DISAPPEARANCE OF AFRICAN ELEPHANT FROM KAINJI LAKE NATIONAL PARK, NIGERIA: CAUSES, STATUS AND PROSPECTS FOR REINTEGRATION

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ABSTRACT

This paper examines the causes of disappearance/loss and current status of the African elephant in KLNP against the backdrop of international/regional agreements, conventions, national/sub-national institutions (including forestry/wildlife laws); and presents propositions. Data were collected from official reports, Nigeria Parks Magazine and published literature. Results revealed overwhelming anthropogenic disturbance (e.g. built infrastructure, namely Air Force terminal, dam), weak legislation, obsolete equipment and poor enforcement, illegal logging, poaching, cattle herding/banditry and perverse transnational diplomacy, as probable reasons for the loss/exodus of African elephant from the park. There was no substantial empirical evidence to tie elephant loss/disappearance to human-wildlife conflicts or ivory trade. However, the literature is rife with information that while Beninoire communities on the corridor are incentivized to protect wildlife, particularly the African elephant, their Nigerian counterparts with vast indigenous knowledge of behavioural/habituation and migratory pattern, are invariably alienated. The Nigerian government should define responsibilities and harmonize roles for departments and agencies; expedite/orchestrate national forest/wildlife laws; and foster multilateral cooperation towards rehabilitation/protection of wildlife species that utilize trans-national migratory corridors.

Keywords: Anthropogenic disturbance, iconic species, migratory corridor, poor enforcement, trans-national

INTRODUCTION

The African elephant (*Loxodonta africana*) is the world's largest terrestrial mammal of considerable economic, ecological, cultural and aesthetic value; and undoubtedly the most charismatic and enigmatic mega-herbivore on land (CITES/IUCN/TRAFFIC, 2013). It is remarkably intelligent and has good retention and decent understanding of the complexities in its social and ecological lifestyle; and also the most exceptional and domineering land mammal in terms of biomass, home range, territoriality and niche differentiation in the world (Roth and Douglas-Hamilton, 1991; Barnes, 1999; Bouche' and Lungren, 2004). It is an enigmatic umbrella species and a symbolic flagship mammal which is highly revered globally (CITES, 2010). Besides being an indicator species, the African Elephant is an avid disperser of large seeds of tropical savanna trees with hard coat; thereby shortening lengthy dormancy period and facilitating germination (Paren and Sam, 2003). It is sensitive to perturbations and plays fundamental roles in ecosystem function, stability and resilience. Presently, this world's largest iconic mammal faces the greatest threat of extinction in most West African countries, especially Nigeria.

Kainji Lake National Park (KLNP) was established in 1979 following the merger of the two erstwhile Game Reserves – Borgu Game Reserve (in Borgu and Baruten Local Government Areas of Niger and Kwara States respectively) and Zugurma Game Reserve in Niger State (Meduna, Ogunjinmi and Onadeko, 2009). The two different sectors had earlier been gazetted in 1962 and 1971 independently as Game Reserves by the then Northern Regional Government (Adebayo, 2003; Meduna, Ogunjinmi and Onadeko, 2009). Located between Latitude 9^0 40^1 & 10^0 30^1N and Longitude 3^0 30^1 & 5^0 50^1E, and with total land area of 5,340.82km^2 (Wahab and Adewusi, 2013), KLNP is the first National Park and second largest of Nigeria's seven national parks.

