Ethnobiological Notes on Some Tribes of Arunachal Pradesh, Northeastern India

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A total of 171 plant species used by the Nishis, the Hill Miris, the Sulungs, and the Apatanis of Lower Subansiri district of Arunachal Pradesh in northeastern India; 12 animal species used by the Nishis were identified. Of the total plant species recorded 38% of the total were leafy vegetables and 28% were edible fruits. Others were used for food, liquor, medicine, household goods, traditional dresses, dyes, tattoos, fish and animal poisons, or for salt extraction. The Sulungs use starch obtained from the pith of Metroxylon sagu as a staple food. The extensive use of wild plants and animals suggests that the tribes of northeastern India rely heavily on forest resources. The importance of conserving these in the light of rapid conversion of rainforests is emphasized.

The northeastern hill region of India, endowed with rich natural resources, is inhabited by a number of tribal communities, with distinct differences in socio-economic and socio-cultural conditions. Many of these communities still depend upon hunting/gathering from the forest as an activity (Gangwar and Ramakrishnan 1987). In the recent past, partly because of depletion of forest resources and partly as a consequence of developmental activities, the usage of wild resources of ethnobiological value has been declining. It is in this context of large scale deforestation in northeastern India (Ramakrishnan 1984, 1985) and the world over (Myers 1980; Oldfield 1981, 1984) and the need for conserving wild genetic resources (Alcorn 1981a, 1984) that the present study becomes significant. The observations presented here are based upon a participatory study done in the villages where these tribals live.

STUDY AREA AND CLIMATE

The Lower Subansiri district of Arunachal Pradesh in northeastern India (Fig. 1) covers ca. 14,797 km² area and lies between latitudes 26°53'N and 28°24'N and longitudes 92°41'E and 94°22'E. It is bounded by the Upper Subansiri district to the north, West Siang district to the east, Assam state to the south, and Kameng district to the west. The altitude varies from 90 m to 1500 m. The district has a typically monsoonic climate with an average annual rainfall of about 200 cm, with wide variation in temperature depending upon the altitude; the winter may be mild at lower elevations but severe at higher elevations. The district is inhabited by four tribes, namely, the Nishis (Ni), the Hill Miris (Hm), the Sulungs (Su), and the Apatanis (Ap). The Apatanis are confined to a plateau of about 36 km² and largely do wetland rice cultivation coupled with pisciculture in the paddy fields. They do not practice slash-and-burn agriculture ("jhum"). The other three tribes live on hilltops and have jhum as their major land use with a limited wetland
rice cultivation in valley lands, which are restricted for the reasons of topography. The Nishis and the Hill Miris practice jhum under 5- to 30-yr cycles (the intervening fallow period between two successive croppings over the same site is one jhum cycle). Both these tribes also clear primary forest stands for jhum as the older secondary forests are getting scarce. The shortening of the jhum cycle in this area has resulted in large-scale deforestation. The Sulungs lay less emphasis on agriculture and thus could maintain a minimum of 10-yr cycle, which is viable in this region both ecologically and economically (Gangwar and Ramakrishnan 1987; Mishra and Ramakrishnan 1981; Toky and Ramakrishnan 1981). Jhum here involves mixed cropping with a crop mixture ranging from 15 to 33 cultivars. The Sulungs also do monocropping of *Oryza sativa*, *Eleusine coracana*, and *Fagopyrum tataricum* (L.) J. Gaertner under jhum in a 10-yr cycle only. The Nishis, the Hill Miris, and the Apatanis are stabilized societies dependent largely on agriculture and animal husbandry. The Sulungs are hunter/gatherers, obtaining about 50% of their total food energy requirement from the wild. All four tribes obtain a variety of plant and animal products from the wild.

**RESULTS AND DISCUSSION**

The Nishis, the Hill Miris, the Sulungs, and the Apatanis of Arunachal Pradesh in northeastern India have a variety of uses for the plants and animals collected from the wild. These listings of plants and animals of ethnobiological value are important for evaluating human-plant relationships (Alcorn 1981b; By 1979) and for understanding the human ecological relations to their environment (Alcorn 1981a).