

herds. Even though it may be impossible to designate the Cherangani Hills a national park, any measures for conservation must be implemented with the efficiency found in a national park to ensure the survival of bongo there.

Lion v Buffalo in the Gir

THE 1967 census of the Indian lion in the Gir Forest – its last remaining habitat – showed that numbers had fallen drastically to between 160 and 170 animals. The census was described by Paul Joslin, a PhD student working on the Gir lion population and their behaviour, in *ORYX* September 1968. One big difficulty in conserving the lions is the large numbers of domestic buffalo allowed to graze in the sanctuary, and now a British PhD student, K. Hodd, working with Paul Joslin, has shown that the buffalo have made about 90 per cent of the sanctuary unsuitable for deer and other wild herbivores that are the lions' natural prey.

During the monsoon the buffalo graze off much of the herbaceous growth, exposing the soil to the heavy rain with inevitable erosion. Many perennial grasses cannot survive the heavy grazing, and the less palatable grasses become dominant. This, combined with the cutting of fodder on the hillsides for the buffaloes, has so reduced the wild herbivores that the lions depend willy nilly for their food on domestic stock – of which there are over 17,000 head. Moreover, because the bulk of the domestic stock are on the periphery of the sanctuary the lions wander outside, where there is no effective protection; more than a sixth of the population is outside the sanctuary area. The government pays compensation for stock killed by lions, but shooting and poisoning of lions still occur; Paul Joslin could point to seven documented cases in 1967. The buffaloes and their herds-men also reduce the cover the lions need to stalk their prey – the buffaloes by browsing the palatable trees and trampling down the young ones, and the herds-men by lopping bushes which provide hiding places for predators.

But with management by the Forestry Department the forest is regenerating and not deteriorating into desert as has been reported, and without the domestic buffalo the sanctuary could recover very quickly. After only one monsoon, Mr Hodd's experimental exclosures – fenced-off areas from which all animals were excluded – had made a remarkable recovery and perennial grasses were again abundant. There are indications that the lions may be limiting their own numbers to some extent. Some lionesses make such poor mothers that they leave their young untended to be preyed upon by leopards or shifted by domestic stock, while the lions are generally so aggressive towards the lionesses with cubs that they will flee at the sound of his roar.

Plans are now being considered for an expansion of the research in the Gir Forest, and perhaps the establishment of a research station. The scope for valuable work is immense – not only on the lion population but on other species, on the general ecology of the sanctuary and on the many problems it poses, some of which epitomise conservation problems to be found throughout India. Such a station would also provide a valuable training ground for Indian field workers and conservationists.