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Keay (1959) identified the major vegetation as Northern Guinea Savanna but FAO (1974) further classified it into six main types/associations: (i) *Burkea/Detarium microcarpum* (Wooded Savannah), (ii) *Isoberlinia tomentosa* (Woodland), (iii) *Diospyros mespilliformis* (Dry Forest), (iv) *Terminalia macroptera* (Tree Savannah), (v) Riparian/Gallery forest and woodland, and (vi) Oli Complex. Some of the common mega fauna species in the national park include: Elephant (*Loxodonta africana*), Buffalo (*Syncerus caffer*), Western hartebeest (*Alcelaphus buselaphus*), Roan antelope (*Hippotragus equimus*), Water buck (*Kobus defessa),* Kob *(Kobus kob),* Bushbuck *(Traqelaphus scriptus),* Oribi *(Ourebi ourebi),* Red flanked duiker *(Cephalophus rufilatus*), Grimm's duikers, *(Sylvicapra grimmia),* Warthog *(Phacochoerus aethiopicus),* Baboon *(Papio anubis*) and Water buck (*Kobus ellipsiprymus*) (Ayeni, 1980; Meduna, Ogunjinmi and Onadeko, 2009).
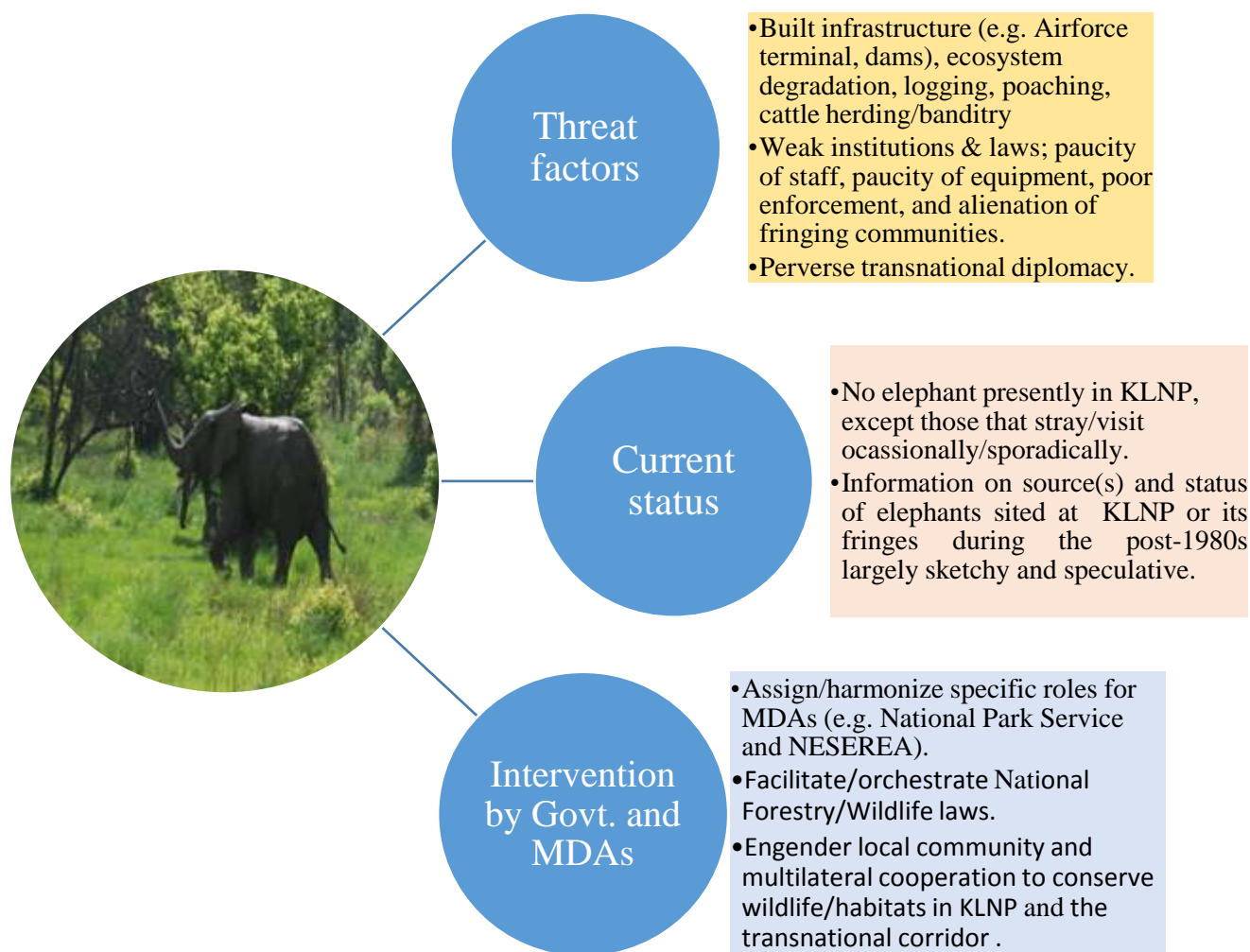
The climate of the area is defined by two seasons – wet season extends from May to November and dry season from December to April. The mean annual rainfall varies from 1100mm in the eastern part to 1150mm in the western part, and has its peak period around July/August (Milligan, 1978). The minimum temperature during this period ranges from 18^0C to 20^0C, although night temperature can be as low as 7^0C around Oli River (Meduna, Ogunjinmi and Onadeko, 2009). The relative humidity increases gradually from low values at the beginning of the dry season to a peak during the wet season. KLNP is underlain by the Basement Complex Helical considered to be Pre-Cambrian in origin (Afolayan, 1977). The landscape of the Borgu Sector is gently undulating; relief consists of quartzite ridges, with elevation of the central and western parts of the park lying between 244m and 305m – the highest point in the park being 346m in the Northwest (FAO, 1974). Although, soil survey report by FAO (1974) revealed that the park is underlain by undifferentiated meta-sediments in the east and west; and largely dominated by ferruginous tropical soil and crystalline acid rocks; the Borgu sector is underlain by nutrient labile and shallow soils while acidity increases irregularly with dept. But regardless of the low nutrient status of soils they nevertheless support heterogeneous biomes ranging from wooded to open savanna vegetation (Lameed and Adetola, 2012).

