

## Ariankavu Pass, a Lost Elephant Corridor in South India

### Introduction

The major problems threatening the survival of Elephants (*Elephas maximus*) in India are the fragmentation of habitats, loss of range and quality of habitat, and Man–Elephant conflict (Johnsingh & Panwar, 1989; Sukumar, 1989). Fragmentation of habitat is due either to loss of habitat continuity or to corridors being made between existing habitats as a result of the ever-increasing human and allied biotic pressures. One corridor which Elephants have stopped using for the last 40 or so years is the Ariankavu Pass between the Ashambu Hills (south of the Pass) and Idukki–Periyar hills (north of the Pass) in southern India.

The Ashambu Hills, south of the Pass, support about 200 Elephants which are mostly confined to the Kalakadu–Mundanthurai Tiger Reserve (900 sq. km) in Tamil Nadu, and Neyyar (125 sq. km), Peppara (53 sq. km), and Chendhurny (100 sq. km), in Kerala. The Idukki–Periyar Hills population of Elephants is between 800 and 1,000, largely confined to Periyar Tiger Reserve (777 km<sup>2</sup>), in Kerala and the Grizzled Giant Squirrel Sanctuary (c. 400 km<sup>2</sup>) in Tamil Nadu (Johnsingh, 1989 Fig. 1).

### Study Area and Methods

The 13-km-wide corridor stretches between Ariankavu and Thenmalai in the southern portion of the Western Ghats. A railway line and a road run east and west, across the corridor. The River Kaludaiyar runs parallel to the road and rail-track (Fig. 1). Terrain on both sides of the Pass is undulating to hilly, interspersed with valleys and steep hills. The southern side of the pass is a Reserve forest dominated by Teak (*Tectona grandis*), while the northern side is occupied by privately-owned plantations of Banana (*Musa paradisiaca*), Tapioca (*Manihot utilissima*), Cardamom (*Elettaria cardamon*), Pepper (*Piper nigrum*), and Rubber (*Hevea brasiliensis*). Human settlements have mushroomed all along the road but largely on the northern side.

The 13-km-long survey route was divided into 26 segments of 500 m each. In every segment we looked for Elephant signs along a 50-m-wide belt and by questioning

the local people, gathered secondary information on the legal status or ownership of the vegetation on either side of the road and on Elephant movement. This survey was carried out in June 1988.

### Results and Conclusion

Only 25% of the area had protected status (as reserve forests). Private forests/plantations accounted for 52%, while the status of the rest could not be ascertained. Along the survey route no sign of Elephant use was seen. According to the local people, this area has not been in use by Elephants for the past three or four decades. No incident of crop damage by Elephants had been reported by locals in recent years anywhere in the Pass. However, they reported that Elephants use the forested area about 15–20 km south of the Pass, which could be the Chendhurny–Peppara Hill population.

Elephants in this area have two problems. One is inbreeding in the Ashambu Hill population, as a result of the loss of this corridor and hence of contact with the Idukki–Periyar Hills population. The other is the large-scale poaching of tuskers for ivory in the Periyar population, resulting in a sex-ratio of 1 male : 23 females (Nair *et al.*, 1986).

Regaining this corridor for Elephant migration is not possible. However, we would suggest that pockets of natural vegetation along this corridor should be retained as far as possible, so that other terrestrial large mammals can have a chance to migrate. In this regard we would recommend another survey to evaluate the abundance of other large mammals in this corridor area. Use of this corridor by other large mammals could be facilitated by protecting the area from further encroachment and poaching. Loss of this corridor should force us to identify the existing corridors for large mammals in India, and to protect and manage them as assiduously as possible.

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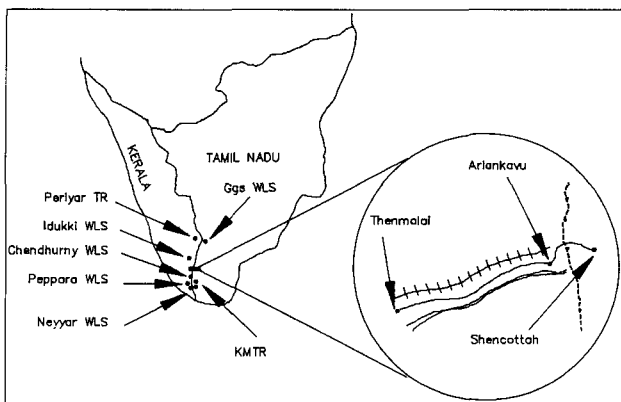


FIG. 1. Sketch-map of southernmost India and enlargement around Ariankavu Pass showing protected areas having Elephants in the southern end of Western Ghats and the Ariankavu Pass. KMTR = Kalakadu–Mundanthurai Tiger Reserve, Ggs WLS = Grizzled Giant Squirrel Wildlife Sanctuary, --- = Kerala–Tamil Nadu interstate boundary.