Project Update: January 2020

Introduction

In the project site wetlands not only serve as habitat for threatened bird species, a source of fish, grass and water for livestock keepers, but also serves as source of domestic water (Figure 1). The local community has been wisely developed and manage a pond near to the wetland to get a clean water for domestic use.

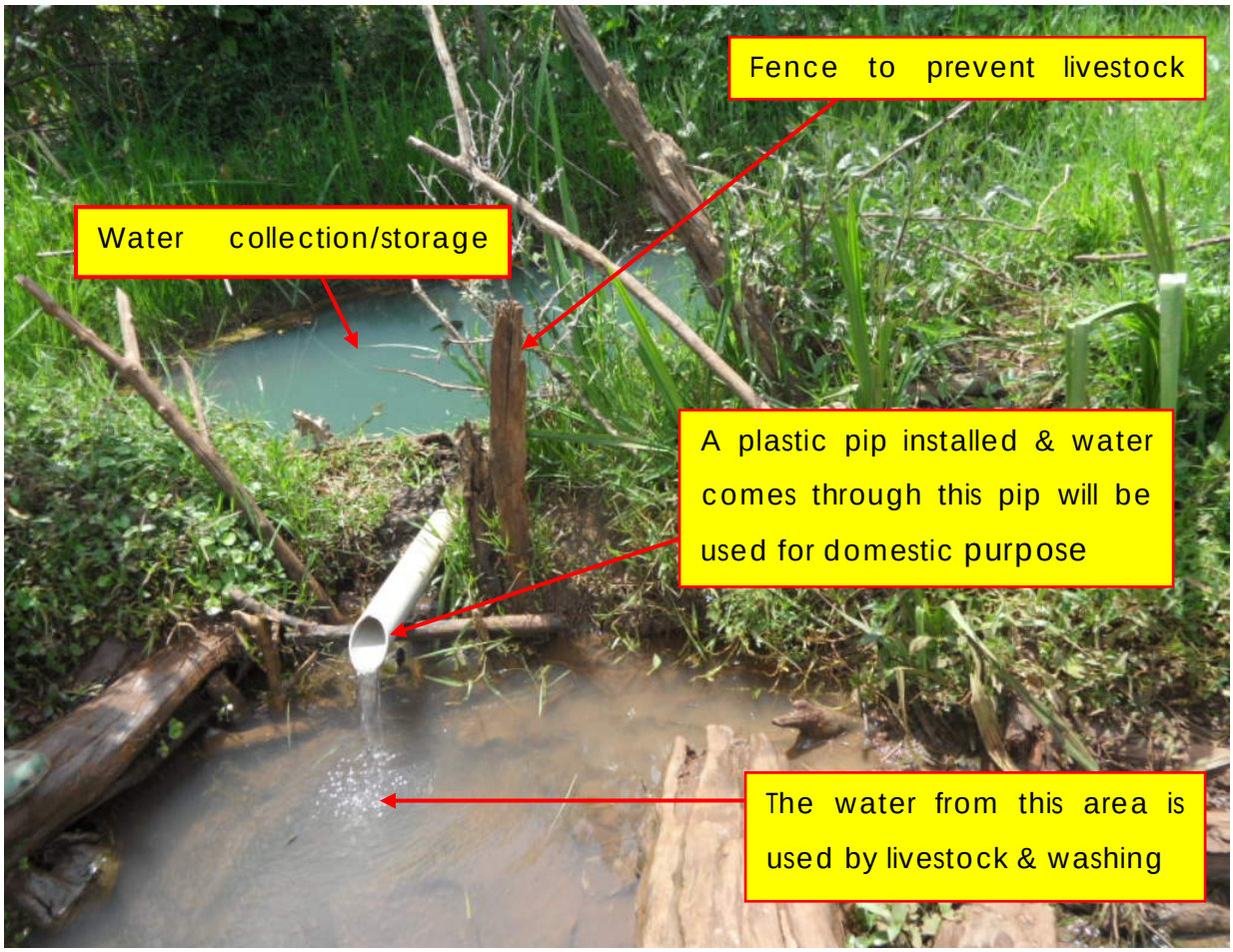


Figure 1: Local community carefully managed wetland for source of domestic water

So, wetlands in the project area is very helpful to peoples living around the wetlands via supplying clean (physically) water for their livestock, and domestic consumptions. This reduced the extra risks and challenges for women and girls spend several hours every day traveling to water sources, waiting in lines, and carrying heavy loads (water with jar). This indicates the social, economic and ecological importance of wetland in the project area for the local community.

