

Herders and wetland degradation in northern Cameroon

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Introduction Livestock rearing in Northern Cameroon is carried out under two major systems: the nomadic and the transhumance production systems (Pamo & Pamo, 1991). Nomadism is the practice of wandering from place to place, while transhumance involves seasonal displacement of flocks from one area to another by herders. These production systems involved large grazing areas, which may encompass different ecosystems. The Yaère, the only wetland of the northern Cameroon, is the major dry season grazing lands for livestock and wildlife. The main characteristic of this wetland is that the whole area is excluded from grazing during the growing season as a result of large scale flooding. Thus the major forage species (i.e. *Echinochloa pyramidalis*, *Oryza longistaminata*, *Hyparrhenia rufa*, *Echinochloa stagnina*) can set seed thereby ensuring their continued dispersal, establishment, and survival during the subsequent rainy season. In 1979, an upstream dam of 28 km with an additional 20 km embankment along the Logone river was built to store water for a rice irrigation project. This suppressed flooding over some 60 000 ha, and seriously affected the hydrological regime over another 200 000 ha. Major perennial forage species were gradually replaced by less palatable annual species such as *Sorghum arundinaceum*. This paper investigates how herders coped with the induced degradation of this dry season grazing land.

Wetland use before the dam construction The Yaère was a multifunctional human use area. Exploitation varied by site and by season, corresponding to the dynamic character of the flood plain and the cultural background of the floodplain users. During the dry season the area played a fundamental role in sustaining the rural economy on a regional scale. Fish and muskwari were exported from the area and herds from many parts of the North Cameroon, Chad, and Nigeria were provided with fresh pasture and water. During this period, the crude protein content of rain-fed pasture declines and the surrounding savanna pasture becomes desiccated. The accessibility of the flood plain and its primary products are of vital importance to livestock and wildlife. Pastoralists with cattle, sheep and goats moved into the area as the dry season progressed.

Adaptation to wetland degradation Pastoralists used flexible strategies to mitigate the effect of a high-risk environment. This required a formal or mainly informal set of rules allowing herders access to different ecological areas of the region to use different resources at different seasons of the year. Their survival is attributable to a wide spectrum of adaptive strategies. Some were ecologically based, while others depended on socio-economic and cultural mechanisms. The ecologically, as well as economically, based strategies rely on herd maximization which is achieved by herd diversification. The use of different livestock species has ecological and economic implications. Wetland degradation creates forage scarcity and leads to the poor spatial herd distribution. Different species then fill different ecological niches which may be more efficient as each species prefers to graze certain plant species. Increased mobility was also widely used and involved resource exploitation mobility (Oba & Lusigi, 1987), carried out in response to unpredictable forage and water availability, and escape mobility involving long distance migration to escape the combined effects of range degradation and decreased rainfall. Resource exploitation mobility allowed utilization of a widely dispersed forage resource at the times when it was rare. The distance covered, the routes followed, the length of stay in an area and the degree of flexibility built into the system varied from year to year. The number of displacements during the dry season depended on the state of available resources and of livestock. Such patterns of land use allowed for a high degree of fluidity and variation in the pastoralist system and provided an opportunity to individual herd owners to respond independently to seasonal fluctuations. Escape mobility, involving long-distance migration, was implemented to escape the combined effects of range degradation and reduced rainfall.

Conclusion Degradation of rangeland creates long-term economic and ecological disasters and diverts scarce resources to relief programmes. These observations from Northern Cameroon demonstrate that policy options for economic development require the assessment of economic, social and environmental function of any ecosystem before deciding to initiate and implement any project. In fragile environments, such as North Cameroon, measures should be taken to reinforce the ability of pastoralists to move between different ecological areas. Inevitably such a process requires limits to be placed on the numbers allowed to use a particular area in any season. Social and cultural background of the local population suggests that this will never be an easy strategy to implement in the short term.

References

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