

Selous Game Reserve Indian Ocean elephant corridors: A perspective from Kilwa District

Cyprian Malima

WWF Selous Project Manager, PO Box 63117, Dar es Salaam, Tanzania
email: cmalima@wwftz.org

Kilwa District, southeastern Tanzania, an area of 13,958 km², is endowed with an abundance and diversity of wildlife species including elephants (*Loxodonta africana africana*). The district has a human population growth rate of 1.9% and 171,850 residents (82,817 men and 89,033 women) living in 36,185 households, the average size of which is 4.7 (NBS, 2002). The district is sparsely populated by people (12 humans inhabitants/km²) relative to other parts of Tanzania, thus leaving much of the area for wildlife habitation. Some of the animals are resident to many of the patchy and isolated habitats in Kilwa District, while others use parts of Kilwa land seasonally. Areas along the coast, notably the Pande–Mgongo–Matipani–Mkondaji belt, have many resident wildlife species found elsewhere in Tanzania. Other areas with abundant wildlife are Kilwa North, Central and South Open Areas. ‘Open Areas’ (1974 Wildlife Act) were regarded as one of the protected area categories where wildlife was found outside core protected areas and where hunting of wildlife was prohibited without authorization. Some of these Open Areas are today Wildlife Management Areas, and all Open Areas have been designated as tourist hunting concession blocks, with the exception of Mto Nyange, the only Game Controlled Area in Kilwa District (and also the name of a river).

Elephants were largely extirpated along the Tanzanian coast in the 19th century at the height of the ivory and slave trades. Today, the only area along the Tanzanian coast inhabited by resident elephants is Saadani National Park, north of Dar es Salaam. Observations and several encounters of elephant groups crossing the Dar es Salaam–Lindi main road between 2006 and September 2008 stirred curiosity about the extent of movement of these elephants, one of which was knocked down by a vehicle in 2007 between Nangurukuru and Mavuji stretch. Consequently, the World Wildlife Fund (WWF) organized a 20-day survey and followed elephant tracks from the eastern

zones of Selous Game Reserve (GR) to the coast of the Indian Ocean in Kilwa District.

Methods and results

This WWF rapid survey was carried out in October 2008 to investigate the status of ancient connectivity between the core protected area of Selous GR and the unprotected coastal forests along the southern Tanzania coastline from Rushungi village northwards in Kilwa District. Our ground search of elephant tracks and ground truthing through discussions with rural communities suggested that there are two narrow wildlife corridors which were active in Kilwa District (fig. 1). The first route is the Selous–Holowe–Kiwala–Naking’ombe–Mitature Forest Reserve–Mavuji–Indian Ocean, and the second route starts from the Selous GR and includes Zinga Kibaoni–Mirui–Rungo and Ngarama Forest Reserves–Mandawa/Milumba/Mtandi and Rushungi—before reaching the Indian Ocean. Both Selous–Indian Ocean corridors are currently critically threatened and will probably be blocked unless conservation interventions are enacted. It is likely that such a scenario will have serious negative long-term consequences for the ecological health of the southern Tanzanian landscape, and the well-being and livelihoods of the people and animals that inhabit this region.

With current human population growth and associated socio-economic developments coupled with influx of livestock from northern and western parts of Tanzania over the past four years, it is feared that historic movements of elephants and other large mammals to the Indian Ocean from the inland west will be blocked. There is a high rate of conversion of forests to agricultural fields along the two corridor routes. Furthermore, both legal and illegal logging of valuable trees such as *Pterocarpus angolensis*, *Brachystegia* spp., *Azelia quanzesis*, and *Combretum*

