Wisdom at the source of the Blue Nile

University of Connecticut

# Citizen Science Initiative

## PIRE: Water Taming in Ethiopia

Field Visit Report

**On**

## Selection of High School Students and Teacher within the selected watersheds

**By Mamaru A., Seifu A., Muluken A.**

**July 2017**

**Bahir Dar, Ethiopia**

# Contents

## Summary

This report is about the field visits for selecting the watersheds and high school for citizen science initiatives. The main task for the field visit was to travel to the selected watersheds, identifying possible areas for hydro-climatological data and selecting the nearby high schools. Then discussions were made with high school directors to select high school kids and one representative teacher for data collection within the watersheds using the citizen science approach. The selected high schools were Mengesha Jembere general high school (near Branti watershed), Merawi high school (near Koga irrigation area) and Addis Ray high school (near Awramba watershed). The team discussed the citizen science initiative objective and approach with the high schools directors and teachers. The selected watersheds were described to them and discussion was made on how to select the teacher and students who are living within the selected watersheds and community. At the end, agree on the issues and the responsibilities of the high school. The team requested the directors to select from 2 to 3 students by taking gender into considerations within each watersheds or community. As per the agreement the high school directors have provided the names of teachers and high school kids as attached in the Appendix-1, table A1.

## 1. General description on the watershed and high school selection

The watershed selection was based on the recommendation from the social scientist and students. In addition discussions were made among the team of the citizen science initiative at BDU and UConn. The team traveled to the proposed sites and made field visit. Graduate students from Engineering Hydrology master program selected for the initiative were part of the travel (Table 1). Even though the team were not directly involved in selection of the high school students, we advised the high school officials the criteria's needed (eg., student should live inside the watershed, student with good academic performance, etc) to get appropriate students for the project. The selection criteria used were similar for all watersheds (Koga irrigation area, Awramba and Branti watershed). The selected watersheds over the Blue Nile basin are indicated in Figure 1.

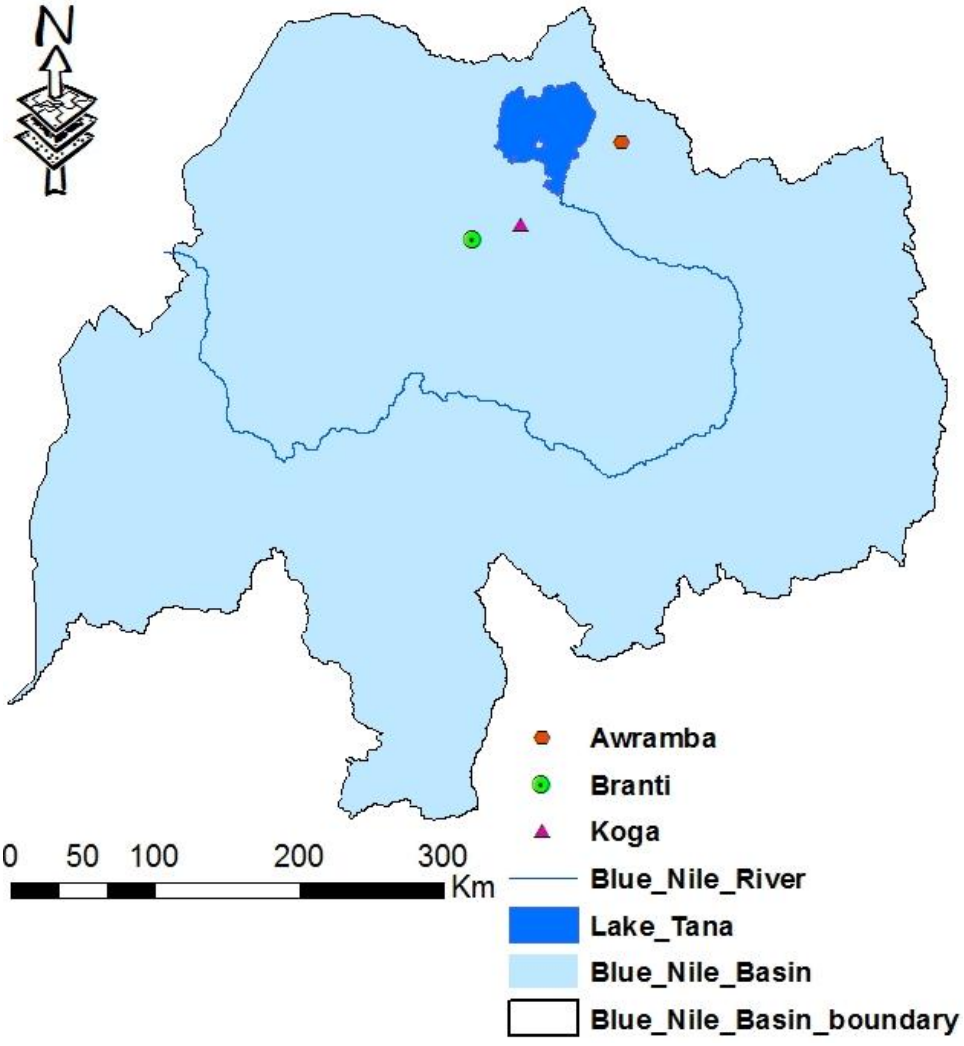

Figure 1 Geographical location of the selected areas over the Blue Nile basin

**Team Members**

The team to the field visit includes the technical advisors/consultants of the project, the social scientist and the graduate students whom will train the high school kids for each watershed. The team members to the field visit to each site were summarized below.

