Scientific Reports in Life Sciences 2 (3): 18-24

DOI: http://dx.doi.org/10.22034/srls.2021.245822

Current Status of Nile lechwe in Gambella National Park

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Received: 29 July 2021 / Revised: 19 August 2021 / Accepted: 23 August 2021 / Published online: 28 August 2021.

How to cite: Rolkier , G.G (2021). Current Status of Nile lechwe in Gambella National Park , Scientific Reports in Life Sciences 2(3), 18-24. **DOI: http://dx.doi.org/10.22034/srls.2021.245822**

Abstract

The Nile lechwe is restricting to very limited areas in the wetlands of Republic of South Sudan and along the flood plains or Alewero swamp of Gambella National Park. The objective of this study is to review the literatures that are related to the current status of Nile lechwe in Gambella National Park. The results of this review both for wet and dry seasons indicated that the Nile lechwe is non-migratory species of Gambella National Park. Its relevance habitat type in Gambella National Park is Alewero swamp and Sudd of Nile in South Sudan. Its home range in Gambella National Park is estimated to be 49km^2.

Keywords: Alwero swamp and South Sudan, Gambella National Park, Nile lechwe

Introduction

The poikilothermic terrestrial vertebrates, such as amphibians, reptiles are strongly dependant to the **Nile lechwe** (*Kobus megaceros*) is a robust swamp antelope with longish hair. The hooves are exceptionally elongated. Males have double-curved, lyrate horns (50-87 cm long). The underside, tail, back of the neck and upper shoulder are creamy white, as are the muzzle and surround of the eyes (Kingdom, 1997). Entirely restricted to a very limited area in the wetlands of Republic of south Sudan, and along the flood plains or Alewero swamp of Gambella National Park. More resident in the area, in contrast to the much larger but strictly transient herds of White-eared kob. Total population amount to only a few hundred individuals and listed as Threatened species (Kingdom, 1997).

Objective

The general objective of this study is to review the literatures that are related to the current status of Nile lechwe.

Specific objectives

The specific objectives are:

To examine the movement patterns of Nile Lechwe in Gambella National Park

To investigate the relevance habitat type of Nile lechwe

To identify the home range of Nile lechwe in Gambella National Park

Material and Methods

Location of study area

Gambella National Park is located in the lowland plain of the Gambella People's National Regional State of Ethiopia. According to Monico et al (2015), the park is situated between $32^0$59'and $35^0$23'longitude and $6^0$17' and 8^0 42' latitude.(Figure, 1). It was established in 1973, with newly, area of 4,575 km^2.

