

**RANGE RESOURCES IN FALGORE GAME RESERVE
HERBAGE, SALT-LICK AND WATER AVAILABILITY**

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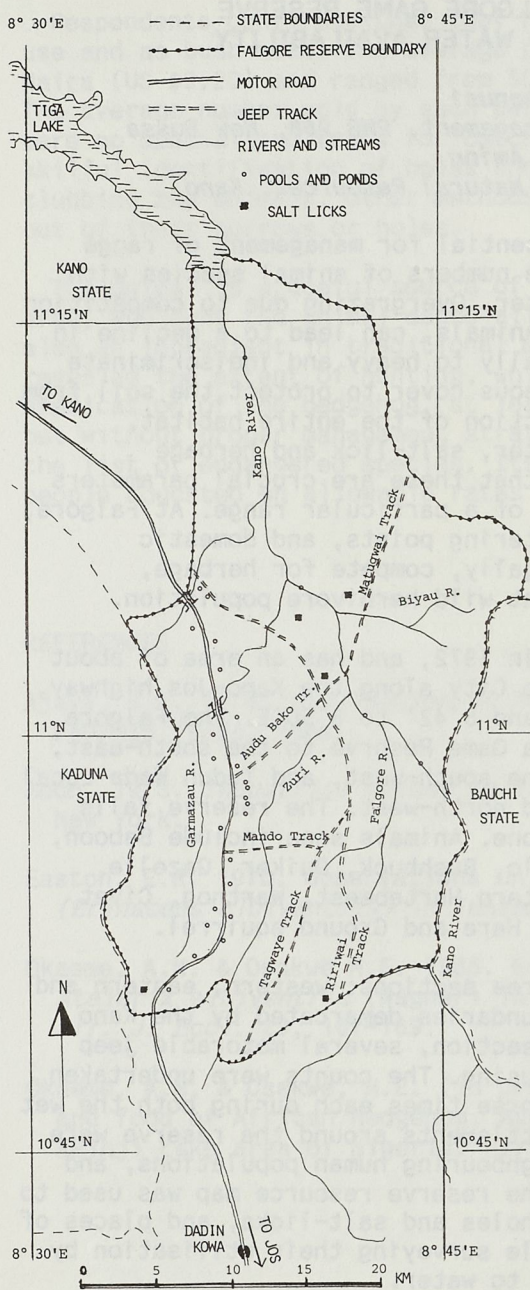
Ministry of Agriculture & Natural Resources, Kano

Improvement of range resources is essential for management of range lands, if these are to maintain large numbers of animal species with adequate availability of food and water. Overgrazing due to competition between domestic livestock and wild animals, can lead to a decline in number of native species, and eventually to heavy and indiscriminate grazing, leaving insufficient herbaceous cover to protect the soil from erosion, resulting finally in destruction of the entire habitat. Observations by Western (1975) on water, salt-lick and herbage availability in East Africa, showed that these are crucial parameters for estimating the carrying capacity of a particular range. At Falgore, there are insufficient dry season watering points, and domestic livestock, entering the reserve illegally, compete for herbage, salt-licks and water with the resident wild herbivore population.

Falgore Game Reserve was gazetted in 1972, and has an area of about 923 km². It is about 150 km from Kano City along the Kano-Jos highway, and lies between 10°30'N to 11°00'N and 8°42' to 8°50'E. The Falgore Reserve is bordered by the Lame/Burra Game Reserve to the south-east, the Kaduna State Forest Reserve to the south-west, and Tudun Wada Local Government Area to the north-east and north-west. The reserve falls within the northern guinea savanna zone. Animals seen include Baboon, Patas monkey, Tantalus monkey, Buffalo, Bushbuck, Duiker, Gazelle, Oribi, Roan antelope, Waterbuck, Western Hartebeest, Warthog, Civet cat, Hyaena, Jackal, Lion, Cane rat, Hare and Ground squirrel.

The study area was divided into three sections: western, eastern and southern. These were separated by boundaries demarcated by the Kano River and by jeep tracks. From each section, several motorable jeep tracks were selected for animal censusing. The counts were undertaken from an open 4-wheel drive vehicle three times each during both the wet and dry seasons. Village heads of settlements around the reserve were interviewed in order to estimate neighbouring human populations, and their occupations were also noted. The reserve resource map was used to determine the distribution of water holes and salt-licks, and places of concealment were erected for use while surveying their utilisation by cattle and wildlife that need access to water.