Wattled crane conservation works

Artificial nest creation activity

The picture below (Figure 2) shows the biophysical views of one of the artificial nest creation sites. This picture may help others (readers who are not familiar with the site) to understand the overall surrounding conditions of the wetland. The wetland observed in the picture is one of the wetlands selected to build an artificial nest for wattled cranes. These wetlands are situated near to Gibe River and the overflow from the river during the rainy season alters the volume of water in the wetland. Because of the flooding effects from the river, nests built (both by the breeding pairs and artificial nests) in the wetlands are removed by the overflow in the past years.

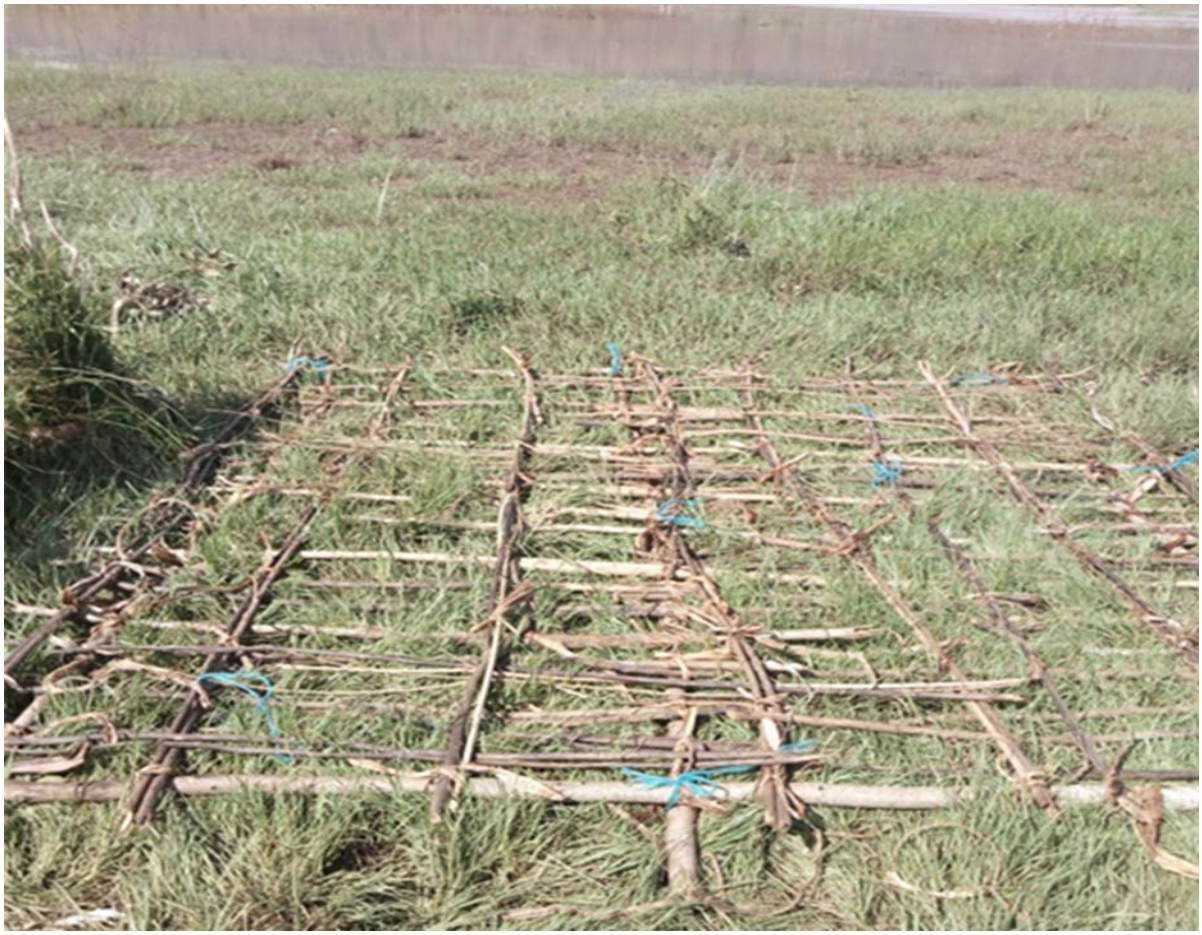
Figure 2: An overview of wetland at which the artificial nest created for wattled crane breeding