Objectives and Conceptual Framework
The paper examines the causal factors responsible for the loss and/or exodus and current status of African elephant in Kainji Lake National Park against the backdrop of international and regional agreements and conventions. The roles of extant national and sub-national environmental (forest/wildlife) policies/laws in Nigeria are examined in relation to conservation, management and enforcement regimes in Kainji Lake National Park. Finally, interventions and strategies aimed at rehabilitating the degraded habitats and the relic diffused population of African elephant in Kainji Lake National Park and the Nigeria-Benin migratory corridor, are underscored. Data for this review were obtained from secondary and archival sources – peer review literature, National Park magazine and published reports.

To make the paper as illuminating and simplistic as possible, a conceptual framework consisting of the snap shot of a lone ranging elephant in Kainji Lake National Park (*cf.* Lameed and Adetola, 2012) and the sub-themes embodied in the title of the paper, was produced (Figure 1). This manuscript is organized into five sub-headings: Introduction, International/Regional conventions, protocols and agreements, National and sub-national laws and enforcement regimes, significance, ecology and demographic trends; and Recommended interventions.

Threat factors
- Built infrastructure (e.g. Airforce terminal, dams), ecosystem degradation, logging, poaching, cattle herding/banditry
- Weak institutions & laws; paucity of staff, paucity of equipment, poor enforcement, and alienation of fringing communities.
- Perverse transnational diplomacy.

Current status
- No elephant presently in KLNP, except those that stray/visit ocassionally/sporadically.
- Information on source(s) and status of elephants sited at KLNP or its fringes during the post-1980s largely sketchy and speculative.

Intervention by Govt. and MDAs
- Assign/harmonize specific roles for MDAs (e.g. National Park Service and NESEREA).
- Facilitate/orchestrate National Forestry/Wildlife laws.
- Engender local community and multilateral cooperation to conserve wildlife/habitats in KLNP and the transnational corridor .

Figure 1: Conceptual framework

International Conventions, Protocols and Agreements

Majority of the countries in the West Africa sub-region are signatories to most conservation-related international conventions and protocols. They are also parties to crucial sub-regional and transnational agreements relating to the conservation of endangered and threatened large fauna – especially the African Elephant (*Loxodonta africana)* and their migratory ranges – pursuant to the Convention on Biological Diversity (CBD) which recognizes migratory species as a unique globally important component of biodiversity. Cooperation between countries over the management of shared resources is central to many international environmental agreements (Lindsay, Chase, Landen and Nowak, 2017). Embedded in the African Elephant Action Plan, adopted in March 2010 at CITES CoP15, is the strategy to "ensure connectivity, where possible, between elephant ranges within and among range States" (CITES, 2010). The establishment or location of majority of Africa's protected areas (harboring large mammals e.g. African Elephant) at the fringes of national territories or near transnational corridors, away from country centers was a legacy of colonial rule (Vasilijević *et al*., 2015).

