

Can the whistling hunters be successfully reintroduced into Indian jungles?

K.L.N Murthy*

The Dhole or Asiatic Wild dog *Cuon alpinus* is a highly social and cooperative animal, living in organised packs of around 10 individuals and occasionally over 30. In fact, dholes are genetically distinct from true dogs and it doesn't fit clearly in any of the canid sub-families (i.e., foxes or wolf-like animals). The term 'dhole' is reported to have an ancient Asiatic origin signifying "reckless-ness and daring" (Mivart, 1890). Three sub-species have been recorded within South Asia. They are *C.a. dukhunensis* Sykes 1831, found south of river Ganga, *C.a. primaevus* Hodgson 1833, seen in Kumaon, Nepal, Sikkim and Bhutan and *C.a. laniger* Pocock 1936, reported in Kashmir and Ladakh. Apart from these, *C.a. adustus* and *C.a. infuscus* are the other two sub-species found in Myanmar.

Habitat, distribution and conservation status

Asiatic wild dogs normally live in forest habitats but are equally adapted to survive in the open steppes of Kashmir. As the Latin name, *Cuon alpinus* suggests, the dhole is mainly an inhabitant of hilly regions with undulating terrain. The principal components that constitute ideal dhole habitat are prey abundance, water, forest interspersed with grassy openings, availability of den sites and absence of human disturbance (Johnsingh 1985).

The best remaining populations are probably confined to the wildlife reserves and protected areas in central and southern India, but even their stability is doubtful as there is no empirical data on their present distribution. This has also been highlighted in the latest IUCN Action Plan for Canids. There is an immediate requirement for surveys to gain information and ascertain the present distribution trends in the Indian sub-continent. Studies carried out by researchers like A.J.T Johnsingh, A.B Venkataraman and B.B Acharya yielded useful insights into the ecology and behaviour of this endangered carnivore. In most of its range, the dhole is sympatric with the tiger and the leopard, co-existing for thousands of years through subtle ecological and behavioural mechanisms such as differential prey selection and spatio-temporal use of habitat (Johnsingh 1992, Karanth and Sunquist 1995). Dholes have even been known to kill leopards and chase tigers off a kill!

The dhole is a protected species under Schedule-II of Indian Wildlife (Protection) Act, 1972. They are also protected in Appendix-II (2003) of CITES. The IUCN categorized the dhole's status as 'Endangered' in the wild. The future of this endangered canid in the wild is under threat from the depletion of prey base, habitat loss and fragmentation, human persecution, competition with other species including feral dogs for prey species, disease and pathogens (Davidar, 1975).

Role of zoos as captive breeding centres

According to Central Zoo Authority records, less than 30 captive wild dogs are left in all Indian zoos!

Dholes have been bred successfully at Visakhapatnam zoo and Arignar Anna Zoological Park (AAZP), Vandalur, Chennai, but only a few pups survived. In order to successfully breed a species with complex social structure, a comprehensive meta-population management strategy is vital for producing healthy, self-sustaining populations which may be reintroduced into the wild in future. Determination of appropriate size and composition of captive groups is difficult as dholes have complex social organisation and mating systems. The core idea behind "India's Conservation Breeding Initiative" of Central Zoo Authority, New Delhi is to maintain healthy, self sustaining buffer populations of endangered species in major Indian zoos and captive breeding facilities which were identified by the Authority for this purpose.

My observations on captive dholes at Indira Gandhi Zoological Park showed that they are extremely shy and wary animals with individual spatial preferences. They are very alert to even the slightest changes or disturbances around their enclosures. We know very little about their preference of enclosures, behaviour, reproductive biology, pup development, husbandry, and environmental enrichment techniques. Hence, these areas need thorough investigation. Captive wild dog populations contribute to field conservation of the species by serving as subjects for research and also useful in increasing public awareness, dispelling myths and create a soft corner towards these much misunderstood animals. Only long term research on dholes in captivity as well as in wild may provide useful insights into some of the most intriguing issues related to endangered canid conservation and captive breeding in India.

Housing captive bred dholes in satellite or off-display facilities by creating near-naturalistic environment is the first step for preparing captive



Dominant male dhole *Cuon* (1st) with alpha female and sub-ordinate female at IG Zoo, Visak.