Most sightings of big game species were in the neighbourhood of large herds of grazing cattle, and observations showed that livestock in the Game Reserve competed with the native fauna. In fact, the



estimate for domestic livestock population was higher than that for the wild species, at all seasons (Table 1). The greatest number of sightings of livestock were in the dry season. Moreover, human settlements were located rather too close to the reserve; some were nearer than 1.5 km to the boundary. The majority of villagers are farmers, and cattle rearers form about 20 percent of the population (Table 2). According to Gidado (pers comm.), during the severe droughts of 1973/74 and 1983/84, there were large influxes into the reserve of cattle, belonging both to nomadic Fulani and to local farmers.

Results for water hole utilisation indicated that both domestic animals and native fauna visited all the watering points. Wild animals were not directly observed using salt-licks, although other indications such as footprints and diggings, showed that they had been present (Table 3).

Early burning is important for forage improvement, since it promotes regeneration of choice browse and grazing vegetation. Both domestic livestock and wild herbivores benefit from the succulent regrowth. The foliage of trees and shrubs is a richer and more consistent source of nutrients than grass throughout the year; but the tree cover is damaged by cattle rearers lopping the branches for the benefit of their cattle. Moreover, late burning appears to result in damage to ground vegetation and to death of some trees.

The range resources at Falgore Game Reserve are seriously depleted, especially during the dry season. This is a result of overgrazing due to competition with domestic livestock, and to unprescribed burning and other human interference. According to Heady & Heady (1982) the development of more watering points distributes the grazing pressure over larger areas of the range land. However this might also encourage larger influxes of cattle.

REFERENCES

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Table 1. Animal census carried out along jeep tracks - averages of counts.

	TRACKS IN DRY SEASON					TRACKS IN WET SEASON				
	Audu Bako	Mando	Ririwai	Tagwaye	Matugwai	Audu Bako	Mando	Ririwai	Tagwaye	Matugwai
Cows	76.6	80.5	35.5	46.6	26.6	25.5	40.0	33.3	21.6	17.5
Goats	-	40.0	12.5	30.0	100.5	15.0	-	10.0	20.0	20.0
Sheep	-	-	-	20.0	-	20.0	-	-	-	-
Buffalo	-	2.0	-	-	-	-	-	-	-	-
Bushbuck	-	-	-	-	1.5	1.0	-	-	-	-
Duiker	2.0	-	2.0	-	2.0	-	2.0	2.0	2.0	2.0
Oribi	2.0	2.0	2.0	1.0	2.0	2.0	-	2.0	-	1.0
Roan antelope	30.0	22.0	10.0	26.6	22.5	10.0	10.0	12.5	10.0	11.5
W. Hartebeest	10.0	15.0	15.0	10.0	20.0	-	12.0	6.0	-	-
Baboon	-	26.6	-	-	30.0	-	-	-	-	-
Patas monkey	-	50.0	-	40.0	36.6	-	-	-	-	20.0
Hare	-	-	-	2.0	-	-	-	-	-	-
Warthog	4.0	-	6.0	6.0	5.0	-	3.0	-	-	-

Table 2. Peripheral settlements and estimated populations

VILLAGE	POPULATION	MAIN OCCUPATION
Bundingawa	160	cattle rearers
Daba Kari	400	arable farmers
Dokoki	500	mixed farmers
Dogon kawo	1000	arable farmers
Dori	600	cattlemen
Fararuwa	700	arable farmers
Gadako	150	arable farmers
Karasaki	200	mixed farmers
Kaya	200	mixed farmers
Madurkwai	200	cattlemen
Maikasuwa	250	mixed farmers
Maikwandira	150	mixed farmers
Nata'ala	800	arable farmers
Sabuwa Kaura	200	arable farmers
Yantabarmi	100	arable farmers
Zamba	600	arable farmers
Zina	200	arable farmers

Table 3. Utilisation of 3 permanent water holes in Falgore

ANIMALS	PERMANENT WATER HOLES		
	KWAKWABA (No./day)	KOYA (No./day)	DOGON DUTSE (No./day)
Cattle	100	100	300
Goats	-	20	-
Bushbuck	-	2	-
Duiker	2	1½	-
Oribi	-	2½	-
Roan antelope	28½	32½	-
Waterbuck	-	5	-
Western Hartebeest	10	12	-
Baboon	20	-	25
Patas monkey	40	40	48½
Warthog	9	11	4