Sadly, a significant number of countries in the West African sub-region have national institutions which are technically deficient while enforcement agencies have weak and fundamentally flawed monitoring regimes. By the end of the 20th century, the elephant population in West Africa had declined significantly owing to ecosystem fragmentation and conversion to sundry land uses; thereby predisposing this iconic species to poaching and ultimately, local extinction. The authorities responsible for the conservation of this keystone large mammal – Forestry and Wildlife Departments in most of these countries – are encumbered by grave challenges posed by shortage of personnel with technical knowhow, strenuous work environment and poor condition

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of service, paucity of funds, obsolete equipment, weak policies and legislation.

Nigeria is a party to most international conventions and protocols on conservation of nature and associated natural resources. These include: Convention on Biodiversity (CBD), 1992; Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), 1973; African Convention on the Conservation of Nature and Natural Resources, 1968; RAMSAR Convention on the Conservation of Wetlands of International Importance, especially as Waterfowl Habitat, 1971; Conservation of Migratory Species of Wild Animals, 1973; United Nation's Framework Convention on Climate Change (UNFCCC), 1992; United Nation's Convention to Combat Desertification, 1994 (Oluduro and Gasu, 2012). Yet, the country ranks very high among the most fluid and notorious territories with feeble laws and weak enforcement records. For several decades, the country has battled to extricate herself from the league of courier nations labeled as originating and transit/courier routes with unsavory flavor for illicit international trade in wildlife and allied products between Sub-Saharan Africa and South-east Asian countries.

National/ Sub-National Statutes and Enforcement Regimes
It is becoming progressively clearer that anthropogenic forces are the major driver of nearly all the threats to biodiversity and habitat fragmentation/loss (NPI Alliance, 2015). At national level, Nigeria has a good number of extant laws for protecting and regulating wildlife conservation/management as well as control of international illicit trade and trafficking in endangered species. The statutory laws directly connected with wildlife and habitat protection and conservation/management include: (a) National Park Services Act No. 46 of 1999 (Now Cap. 65 Laws of the Federation of Nigeria, 2004); (b) Endangered species (Control of International Trade and Traffic) Act. Cap. E9 Laws of the Federation of Nigeria, 2004; and National Environmental Standards & Regulation Enforcement Agency (Establishment) Act, 2007 (Oates *et al.*, 2007; Oluduro and Gasu, 2012; Augustine, 2013: 31/32). The Federal Ministry of Environment appears overly overburdened with the statutory responsibility of superintending over many departments and agencies – Forestry Department, National Park Service (NPS),

Climate Change Commission, Reducing Emissions from Deforestation and Degradation (REDD+), National Environmental Standards and Regulation Enforcement Agency, Bio-safety Agency, Great Green Wall, among others.

However, the NESREA (Establishment) Act invariably empowers the agency to enforce compliance with most national environmental laws as well as the provisions of international agreements, protocols, conventions and treaties on the environment – climate change, biodiversity, conservation, desertification, forestry, oil and gas, chemicals, hazardous wastes, ozone depletion, marine and wildlife, pollution, sanitation and such other agreements as may from time to time come into force. In particular, Section 7e of the Act empowers the agency to enforce compliance with national guidelines and legislation on sustainable management of the ecosystem, biodiversity conservation and the development of Nigeria's natural resources, without regard to state governments' and sister agencies' constitutional prerogatives of managing forests and allied resources within their domain.

Augustine (2013: 33) ex-rayed the National Park Service (NPS) and NESREA Acts; and cautioned that the juxtaposition of Sections 6 (h) of NPS Act and 7 (c) of NESREA Act with regards to powers to enforce and implement international conventions, treaties, protocols and agreements, would reveal attendant overlap and apparent clash of responsibilities. Also, with the presence of other agencies under the umbrella of the same Federal Ministry of Environment, there is no doubt that the NESREA Act – which confers on the agency an omnibus power and unrestricted jurisdiction over all areas relating to environment – is on a collision course with other sister agencies; and this might ultimately create conflicts of interest among the federating organizations/agencies as well as between the federal and state ministries/agencies. Harping on the likelihood of clash of roles among three international and national agencies, namely CITES, NESREA and NPS, Augustine (2013) averred that the penalties for offences were arbitrary, disparate, abysmally low and ridiculous; stressing that with the inflationary trend in the country, offenders would be more inclined to committing crimes and paying the fines than being deterred by the prevailing system of administration of justice. The Nigeria Parks Service (NPS) is shouldered with the