To avoid the effects of overflow on the nest, we have studied the hydrological condition of the wetland following hydrological gradients. The study has helped us to understand the shallow and maximum depth flood water during the rainy season. To make the site preferable for wattled crane breeding the artificial nest was created during peak rainy season (when the water level riches its maximum point). The nest was located in the shallow depth, and 100 m away from the mainland to avoid interference of humans and livestock.

In addition, wattled cranes become territorial prior to nest building. Prior to actual breeding season of the cranes, at each potential breeding sites crane keeper (custodian) are trained from local community to building nest, follow egg laying, and incubation period. The location of nest from mainland and efforts of crane keeper, the nests were fully protected from human and livestock disturbance. Because, local guardians were assigned to help build a nesting mound for the cranes as the flood waters recede, monitor the nest, educate the local people near the cranes, guard the nesting area so that eggs and chicks are not touched (disturbed) by livestock or children.

Basic steps to followed to create the artificial nests:

1. Collect stick and rope - they are used as input to make mats. Mats made of these materials are used as a base or foundation for the artificial nest creation in the project site.
2. Making mats (see the photo below) - we have used the mats as a base for nest creation in the wetland instead of putting grass and corn reside on the wetland.



Mat made from the rope and sticks

3. Cut and gather grasses- to make the nest more attractive, preferable and suitable for wattled crane breeding pairs we have used thin grass to build the artificial nest. Thus, bundles of grasses are collected for the nest creation (see the picture below). These grasses are placed on the mat (layers of the nest: water --> mat --> grass).

Grass bundles

4. Transporting the mat to local boat- after making the mat and gathering the raw materials for nest creation we have used local (traditional) boat to transport them to the selected location.


Left: Local boat to transport the mat and grasses to the selected nesting location. Right: Mat placed on wetland.

5. Place the mat on the selected nesting location within the wetland.

6. Put the grasses on the mat.



Left: Creating the nest. Middle: Grass transported with local boat. Right: Final view of the nest.

7. Output of the nest - Even if, the created nests were secured from flooding effects as well as livestock and human interferences the cranes had not used them for breeding purpose, but the black headed heron and great egrets use them for roosting. Because, during the breeding season breeding pairs completely disappeared from area. However, the created nests are still (dry season) existing in the wetland, and cranes may visit and attracted in the coming breeding seasons.

Figure 3: Other birds (herons) use artificially created nest

Different birds rest on the artificial nest

New breeding pairs

In the breeding season we have searched the potential wattled crane breeding areas in Jimma. Immodestly after crossing a local made bridge on Gibe River downstream of the project site (Figure 4), we have found a new wattled crane breeding area. Around this bridge different bird species (e.g., herons) roost and live.

Figure 4: Crossing-Gibe river using traditional bridge in dawn stream to Boye wetland complex

At right side of this bridge the was a vast flood plain. This flood plain is totally occupied with water in the rainy season and number patches of grass surrounded with flood from Gibe River (Figure 5). These grass patches were occupied with pairs of wattled crane and black crowned cranes during the breeding season. When the dry season has come the water in the flood plain has gone and the smallholder farmers plough it to grow vegetable using the moisture in the soil whereas the grass patch are used for livestock grazing.

Wattled crane breeding success in known breeding sites

Due to the substantial conservation and community awareness creation efforts made through projects funded by Rufford Foundation, wetlands became more suitable for wattled crane breeding for successive years (Figure 6). Similarly, in this breeding years (2019) the wattled cranes has successfully created nest, laid two eggs and raised a chick (Figure 7).

Figure 5: A new newly found breeding site at dawn stream to Boye wetland complex

Wattled crane breeding pairs

Figure 6: Overview of wattled crane breeding site in Jimma Buyo-Kachama. Circle 1: Wattled crane feeding. Circle 2: Active nest of cranes.