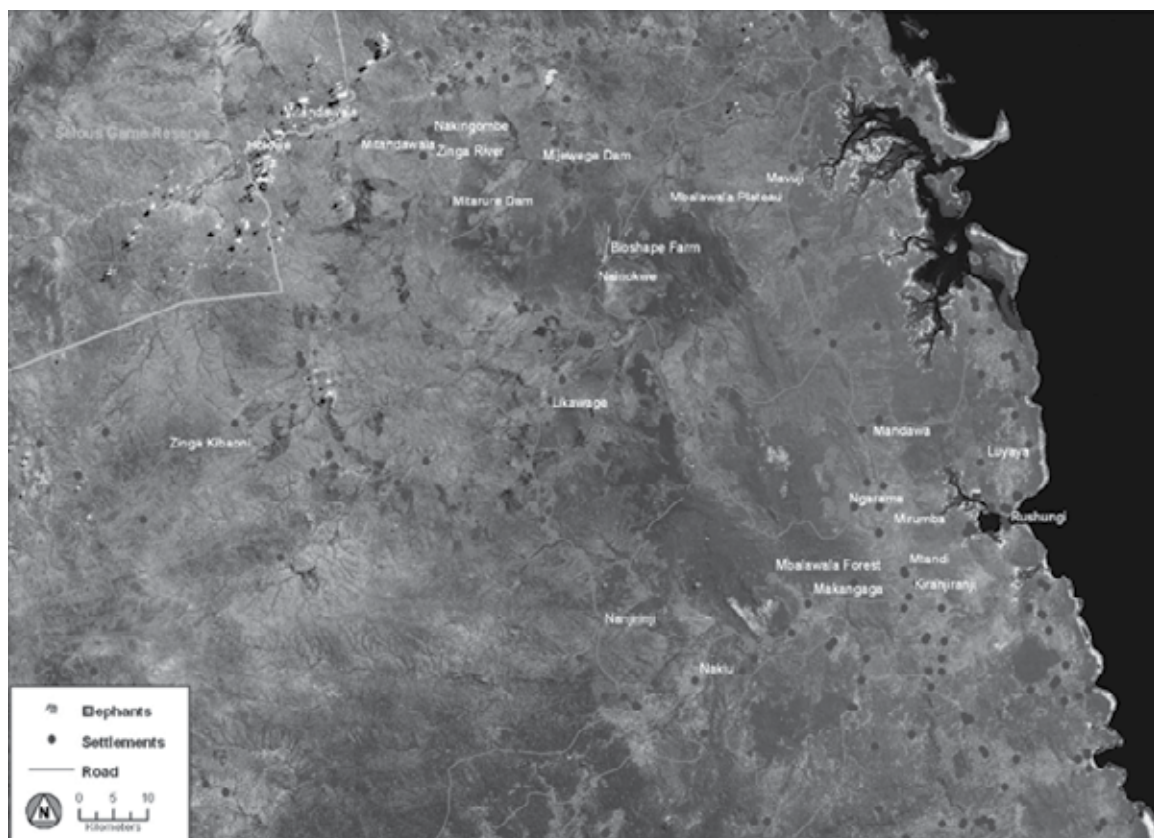


Figure 1. Records of elephant sightings in 2008 between the Selous Game Reserve and the coast of Kilwa District.

spp., are carried out indiscriminately within the two corridors. Recently, two big sites have been identified for biofuel plantations intended to raise a monoculture crop (*Jatropha curcas*) and leased to foreign investors. The low capacity of the district council to patrol most elephant habitats has exacerbated the illegal use of elephants and other species. Relative inaccessibility for patrols to some of the fragile elephant and other wildlife areas has resulted in unabated poaching. Several snares were observed during the 20-day rapid survey while tracking elephant movements in the Selous–Mavuji–Indian Ocean corridor. The team also observed several treetop platforms close to water bodies indicating that poachers shoot animals at watering points. Furthermore, the stretch of bush and unrecognized ports and harbours within it such as Rushungi, Mangisangi, Mabanda, Kisongo, Pande Mtandula, Pande Mpemba and Pande Mkondaji make the exit of ivory possible not only from elephants harvested in Kilwa but also from other areas.

In summary, two remaining corridors are in the process of being blocked off and narrowed, resulting in increased levels of human–wildlife conflict, including human and elephant deaths. Communities also described that some elephants have become residents in the areas north of Rushungi port along the coast while others report seeing elephants moving from Rushungi area heading northwards probably to join the Selous GR–Mavuji corridor then moving back to Selous GR. Our further observations have detected elephants using the muddy, intertidal areas within mangrove vegetation stands along the coast south of Kilwa (Figure 2). Due to the nature of the muddy soil, the investigators failed to establish the reasons why elephants visit these mangroves. However, several hypotheses are raised such as visiting for salt licking and browsing on or picking fallen mangrove fruits. A more detailed study is required to understand the habitat use and amount of time spent by elephants along the coast before they return westward toward the Selous GR. Since some of the elephants and other species are

believed to be resident in the area north of Rushungi port, a study is needed to assess the resources necessary to form a wildlife protected or management area along this part of the southeastern Tanzanian coast which would secure elephants' movement to and use of the coast, monitor poaching and ivory exit points, and be beneficial for rural communities through development of nature tourism and responsible hotel businesses. Ideally, the Selous–Indian Ocean corridors would become designated, as has the recently officially recognized Kitendeni corridor (Kikoti et al., 2010), under the provisions of the 2009 Wildlife Act. The previously unreported Selous to Indian Ocean corridor area brings the total number of documented wildlife corridors in Tanzania to 32 (Jones et al., 2009).

References

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Figure 2. Mangroves visited by elephants south of Kilwa.