responsibility of managing the countries' seven National Parks straddling 10 States and covering a total land area of 22,168km² (Figure 2).
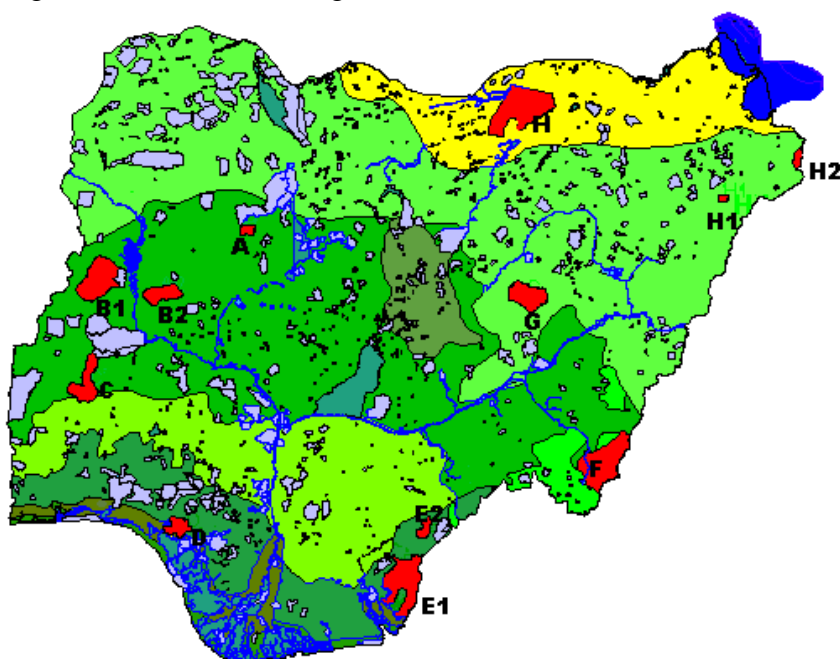
Figure 2: Map of Nigeria showing National Parks and locations (in red colour).
Key to Map: *A – Kamuku in Kaduna (1121km²); B1 – Kainji Lake - Borgu sector and B2 - Zugurma sector (5340.82km²) in Niger and Kwara; C – Old Oyo in Oyo (2512km²); D – Okomu in Edo (202km²); E1 – Cross river - Oban division, E2 – Okwango division in Cross River (4000km²); F – Gashaka – Gumti in Taraba and Adamawa (6731km²); G – Yankari* reverted to Game Reserve currently managed by Bauchi State Government; H – Chad Basin: Hadejia/Nguru wetland sector, H1 – Sambisa sector; H2 – Chingurme/Duguma sector in Borno and Yobe (2258Km²).*
Source: Adapted from Federal Republic of Nigeria (2010).

Just like in the past, Nigeria's complicated federal system of government continues to give rise to various ambiguities and anomalies in terms of the application of the country's wildlife trade legislation, and issues of legal precedence appear confused throughout the country (Courouble *et al.*, 2003). For example, the 36 state governments in Nigeria operate stand-alone forestry policies and laws which are disparate; and bear no relationships with or relevance to extant forest policies and legislation in other sister states. Besides, the forestry/wildlife policies/laws operating in the different states are at variance with the national forest policy. The lack of consistency in policies and legislation operational in the different states; and the weak relationships between states and national statutes, are primarily responsible for the weak enforcement regimes pervading the nation's entire environment sector. Ironically, Nigeria remains till date, the only country in Sub-Saharan Africa without a national forestry law (*see* Blaser, Sarre, Poore and Johnson 2011; Isikhuemen, 2014).

Significance, Ecology, Demographic Trends and Threats
The African elephant (*Loxodonta africana*) is the world's largest terrestrial and most charismatic mega-herbivore (CITES/IUCN/TRAFFIC, 2013). As the most dominant land mammal on account of biomass, ecological niche and size; its role in the ecosystem is often significantly correlated with habitat quality, size of home range and intensity of perturbations. The African elephant is totemic and greatly valued by the rural communities around KLNP and on the Benin–Nigeria wildlife corridor: the sighting or appearance of an elephant in any neighborhood or community is emblematic and exemplifies impending good fortunes (Zanna, 2008). By their interaction in natural ecosystems, local people take intuitive notes based on observations of the species they come in contact with; this provides further insight into the complex interactions that exist between species and their ecosystems (Beall and Zeoli, 2008). The local people living on the wildlife corridor have repository of indigenous knowledge of elephant habituation and migratory pattern; this often guide them to develop locally adapted conservation

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practices for the enigmatic and umbrella species (Berkes, Colding and Folke, 2000).