Figure 7: Wattled crane chick with its parents, Jimma Buyo Ka. Circle1: 7-day old chick.

Figure 8: The restored wetland used by black crowned crane breeding

Black crowned crane breeding in the project site

The wetland presented in Figure 8 was drained a year before. When Dr George Archibal (International Crane Foundation, Co-founder) and Kerryn M. (Vice President of International Crane Foundation) visit the area in March 2019 the wetland had completely vanished. During this visit, the experts from international crane foundation provide some advice to our team for restoring this key wetland areas. Accordingly, before the rainy season we have worked with the community to take simple restoration practices; just allowing overflow water from Gibe River (which was blocked before) into the wetland and block the channel constructed drain water (Figure 9). When farmers did this thing, water comes from Gibe River has started nourishing the wetland area, wetland grasses start growing, and water is accumulated during heavy rainy season. As a result, two pairs of black crowned crane are successfully accomplished their breeding process in this wetland (Figure 10- 11).

Figure 9: Discussion with local community on the socio-economic importance of protecting the wetland

Figure 10: The first breeding pairs of black crowned crane laid three eggs.

Figure 11: The second pair has also laid three eggs

Questionnaire survey

The questionnaire survey is another component of this project. The aim of this survey is to assess local community preference on the project site (Boye wetland complex) and the river buffer area management options. This questionnaire is distributed to the local community to collect the necessary data to fulfill the project objectives.

Questionnaire survey

Dear respondent,

My name is Abebayehu Aticho, I have been working as lecturer and researcher at Jimma University College of Agriculture & Veterinary Medicine. I have been working on wetland and its biodiversity conservation since 2016. Now come up with this questionnaire, to assess community preference in Boye wetland and river buffer area management options.

You have been selected to participate in this questionnaire (survey). Kindly respond to the questions in this booklet, the information you are going to provided will be confidential, anonymous, and used for this specific research.

Thus, kindly fill in the questions below to the best of your knowledge. I would like to highly appreciate your willingness to participate in this research.

Part I: Questions about yourself so that we can understand your answers better.

1. Sex		2. Which ethnic group do you belong to?	
3. What is your age?		4. What is your job?	
5. What is your highest education level so far?		6. How many members are there in your household?	
7. What is your approximate monthly gross income (before tax)? Please remember that your answers are anonymous)			
a) 0 - 600 birr		b) 601–1,650 birr	
c) 1,651–3,200 birr		d) 3,2001–5,250 birr	
e) 3,251–7,800 birr		f) 7,801–10,900 birr	
g) >10, 900			

Part II: General questions about environment and nature. Please cross your answer among the following choices!

1. Programs about the environment and nature are on TV, radio and another media. Please indicate, which statement most accurately indicate your own opinion about programs			
a) I make a special effort to watch/listen		b) I watch/listen to them when I can	
c) I watch/listen to them if there is nothing better on		d) I hardly ever watch/listen to them	
2. As citizens we have priorities to agree on the policies that we would most like the government to follow. Please rank your own priorities from 1 (most important) to 5 (least important)			
Issues list for priority	Rank	Issues list for priority	Rank
Providing medical and endowment insurance in rural area		Avoid investments that deteriorate nature and affect people	
Solving youth unemployment issue		Education quality	

Wetland and nature conservation			
3. In what way, do you think the endangered rare species be protected?			
a) Increase their population		b) Protect their present population	
c) Leave the species alone		d) I don't care	
e) I don't know			
4. It is important to consider of the environment like wetlands when decisions regarding economic development programs are made			
a) Strongly agree		b) Agree	
c) Don't know		d) Disagree	
e) Strongly disagree			
5. We should invest in the environment so that the next generation may benefit from the plants and animals on Earth			
a) Strongly agree		b) Agree	
c) Don't know		d) Disagree	
e) Strongly disagree			
6. Wildlife such as birds (e.g., Wattled crane) and hippopotamus have a right to exist, even though they may be of no direct use to mankind			
a) Strongly agree		b) Agree	
c) Don't know		d) Disagree	
e) Strongly disagree			