* Programme Officer, CEE, Thaltej Tekra, Ahmedabad. Email: In.murthy@ceeindia.org.

born animals to live independently in the wild after release. Red wolves have been pre-adapted to hunting by exposing them first to carcasses and then to live prey before re-introduction (U.S Fish & Wildlife Service 1982). It also allows the animals to display a range of behaviours never exposed in captivity.

Re-introduction / Re-stocking in the wild

Re-introduction may be defined as release of either captive-born or wild caught animals into an area within their original home range where populations have declined or became extinct. Re-stocking, on the other hand, is an effort to augment the number of existing healthy wild populations by changing the genetic make up of population. Unfortunately, experiences of African wild dog (*Lycaon pictus*) introduction efforts have not been successful in most cases. Researchers recommend that a combination of wild caught and captive born individuals from local genotype is ideal for re-introduction. However, in such cases, the genetic trade-offs and the behavioural responses must be carefully assessed. Sourcing of wild dogs from the local genotype may not be possible due to limited wild populations and low genetic diversity of captive populations. Capturing wild individuals from forested habitats to induce new blood and increase genetic vigour amongst the captive breeding populations must not affect the social structure and pack dynamics of wild populations. It could happen when a key individual pack member like the breeding female or the dominant male in the existing wild pack is unscientifically removed for the purpose of captive breeding.

Although, there are a multitude of socio-political, ecological and scientific factors responsible for a successful canid re-introduction, a few fundamental questions need to be clarified before embarking on any serious re-introduction efforts to save the Indian wild dog.

1. Is there enough data on the current status and distribution of dholes in Indian jungles?
2. Do Indian zoos have founder breeding stock of dholes with healthy gene pool?
3. Are there adequate release sites with suitable and protected habitat?
4. Do we have effective techniques / training protocols to prepare captive dholes for re-introduction, post release monitoring and programme evaluation?
5. Is there local support to sustain the re-introduction programme of wild dogs?

Dholes, like many other wild canids could be ill-suited for re-introduction because of their large home range requirements which can only be satisfied in extensive protected areas which are depleting at an alarming rate in India. Moreover, re-introduction programmes of any endangered species require extensive planning and implementation (Fritts *et al.* 1997) which is prohibitively expensive. Successful reintroductions require that a number of species-specific,

environmental and bio-political criteria be met (Kleiman & Beck 1994).

Local people frequently oppose the species re-introduction that prey on domestic live stock (Phillips 1995, Woodroffe and Ginsberg 1999). In the past, dholes have been extensively hunted for sport and many false beliefs about these dogs still abound in many parts of India. People were even offered small incentives up on producing the bushy tail of a dhole. Education and awareness is perhaps the only way to demystify the myths and legends about this fierce, intelligent and one of the most successful predators.

Anecdotal information is available on distribution, status, population trends and relative abundance of dholes in India. Our knowledge on various threats to dhole populations like the role of disease in population dynamics, affects of road kills and significance of small prey animals (e.g., rodents, lagomorphs) in the diet of wild dogs, interactions with other carnivores in the forest, ecological requirements etc has been insufficient.

It is evident from the above facts that re-introduction of large carnivores living in groups has many limiting factors. The IUCN/SSP Canid Specialist Group does not consider the re-introduction of wild dog as a priority for the survival of the species. Instead, they are keener on the protection of the remaining viable populations in the wild.

Conclusion

The wilderness areas in India are vanishing rapidly with each passing day and the future of this magnificent carnivore along with many other species is under severe threat. There is an immediate need to develop a future cadre of professionals in zoo biology, reintroduction methodology, wildlife and conservation biology in our country. While captive breeding ensures a self sustaining buffer population and adequate display animals in all zoos for educational purposes, the long term survival of dholes in Indian jungles depends on the maintenance of healthy and connected populations both within and outside the protected areas. High priority must be given to promote corridors / passage routes in the existing wilderness areas with free ranging populations to mitigate edge effects as well as constant monitoring of the population trends.

References

- Dhole** *Cuon alpinus* Ex-situ project, Indira Gandhi Zoological Park, Visakhapatnam, zoos final report to Central Zoo Authority, New Delhi.
- Kleiman, D.G., M.E. Allen., K.V. Jhompson and S. Lumpkin (1996).** Wild Mammals in captivity. Principles and techniques.
- WAZA, 2005.** Building a Future for Wildlife, WAZA Conservation strategy.