

Review

Black Crowned crane (*Balearica pavonina* L.) conservation guideline in Chora Boter district of Jimma zone: The case of Ethiopia

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This guideline has been developed to provide directions for people working and interested to work on the conservation of Black Crowned cranes to save the species from loss and extinction. The conservation guideline is developed in consultations with the local communities and stakeholders in Ethiopia, Jimma zone, Chora Boter district through: field survey, focused group discussions, community and multi-stakeholders workshop from March 2015 to January 2016. Local communities and stakeholders participations are crucial in any conservation plan. This guideline present overviews of Black Crowned cranes conservation and its importance's, the role of people and social medias in conservation, the importance of pre-defined conservation strategies, and lastly, how to secure fund for Black Crowned crane conservation.

Key words: Black crowned cranes, conservation, Ethiopia, guideline, local communities.

INTRODUCTION

What is conservation?

The dictionary meaning of conservation is the act of conserving; prevention, decay, or loss; preservation. In biology context, conservation is the science of protection and management of biodiversity. Conservation as a movement focused on natural resource use, allocation and protection (Soule, 1985; McCormick, 1991). Conservation is needed in response to biodiversity threats and loss and to transferee to future generations. Conservation practitioners and environmentalist struggle

to identify and mitigate species threats, declines, restore degraded ecosystems and manage natural resource sustainably (Cooke et al., 2013). We live in global wave of anthropogenic driven biodiversity loss: species and population extirpations and also, critically, declines in local abundance of species (Dirzo et al., 2014). For the sake of daily survival, human beings overexploited biodiversity (Peres, 2010). Destructions of natural habitat are the major threat that affects the life of species (IUCN, 2014). According to the IUCN estimation currently, over 22, 000 species were threatened out of which 85%

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were associated with habitat loss. It is clear that human population growth and its basic needs is increasingly affecting the life of biodiversity and enhances pressures on this natural environment. In order to overcome the increasing global and local threats to marine and coastal ecosystems, worldwide plans of actions with ambitious conservation guidelines has been established by international community (Butchart et al., 2010).

Biodiversity loss is one of the global challenges that we all encounter due to over exploitation of natural resources by human beings. Human beings drive both threats to biodiversity and its conservation. Because of this fact, human beings are considered as the destructor as well as the builder of the natural environment. Conservation needs to be done by humans. Conservation today is an evidence-based problem solving science (Musengezi, 2015). Human pressure on world natural habitat is increasing from time to time which leads to reduction of space for various species. According to the Millennium Ecosystem Assessment report of 2005, human beings have changed the world ecosystems more rapidly and extensively than ever before over the past fifty years to meet rapidly growing demand for food, fresh water, timber, fiber and fuel.

Why conservation?

Conservation is important to prevent floods, fires, desertification and drought. Conservation is crucial to understand the resource we have and what we can leave for future generation. According to the United Nations Conventions on Biological Diversity of 1992, conservation is crucial to conserve and sustainably use of biological diversity for the benefit of present and future generations. Article 13 of United Nations Conventions on Biological Diversity, stated that “promoting and encourage understanding the importance of biological diversity conservation as well as its propagation through media, and the inclusion of these topics in educational programmes are important with respect to conservation and sustainable use of biological diversity”. Even though science is revealing that some local successes and increasing response of biodiversity loss, no significant recent reductions rate and the pressures on biodiversity showed increased (Butchart et al., 2010). The disappearance of birds can help us in evaluating the dangers to the environment (Balasubramanian, 2010). Similar to other species conservations, bird conservation is important for both humans and environment since they played an important role in ecological, social and economic value and also scientific significance.

