



## **Intergovernmental Authority on Development (IGAD) Biodiversity Management Programme (BMP) In the Horn of Africa**



**Rainwater harvesting and water catchment improvement  
interventions in Laga Badana Bush Bushel Intervention sites Ras  
Kamboni- Jubbaland, Somaliland**

**Baseline assessment report,**

**Prepared by Savana Consultancy and Research Service, and World  
Agroforestry Centre, February, 2017**

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**Acknowledgements:** This report is outcome of a project that support the conservation of the biodiversity in the cross border area between Kenya and Somalia that is managed by the World Agroforestry Centre (ICRAF) and funded through the Biodiversity Management Programme (BMP) supported by IGAD and the European Union. Additional information on the BMP project can be found at: <http://www.worldagroforestry.org/igad-bmp/overview>

**Published by:** The World Agroforestry Centre (ICRAF), Nairobi, Kenya.

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**Citation:** Mohamed A. Ibrahim, Abdullahi M. Mustaf and Ibrahim M. Ali, 2017. Baseline assessment report to pilot rainwater harvesting and water catchment improvement interventions in Laga Badana Bush Bushel Intervention sites Ras Kamboni- Jubbaland, Somaliland. A report prepared for the IGAD Biodiversity Management Program. World Agroforestry Centre (ICRAF) Nairobi 30 pages.

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Copies available from: A digital copy of this report is available for download from <http://www.worldagroforestry.org/igad-bmp>

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## Abbreviations and Acronyms

|        |   |
|--------|---|
| FAO    | Food and Agriculture Organization                     |
| INGO   | international non-governmental organization           |
| NRM    | Natural Resource Management                           |
| SWALIM | Somalia Water and Land Information Management Project |
| ICRC   | International Committee of the Red Cross              |
| UNEP   | United Nations Environment Programme                  |
| UNDP   | United Nations Development Programme                  |
| UN     | United Nations  |
| USA    | United States of America                              |
| UNICEF | United Nations International Children's Fund          |
| NGO    | non-governmental organization                         |
| WASDA  | Water and Sewer Distributors of America               |
| FGD    | Focused Group Discussion                              |
| KI     | Key Informant   |
| IGAD   | Intergovernmental Authority on Development            |
| BMP    | Biodiversity Management Program                       |
| ICRAF  | World Agroforestry Centre                             |
| AWD    | Acute Watery Diarrhea                                 |
| HIJRA  | Humanitarian Initiative Just Relief Aid               |
| RWH    | Rain water harvesting                                 |

## **Acknowledgement**

This report was commissioned by the World Agroforestry Centre (ICRAF) and the draft was prepared by Savana Consultancy and Research Services (SCRS). Special gratitude goes to the ICRAF team for their support and input during the preparation and implementation of the study. Similarly, we express our special thanks to Hon. Mohamed Yusuf Omar, the Minister of the Ministry of Minerals, Energy and Water of Jubbaland state of Somalia and his team at the Ministry for their determination in supporting us during the implementation of the study despite the challenges in the region. We would also like to point out the representatives of the Ministry of Livestock, forestry and Range of the Somali Federal Government for their contribution into the implementation of the study.

Likewise, many thanks go to the local authorities and the communities of the study area who welcomed the research team and cooperated in providing the information needed. Last but not least, we wish to acknowledge IGAD and the European Union for generously funding of the study through the project “Biodiversity Management Programme (BMP)”.

## Executive summary

Somalia is located in an extreme water scarce area, where most of the available water resources exist in rivers shared with neighboring countries and demand for water is increasing due to the population and urban growth. Many sources of water in Somalia have been damaged or have lacked maintenance since the outbreak of conflict in the early 1990s. A total of 1.2 billion people still do not have access to safe drinking water and another 1.7 billion do not have proper sanitation. Lack of funds and investments for water development is one major reason and threat for a looming global water crisis. Other obstacles are political, social and environmental. The main objective of the baseline survey was to assess the current situation of water availability, types of water sources existing and the techniques used for rain water harvesting in the area. Additionally, the assessment determined the potential opportunity for communities to support in improving the water availability in the area. To realize the objectives of the assessment, consultants for SCRS interviewed various parts of the community (local authorities, community elders and women) in the area.