Table 1 List of the team members for the field visit

| No. | Name | Responsibilities in the team | Remark |
|---|---|---|---|
| 1 | Dr. Mamaru Ayalew | Hydro-climatological data collection advisor | Field visit team leader |
| 2 | Dr. Seifu Admassu | Project coordinator and manger | Coordinator |
| 3 | Dr. Muluken Agaze | Community mobilization advisor | Community coordinator |
| 4 | Berihun Tefera | PhD student UConn | Social Scientist |
| 5 | Daniel Geletaw | Engineering hydrology graduate student at BDU for training the selected high school students and supervise the field data collection | Branti watershed |
| 6 | Birhanu Geremew | Engineering hydrology graduate student at BDU for training the selected high school students and supervise the field data collection | Awramba watershed |
| 7 | Wondale Amera | Engineering hydrology graduate student at BDU for training the selected high school students and supervise the field data collection | Koga irrigation area |

## 2. Field visit to the Awramba watershed

The Awramba watershed which is 65 km from Bahir Dar was visited on Monday June 26/2017. It is a nested watershed of Mizewa watershed that was established by Nile Basin Development Challenge program on water and food of CGIAR. The watershed was selected as the rain-fed

system for the project. The team members travelled to this site were Dr. Mamaru, Berihun Tefera, Birhanu Geremew. The first step in the visit was observations in the watershed to identify what can be monitored within the initiative. After making preliminary selection of monitoring sites for hydro climatological data collection, we directly traveled to the Addis Raye high school which is found in the center of the 7 $km^2$ Awramba watershed. We met the high school director (Figure 1), Ato Mihret Gashaw and introduced ourselves. The discussion included explaining the objective of our visit, significance and about the citizen science initiative of the project and the probable outcome of the project. We also discussed the data types to be collected and including the possible locations. At the end we requested to provide us 2 students with gender balance and one focal person from the teaching staff. Criteria for selection of students were provided by us. They were students which will stay at least 2 year in the school, students who are living near the school, active in communications and medium to best performing students. Finally we have given them 4 days time to discuss and forward the selected and possible candidates of two students and one focal teacher who supervise the students and handle the instruments.

Figure 2 Discussion with the director and high school teachers of Addis Raye high school for Awramba watershed

## 3. Field visit to Koga irrigation

The Koga irrigation scheme is located 40 km from Bahir Dar city. The scheme was earthen dam which was designed to supplement irrigation for 7000 ha for around 14, 000 household. The Koga irrigation scheme was selected by the social scientists from UConn. The area was considered as irrigation using the irrigation command. Out of the total command areas the Chehonna command area was selected as the project irrigation site for data collection. The total area of the command was estimated around 450 ha. The visit was carried out on June 24/2017. The team members travelled to this site were Dr. Mamaru, Dr. Muluken Azage, Berihun Tefera, and Wondale Amera. The first step in visiting the area was making observations in the command area where we can put the monitoring stations for soil moisture and piezometers for ground water level (Figure 2). After locating the possible monitoring sites for hydro-climatological data collection, we directly traveled to the Merawi high school around 6 km from the command area. Similar to other watershed the team first met the high school director, Ato Dereje Gashaw and introduced ourselves and discussed the citizen science initiative. The discussion included explaining the objective, significance and expected outcome of the citizen science initiative of the project. We also discussed the data types to be collected and including the possible locations. At the end we requested the high school to recruit 3 students with consideration of gender and one focal person from the teaching staff. Similar criteria mentioned above were given to the high school.

Figure 2 Discussion with the director and high school teachers at Merawi high school for Koga irrigation command area

## 4. Field visit to Branti watershed

Similar to other watershed visits, the team also visited the Branti watershed in Dangishita Kebele of Dangila Woreda which is about 85 km from Bahir Dar town. The watershed with an area of 60 $km^2$ has been monitored for 3 years through Innovation Lab for Small Scale Irrigation (ILSSI) by BDU and IWMI. The watershed has a potential of irrigation from shallow groundwater and this was well introduced by ILSSI. The watershed could be considered as the combination of irrigation and rainfed systems. The team travelled to this watershed on June 28/2017. The teams were Dr. Mamaru A., Dr. Muluken A., Berihun Tefera, Daniel Geletaw. The team also carried out observations in the watershed where the initiative can put the monitoring points and deciding before joining the high school team. In addition discussion with the community was also carried out and located the possible monitoring sites for hydro climatological data collection such as

shallow ground water level, soil moisture, and stream flow water levels. Then the team directly traveled to the Mengesha Jenberie (MJ) high school at the border of the watershed in Dangila Town. We met the high school director, Ato Yeshiwas Assefa and introduced the citizen science initiative (Figure 3). We also discussed the data types to be collected and including the possible locations. Finally we requested to provide the team 3 students with gender consideration and one focal person from the teaching staff.

Figure3 Discussion with the Director of Memgesha Jembere high school for Branti Watershed.

## Appendix-1

Table 1A: Selected high school teachers and students

| No. | Area/watershed | Name | High school and position |
|---|---|---|---|
| 1 | Koga | Dereje Admassu | Merawi high school Director |
| | | Beyene Dersesh | Merawi high school focal person teacher |
| | | Getahun Asmamawu | Merawi high school grade 9th student |
| | | Aleminesh Worku | Merawi high school grade 9th student |
| 2 | Awramba | Mihiret Gashaw | Addis Rayi high school Director |
| | | Melese Lakew | Addis Ray high school focal person teacher |
| | | Birhanu Demeke | Addis Ray high school grade 9th student |
| | | Fitih Adabrie | Addis Ray high school grade 9th student |
| 3 | Branti | Yeshiwas Assesfa | MJ general high school Director |
| | | Yichalal Demeke | MJ general high school focal person teacher |
| | | Abeje Bekele | MJ general high school grade 9th student |
| | | Misganaw Muluaddis | MJ general high school grade 9th student |
| | | Shewaye Minichile | MJ general high school grade 9th student |