BLACK CROWNED CRANE

The Black Crowned crane is one of the six crane species

in Africa (Harris and Mirande, 2013). Black Crowned crane is a bird in the crane family of Gruidae with black legs, dark plumage and its head is topped with graced with crown of stiff golden feathers (Figure 1). The species is categorized as vulnerable (IUCN, 2012). Geographically, its home range extends from Senegal and Gambia on the Atlantic coast to the upper Nile River basin in Sudan and the Ethiopia highlands (Boere et al., 2006). Its population is declining and even in some countries disappearing (Meine and Archibeld, 1996; Beilfuss et al., 2007; IUCN, 2012; Harris and Mirande, 2013). It is predicted that the population decline will continuous in the future due to habitat loss (IUCN, 2012). In the population range countries, wetland degradation and lose is become serious threat for the species survival. Birds are extinct from one region probably due to environmental disturbances that occurs due to nature and anthropogenic induce. Habitat loss due to lack of clear wetland protection and weak rules and regulations are the major factors that affect the Black Crowned cranes in Ethiopia (Aynalem et al., 2012). Destruction of breeding and feeding habitats and killing of chicks by children are also other factors that affect the life of Black Crowned Crane in Ethiopia (Aynalem et al., 2010).

Threats to Black Crowned crane conservation in Chora Boter district

Based on our field survey, household interview, focused group discussions, community and stakeholders workshop, we conclude that the Black crowned cranes are under threat in Jimma zone. Gemedda et al. (2016) conclude that the local communities are converting wetlands to agricultural fields that threatens the breeding and nesting sites of Black Crowned cranes in Chora boter district of Jimma zone. If wetland degradation and loss is continued in the future without conservation intervention, the Black crowned cranes should be either extinct or migrated to other areas for searching of feeding and breeding. The local communities described that habitat loss and degradation, depletion of water resources, wetland draining for irrigation purpose, siltation of wetlands because environmental degradation, over-grazing in wetlands buffer zone, human disturbance and lack of awareness about the socio-ecological values of wetlands from the community are the major threats of Black Crowned cranes in Chora boter district.

Enhancing Black Crowned Crane Conservation along the communities

The community living nearby the wetlands (the breeding, nesting ground, feeding ecology and potential habitat) of Black Crowned Crane will be involved in conservation. It is crucial to involve the local people and stakeholders in



Figure 1: Pair of Black Crowned crane

Black Crowned Crane conservation plans (Figure 2). Involving the local people and stakeholders in any conservation project will increase the accountability and belongingness of the people on the desired project. It is clear that any conservation initiative without local people acceptance will likely not be successful while conservation plan that have been developed and agreed upon with the local communities, in many cases, survive over the long term and also successful (IWMI, 2014). The success of any conservation plan is based on active participation of the local community and stakeholder's. For the implementation of conservation campaign all sectors and individuals will contribute their own capacity as much as possible since all of us share the same finite resources in this world. It is better if different experts are involved and contributes their own roles and capacity without restricting their specializations. Conservation is not the task of biologist only but also social scientist will contribute in many ways through changing the perception of people towards conservations. The process of developing a conservation approaches jointly with the local communities will be essentials to make the designed conservation successful and sustainable.

Economic importance's of birds' conservation

Bird- watchers are the source of tourist attraction in

several countries. Diversity of birds and calls of birds constituted a major component of visitor satisfaction (Tisdell and Wilson, 2004). About 40% of American birders are willing to travel to discover new bird-watching opportunities (Birdlife International, 2015). Bird-watching tourism world-wide appears to be growing rapidly amongst Western travelers which substantially enhance local economies (Jones and Buckley, 2001). Many countries across the world are happy to introduce their countries by using birds. For instance, about 43 airlines bears birds on airlines and many countries used as stamp designers and postal services to feature the birds as national messengers to be sent around the globe. From bird species, six airlines bear the crane, in different designs, on their tail unit of their planes: Lufthansa, German; Shanghai airlines, China Eastern Airlines; Xiamen airlines, China Southern airlines; Japans' airlines; Polish airlines and Uganda airlines.

Objectives

The aim of this guideline is to reduce the threats of the Black Crowned cranes in Chora boter district of Jimma zone of Ethiopia. In order to do so, the guideline describes various activities that will ensure its conservation through communities and stakeholders participations.