Based on the findings from the baseline survey conducted in Ras kamboni, results revealed that access to clean water is the biggest challenge in the area. Lack of development agencies and government support to address the challenge is worsening the water access situation for people living in the area. The consultants found that the few available water sources (shallow wells) are salty with the exception of only one water pan for RWH which provides water safe for drinking after rainy seasons. The limited amount of water available consequently limits community livelihoods options such as irrigation for crop farming since they can only depend on rain fed agriculture. Lack of capacity to search for alternative sources of water exacerbates the situation in the area. It is therefore recommended to have interventions addressing the water challenges in Ras Kamboni by community capacity building through training and providing support material to rehabilitate the existing water pan to improve the RWH or excavate new water points to increase water availability in the area. This is proposed as long term intervention for Ras kamboni communities.

The consultant further recommend the following;

- The project to capacity build the community the local authority in the project sites on various technologies to access, collect and store clean and safe water,
- The project to generate policy recommendation to enable the community lobby for government support in the area,
- The local authority in partnership with other stakeholders to support communities with extension services for sustainable long term adoption of RWH technologies management of water catchments

- The project to support the community to rehabilitate the existing communal water catchment in the area.
- RHW intervention that could engage local communities' contribution for instance manual rehabilitation of the water catchment could enhance project ownership and create short term employment through provision of labour to support community wellbeing.

### **About the Biodiversity Management Programme**

Biodiversity Management Programme (BMP) is an IGAD initiative aiming to contribute to poverty reduction by improving the social and economic wellbeing of the populations in the IGAD region, through a better regional integration in the environmental sector. Its purpose is conservation and sustainable management of the ecosystems in the IGAD region, in order to contribute to lasting ecosystem goods and services. ICRAF is one of the BMP Implementing Partners and is managing The Tana-Kipini-Laga Badana Bush Bushle Land and Seascape (North East Kenya and South East Somalia), one of the three projects financed through the IGAD Biodiversity Management Programme in the Horn of Africa to develop collaborative management in three cross-boundaries land and seascapes between Kenya-Somalia, Djibouti-Ethiopia and Ethiopia-South Sudan. The project has a number of project activities and this particular activity aimed to initiate pilot Rainwater Harvesting (RWH) and water catchment improvement interventions Linked to Project Activity 7 *“Forestry, Agroforestry and Rainwater Harvesting Programme for Re-greening the Environment.”* The RWH interventions complements the expected result 2; *“Training and support provided on rainwater harvesting techniques to community members”*.



## Introduction

Somalia is located in an extreme water scarce area, where most of the available water resources exist in rivers shared with neighboring countries and demand for water is increasing due to the population and urban growth (UNICEF, 2015). All livelihood options are dependent on water availability, making access to water a persistent environmental problem for most communities in Somalia. Water shortage is one of the two most worrying problems for the new millennium (World Resources Institute, UNEP, UNDP and World Bank, 1998). Many sources of water in Somalia have been damaged or have lacked maintenance since the outbreak of conflict in the early 1990s (ICRC, 2014). Furthermore, Somalia experience water shortages due to recurrent droughts and excess pressure on the few available water supply points (ICRC, 2014).

Despite of declaration by the UN the decade of '1981-1991' as the International Decade for Water Supply and Sanitation, a total of 1.2 billion people still do not have access to safe drinking water and another 1.7 billion do not have proper sanitation (Somalia center for water and environment). In Somalia less than one in four people have access to improved sanitation. The worst affected people live in rural villages where toilets and latrines are rare, and open defecation stands at 83 percent, the third highest rate in the world (UNICEF, 2015). Lack of funds and investments for water development is one major reason and threat for a looming global water crisis. Other obstacles are political, social and environmental.