Part III: Respondents views about Boye wetland

1. Before participating this survey, were you aware of the pressures on wetlands in Jimma area (Boye + Kitto + Haro Dunga + Haro Gibe is called Boye wetland complex)?			
A. Yes		B. No	
2. In the past 6 months how often can you remember having heard about wetland issues in Jimma?			
A. None		B. One or two times	
C. Three or four times		D. Five or six times	
E. Seven or more times			
3. What share of the buffer areas around Boye wetland complex do you think is undisturbed?			
A. Do not know		B. <10%	
C. 10-25%		D. 25-40%	
E. 40-60%		F. 60-75%	
G. 75-90%			
4. What share of the original wetlands in Boye wetland complex remain?			
A. < 10%		B. 10-25%	
C. 25-40%		D. 40-60%	
E. 60-75%		F. 75-90%	
G. > 90%			
5. What share households living around Boye wetland complex (including of Jimma town) rely on the wetland resources?			
A. < 10%		B. 10-25%	
C. 25-40%		D. 40-60%	
E. 60-75%		F. 75-90%	
G. > 90%			
6. What share of jobs Boye wetland complex are in tourism and related sectors?			

A. Do not know		B. < 10%	
C. 10-25%		D. 25-40%	
E. 40-60%		F. 60-75%	
G. 75-90%			
7. Jimma town development and growth (expansion) has led to large reductions in Boye. These changes have brought jobs and improved living standard of Jimma town residents. In your opinion, these changes have been:			
A. Very bad		B. Generally Negative	
C. Weakly Negative		D. Neutral	
E. Weakly positive		F. Generally positive	
G. Very good		H. Do not know	

Part IV: Boye wetland management options

Currently Boye wetland complex has been affected with several socio-economic activities for example waste disposal, river pollution, clay mining, wetland drainage, and improper buffer land use. Because of these activities, wetland biodiversity and recreational needs of the community are negatively affected. As a result, bird population and diversity has been declining, and expansion of non-hydrophytic plants in the wetland ecosystem. Furthermore, the residents of Jimma town are travelling to other area for recreation and sometimes. Based on this existing condition, the questionnaire is intended to assess community preference of Boye wetland and its buffer area management.

1.Please kindly read the following table and give your best answer among the proposed management options.			
Management characteristics	Current condition	Proposed management options	
		Option1: manage wetland & river buffer area	Option2: manage wetland buffer area
Vegetate the buffer area		200m at each side	200m at each side
Protect wetland birds		100% protect breeding areas	Less protect breeding
Change buffer to city park		Fully create leisure area	Less fit for leisure
Create job for local people in the park		Entry fee, some soft drinks, tea & coffee service	No
Avoid buffer cultivation		100%	100%
Allow fishing		100%	100%
Which option do you choice?			
2. If your answer is the current condition, what is the primary reason?			
A. The proposed conservation is not important to me		B. I do not think the conservation would be effective	
C. I think current level of the wetland is sufficient		D. I do not think that I'm responsible for contributing to conservation wetland	

E. Degradation due to human activity is unavoidable		F. I am on a limited budget	
3. What is your primary reason to choose potion1/2?			
A. The program is worth at least the amount stated the option		B. I think it is our duty to protect wetland environments against degradation	
C. I want to contribute to a good activity		D. To pay fair share to protect services provided	
4. Would you be willing to donate some money (even very small amount) to the Boye wetland and its buffer area restoration?			
A. Yes ..... If yes, answer Q11 & Q12		B. No ..... If no, please continue with Q13	
5. I would like to contribute to the conservation project on wetland because;			
A. I have seen Boye wetland and I think they are worth protecting		B. Boye wetland play an important part in maintaining biodiversity	
C. I would go to Boye wetland for seeing of birds & hippopotamus		D. I hope my future generations can enjoy the existence of Boye wetland	
E. I hope some other people can enjoy the existence		F. All the above reasons are applicable for me	
6. Based on your above reason, what is the most amount of money you would be willing to donate towards Boye wetland buffer area restoration?			
A. 100 - 120 birr/year		B. 120 - 150 birr/year	
C. 150 - 200 birr/year		D. 200 - 250 birr/year	
E. > 250 birr/year		F. Another amount please specify	
7. I would not like to donate any money to the project because			
A. I have no money		B. It is government's business	
C. Money should be collected from big companies		D. NGOs should be responsible for this conservation	
E. It is none of my business		F. I am fearful that the money will not be used for the conservation purpose	
G. Other reason			