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**From Herd Diversification to Livelihood
Diversification as a Response to Poverty:
The Case of the Waso Boran of Northern Kenya**

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The Waso Boran of northern Kenya used to have large, mobile, and diverse herds of livestock that exploited equally large and diverse rangelands. Forty years of human population growth, drought, environmental change, and lack of relevant policies have altered this situation, however, with the majority of Waso Boran today being livestock poor and engaged in a variety of non-pastoral activities to diversify their livelihoods. One-third of 540 households we surveyed in Isiolo District now have ten head of cattle or less, and a larger census suggests that only 15 percent of households can currently be categorized as mobile pastoralists. The largest category, in contrast, is represented by urban dwellers (51 percent of households) that raise livestock in more sedentary production systems. To cope with livestock poverty many people pursue endeavors such as petty trade, wage employment, and farming, as well as the collection and sale of firewood and wild products. These activities heavily involve women. Dealing with such large changes is difficult, but it is recommended that policy makers focus on land use policy to help protect remaining grazing lands from encroachment by cultivators, and that women be a focus of capacity building by development agents to increase the scope for livelihood diversification efforts.

Background

The Waso Borana pastoralists have persisted in northern Kenya for over a century. Their traditional economy has been based on extensive livestock production, and livestock species managed have included cattle, camels, sheep, goats, and donkeys. In addition to providing food for human consumption, these livestock have also been important to establish networks for social security and wealth accumulation. Before and during the colonial era, the Waso Boran reportedly owned large numbers of all species of livestock. According to scholars, herd diversification was a basic strategy for wealth accumulation and risk management for the Waso Boran. Herd diversification was made possible by the existence of productive, diverse rangelands that had a robust mixture of herbaceous and woody forage species. The Waso Boran primarily relied upon two ecological systems, namely the Chari and the Waso. The Chari is a scrubland found to the north and south of the Euaso Ngiri River and has been traditionally used by browsing goats and camels. The Waso, on the other hand, is a flood plain of the same river that stretches to the Lorian Swamp. The Waso has been traditionally used for grazing by cattle and sheep. Over the last four decades the Waso Borana pastoral system has undergone a tremendous socio-economic transformation. Key events included the "shifta" war of the 1960s, drought in the 1970s that killed large numbers of stock, and a gradual process of land degradation that altered the mix of vegetation. One end result has been the transformation of Waso Borana livelihoods from a primary dependence on diverse livestock holdings to a primary dependence on

diverse livelihoods. This has been postulated as a response to increasing poverty. Some scholars have estimated the cumulative losses of cattle over these 40 years at 75% of initial holdings, while losses for camels and goats have been estimated at 95% of initial holdings.

Here we report on results from a recent socio-ecological investigation that involved a sample of 540 Waso Boran households residing in nine locations (Dhedas) in north-central Kenya. Data collection also included a census of over 5,000 households. Examples have been drawn from this research to document causes and consequences of the transformation of Waso Borana households described above.

Key Findings

Table 1 shows the structure of livestock ownership in the study area, and this provides confirmatory evidence of the dramatically reduced livestock numbers compared to historical benchmarks; holdings of 60 cattle per household were noted to be "typical" in the area during the 1950s and 1960s. Our data also reveal the inequitable distribution of animals among households today. More than 251 households out of 540 surveyed owned only six head of cattle, while only five households owned most of the livestock (i.e., 19 percent of the cattle, 15 percent of the sheep, 18 percent of the goats, six percent of the camels, and 49 percent of the donkeys.)

Table 1. Livestock ownership structure for the Waso Boran of Isiolo District, northern Kenya, based on a sample survey of 516 households.

NUMBER OF HOUSEHOLDS	AVERAGE NUMBER OF LIVESTOCK OWNED PER HOUSEHOLD				
	Cattle No. (%)	Sheep No. (%)	Goats No. (%)	Camels No. (%)	Donkeys No. (%)
<5	102 (18.9)	79 (14.8)	97 (18.0)	33 (6.2)	265 (49.1)
6 to 10	73 (13.5)	58 (10.8)	88 (16.3)	4 (0.8)	6 (1.2)
11 to 20	72 (13.5)	78 (14.5)	54 (10.1)	3 (0.6)	--
21 to 50	77 (14.4)	93 (9.1)	33 (6.7)	2 (0.4)	--
51 to 100	44 (8.5)	48 (4.5)	15 (3.0)	--	--
101 to 150	9 (1.7)	28 (5.1)	11 (2.2)	--	--
151 to 200	14 (2.7)	23 (4.4)	21 (4.1)	--	--
201 to 250	1 (0.2)	2 (0.4)	14 (2.7)	--	--
>251	6 (1.2)	2 (0.4)	22 (5.2)	--	--

Table 2. Categorization of production systems among the Waso Boran in Isiolo District, northern Kenya, based on a census of 5,126 households.