Water issues have been internationalized during 1990s for number of reasons including scarcity, droughts, floods, pollution, sharing, and conflicts. The lack of clean water, has also led to a sharp price increase for drinking water. Price for a barrel of water (200 litres) now costs 100,000 Somali Shillings (more than US\$5) a price far out of reach for most Somali families (OXFAM, 2015). Contaminated water, lack of sanitation, waterborne diseases are a constant threat to health (Oxfam, 2015). Only 30% of Somalis have access to clean water, leaving large portions of the Somali population under continuous risk from waterborne diseases like Acute Watery Diarrhea (AWD), cholera and polio (UNICEF, 2015). Besides lack of safe drinking water, poor hygiene and a lack of sanitation are significant contributors to high disease rates (Mercy USA, 2015).

While 860,000 people are still living in crisis conditions, many foreign donors have reduced their humanitarian aid budgets for Somalia (OXFAM, 2015). International and local NGOs (such as Mercy USA, Oxfam and HIJRA) have continued to supply clean water and sanitation to people living in several parts of Somalia. NGOS are calling on international donors not to abandon the Somalia. There is an urgent need to develop a holistic approach to reducing waterborne diseases.

It is from this background that IGAD BMP purposed to pilot and support rainwater harvesting interventions in Ras Kamboni in Somalia. The baseline survey aimed to assess the current status of access to water in Somalia. The pilot project envisage capacity building communities on rain water harvesting and provide support to establish demonstration sites on RWH in selected intervention area. Additionally, once the water availability is improved during this pilot project, communities will be able in the long term to set up tree nurseries for forage for bees and tree seedlings for wood to ease the pressure on the forest to promote socio-economic and environmental sustainability.

### **Objectives of the baseline assessment**

The objective of assessment was to collect, analyze and compile baseline information on Rainwater Harvesting and water catchment improvement in Ras Kamboni.

Specific Objectives;

- i. Assess water (for human, livestock and crops) situation and the need for water use efficient technologies in Ras Kamboni project site and suggest interventions appropriate for the community
- ii. Collect baseline information on current RWH technologies and identify alternative sustainable efficient RWH technologies for the area
- iii. Identify degraded farms/catchments for conservation interventions in target sites and suitable RWH technologies in the project sites

To achieve the objectives of the project activity, the consultant was guided by the following questions; 1) to determine the main source of water in the area- is it ground water?, Surface water or rainwater? 2) What is the colossal volume of rainwater in Ras kamboni? 3) What percentage volume of water is used for domestic, pastoral, farming, fishing, and other purposes? 4) What is the level (in percentage) of ground water recharge in the area? 5) What is the volume (in percentage) of rainwater that run off into the ocean? 6) What is the level (in percentage) of evapotranspiration in the area?

## **Methodology**

### **The project area**

Badhadhe district is one of the four districts of the Lower Juba Region that is located in South of Somalia adjacent to Kenya's border close to the coastal town of Lamu in Kenya (Latitude of -1.00207 and Longitude 41.66144). The district has a total population of 49,008 with 85% or 41,656 living in rural villages and remote satellite settlements with limited access to basic social services (UNDP-2014). The Laga Badana Bush Bushle national park is situated at 1°23'S 41°35'E covers an area of 3,340 km<sup>2</sup>. The park adjoins Boni-Dodori National Reserves in Kenya. This coastal cross border area is host to a large variety of biodiversity, which is under human driven degradation threat. The IGAD BMP project is envisaged to reverse the degradation trend to contribute to poverty reduction by improving the social and economic wellbeing of the populations for conservation and sustainable management of the ecosystems in the IGAD region, in order to contribute to lasting ecosystem goods and services. Communities in Laga-Badana are mainly pastoralists and their main socioeconomic activities are livestock production, small businesses, casual labour and extraction of forest products mainly for commercial charcoal production, firewood, timber and wild honey production. The project targets Ras Kiamboni village with a population of 2500 households, supporting community awareness on biodiversity management, rehabilitate degraded water catchments and develop value chain for honey production in the village.