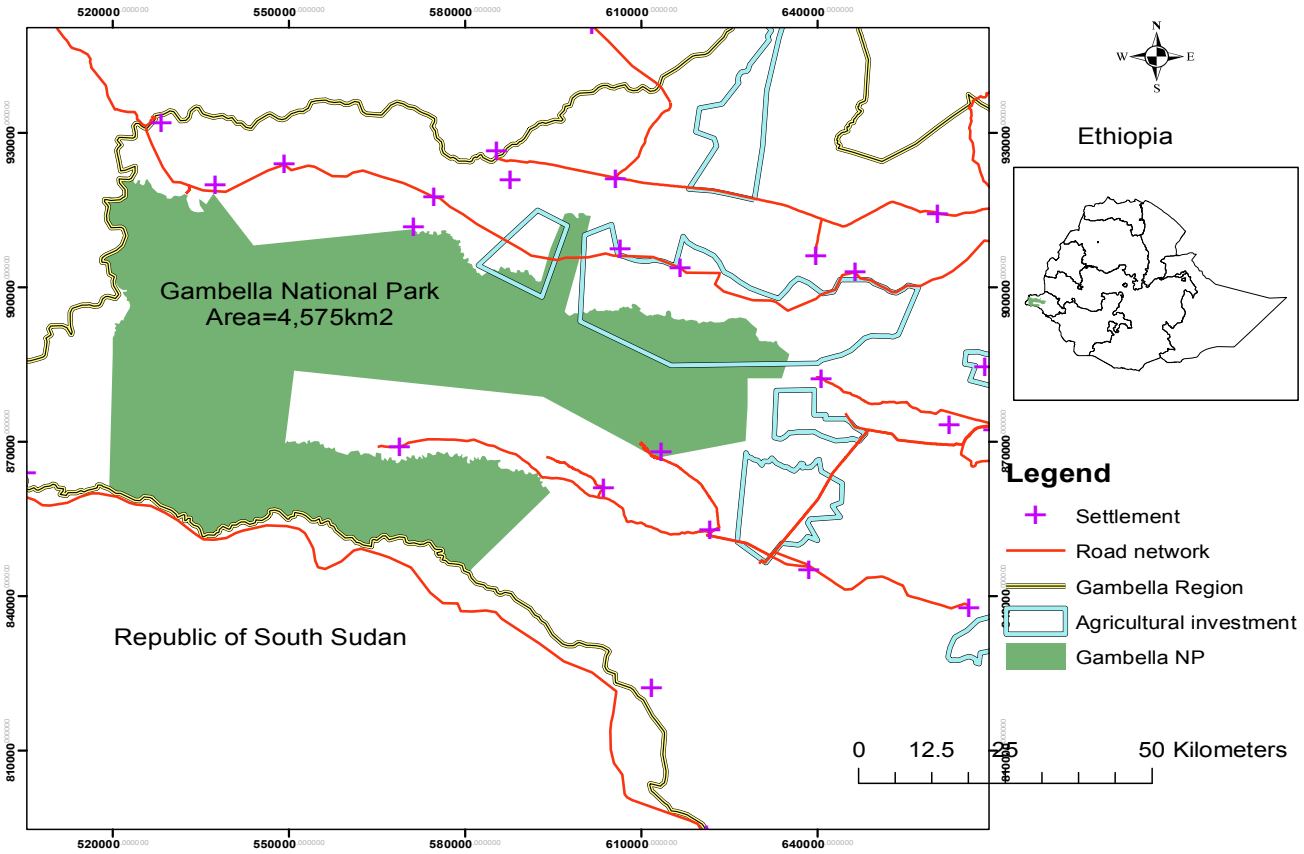

Figure 1: Location of Gambella National Park within Gambella People National Regional State

Method

The data collections for this article review were collected from secondary sources. These are mainly from literature review of published and unpublished documents from different Libraries and internets that are related to current status of Nile lechwe.

Result and Discussion

Wet season patterns of movement of Nile lechwe

The wet season patterns of migration had indicated that, Nile lechwe (*Kobus megaceros*) is non-migratory species of Gambella National Park. Its local movement patterns for wet season were observed at the east of Gambella National Park. When compared its movement patterns based on analysis for each month of the year, its movement patterns were observed in the extremely east in May but in June and July the movement patterns were observed from east toward northeast of the park. However, in August, September, October and November its patterns of movement were observed toward south central part of the Park (Figure, 2). The Nile lechwe population was only found in small area of the eastern part of the Park.