Figure 2: The local community participations on Black Crowned crane conservation issues

Geographical descriptions of Chora Boter District

The guideline is developed for Chora Boter district in Jimma zone. Chora Boter is located in Jimma zone in Oromia Regional state in Ethiopia. Jimma zone has a total population of 2,607,115 out of which 1,311,351 (50.30%) were males and 1,295,764 (49.70%) were females. Similar to other regions in Ethiopia more than 80% of the population lives in rural areas. Chora boter is found in Jimma Zone in Oromia Regional States in Southwestern Ethiopia. The total land area of the district is 1478 km² (Oromia Economic and Finance Bureau, 2012). Chora boter shares boundaries with four districts and one zone namely Limu Kosa and Tiro Afeta in the south, Sokoru in south west, Limu Seka in the north east and South west shewa zone in the north east. The altitude of the district varies from 650 to 2320 mas. Chora boter is splitted from Limu district in November 2005. The total population of Limu district is 91,738, of whom 46,454 were men and 45,284 were women; 90,695 (98.86%) of the population were rural and 1,043 (1.14%) of the population were urban dwellers (Central Statics Authority (CSA), 2007). According to the CSA report of 2007 the district has 20,604 households out of which 20,322 (98.63%) were rural and 285 (1.37%) were urban. In Chora Boter district two crane species namely: Black

Crowned cranes and Wattled cranes are residents throughout the year.

BOTTOM-UP AND TOP-DOWN CONSERVATION APPROACH

Developing strategy is essential to choosing the best methodology to reach the researcher's final targets or destinations. Designing strategy helps anybody who works on conservation. The researcher needs to involve all key stakeholders, to agree on his objective, and to also have a time and cost budget for the implementation of any project. Conservation campaign is not a simple task that accomplished over a couple of months or years, but it takes a long time and you have to be tolerant to overcome the strong challenges from the communities sides since they are dependent on natural resources. To overcome such challenges, it is important to investigate the best strategy to save the biodiversity from threats. No single strategy is sufficient to address the issue of conservation. The combination of bottom-up and top-down approach should be considered to established effective and acceptable conservation plan. The bottom-up approach refers to changing the attitude and perceptions of local communities towards conservation at

the grassroots level; enhancing the capacity of the local communities to change their understanding on the use of conservation practices where as the top-down approaches which involves conservation interventions with the support of governmental organization that have the capacity to mobilize and change the society on a large scale (Musengezi, 2015). Developing priority setting and planning at much finer scales is necessary to allow implementation on the ground (Brooks et al., 2006). Clear guidelines and policies should be designed through a joint approach which involves all relevant stakeholders: the local communities, local administration unit head, district and zonal officials, universities and research institutes and Civil Society Organizations and relevant NGOs should contribute their experiences and practices to prevent the loss of species.

Use of social media and publisher

Enhancing the issue of conservations and scaling up communication with stakeholders, friends, colleagues and local communities at large through social media: face books, Twitter, and YouTube to share the best practices on conservation success that will make your conservation project grateful. Similar to success, sharing constraints might be also important because your friends or other concerned organs forward their comments and suggestions for improvement and also they link to others experts for advice. In addition to social medias the conservationist can publish their best practices of conservation on peer reviewed international journals and share the published documents and upload on research gates to avail your article for any users across the world. Project verifications documents: photos during field work, group discussions, stakeholder's and community workshop, public presentation at local, regional, national and international levels should be documented. Sell your findings at every stage you get the opportunities like national and international conference proceedings and workshop. Enhance strong relationships with other experts who work on your thematic areas. Progress report will be compiled and documented for evaluation of the project.

Conservation of Black Crowned Cranes needs a collaboration and team efforts from various sectors: local governmental structures like agricultural office, land and environmental protection office, forest and wildlife enterprise office, culture and tourism; private sectors; civil society organization mainly community based organization, research institutes, universities and schools will be involved in conservation. Similar to internal stakeholders and organizations, international donors and organization also played an important role both in consultancy and advice services as well as in providing seed money. Any conservation plan needs money to implement on the ground. To secure fund for conservation, any motivated conservationist can develop

project proposals and apply to various organizations for support.