### **Data Collection**

The consultant employed participatory data collection techniques which included; desktop review, stakeholder engagement and interviews through focus group discussions (FGDs) and with Key Informants (KIs). 5 FGDs and 10 KIs from community leaders/religious leaders and local authorities were interviewed. Site visits were complemented with the interviews.

### **Data Analysis**

The data that was collected was mainly qualitative and was synthesized and presented as responds to the questions used in tool.

### **Results and discussion**

The section below describes the findings of the desktop review and baseline survey with stakeholders in Ras Kamboni.

## **Desktop review**

The consultant reviewed a number of recent studies conducted on water issues in Somalia and these included;

### **1. UNICEF 2015: Water, Sanitation and Hygiene**

UNICEF conducted some assessment in Somalia in 2015 and reported the following;

- Lack of sanitation, safe water facilities and services and poor hygiene are significant contributors to the high rates of disease in Somalia.
- The study recommended the need to develop a holistic approach to address the diseases caused by lack of water as well as support intervention that provides clean water to the population in Somalia
- Additionally, UNICEF reported the finding of a household surveys in 2009 and 2010 which showed a close correlation between areas of high malnutrition and areas with poor access to water and sanitation.

### **2. Mercy USA (2016); A Safe Access to Clean Water in Somali**

- Since 1997, Mercy-USA has played a vital role in providing safe drinking water in Somalia, digging and repairing about 500 wells across the country with the funding provided by the International donors. Communities with a combined population of over 600,000 persons are benefiting from this safe water program. In Ras kamboni, usually support by the NGOs is very rare and the only NGO which supported the community with water was Wajir South Development Association (WASDA). Currently, there are 10 communal wells In Ras kamboni. Clean water contributes to the entire country's steps toward stability and a resurgence of prosperity.
- Water availability improves the quality of life for women and girls, as the chore of fetching water is their role in this traditional society.

### **3. OXFAM 2014; Contaminated water a grave threat to Somalis**

Oxfam with its local partners have continued to implement programs supporting communities with clean water and sanitation facilities to various parts of Somalia particularly in the South central of Somalia. The followings can be drawn from the review of their reports;

- Lack of funds and investments for water development is one of the major reasons and threats for a looming global water crisis. Other obstacles are political, social and environmental.
- Contaminated water and a lack of sanitation are killers in Somalia, where waterborne diseases are a constant threat to the health of communities

- Only 30% of Somalis have access to clean water, leaving large portions of the Somali population under risk from waterborne diseases
- Many foreign donors have reduced their humanitarian aid budgets for Somalia (OXFAM, 2015).

#### **4. International Committee of the Red Cross; Somalia: Delivering clean water in a conflict-stricken country (2014)**

- Many sources of water in Somalia have been damaged or have lacked maintenance since the outbreak of conflict in the early 1990s
- Furthermore, Somalia experience water shortages due to recurrent droughts and excess pressure on the few available water supply points
- Somalis also find their access to water prevented by insecurity arising from the ongoing conflict.
- Major floods too disrupt access to clean water in most years, as regular sources become contaminated by heavily silted floodwater.
- ICRC respond to the most acute needs, when all other options are exhausted, by trucking water in tanks to communities as an emergency intervention
- For water sources contaminated by floods, the ICRC helps decontaminate and clean them once the floodwaters have receded
- The ICRC invests much of its resources into projects that promote long-term sustainability of water sources, and which also seek to maintain the number of access points to water.
- ICRC works by repairing and rehabilitating existing water sources, such as boreholes, hand-dug wells and pumps, and drinking-troughs for animals.

#### **5. UNDP; improving access to water for local communities**

- In Somalia, less than 30% of the population has access to clean water.
- In the worst conflict affected areas, that figure drops to 20%.
- This reduces access to adequate sanitation and hygiene facilities, and increases the risks of waterborne diseases.
- UNDP worked with the communities and local authorities in the country wherever possible to come up with a comprehensive plan to address water prices though this was not the case in Ras kamboni.

