The Forest Service of the Twenty First Century

- Lavkumar Khachar

When we talk of biodiversity, we tend to think of only the mix of different species. No one ever gives a thought to the fact that within a species, especially one that has a very wide distribution there is a variation in its genetical make up which should not be overlooked, It is this wide adaptive capacity which, while making the species so successful also provides possibilities of high specialisation. Plant and animal breeders have been aware of this for long and we have subspecific recognition by systemic biologists. The underlying awareness of the existence of a great variability within a species has been made the fullest use of by plant and animal breeders; witness the different breeds of dogs, pigeons and other domesticated animals. The genetical diversity within a species taken the fullest advantage of to produce fancy breeds, many bordering on the bizarre, others exhibiting great beauty of form and still others bred for their high utility.

Unhappily, in mass programmes the need for high degree of awareness of the immense variability in a species is given the go by. The result is the inducing of conformity as stultifying and in the long run, as self- defeating as any programme depending on monocultures. Not only is biodiversity eroded, but the underlying versatiality, and hence great adaptability, of a species is lost. Perhaps, the best example I can give is that of our common and widespread tree the 'Desi Babool', *Acassia nilotica*. This remarkably useful tree is found growing wild over much of North West India and as its scientific name indicates, it extends far to the West into Egypt and from there South onto the Savannas of East Africa. Over this very wide range, "babools" have, down the ages, developed high adaptation both in external form and in their internal make up to thrive over such a wide range. This variability can be superficially seen in the Acacias of Africa and India. Based on the external appearances, earlier botanists had recognised a number of species of 'babool'. It is only after specimens were collected and studied from across the entire range that an integration was seen and so the Indian Acacia was first grouped with the Arabian one and later, the Arabian with the Egyptian. In India alone, the babool growing in central Gujarat is totally dissimilar to trees found in rocky, windswept Saurashtra to the west or rooted in the black cotton soil to the east on the Malwa plateau. The Gujarat babool is a fine tree, with finer thorns growing as it does in a deep sandy loam with an easy availability of water, while the Saurashtra and the Malwa babools are gnarled, with dense crowns and very large thorns, signs of water shortages and strong winds induced high rate of transpiration. To the north of Gujarat in Marwar we have a

singularly graceful form with a narrow, tall growth resembling the cyprus and poplars of temperate regions! While one form integrates into the other, each variety has developed high evolutionary adaptations to make the extreme form best suited to the conditions in its specific habitat. By not giving any thought to this fact, Forest Departments and other organisations taking on themselves the task of wide spread afforestation have had singularly poor results to show for all the effort and expenditure of precious funds.

Today, in Dehra Dun there is a plethora of bulk seed suppliers who can provide you sack loads of seeds of most of the tree species commonly used in mass afforestation programmes. These suppliers procure the seeds from poor people and one wonders whether they ever bother to find out the origin of their supplies. The whole exercise is one of a crass commercial nature lacking in the sort of high quality of specificity necessary in biological work which mass afforestation most certainly requires. So, I procure an "x' load of babool seeds, from one of the suppliers without concerning myself about the origin and I happily plant them. Results in central Gujarat will be great since growth conditions are favourable but results in western Kachchh would be disappointing and well may they be since conditions of climate and soil are demanding to the extreme. We then have such comments as Kachchh being a "refractory" area! Had seeds for afforestation been collected in Abdasa taluka of Kachchh the outcome would conceivably have been spectacular.

When we are attempting afforestation on so immense a scale as India demands, casualness cannot be accepted. This is precisely why we presumably have a highly qualified Forest Service. The Forest Departments should concentrate on developing seed banks in different regions and should develop the capacity to guarantee the supply of highly site-specific seeds. I am not sure that any such work has been done in the country since the Forest Departments themselves purchase seeds from bulk suppliers.

Further, is there any concept of how recreated forests should look? A naturally regenerated forest has a mix of vegetation, both herbaceous and woody, while a plantation is lacking in diversity. One hopes that in the new century there will be a very clear set of guidelines developed that will demand greater emphasis being laid on "protection" as against "planting" of areas to be revegetated. There is enough rootstock remaining for a rapid comeback. Money and effort should be diverted to developing regional seed banks and guidelines for sowing and care of the resultant saplings. To overcome the tendency for monocultures from developing, recommendations should be provided for the mixture of species for given locations. The Twenty First Century thus is, as I see it, the century of the sensitive forester and the years ahead promise to be exhilarating for young people who would want to make forestry their profession. To make a total break from the past, we may consider renaming the Forest Departments as the "Aranya" or Wilderness Departments. The compulsions of tilling the soil, planting in lines and all the labour intensive and hence money absorbing activities will be curbed. Instead, a good forest man would develop systems demanding maximum protection and minimum interference stimulating a high degree of Natural History. □

"Ornithologist Pamela Rasmussen felt both panic and elation one morning in 1997 when she gazed, only half trusting her eyes, at a long-lost species of bird perched in a bare tree in western India. Panic because, the Forest Owlet (*Anthene blewitti*) that Rasmussen had sought for two weeks from one side of India to the other, might fly off before it could be positively identified and captured on film. Elation because the chunky, 9-inch-long owl that she was staring at was a species that had gone unseen by any scientist for 113 years. Seven stuffed skins in a handful of museums were all that seemed to remain of a species that several experts had crossed off as extinct.

Fortunately, the forest owlet was not only alive, but 'absurdly cooperative,' says Rasmussen, a museum specialist in the Division of Birds at the National Museum of Natural History. 'It just sat there,' she says, while she and a colleague videotaped it for half an hour before another bird finally chased it off. "

- Michael Lipske

Source: *The Smithsonian*, 1999

Eventually, Forest Owlet is regularly being sighted in Dang district, Gujarat in recent months. - Eds.