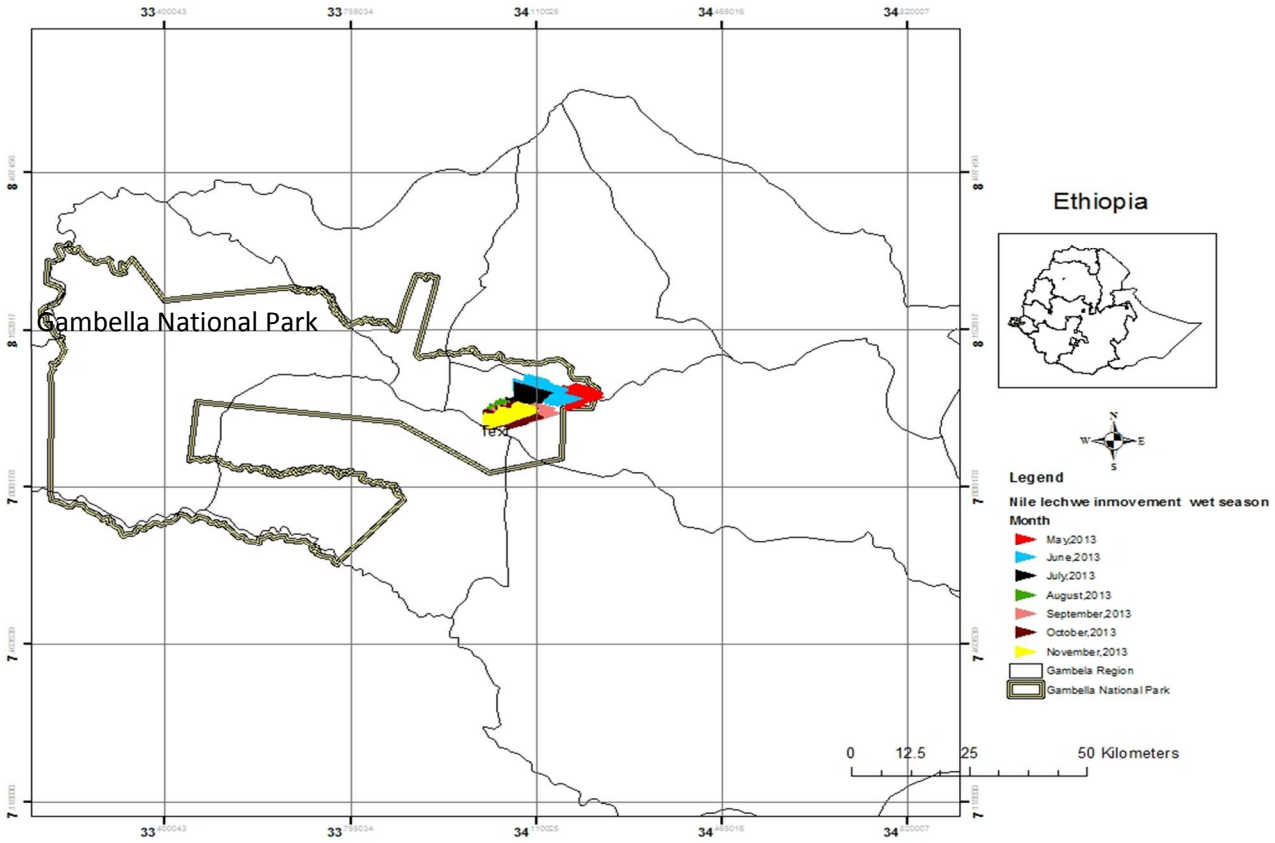

Figure 2: Wet season patterns of movement of Nile lechwe in Gambella National Park
Source: Gatluak, 2017

Dry season patterns of movement of Nile lechwe

The dry season patterns movement of Nile lechwe (*Kobus megaceros*) in December, January and February were observed in Alewero swamp, east of the National Park (Figure, 3). In March its patterns of movement were observed in south of Alewero swamp. Based on both seasons' results, the population of Nile lechwe (*Kobus megaceros*) in Gambella National Park was found in area of 49 square kilometer.