Trans-boundary protected areas (TBPAs) are those, which straddle two or more countries – they present unique challenges for management, in particular, as a result of differences in legal systems, human, technical and financial resources, infrastructure and policies between relevant countries; they also offer many benefits including enabling larger areas to be protected and promoting the application of the ecosystem approach in particular through maintaining corridors for species (Secretariat of the Convention on Biological Diversity, 2004). TBPAs consist of two or more Forest/Game Reserves or National Parks situate in discrete locations straddling two or more transnational boundaries or connected through corridors. Braack, Sandwith, Peddle and Petermann (2006) likened it to a case when two or more countries decide to establish some level of joint governance of adjoining protected areas across national boundaries. Animal movement can be described according to three major population-level distribution strategies: (a) being sedentary in annual ranges (meaning, having stable home ranges or territories, where an individual occupies a relatively small area compared to the overall population distribution); (2) migration (consists of seasonal, round-trip movements between spatially disjunctive areas); and (3) nomadism (differs from being sedentary or migratory as individuals move across the landscape using routes that do not repeat across years) (Mueller and Fagan, 2008; Harris *et al*., 2009; Allen and Singh, 2016).

With the estimated population of African elephant in Western Africa currently at $\leq$ 2% coupled with the surge in human population, development in infrastructure and resultant increase in habitat loss, the relic elephant population cannot, but flee from highly disturbed/ degraded areas to safer areas or regions (Ngcobo, 2018). Prior to upgrade of Borgu and Zugurma Game Reserves to the status of a National Park in 1979, the migratory mega-fauna (e.g. African elephant) moved freely across the transnational Nigeria - Benin corridor without any perturbations.

Available evidence from literature/published reports revealed that the elephant group in KLNP had been splintered several decades ago while the relic population relocated to Republic of Benin (Meduna, Ogunjinmi and Onadeko, 2009; Okorodudu-Fubara, 1998). It is not unlikely that the few individuals that occasionally or sporadically strayed into the park or its fringes after the 1980s came from Benin Republic and the nearby Kamuku National Park in Kaduna State.

Several authors have listed the major drivers of ecosystem degradation and/or loss/disappearance of the elephant population in KLNP to include: unauthorized grazing and bush burning, poaching, illegal logging and farming, illegal settlement/occupation, paucity of trained personnel and poor remuneration, etc. (*cf.* Lameed and Adetola, 2012; Ejidike and Ajayi, 2013; Mohammed *et al.*, 2013; Wahab and Adewusi, 2013). Some authors (e.g. Okorodudu-Fubara, 1998) have attributed the disappearance of African elephant from KLNP and the migratory corridor to diverse anthropogenic factors; the most critical being "establishment of military training airstrip close to KNLP by the Nigerian Air Force Authority". Mohammed *et al.* (2013) reported that the vegetation cover in KLNP declined by 31% between 1995 and 2007. An individual's decision to move or relocate from one habitat to another is influenced by diverse factors that include food reserve availability and/or quality, predator avoidance and environmental conditions, which will enhance its capacity to survive and reproduce (Morales *et al.*, 2010). According to Ayeni (1980), some large mammals (e.g. Elephants) could easily flush (run) when airplane hovers or flies above them. Table 1 shows the result of the most comprehensive wildlife inventory conducted in KLNP between 1979 and 1980 (Ayeni, 1980).

Table 1: Number of animals encountered during Aerial Surveys in the Borgu Sector of Kainji Lake National Park (1979/1980)

