

Ethno Botany-

Endangered Resources: Biodiversity and Cultural Knowledge



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Socioethnobotany

The study of the social aspects of the use of plants – motivated by a desire to understand how to best compensate the societies from which information about plant uses was obtained

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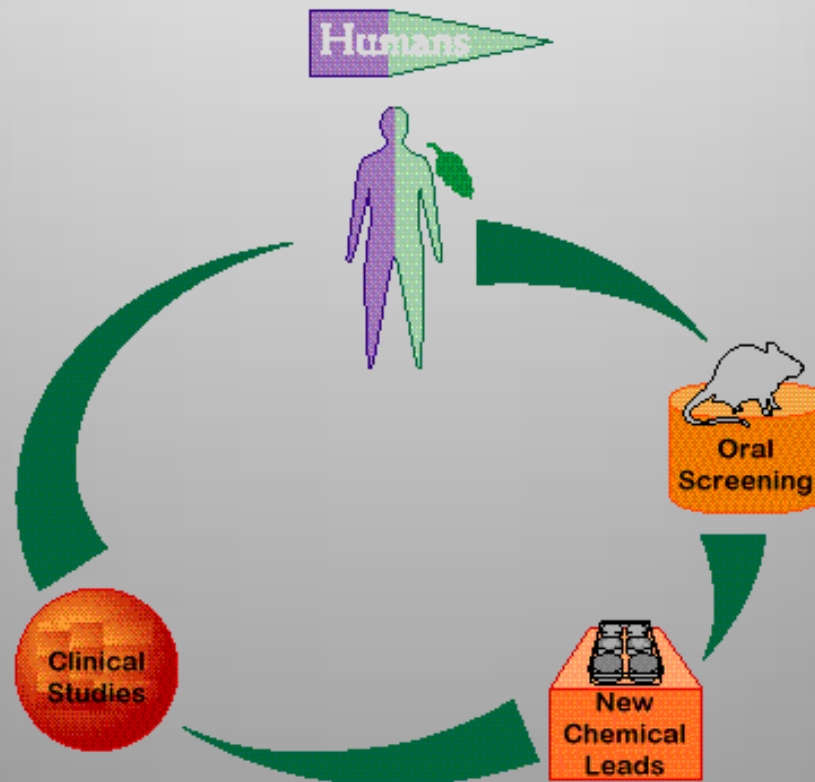
A fundamental distinction is often made between the science of the natural world and traditional and ethno biological systems of knowledge. We question the validity of this distinction. Both systems share a common origin and arise from our innate human behavior of exploring, characterizing and communicating about the world around us. Both have equal validity. However, even when the importance of traditional knowledge is explicitly recognized, as it is in Article 8 of the Convention on Biological Diversity, it is rarely given the attention it deserves and must always defer to science.

Shaman Pharmaceutical

“Shaman Pharmaceuticals, Inc. is a South San Francisco-based pharmaceutical company that focuses on isolating bioactive compounds from tropical plants that have a history of medicinal use. Shaman is working to promote the conservation of tropical forests and bridge the gap between the biomedical needs of both indigenous cultures and the rest of the global population. Eschewing the mass screening approach typically done by many pharmaceutical companies, Shaman has pioneered a novel approach to drug discovery, integrating traditional plant natural products chemistry, the science of ethnobotany, medicine, and medicinal chemistry while maintaining a commitment of reciprocity to the indigenous cultures.” – from their webpage

