

## **Project Update: September 2009**

### **Introduction**

Population dispersal is one of the important prerequisite for long term survival and conservation of Indian wild ass. The last surviving population of this endemic equid is increasing due to absence of predator and legal protection against hunting and poaching. This growing population of Indian wild ass is dispersing into surrounding human dominated landscape bordering the little and great Rann of Kachchh. Though reestablishment of their geographic range is desired, no effort has been made to mitigate subsequent conflict arising in area adjacent to potential habitat corridors. This programme is aimed to understand the pattern and magnitude of wild ass conflicts around potential corridor area.

### **Background**

Indian wild ass is one of the endangered equids of the world. The current distribution of the species is restricted to the Rann of Kachchh landscape in Gujarat, India. After passing through a couple of demographic contractions, the population is steadily growing over past half a century. Growing population of the Indian wild ass has been dispersing into surrounding agriculture landscape which is perceived to increase human-wildlife conflict and overall antagonism among local community. Recent intensification of land use and ever increasing developmental activities in and around landscape has posed serious threats on the long term sustenance of the last surviving population of the Indian wild ass. Historically, this landscape was connected with Sind province of Pakistan and adjacent Thar Desert in Rajasthan state of India through contiguous saline desert of great Rann of Kachchh. However, increased developmental activities have hindered their movement through this only linkage. Current programme aims to understand the conflict pattern and suggest mitigation for the long term conservation of this highly endangered species.

The current programme involves ecological and socioeconomic investigations to understand the issues pertaining to the safe dispersal of Indian wild ass. During the first phase of the study systematic information gathering on the socioeconomic status of the local community with their views on wild ass conservation along with population status of the species in the corridor area between little Rann and great Rann of Kachchh was carried out.

### **Project accomplishment**

Project activity was initiated in February 2009 following the arrangement of logistic and other support. A base camp is established in village Makhel in Rapar taluka of Kachchh district. During reconnaissance survey a total of 15 villages located in the fringe area of the corridor between little and great Rann of Kachchh were visited. At the time of commencing the study, most of crops were already harvested or at final stage of harvest. Hence, crop raiding incidences by wild ungulates could not be quantified. In each village we informally interacted with many individuals, prior to questionnaire survey. During April and May 2008, 64 individuals from local community representing different age-sex and economic class were formally interviewed through structured questionnaire survey. Informal workshops in two villages were organized to discuss the site specific conflict issues and to understand their opinions and views for conflict mitigation and wild ass conservation.

Along with village survey and interviewing people, population status of Indian wild ass was assessed on line transects for summer where there is no standing crops. Since summer is a resource pinch period in this arid landscape, we sampled vegetation and wildlife presence parameters such as ground cover, shrub density and presence of other wild herbivores within 2 km distance from the saline desert of little and great Rann of Kachchh. Whenever encountered, fresh dung of Indian wild ass was collected and stored for nutrient analysis. Data analysis for indirect evidences of various wildlife species, interview of local people and vegetation is still underway.

## **Findings**

Line transect data was analysed using DISTANCE 5.0 software package for the density estimation of Indian wild ass. A total of 23 bands of wild ass were sighted during 21 km effort on eight different line transects. Most transects traversed through scrubland interspersed with agriculture landscape. Estimated average density of wild ass was  $4.1 \pm 1.9$  individuals per  $\text{km}^2$ , while group density was much lower ( $0.69 \pm 0.17$  per  $\text{km}^2$ ). The encounter rate for wild ass was 0.85 sighting per km and it ranged from 0.55 to 1.32 (95% CI).

Other than wild ass, few herds of nilgai (*Boselaphus tragocamelus*), chinkara (*Gazella gazelle*), jackals (*Canis aurus*), black naped hares and Indian foxes (*Vulpes bengalensis*) were sighted during transect sampling. Due to fewer sightings of other species, density could be estimated only for Indian wild ass.

During summer season, which is a resource pinch period in this arid landscape, Indian wild ass was observed to move around in smaller band size (1-5 individuals). Out of 42 direct sightings, 20 observations involved less than five individuals. Most of these sightings occurred while they were foraging. Only during two sightings, more than 40 individuals were seen together. Larger bands were observed in the open saline flats, and individuals were mostly engaged in social interactions and resting.

## **Involvement of volunteers and local community:**

Historically, this landscape is known for cultural and ethical support for wildlife conservation. During the reconnaissance study, all villages in the fringe area of the landscape between little and great Rann of Kachchh were visited to develop rapport with community heads and village leaders for the execution of this programme. In each village, we informally talked with people and community leaders prior to formal questionnaire survey to understand the crop depredation by wild ass and other wild ungulates. We also tried to sense their views on species specific and general human-wildlife conflict. Surprisingly, their answers to questions related to wild ass crop raiding issues during formal questionnaire and informal interactions are different. Despite showing apprehension over crop raiding issues during formal questionnaire survey, they displayed a positive attitude for wildlife conservation during informal chatting. Their concern regarding chronic crop depredation by wild herbivores is likely to have resulted from drastic increase in the magnitude of economic loss from crop raiding following recent shift from traditional cereal crops to cash crops.

During intensive ecological data collection, many local youth joined the field work and assisted in data collection. Besides local youth, I received support of one international and five Indian volunteers. With the help of them I have been able to collect the data required for the programme.

## **Way ahead.....**

The aim of this work is to obtain baseline information on the seasonal population status in the interlinking landscape between little and great Rann of Kachchh and population abundance of Indian wild ass and other wild ungulates during two seasons - 1) dry season with minimal agriculture activity and 2) post monsoonal season when peak agriculture activity is going on. The information on winter population status of wild ass and other wild ungulates in the corridor landscape is being currently gathered when most of the agricultural landscape is being occupied with crops. Simultaneously, we have started documenting the extent and magnitude of crop raiding issues in all the villages that we sampled earlier. Along with this information, food nutrient content will be analyzed through dung samples for agriculture and non-agriculture season. The data on vegetation parameters and indirect evidences of wild ass and other wildlife species will be analyzed after completion of the field data collection.

The preparation and designing of pamphlets, banners and other nature education material is underway. A series of workshops for farmers and awareness programmes for school children will be organized during the last phase of the study. I also anticipate the continuous involvement of professional and local volunteers for successful completion of the programme.

**Acknowledgements:**

Though, there is still a long way to go..., I acknowledge the Rufford Small Grant programme for funding my independent conservation research programme. I would also like to acknowledge continuous help, support and guidance from Dr. Y. V. Jhala, my PhD supervisor at Wildlife Institute of India (WII), Dr. Y. V. Bhatnagar, Scientist, Nature Conservation Foundation (NCF), and Dr. Bharat Jethwa, Scientist, Gujarat Ecological and Environmental Research (GEER) Foundation. I owe a lot to volunteers namely, Ms. Lana Byal, Mr. Manish Mayur, Dr. Hemant Kamat, Mr. Dharmendra and Mr. Chirag, who are continuously providing help in data collection. My heartiest thanks to all the local people for superb hospitality and willing participation in this programme.