Fauna	Transect																	Total	Mean per count	Estimate for whole Park
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17			
Hartebeest	4	-	28	33	76	65	6	16	27	59	31	25	22	22	5	-	1	420	105	1625
Roan	8	-	3	1	19	59	29	28	10	16	14	33	16	19	-	22	-	298	74.5	1861
Kob	-	-	-	1	-	7	8	8	3	1	4	-	-	11	21	4	-	47	11.75	291
Elephant	-	-	-	4	16	8	10	-	9	-	12	3	-	-	-	13	7	82	20.05	510
Oribi	1	1	2	1	7	4	10	8	3	4	-	3	1	8	-	9	-	65	16.25	405
Grey Duiker	-	-	4	6	3	11	3	9	34	8	7	6	2	14	2	8	2	93	23.25	580
Bushbuck	-	-	-	-	-	1	1	-	-	-	1	5	1	5	6	1	-	17	4.25	105
Wart-hog	-	1	3	3	5	3	4	11	7	1	3	5	-	1	2	-	-	47	11.75	291
Red Duiker	-	-	2	-	-	1	-	-	1	2	-	1	-	1	-	-	-	8	2	50
Boffalo	-	-	-	-	36	-	-	4	-	-	-	10	-	22	-	-	-	72	18	450
Baboon troupe	-	-	-	-	-	-	4	1	2	1	-	3	2	2	-	2	-	17	4.25	105
Water buck	-	-	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	7	1.75	41
Hippo	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	3	0.75	16
Total	**13**	**2**	**42**	**49**	**162**	**163**	**75**	**85**	**66**	**92**	**72**	**101**	**44**	**105**	**36**	**59**	**10**	**1176**	**294**	**6330**

Sampling intensity: 0.25%
Source: (Ayeni, 1980)

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Bouche´ and Lungren (2004) observed that regardless of the high level of perturbations, 'episodic contacts among elephant populations still occur, with connectivity being increasingly severed particularly in West Africa. Connectivity corridor is a physical element of a landscape (e.g., a band of forested land cover, or a series of wetlands in a migratory flyway) that enables species to move across the landscape in order to migrate, disperse, feed and breed (Ervin, 2010). Lindsay, Chase, Landen and Nowak (2017) estimated the cross-border elephant population on the Nigeria – Benin corridor in 2010 to be seven. Table 2 shows the trend in the demography of African Elephant counted directly or indirectly in KLNP between 1979 and 2013.

Table 2: Number of Elephants encountered in KLNP and environs between 1970 and 2013

S/No.	Year	Counted directly	Indirect or Proxy count	Places of encounter of elephants	Remark
1	1979/80	82		KLNP	Inventory
2	1984	4		KLNP	
3	1995	5		KLNP	
4	1997	10		Corridor	
5	1999		3	Corridor	
6	2007	2	1	KLNP/Corridor	
7	2011		2	Corridor	
8	2012		No. uncertain	Corridor	
9	2013	5		KLNP	
Total		**108**	**6**		

Adapted from Ayeni (1980, 1983; Zanna, 2008).

Pellerin *et al*. (2009) have harped on the potential linkage or the likelihood of the existence of a corridor between Trois Rivieres Forest Reserve in Benin and Kainji Lake National Park in Nigeria (Figure 3).
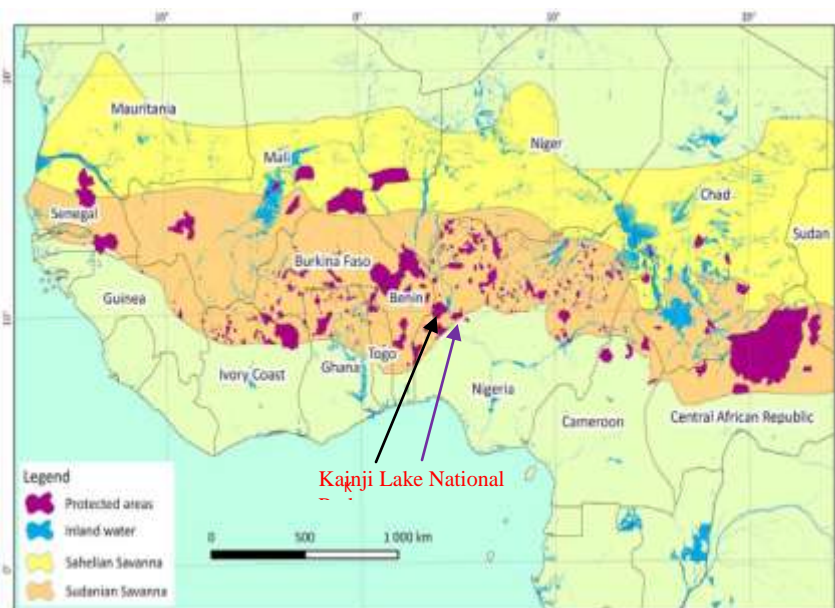
Adapted from Bouche *et al.* (2011).
Figure 3: Map of West-Central Africa showing elephant ranges (KLNP in red ink)

