

in Manitoba is having to make expensive aircraft and helicopter patrols. The Director, Mr G. W. Malaher, says it is not known whether the snow vehicles have actually increased the number of kills, but they are undoubtedly a serious disturbance to the game as well as to hunters on foot.

With monotonous regularity does one read in J. Juan Spillett's reports on his six-month survey of wildlife sanctuaries in northern India and southern Nepal that 'the major problem is illegal grazing of domestic livestock'.

Only in Corbett National Park is he able to write that the Forest Department has 'made very good progress' towards prohibiting all grazing of domestic animals.

Livestock v. Wildlife But in Sariska, Keoladeo Ghana, Jaldapara, in Nepal and even in the finest sanctuary of them all, Kaziranga, in Assam, the 'cancerous disease' of overgrazing is spreading. The reports are published in the *Journal of the Bombay Natural History Society*, Vol. 63, No. 3. In Kaziranga Spillett estimated that about four to five thousand head of livestock were being grazed, and where the domestic animals were grazing there were few if any wild ungulates, and certainly no rhinos. Moreover the livestock bring in diseases and parasites which may prove fatal to wild populations – as is believed to have happened with the swamp deer in Kanha National Park – and the humans accompanying the domestic animals bring additional disturbance that may prove intolerable to some wildlife – this may be the indirect cause of the high mortality among rhinos due to injuries in fighting; female rhinos will abandon their young if too much disturbed and courting animals may fail to mate. Too much domestic livestock is one of India's major problems. The average yield from India's milch cows is less than one litre per cow a day – and it is for this that the destruction of India's forests and sanctuaries is going on.

The outlook for the great Indian rhino is probably more favourable than for many years past, Juan Spillett concludes; nevertheless there are threats even in the main sanctuaries which could become disastrous:

Status of the Great Indian Rhino from poaching, human encroachment and the inevitable overgrazing by domestic animals. For the few rhinos outside the sanctuaries he sees no future at all. Kaziranga, with at least 400 rhinos in its 166 square miles, holds more than half the world's estimated population of 680. Other sizeable populations include 40 in the Laokhowa reserve, also in Assam, threatened by severe overgrazing and disturbance, 50 in Jaldapara in north-west Bengal, apparently thriving despite severe overgrazing and disturbance, and about 15 in Manas. In Nepal the estimate is fewer than 100, and here King Mahendra has taken steps to protect them, as described in ORYX, December 1966, and a Wildlife Management Division of over 100 rhino guards has been established. In Kaziranga a two-day census showed, in addition to the rhinos, a large number of wild elephants (375), 'at least 550' buffalo, under 20 each of gaur and tigers, not more than a dozen leopards but probably at least 30 bears, possibly including the Malayan sun bear.