## **6. Somalia center for water and environment; Somali WATER Issues**

- Water shortage is one of the most worrying problems in Somalia
- Somalia is located in an extreme water scarce area, where most of the available water resources exist in rivers shared with neighboring countries and demand for water is increasing due to the population and urban growth.
- Somalia is lacking, not only water resources, but also the human and financial resources to set up institutions and water infrastructures that are desperately needed.

## **7. USAID; Somalia water and sanitation profile**

- Humanitarian agencies have had to implement major water trucking operations and other measures to provide water to drought-affected communities on multiple occasions.
- Humanitarian agencies, non-governmental organizations (NGOs), and the donor community significantly scaled-up efforts in the past few years to improve access to water in rural areas through the creation of boreholes.
- However, these efforts are limited due to security problems caused by the ongoing conflict.

## **Findings based on the interviews during field mission**

### **Access to water sources**

In Ras Kamboni area, the average water for family use is 80-100 liters per day depending on the size of the household. The area has few water sources which dry up immediately after the rains. Additional water sources are affected by major floods in the area which is worsened by the lack of financial capacity to desilt the water catchment. Additionally, the collected water from wells is unsafe for drinking due to salinity which contributes to major water borne diseases in the area.

The main sources of water in the area are privately owned salty shallow wells. There is also one water catchment in the area which community uses for drinking after the harvest of the rain water during the rainy seasons but it dries quickly as it is filled by soil and it needs rehabilitation. The water catchment (war biyood) in the area was dug by an NGO and currently needs much rehabilitation and maintenance. The distance to shallow wells is 10-15 minutes' walk while the nearest rain water collection basins are 1 hour and half walk.

The capacity of the water catchment mentioned above that is commonly used is 120,000 liters. Water catchments are dug by caterpillar bulldozer and cost was/is up to \$37,000 while building an average pond costs up to \$5,500 to \$7,000. The figures below show the different sources of water in Ras Kamboni.



Figure 1: From top left; people collecting water from shallow well, water pond, people collecting water from shallow well and water pond (savana consultancy, 2016)

### **Initiatives to address water issues**

OXFAM, Mercy USA and local partners of the International NGOs are supporting access to water in other parts of Somalia but there are no current NGO or government initiatives to support access to water in Ras Kiamboni area as confirmed by the community leaders and local authorities.

### **Use and management of water resources available**

Water catchments are used by people in the area. Most of the water sources are privately owned except one shallow well dug by a resident that is commonly used and a one rain water catchment. Only those two are commonly used for free. The privately owned are managed and maintained by their respective owners but those communally used do not get maintenance at all. Committees for the use of water and the management of water resources are needed in the area. There were times committees were in the area but are not effective currently.

### **Rainwater harvesting**

Rain water harvesting is a common practice in Ras Kiamboni. People use any kind of storage structures to collect water from their roofs. Likewise, there are water catchment grounds (locally known war biyood or war) used to collect rain water. Also, people in the area use roof water catchment but the water only lasts for a short period. Water catchments last for three months after the rains. After water catchments dry up people and animals fetch water from salty shallow wells; however farming activities are paused until next raining season. People use barrels to store roof water.

### **Conflict over water resources**

There are no any conflicts over the access to water sources as reported by participants interviewed. If minor disagreements emerge, they are solved by the community elders in the area. Conflicts are minimized by creating a culture of co-existence and mutual cooperation among communities living in the area by the administration and community elders. The main actors in solving conflicts are community elders and religious leaders. If there are serious conflicts then the local authority intervenes.

### **Use of ground water**

People use less ground water. They use shallow wells when rain water catchments dry up. And they are about 6-7 meters deep. The cost of digging a shallow well is (\$3000), boreholes cost (\$120,000) and ponds (\$5,500 to \$7,000 each).



### **Other uses of water aside from domestic use**

Since the amount of water available is limited, the local communities use the water they get for household use and livestock. At the moment irrigation is not practiced in the area, the community practice rain fed farming due to water scarcity.

### **Extension services relating to access to water**

There aren't trainings whatsoever provided to the people in the area as stated by the local residents who participated in the interviews.