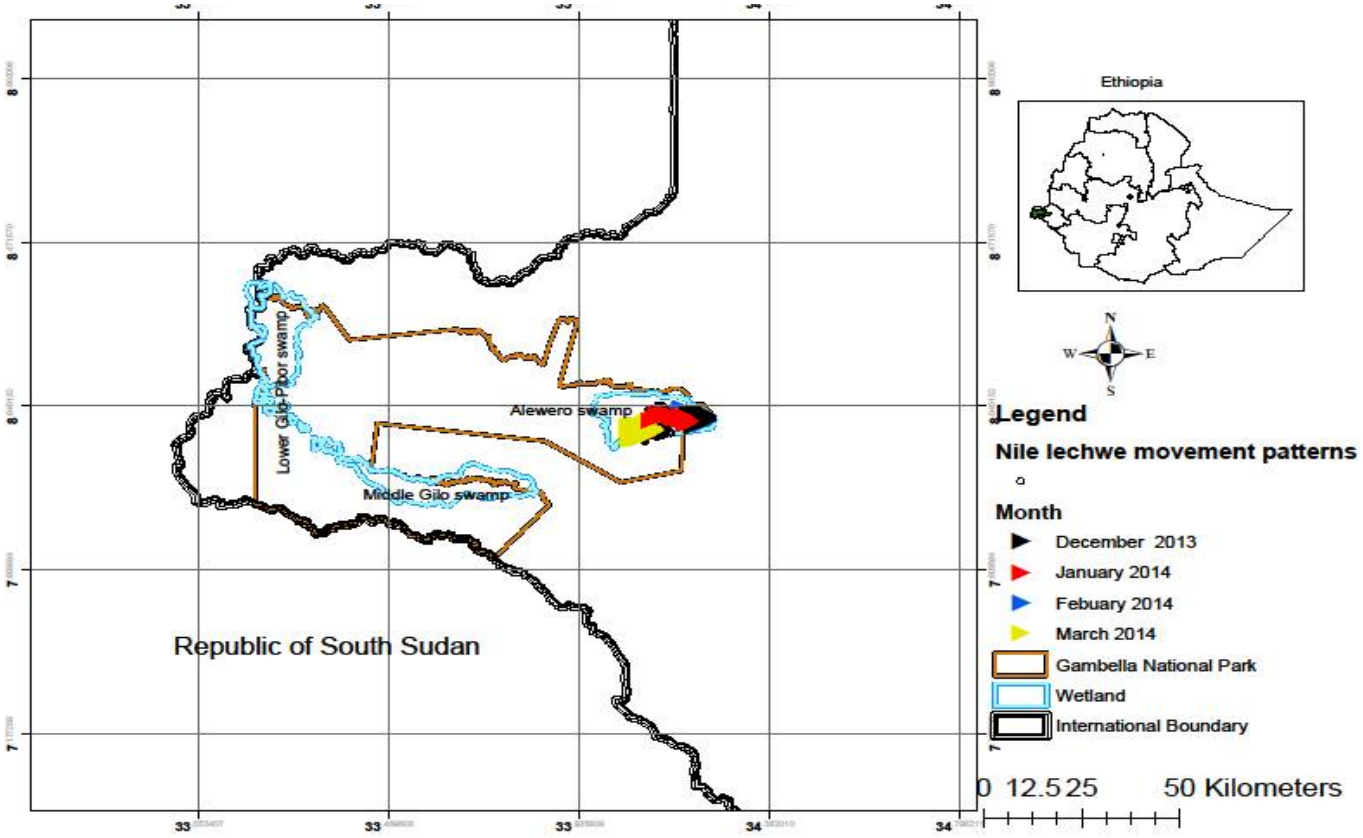

Figure 3: Dry season patterns of movement of Nile lechwe in Gambella National Park
Source: Gatluak, 2017

The most relevance habitat types used by Nile lechwe during its movement

The results had indicated that, the patterns of movement of Nile lechwe (*Kobus megaceros*) had frequency 96% observed in Alewero swamp whereas 4% its patterns of movement was observed in woodland (Figure, 4). Therefore, the most relevance habitat types used by Nile lechwe during its movement was Alewero swamp situated in the eastern part of the Park.

