

FIGURES

Fig. 1 Historic and current distribution range of the Asiatic wild ass (after Feh et al. 2002, IUCN Equid Action Plan). Pg. 4.

Fig. 2. Study area in the core of the wild ass (*Equus hemionus*) distribution range in Mongolia. The study area encompasses 13 districts (soums) of the two SE Gobi provinces (aimags) Omnigov and Dorngov. Pg. 6.

Fig. 3. Landsat 7 image of the study area in Southwest Dorngov aimag. Pg. 7.

Fig. 4. Average monthly temperature and rain pattern in Tsogt Ovoo in the NW corner of the study area. Pg 8.

Fig. 5. Vegetation type distribution in the SE Gobi (Original scale 1:500.000)). Pg. 9.

Fig. 6. Distribution of open water bodies in the study area. Pg. 10.

Fig. 7. Distribution of wells in Dorngov aimag. Pg. 10.

Fig. 8. Human population trend in Mongolia 1950-2005 (Source: FAOSTAT 2005). Pg. 16.

Fig. 9. Livestock numbers in Mongolia 1961-2003 (Source: FAOSTAT 2005). Pg. 17.

Fig. 10. Population development (since 1985) and livestock numbers (since 1970) at 5-year intervals. (Source: Statistical Office of Mongolia 2005). Pg. 17.

Fig. 11. The most distinct increase in the human population occurred in the two aimag centers (Source: Statistical Office of Mongolia 2005). Pg. 18.

Fig. 12. Change in livestock composition in the 13 soums of the study area in the SE Gobi from 1970 to 2004. Pg. 19.

Fig. 13. Search effort and estimated distribution range based on a survey in October 2003 (Source: Enkhbileg D. based on Mongolian Ministry of Nature and Environment 2003). Pg. 19.

Fig.14. Khulan distribution 1994-1997 based on aerial- and ground surveys (Reading et al. 2001). Pg. 20.

Fig. 15. Khulan distribution 1975-85 (Source: A. Lushchekina pers. comm.). Pg. 20.

Fig. 16. Khulan distribution in the 1970ies (Source: Zevegmid and Dawaa 1973). Pg. 21.

Fig. 17. (1) Most likely Khulan distribution in the 19th century, (2) Distribution area 1943-1945 (after Bannikov 1954 in Zevegmid and Dawaa 1973). Pg. 21.

Fig.18. Collared khulan quickly recovering from anesthesia (Photos: P. Kaczensky). Pg. 22.

Fig. 19. Collared khulan back with the main group drinking at pot holes only a few hours after the capture (Photo: C. Walzer). Pg. 22.

Fig. 20. Distances traveled within 7-hour time steps (sampling interval of GPS locations).

Fig. 21. Movement paths of individual khulan between July 2005 and February 2006.

Fig. 22. Group of 9 khulan (including 1 foal) walking on the west side of railway along the railway fence (near Airag soum on 17.07.2005, Photo: P. Kaczensky).

Fig. 23. Total area used by all seven-collared khulan in the SE Gobi between July 2005 and February 2006.

Fig. 24. Areas covered by individual khulan over an 8-month period in the in the SE Gob study area.

Fig. 25. Seasonal use of habitat by collared khulan in the SE Gobi (July – August 2005).

Fig. 26. Seasonal use of habitat by collared khulan in the SE Gobi (September – October 2005).

Fig. 27. Seasonal use of habitat by individual khulan in the SE Gobi (November – December 2005).

Fig. 28. Locations of khulan groups encountered between June and October 2005 in the SW Dorngov Study Area.

Fig. 29. Locations of khulan carcasses encountered between June and October 2005 in the SE Gobi in Mongolia.

Fig. 30. Relative numbers of large herbivores in Dorngov aimag.

Fig. 31. Location in late summer of GPS equipped herders (names) and collared khulan (multi-colored points) in the SW Dorngov study area.

Fig. 32. Distribution of Ulaankhun's small livestock during the 3-week period GPS positions were obtained.

Fig. 33. Five-day distances small livestock traveled relative to water source/ger location.

Fig. 34. Difference between livestock and khulan access to forage habitat.

Fig. 35. Intersection of collared khulan positions with plant communities in the SW Dorngov Study Area

Fig. 36: Availability and use of different plant community types by khulan as compared to two sets of random points

Fig. 37. Minimum convex polygon containing seven-day locations of collared khulan during bi-weekly MODIS NDVI over flights.

Fig. 38. Average MODIS NDVI of khulan range between July and December 2005

Fig. 39. Comparison of NDVI values obtained from Khulan locations and random points within a minimum convex polygon of all khulan locations

Fig. 40. a.) Horses, camels and khulan at multiple pot-holes, b.) Camel guarding pothole. (Photos: P. Kaczensky)

Fig. 41. a.) Khulan at water near ger, running from jeep, b.) Khulan coming to water despite human presence (Photos: P. Kaczensky).

Fig. 42. a.) Pothole dug by khulan, b.) Khulan digging for water (Photos: P. Kaczensky).

Fig. 43. a.) Poachers hide at water point (Photo: C. Walzer), b.) Poached khulan ~50m from water (Photo: P. Kaczensky).

Fig. 44. a.) Khulan waiting for access to water, b.) Dead khulan that were unable to escape from thick mud (Photos: P. Kaczensky).

Fig.45. Water potentially available to livestock from all sources in Dorngov aimag (Source: JICA Hydrological Study 2003).

Fig. 46. Five-kilometer livestock grazing buffers around water sources in Dorngov aimag.

Fig. 47. Example of additional livestock pasture area obtained by deep-well rehabilitation if livestock grazing use is limited to the 5 km grazing buffer.

Fig. 48. Example of additional livestock pasture area obtained by increasing the distance livestock can graze from primary water sources to 7 km.

Fig. 49. Example of additional livestock pasture area obtained by increasing the distance livestock can graze from primary water sources to 10 km.

Fig. 50. Spatial relation of khulan and open water sources in the SW Dorngov study area.

Fig. 51: The perceived trend of the khulan population was a key variable for the attitude score.

Fig.52. Khulan locations and movements relative to the area under mining concession, location of mining operations and traffic corridors under construction or in the planning stage.

TABLES

Table 1. Environmental constraints affecting large herbivores in the study area. Pg. 7.

Table 2. Field teams involved in data collection on the SW Dorngov study area. Pg. 11.

Table 3. Khulan captured and radio-collared in the SE Gobi. Pg. 22.

Table 4. Khulan location statistics 07.07.2005-16.02.2006. Pg. 23.

Table 5. Number of khulan counted during 5 trips in the SE Gobi between June and October 2005.

Table 6. Large herbivores encountered along seasonal transect routes in SW Dorngov study area.

Table 7. Comparison of plant species in the diets of large herbivores.

Table 8. Relative number of khulan GPS positions (%) in major plant communities occurring in the SW Dorngov study area.

Table 9. Distance to open water and suom centers.

Table 10. Human population in the study area and sampled population.