

Land Use, wise use? -future of wildlife in Botswana-

The rich fauna of large mammals in the African continent is in decline. Not only in unprotected land use, but also within fully protected National parks (NP) (Caro and Scholte 2007). Reduced wildlife populations might also be seen in savannahs of Botswana (Wildlife statistics 2004, Wheelwright 1996). Land use types and thus varying impacts by human activities regulate their suitability to wildlife. Inventories (road counting) of wild mammals (incl. ostriches) in the northern part of Botswana in four types of land use, confirm higher species richness and abundance of wild mammals within protected areas. The large carnivores and large herd living herbivores were only seen in protected land use. Botswana still has viable wildlife populations and best prospects for conservation of all African countries (Vanderpost 2007). Wise land use may be the key to conserve wildlife to future generations.

One of Botswana's northern districts, Ngamiland, is possessed of large quantities of Botswana's wild animals, much due to vicinity of the large inland delta of Okavango. Wildlife richness generates tourists, who generate money. Tourism is second contributor of foreign currency and fastest growing sector in Botswana (SCO 2002). Rural people living in or adjacent to partly protected land use (WMA) in Botswana are highly dependent on incomes from tourism (often hunting or photographic safaris) since other kinds of land utilization are restricted. This land use type (LUT), WMA:s is one of four broad types of land use in Botswana, thus functioning as a buffer-zone to another LUT, the fully protected NP:s. Aerial inventories in Botswana address main part of the large wild mammal fauna outside national parks (Wildlife statistics 2004), most likely to be found in the WMA:s making this LUT utterly important.

The two remaining LUT:s, community grazing areas (CGA) and fenced ranches (FR) are unprotected land. These are for agricultural purpose and these semi-arid lands and barren soils mainly allows for livestock. CGA:s are for general livestock grazing by residents (commons). CGA:s are unfenced in contrast to FR:s who is normally proper fenced to keep livestock inside the ranch. FR:s are commercially owned, privately or cooperative. As for most of the savannah habitats of Africa, pastoralism has long history also in Botswana. Last decades "development" in the livestock sector has reduced cattle's meaning to the traditional farmers and thus generated in low prospects for livestock as to reduce poverty of the rural population. Cattle industry is blamed to favour only large-scale pastoralism, these often in hands of few wealthy and (already) powerful people.

Intense livestock production often leads to high pressure on lands of FR:s and CGA:s and concentrated grazing pressure in these arid environments might lead to bush encroachment or even land degradation. If to be seen as land degradation is in dispute, but for most wildlife this type of land use seems to be less favoured. Though some species such as steenbok, common duiker and kudu may cope well or even favour of pastoral land use (Verlinden 1997). Lack of surface water generates in numerous boreholes to support the cattle industry. Leading to high groundwater usage (livestock alone stands for one fifth of water usage in Botswana (FAO 2006)) and cases of groundwater contamination (urea).

Nowadays most beef is exported to Europe and its import regulations, thus puts high veterinary restrictions for African countries. To reduce contamination risks via wild mammal's common strategies include erection of large wildlife proof cordon fences. The middle and northern parts of Botswana, since 50s, faced erecting of endless kilometres of these cordon fences (over 1500 km only in Ngamiland district). Except for individual animals getting injured or dying trying to get through, most severe effect upon wildlife cordon fences has upon the migration ruts of the large herbivores, especially in periods of extreme droughts

(Albertson 1998). If to find positive effects these fences reduce human-wildlife conflicts, such as crop raiding or predation of domestic animals and also reduced possibilities to poaching.

Since all large carnivores and large heard living herbivores were found in the land use of protected areas implications for conservation must include well functioning WMA:s. Also facilitate for the seasonal migration ruts for larger herbivores is important. To avoid long-term degradation of unprotected land, high concentration of livestock should be reduced.