	STUDY UNIT	PRODUCTION SYSTEMS	NUMBER OF HOUSEHOLDS	HOUSEHOLD CHARACTERISTICS	
				Degree of Mobility	Enterprises
1	Kulamawe	Chari pastoral	420	Mobile	Trade, cattle, shoats ¹ , camels.
2	Kinna	Urban Pastoral	906	Sedentary	Trade, agriculture, cattle, shoats
3	Garba Tulla	Urban pastoral	842	Sedentary	Trade, shoats, camels
4	Rapsu	Agro-pastoral	231	Semi-sedentary	Agriculture, trade, shoats.
5	Malkadaka	Chari pastoral	324	Mobile	Trade, shoats, cattle, camels
6	Gafarsa	Agro-pastoral	502	Semi-sedentary	Agriculture, shoats, cattle, trade.
7	Eres-Aboru	Waso pastoral	396	Semi-sedentary	Cattle, sheep, trade
8	Sericho	Waso pastoral	663	Semi-sedentary	Cattle, sheep, trade
9	Mado-Gashe	Urban-pastoral	842	Sedentary	Trade, shoats, cattle
Total	9	4	5,126	-----	-----

¹ Shoats is a term for goats and sheep combined.

Table 2 illustrates that four livelihood diversification systems have emerged among the Waso Boran. We primarily defined these with respect to variation in livestock mobility. These include the: (1) “sedentary urban pastoral system;” (2) “semi-sedentary agro-pastoral system;” (3) “semi-sedentary Waso pastoral system;” and (4) “mobile Chari pastoral system.” The sedentary systems are now the most common in our study area, and the mobile systems are the rarest. This is in contrast to the historical pattern where mobile systems were the norm. For example, the sedentary urban pastoral system is located in three of our study units—namely Kinna, Garba Tulla and Mado-Gashe—and comprised 51 percent of total households in our study area. The semi-sedentary agro-pastoral and Waso systems are located in four study units—namely Rapsu, Gafarsa, Eres-Aboru and Sericho—and constituted 35 percent of the total households in our study area. The mobile Chari pastoral system is located in two

Table 3. Contribution of livestock in the annual household cash economy for the Waso Boran in Isiolo District, northern Kenya, based on a sample survey of 516 households.

LEVEL OF LIVESTOCK CONTRIBUTION	FREQUENCY (%)
Nil/Trace	21 (4.0)
Over 50%	256 (49.6)
Less than 50%	239 (46.4)

study units—Kulamawe and Malkadaka—and comprised only 15 percent of total households. We feel the emergence of the urban and agro-pastoral production systems in particular reflect attempts at livelihood diversification.

Livelihoods of surveyed households included both pastoral and non-pastoral activities, and for many these tended to be co-dominant (Table 3.) Common non-pastoral activities were petty trade, wage employment, farming (rain-fed and irrigated), collection and sale of firewood, charcoal production, and the gathering, processing, and selling of wild products such as Gum Arabic (*Acacia spp.*) and miraa (*Catha edulis*). Women tended to be more involved in non-pastoral activities than the men. Non-pastoral income-generation activities can be lucrative in some cases, but they are often only sufficient for survival. Our data suggest that the wealthier herders having larger numbers of animals pursue livelihood diversification as a strategy for economic expansion. The poorest households, in contrast, appear to diversify into survival options such as sales of firewood, charcoal production, and petty trade. We have also observed that diversification options vary according to gender and proximity to towns and settlements. For instance, options for women tend to lie mainly in petty trade and are undertaken

closer to their home settlements. Options for men lie mainly in wage employment and livestock trade, which usually occur far from their home settlements.

Practical Implications

Herd diversification was a traditional coping mechanism to help the Waso Boran protect themselves against food insecurity and drought. This process was supported by access to a diversity of rangelands across northern Kenya. Currently, the foraging resources for the Waso Borana production systems are degraded and this limits the potential for livestock diversity. Livestock mobility is further limited by human population growth and encroachment of cultivation into key grazing areas. These processes underlie the current trend of heightened, resource-based conflict in the region. Inappropriate government policies have been major contributors to these problems. A review of policy should focus on issues such as the legalization of pastoral tenure over rangelands. Development priorities could focus more on training and provision of other support for capacity building to assist people in livelihood diversification. Attention to restocking measures could be considered in some cases as well. Women need much greater attention in the development process, since the transformation observed in Waso Borana pastoralism has an especially large impact on women. The role of women has changed in particular because they have become the main contributors to diversified pastoral livelihoods. Therefore, women should be a special focus of capacity-building efforts.

Further Reading

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The GL-CRSP Pastoral Risk Management Project (PARIMA) was established in 1997 and conducts research, training, and outreach in an effort to improve welfare of pastoral and agro-pastoral peoples with a focus on northern Kenya and southern Ethiopia. The project is led by Dr. D. Layne Coppock, Utah State University, Email contact: Lcoppock@cc.usu.edu.



The Global Livestock CRSP is comprised of multidisciplinary, collaborative projects focused on human nutrition, economic growth, environment and policy related to animal agriculture and linked by a global theme of risk in a changing environment. The program is active in East Africa, Central Asia and Latin America.

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