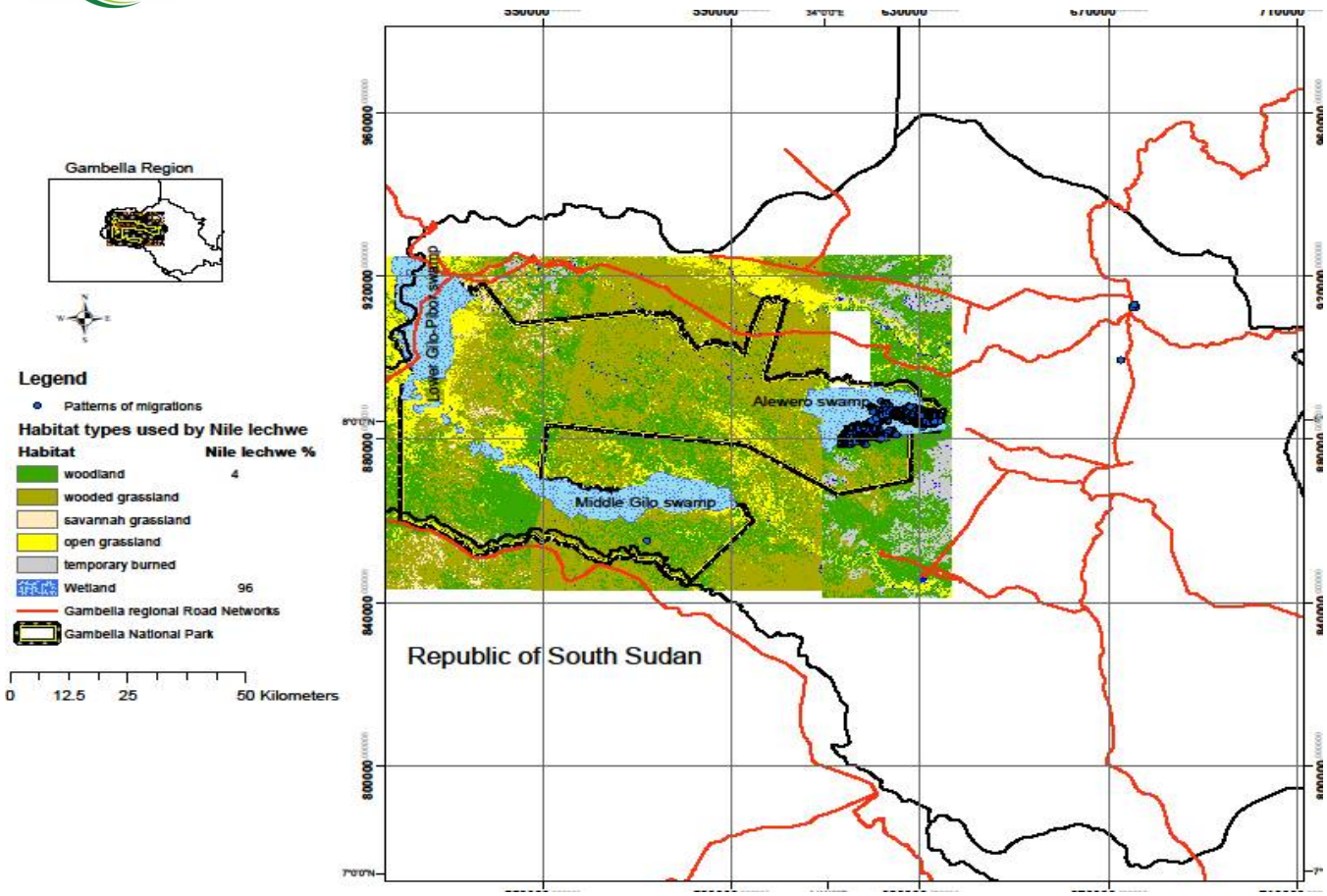

Figure 4: The most relevance habitat types used by Nile lechwe during their migration
Source: Gatluak, 2017

The home ranges of Nile lechwe

The results of home range analysis had indicated that Nile lechwe (*Kobus megaceros*) has limited home range. It is confined to Alewero swamp in east of Gambella National Park. Its home range was estimated to be 49km^2. The highest Nile lechwe home range 75% was observed in the middle and east of the Alewero swamp (Figure, 5). It was also observed that Nile lechwe spent 15% and 10% of its time in the middle and east of Alewero swamp respectively.

The home range of Nile lechwe in Gambella National Park was too small located in Alewero swamp (Gatluak, 2017). The main reason for presence of Nile lechwe (*Kobus megaceros*) in Alewero swamp may be due to presence of *Cyperus castaneus* and *Perpyrnuo cypress* in this swamp which may be the major feed for them. Its main home range was also fragmented into two areas. This is because of seasonal changes. In wet season they concentrate in the east of swamp whereas in dry season they spent much more time in the Centre of the swamp.