Fund raising mechanisms for Black Crowned crane conservation

Searching fund opportunity on internet is easy, but the difficult thing is getting suitable call for proposal that is relevant to your project. If somebody is not familiar with securing funds from donors, it is good to consult someone who has a good experience, enhancing their capacity through training and workshop on proposal writing and fundraising workshop when they have a chance to get such circumstances and opportunities. We can also visit and check the announcements of funding organizations like www.terraviva.org, grants.org, www.fundsforngos.org, and other organizations. Before starting proposal writing for project fund, you should check the following points:

1. Ensure eligibility of your project for the donors.
2. Check priorities areas of the donors.
3. Check geographical restrictions of the donors (if any).
4. Check deadline for applications.
5. Check maximum amounts of money that the donors will support.
6. Read strictly the guidelines of the application format and word and pages limits and act accordingly.
7. Take sufficient times to prepare a sound research and conservation project.
8. Increasing the possibilities of financing for conservation activities.
9. Requesting your friends and experts for comments and edit before you send your applications to the donor.
10. Incorporate the comments and suggestion you received and upload your application.
11. Make sure that the budget and timeline of your project is realistic and justified.
12. Search other co-funding including in-kind contributions for your project.
13. Be patient to heard the final decisions of the donors by considering 50% pass and fail.
14. Do not fear regret message from the donors if your project is not successful.
15. Minimize confidence on one donors because the probability of pass and fail is equal.
16. If your proposals if rejected do not throw away since you can revise and re-sent again either to the same donors or others based on your eligibility.
17. Share your success stories to your donors and others potential organization for future work and plan.
18. Sell your findings and performance you did so far at any chance you get.

Other sources of funding for conservation project

1. Local and national governmental organizations

2. University and research institutes
3. Civil society organizations
4. Think tank organizations
5. Private investors
6. Individual donors

To implement the conservation plan of Black Crowned cranes and ensure its sustainability, the following key points will be addressed:

1. Using research based-evidence to launch and start mass mobilization towards Black Crowned crane conservation.
2. Developing a common consensus with stakeholders on Black Crowned cranes conservation.
3. Identifications of key organization that works on conservation areas.
4. Working with multi-stakeholders.
5. Ensure that all stakeholders are communicated in advance before starting any project.
6. Bringing different experts together to develop the way forward for conservation.
7. Empowering the local communities and stakeholders on conservation activities.
8. Educating the local communities to minimize overgrazing around wetlands buffer zone.
9. Conducting population monitoring of the Black Crowned cranes to check their dynamics.
10. Talk to people and motivate them to participate in conservation.
11. Respecting the opinion of the local communities and add your own.
12. Engaging young people; the future generation on conservation campaign.
13. Training the communities on the socio-ecological importance of wetlands.
14. Training the community and the stakeholders on Ecosystem services: provisioning services, regulating services, cultural services and supporting services of wetlands.
15. Conducting community and stakeholders workshop on Black Crowned cranes at village, district, zonal level and beyond based on resource you secured already.
16. Raise awareness on environmental protection and wetland conservations.
17. Promotion of the beautifulness and attractiveness of the Black Crowned cranes on social medias like face books. and Twitter by publishing high resolution pictures and developing documentary film on crane dancing, walking and flying
18. Conducting monitoring and evaluation of Black Crowned cranes conservation project.

Through the implementation of the above listed key activities, Black Crowned cranes will face fewer threats; the local communities will understand the values of ecosystem services. After confirming the positive attitudes of the community towards Black Crowned

Cranes and its habitat conservation through outreach activities in the form of workshop, training, individuals and focus group discussions we can excel our conservation action to other districts in Jimma zone and later we can cascade to other areas in Oromia Regional State and beyond.

MONITORING AND EVALUATION

Project monitoring is crucial to check whether the designed project addressed the formulated objectives or not. Similar to monitoring, project evaluation is also important due to the fact that, we can evaluate ourselves concerning what has been successful so far and what has unsuccessful because of various factors. If your project is failed in the middle you can develop best strategies for future projects to overcome the potential challenges and obstacles during project implementations.

Conflict of Interests

The authors have not declared any conflict of interest.

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