### **Policies and institutions with regards to access to water**

No existing policies and no institutional plans promoting access to water are in place currently. The local authorities are eager to collaborate with any development urgency willing to support them in strengthening the policy development and institutional capacity to implement water challenges.

### **Capacity building on water issues**

Baseline results indicates community's need for capacity building on technologies associated with collection and storage of water, access to ground water and rain water harvesting technologies. Strengthening of institutions and policies on water issues is an urgently need in Ras Kiamboni area.

## **Conclusions**

Findings revealed that access to clean water is the biggest challenge facing residents of Ras Kiamboni. Lack of development agencies and government support to address the challenge is worsening the living situation for the communities in the area. The few available water sources are salty with only one catchment which provides water safe for drinking. But this is not enough because the population demand is higher than the available resources. The limited amount of water available limits community options when it comes to farming since they can only depend on rain fed agriculture. Lack of capacity for alternative sources of water is another challenge. There's need to have interventions addressing the water challenges in Ras Kiamboni from capacity building through training and providing support material to rehabilitate or excavate a new water point to reduce pressure on the one existing water catchment in the area.

You could as well mention the challenge (s) that has limited the community from rehabilitating\excavating an additional catchment

## **Recommendations**

We propose long term interventions to address water challenges to communities in Ras kamboni. Based on the assessment, the consultant recommends the following;

### **Immediate/Short term**

- The project aims to capacity build the community and the local authority in the project sites on various technologies relevant to the intervention site identifying pilot sites for RWH training the community with the best possible way to collect RW for selected community members and water management techniques for sustainable availability of water to the local communities to access, collect and store clean and safe water
- The project aims to support the authority on the best approach to seek for extension services to support the community with access and management of water catchments
- The project to support the community in rehabilitating the existing water point in the area

### **Long term**

- The project intends to generate policy recommendations to enable the community lobby for government support to promote access to water in the area

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## List of Annexes

### Annex 1: Questionnaire used to collect the data

#### **Support for Implementing IGAD BMP Project Activities in Laga Badana Bush Bushle Intervention site (Ras Kamboni)**

##### **Baseline assessment to pilot rainwater harvesting and associated for Rain water Harvest improvement interventions**

Biodiversity Management Programme (BMP) is an IGAD initiative aiming to contribute to poverty reduction by improving the social and economic wellbeing of the populations in the IGAD region, through a better regional integration in the environmental sector. Its purpose is the conservation and sustainable management of the ecosystems in the IGAD region, in order to contribute to lasting ecosystem goods and services. ICRAF is one of the BMP Implementing Partners and is managing The Tana-Kipini-Laga Badana Bush Bushle Land and Seascape (North East Kenya and South East Somalia), one of the three projects financed through the IGAD Biodiversity Management Programme in the Horn of Africa to develop collaborative management in three cross-boundaries land and seascapes between Kenya-Somalia, Djibouti-Ethiopia and Ethiopia-South Sudan. The main objective of the consultancy is to support the implementation of the three broad project activities to enhance community capacity building and promote livelihood biodiversity based value chains in Raas Kamboni project site in Somalia. The general objectives of the project are: 1) to mobilize community and create awareness on Natural Resource Management (NRM). 2) to pilot rainwater harvesting and associated water catchment improvement interventions 3) to support the development of value chains which are based on biodiversity related ecosystem services and goods (including honey value chain). Objective of the assessment 1) To determine the main source of water in the area- is it ground water?, Surface water on rainwater harvesting? 2) What is the colossal volume of rainwater in Ras kamboni? 3) What percentage volume of water is used for domestic, pastoral, farming, fishing, and other purposes? 4) What is the level (in percentage) of ground water recharge in the area? 5) What is the volume (in percentage) of rainwater that run off into the ocean? 6) What is the level (in percentage) of evapotranspiration in the area?

**This discussion will take no more than 1 hour, and I will be taking notes on what we are discussing.**

**Anonymity:** Despite the discussion being noted down, I would like to assure you that the discussion will be anonymous. The notes will contain no information that would allow individual subjects to be linked to specific statements. Please answer as accurately and truthfully as possible.

