity to plan and implement risk reduction measures as energies are focused on meeting survival needs.

This project, therefore, aims to contribute to increased community capacity in disaster risk reduction that combines rehabilitation of key water and sanitation infrastructure, and strengthening community structures for enhanced risk reduction, and community resource management. Risk reduction efforts will aim to cover all the key hazards identified in the Burundi Red Cross Society (BRCS) contingency plans for the three provinces, which include floods, cholera epidemics, landslides, and bush fires.

Objectives: The goal of the program is to strengthen community capacity in disaster risk reduction in three provinces hosting IDPS and returnees in Makamba, Rutana and Gitega Branches. This will be achieved through training, establishment of community risk reduction structures, rehabilitation of key water and sanitation infrastructure, and community mobilization for improved management of community

structures. The program will target 84,500 people in the three provinces, of which 25,680 will be IDPs (representing 60% of the total IDPs in the three provinces. The project duration will be one year, from September 2018 to end August 2019 with a budget of 500000USD

Proposed program outputs

Objective 1: To strengthen national and subnational Disaster Risk Reduction (DRR) coordination mechanisms, and structures

Output 1.1: Strengthen the Capacity of DRR Community committees
Output 1.2: Strengthen national and subnational DRR coordination mechanisms

Objective 2: To strengthen the community disaster risk reduction capacity through rehabilitation of key water and sanitation infrastructure, hygiene promotion, and strengthening management systems for the WASH structures.

Output 2.1: Rehabilitation of key water sources
Output 2.2: Promotion of good hygiene practices
Output 2.3: Promotion of household latrine construction

At the beginning of the program, a baseline survey is scheduled for evaluating the initial situation for the indicators.

Sample size

According the table below and taking account to the population size as well as the confidence limit, the sample size is 384 persons to be interviewed.

Hypothesized % frequency of outcome factor in the population (*p*): 50%+/-5
Confidence limits as % of 100(absolute +/- %)(*d*): 5%
Design effect (for cluster surveys-*DEFF*): 1

Sample Size(*n*) for Various Confidence Levels

Confidence	Level(%)	Sample Size
95%		384
80%		165
90%		271
97%		470
99%		661
99.9%		1076
99.99%		1501

Equation

Sample size $n = [DEFF*Np(1-p)]/ [(d^2/Z^2_{1-\alpha/2}*(N-1)+p*(1-p)]$ [4]

[4] Results from OpenEpi, Version 3, open source calculator—SSPropor. Print from the browser with ctrl-P or select text to copy and paste to other programs.

Thus, sample size and sampling techniques must allow for representativeness. PMER will discuss with the Department of Disaster Risk Reduction to discuss the number of LUs and the number of participants per LU in the evaluation exercise.

After calculation, the sample size is shown in this following table.

Province	Student	Population	Sample size school	Sample size in community	Enumerators
Gitega	3734	162979	202	106	8,0
Makamba	1424	241900	77	157	6,0
Rutana	1 500	181 603	81	118	5,0
Total	6658	586482	360	381	

If each enumerator surveys 8 questionnaires per days, 19 volunteers will complete the exercise in 5 days.

Chronogram

Activities	Period	Responsible
Elaboration of tools (ToR, data collection tools)	February 2019 Forth week	PMER CRB
Identification and training of volunteer on data collection	March 2019, first week	PMER/ Branch team for supervision
Data collection	March 2019 first and second week	PMER/ Branch team for supervision
Data collage and analysis	March 2019 Third week	PMER
Reporting	March 2019 week 3-4	PMER

Indicator	Baseline
Goal: To strengthen community disaster risk reduction capacity in 3 provinces hosting IDPs and returnees	**NA**
Objective 1: To strengthen national and subnational disaster risk reduction (DRR) coordination mechanisms and structures	
Objective Indicator 1.1.1: Number of people participating in training, by sex	**0**
Objective Indicator 1.1.2: Percentage (%) of people trained who retain skills and knowledge after two months	**0**
Objective Indicator 1.1.3: Percentage (%) of attendees at joint planning meetings who are from the local community	**0**
Output 1.1 Strengthen capacity of DRR committees	
# of volunteers & community committees trained on DRR planning (30 from each province)	0
# of DRR committees established	0
# of community committees trained on DRR action planning	0
# of trainings held on use of weather information for DRR planning	0
# experience sharing and learning visits conducted	0
# of DRR capacity assessments conducted in the 3 provinces	0
# of Red Cross units supported to establish DRR funds	0
# of communities supported to develop DRR plans, contingency, hazard maps	0
Output 1.2 Strengthen national and sub national DRR coordination mechanisms	
# of support provided in organization and facilitation of DRR coordination meetings at national level	0
# of support provided in organization and facilitation of DRR coordination meetings at province level	0
# of DRR information disseminated at province and community level	0
# of good DRR practices from other provinces or countries disseminated	0
# of experience sharing for DRR Coordination teams across the 3 provinces conducted	0
# of sessions held for training community committees on CEA	0
# of joint capacity assessment conducted for the DRR sub regional platforms	0
Objective 2: To strengthen national and subnational disaster risk reduction (DRR) coordination mechanisms and structures	
Output 2.1 Rehabilitation of key water sources	
# of key water sources rehabilitated	0
# of communal water collection points rehabilitated	0
# of water user committees established/strengthened	0
# community level artisans trained on routine maintenance of water supply systems	0
# of basic tools sets procured for water system maintenance	0
# of capacity assessment of the existing water sources conducted	0

Output 2.2 Promotion of good hygiene practices	
# of hygiene promotion clubs established in selected communities	0
# of hygiene promotion Clubs established in schools	0
# of training participants trained on hygiene promoters in PHAST methodologist	0
# of hygiene promotion campaigns conducted using mobile cinema and radios	0
# of CHAST tool kit produced	0
# of PHAST toolbox images procured	0
# of trainings of PHAST and CHAST conducted	0
# of household monitoring visits conducted	0
Output 2.3 Promotion of household latrine construction	
# of trainings conducted on use of local material for latrine construction	0
# of technical assistance provided in siting and setting of HH pits	0
# of public awareness rising and education on using latrines carried out	0
# of monitoring visits of construction activities conducted	0