But Riggio (2011) was rather circumspect on the reliability of such corridor; arguing that if such possibility does exist, land conversion and high human population density makes successful movement unlikely or at best sporadic. Despite the significant decrease in African elephant population in most protected areas in West-Central Africa, the creation of linkages among the remaining small populations – that may not survive in isolations through cross border protected areas (Bouche' *et al.* 2011) – is critical to their ultimate survival given their itinerant nature and demands across historic cross-border corridors (see Figure 3).

It is therefore not out of place to insinuate that the relic splinter group of African elephant population that once lived or sited in KLNP during the pre- through post-1980s might have permanently exited the territory to join the larger group in the W-ARLY-PENDJARI Complex. Blanc *et al.* (2003) reported that the W-Arly-Pendjari (WAP) trans-boundary complex shelters more than half of the West African elephant population. WAP is jointly managed by the trio of Benin, Burkina Faso and Niger with the support of national, regional and international laws ((Amahowe, Houessou, Ashant and Tehou, 2013). The W-Arly-Pendjari (WAP) trans-boundary complex is shared between Benin (43% of the area), Burkina Faso (36%) and Niger (21%) (UNDP, 2004).

SUGGESTED INTERVENTIONS

It is imperative for countries (in this case, Nigeria and Benin Republic) that share common elephant populations to jointly monitor, conduct inventory, stem poaching while engendering sheer competitiveness to develop political and economic frameworks aimed at safeguarding assuring the security of both wildlife and habitats/corridors. To be effective in such areas, trans-boundary areas require more than ministerial agreements; they demand high-level will of governments to remove physical fences, and coordinate between border guards and security services (Ervin *et al*, 2010).

With the support from international NGOs, notably Wildlife Conservation Society, Nigeria and Cameroon successfully established and jointly managed three TBPAs – Cross River National Park and Takamande NP, Gashaka-Gumpti NP and

Tohaba-Mbabo as well as Chad Basin NP and Waza (UNEP/CMS, 2009). The main reason for the TBPAs between Cameroon and Nigeria were to protect and save the relic populations of the Critically Endangered (IUCN Red List) Gorilla (*Gorilla gorilla diehli*) which is endemic, the Nigeria–Cameroon Chimpanzee (*Pan troglodytes ellioti*), African Elephant (*Loxondata africana cyclotis*) and a host of other large mammals in the corridor (IUCN/WCPA, 2011). It has become expedient that similar interventions be extended to the Benin–Nigeria trans-border corridor to save/rescue the relic African elephant which have been seriously fragmented and their population broken into splinters while their existence is seriously threatened.

The inclusion of border communities in the TBPA framework is shaping participatory management and ecotourism business in countries where wildlife forms an integral component of the environment - development interface. But the framework is offering opportunities for resolving, through participatory approaches, problems associated with transhumance herders and banditry, wildfires and loss/degradation of ecosystems. Besides, it offers stakeholders ample opportunities to jointly manage Protected Areas (PAs) while promoting conservation amidst income generating activities. Unlike Nigeria, local people in Benin Republic have been involved in PAs management decision since 1996, with park managers returning annually 30% of income generated by hunting zones to the wildlife associations for local initiatives (such as building school classrooms and health centres, forage purchase, etc.) in order to improve the wellbeing of local populations (Amahowe, Houessou, Ashant and Tehou, 2013).

CONCLUSION

The study has established that diverse anthropogenic factors namely, location of Air Force terminal near Kainji Lake National P, weak policy/legislation and poor enforcement, cattle herding and banditry, dearth of trained personnel and perverse diplomacy were largely responsible for the disappearance and/or exodus of the African elephant from the KLNP and the Nigerian side of the trans-border corridor. Finally, Nigeria should

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expedite action on, and ensure that the ongoing national forestry laws are pro-people, wildlife and ecosystems. Additionally, Nigeria must endeavor to strengthen bilateral cooperation with neighbouring countries (particularly Benin Republic) as well as International development organizations and multilateral Non-Governmental Organizations. To this end, the conservation of wildlife/ecosystems in KLNP and associated corridors must be treated as very important and with utmost urgency.

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