Questionnaire number: \_\_\_\_\_

Date: \_\_\_\_\_

Region: \_\_\_\_\_

District: \_\_\_\_\_

Village.....

Background information:

Background information:

a. Name \_\_\_\_\_ of  
Participant.....

b. Gender: [Male]; [Female]

c. Occupation: [Farming]; [business]; [fishing]; [farming, fishing and business];  
other

(specify).....

...

d. Member of community group/organization? [Yes]; [No] If yes, Name of the  
community group/organization

e. Level of education [None]; [Primary]; [Secondary], [Tertiary/College];  
[University]

f. Average \_\_\_\_\_ household  
income.....

g. Number of household members

h. How many years have you been staying in this place?  
.....

## 1.1. Land ownership

- Leased
- Inherited (family land)
- Total \_\_\_\_\_ land  
(acres).....
- Owns Land title deed [Yes]; [No]

1. Do you have access to water sources? Do you face water challenges?
2. What is your household daily water requirement (Litres)?
3. What are the main sources of water in Ras kamboni?
4. Are the sources natural or manmade?
5. What is the distance to the nearest water sources?/How much time does it take to reach the nearest water source
6. Please name the type and number of the different water catchment available in the area?
7. Are there organizations/government agencies ( interventions) who addresses water challenges?
8. Are there initiatives to mitigate water challenges?
9. Who uses the catchment is it individual or community water collection point?
10. Who manages\maintain the water catchment?
11. What is the capacity of the water catchment described above?
12. Are the catchment permanent or they dry up after some time?How are sources such as water pans/ponds done? What is the cost for average size with capacity to meet household level requirement (this is general and highly variable depending on family requirements, size etc)
13. Is the community in the area use roof catchment? If yes, is it common practice in the area? If not why it is not used, community not aware or it is lacking?
14. How are sources such as water pans/ponds done? What is the cost for average size with capacity to meet household level requirement (this is general and highly variable depending on family requirements, size etc)
15. Which are the rain seasons in the area? (Months when it rains, could specify short and long rain seasons if rainfall is bi-modal)
16. How long after the rainy season does the catchment hold water?

17. Once the catchment dries where do you collect water for domestic, pastoral, farming, fishing, and other purposes?
18. What is the status of the water catchment? Are they functional or nonfunctional, do they need rehabilitation?
19. Are there conflicts over access to water resources?
20. How are these conflicts resolved?
21. Who are the main actors in resolving conflict related to access to water?
22. What are ways in which community minimize conflicts related to access to water resources?
23. What other technologies apart from natural catchment used in the area to collect and store what?
24. Do people use ground water? How deep is the aquifer? (in terms of feet)
25. What is the cost of excavating a shallow well, borehole and ponds?
26. Are there any initiatives supporting access to water in the area? Which ones
27. Is rain water harvesting been used as a technology to collect and store water in the area?  
Please explain
28. Which is the most common approach used to collect and store rain water?
29. Other than domestic use and livestock, is water used for crop irrigation?
30. Which crops are irrigated?
31. Which type of irrigation is commonly practiced in the area?
32. Rank in terms of preference the technologies used to access water assessing the advantages and disadvantages of each type of technology
33. Where is the water catchment/storage sited?
  - a. Types of vegetation around the place
  - b. Size of land set aside for the water catchment
34. What strategies do farmers use to minimize water loss through evaporation and preserve water quality?
35. Are there any extension services such as training on excavating, management and use of the water catchment in Ras Kiamboni?
36. Who are the main actor in water collection and storage?
  - a. At construction\installation of rainwater harvesting technologies?
  - b. water collection,
  - c. maintenance of the catchment

- d. use of the water from the catchment

37. Conduct a SWOT analysis of access to water in Ras Kamboni

- a. Strengths of the water catchment, access to ground water and rainwater harvesting technologies
- b. Weaknesses of the water catchment, access to ground water and rainwater harvesting technologies
- c. What are the opportunities for the water catchment, access to ground water and rainwater harvesting technologies
- d. Any threats to the water catchment, access to ground water and rainwater harvesting technologies
- e. Do farmers have any intentions of establishing the water catchment, access to ground water and rainwater harvesting technologies