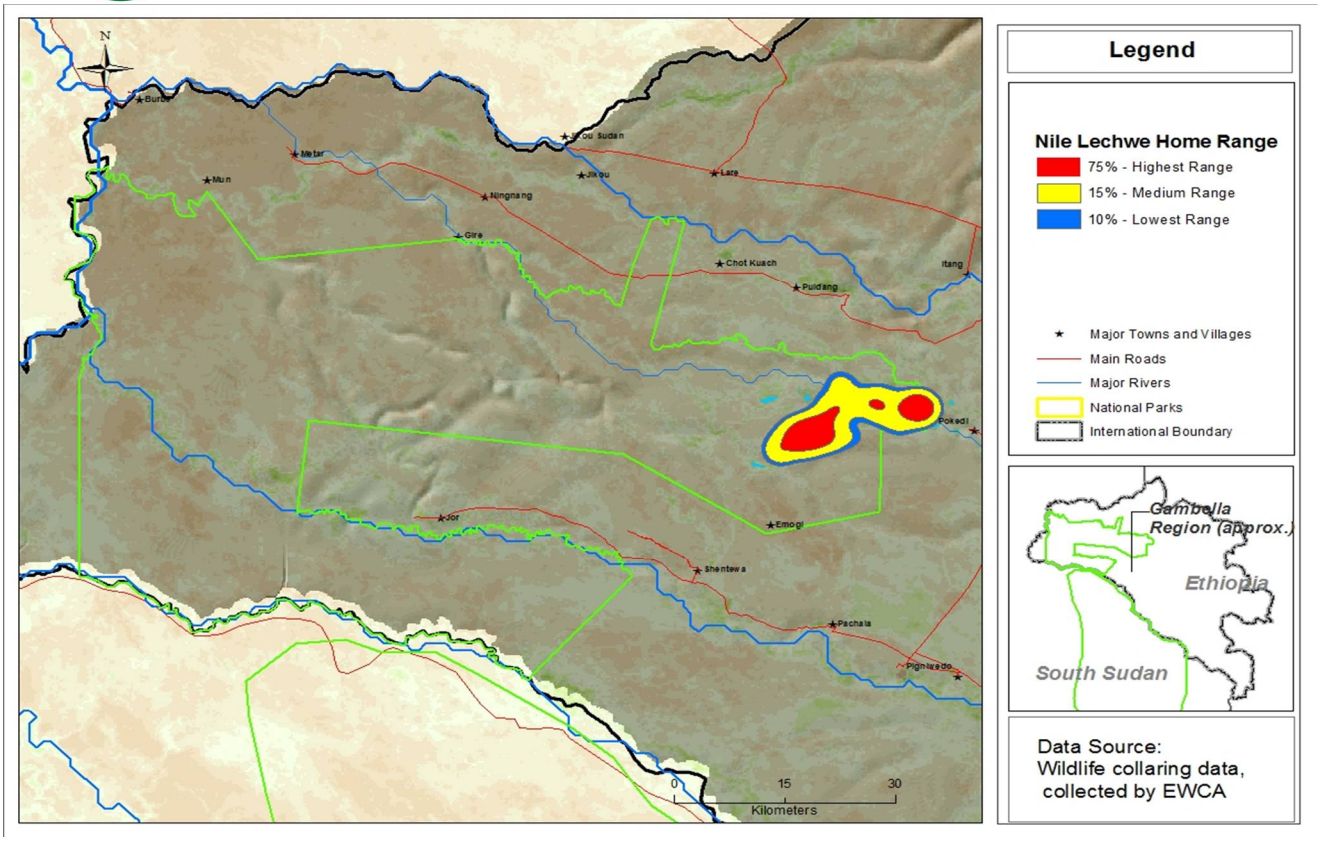

Figure 5: Home range of Nile lechwe in Gambella National Park

The population distribution of Nile lechwe (*Kobus megaceros*) was observed in the periphery of the eastern swamp of Park (Gatluak, 2017). Its population size was estimated to be over 180 individuals in Gambella National Park. These results are in agreement with previous studied made by Watson et al (1977) and Mefit-Babtie (1983) which suggested that a total population of Nile lechwe (*Kobus megaceros*) in South Sudan was 30-40,000 individuals, nearly all in the Nile Sudd area with 900 individuals in the Marchar Marshes and also suggested that it was confined to the Republic of South Sudan apart from a very small population just across the border in Gambella National Park of Gambella Region, Southwestern Ethiopia.

The study made by Mohammed Seid (2019) indicated that the population status of Nile lechwe (*Kobus megaceros*) in Gambella National Park was Alewero wetland. This is in agreement with study made by Gatluak Gatkoth (2017) and Watson et al (1977) and Mefit-Babtie (1983) which state that the population of Nile lechwe is confined to Alewero swamp in Gambella National Park and Sudd of Nile in South Sudan.

Conclusion

It can be concluded that Nile lechwe is non-migratory species in Gambella National Park. Its relevance habitat type in Gambella National Park of Gambella Region of Ethiopia is Alewero swamp and Sudd of Nile in Republic of South Sudan and its home range in Gambella National Park is confined to east of Alewero swamp.

Acknowledgement

I would like to sincerely express my thanks and gratitude to Gambella University Library staff particularly Mr Puor Top for his kindness of borrow me relevant books that related to my review target and Information Communication Technology (ICT) for their keeping my office internet active during my article review. I would also like to thanks individuals of Gambella University staff particularly Mr Solomon Thomas from Wildlife and Eco-Tourism Department for his given courage during my article review and Dr Chuol Ket for his generosity for allowing me to use his personnel wfi during my article review.

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