38. Are there existing policies and institutional plans promoting access to water?

39. Capacity building specific to water harvesting (rain water harvesting and use technology(s) knowledge/skills)

40. What do communities recommendations based on the baseline assessment?

- a. Proposed Short Term Interventions
- b. Proposed Short - Medium Term Intervention
- c. Proposed Medium Term Intervention
- d. Proposed Long Term Intervention

## **Annex 2: List of participants**



## List of participants in data collection for the baseline assessment carried out in Ras kamboni

| SN                                    | NAME   | CONTACT    |
|---------------------------------------|--|------------|
| <b>Elders</b>                         |  |            |
| 1                                     | Cali Nuur Qaasin                               | 0615138702 |
| 2                                     | Bashiir Jaale                                  | 0616822780 |
| 3                                     | Bare shiiloow                                  | 0616629892 |
| 4                                     | Maxamed cali gasarow                           | 0615316345 |
| 5                                     | Moallim Nur Bashir                             |            |
| 6                                     | Adam Shabaan Nur                               |            |
| <b>Local Authority</b>                |  |            |
| 1                                     | Abdullahi Diriye (deputy commissioner)         | 0619994485 |
| 2                                     | Abdi Siraad (Head of the police in Raskamboni) | 0618586674 |
| 3                                     | Omar Ismael Nur (Ministry of Water and Energy) | 0615181553 |
| 4                                     | Abdullahi Yusuf (Ministry of Water and Energy) | 0615290826 |
| <b>Other members of the community</b> |  |            |
| 1                                     | Cismaan Xasan Aadan                            | 0617108173 |
| 2                                     | Xuseen Xaadeey                                 | 0618820103 |
| 3                                     | Cali Baar Madey                                | 0616629980 |
| 4                                     | Xasan Nuuriye                                  | 0615972410 |
| 5                                     | Axmed cabdi maxmuud                            | 0167343241 |
| 6                                     | Muuse qaasin                                   | 0618586700 |
| 7                                     | Maxamud cali cabdi                             | 0617772339 |
| 8                                     | Maxamed masuwa                                 | 0618586928 |
| 9                                     | Subeer cabdiweli                               | 0615290267 |
| 10                                    | Deeqoow Aadan sanay                            | 0618671068 |
| 11                                    | Dahir Cumar                                    |            |
| 12                                    | Cismaaciil Maxamud                             | 0618275075 |
| 13                                    | Ibraahin jeeri                                 | 0618221593 |
| 14                                    | Cabdi naasir xaaji                             | 0615941497 |
| 15                                    | Cabdulahi diiriye                              | 0619994485 |
| 16                                    | Cabdi siraad                                   | 0618586674 |
| 17                                    | Axmed cumar                                    | 0618185690 |
| 18                                    | Haashimuu fataax                               | 0618586688 |
| 19                                    | Cadday Ciise                                   |            |
| 20                                    | Muuse laali                                    |            |
| 21                                    | Ibraahi m shide                                | 0618275129 |
| 22                                    | Masuwa talibuu                                 | 0618213939 |
| 23                                    | Maxamed cismaan tartiib                        |            |
| 24                                    | Sacdiyo ibraahin                               | 0618109192 |
| 25                                    | Nasteexo qaasin                                | 0615680134 |
| 26                                    | Khadiijo ibraahin                              | 0618221911 |
| 27                                    | Aamino xasan ameeriko                          | 0616510509 |
| 28                                    | farxaan cabdiraxmaan                           | 0618586686 |
| 29                                    | Aamino maxamed maxamuud                        | 0618586544 |
| 30                                    | Shukri cabi jinni                              | 0618272841 |
| 31                                    | Wanaago cali                                   | 0615756819 |
| 32                                    | Aamino cabdalle muqtaar                        | 0617156230 |
| 33                                    | Axmed cabdi maxamuud                           | 0615317479 |
| 34                                    | Muxumad Cabdulle                               |            |