Shaman research model

ETHNOMEDICALLY DRIVEN Drug Discovery Process

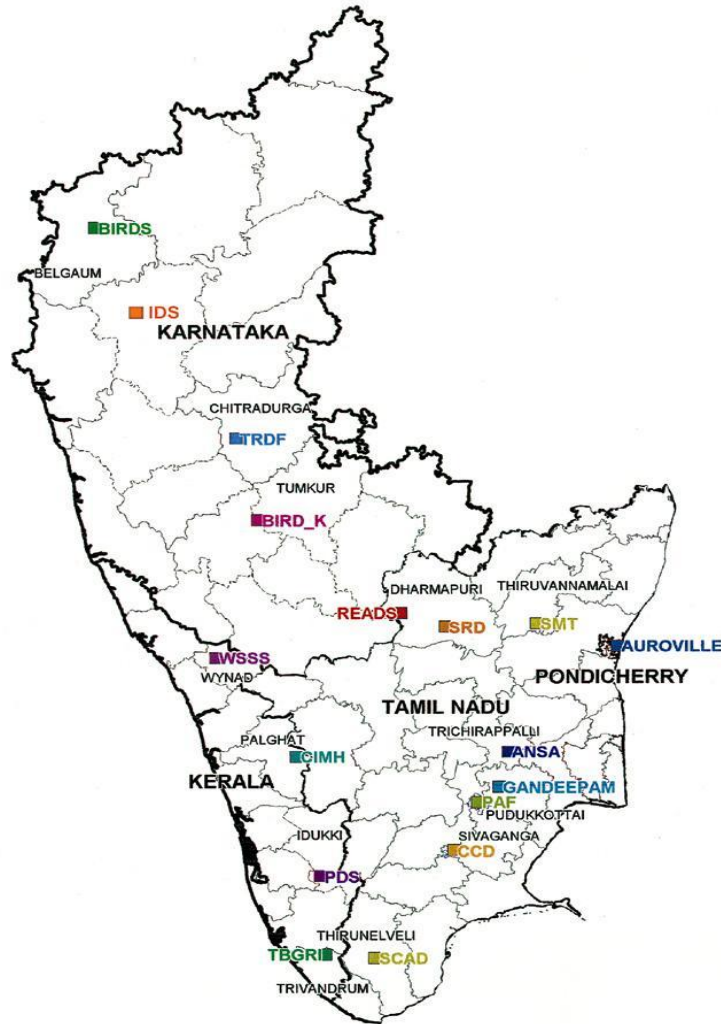


Socioethnobotany-Examples from South India

Gram Mooligai Co Ltd -The first community owned enterprise

- Generate livelihoods; incomes for the Rural Poor by Utilizing the Natural Resources of the Villages
- Produce and Market Cost Effective and Natural Medicines for the Rural and Urban Masses concerning their Primary health problems.
- To create a Sustainable and replicable model and contribute to Ecology by conservation of medicinal plants

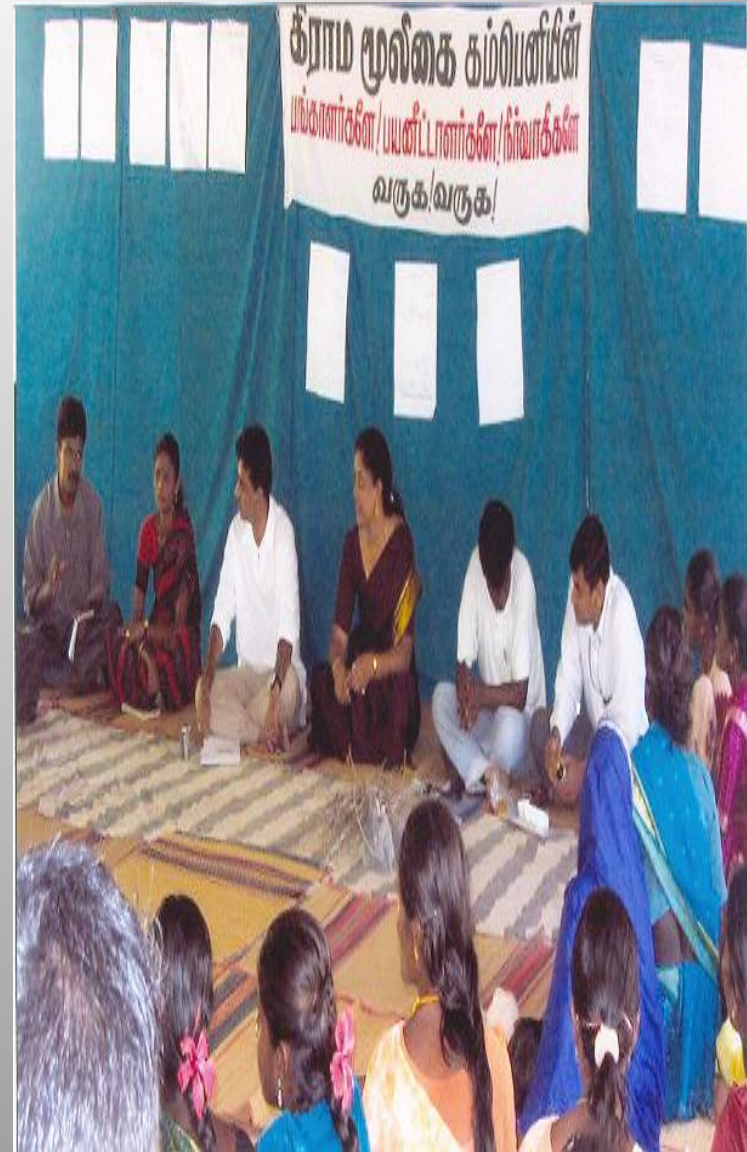
The first model in Southern India



Produces..from Sevaiyoor Village in Virudhunagar District of Tamilnadu State connected to rural and urban markets in Tamilnadu, Karnataka and Kerala, supported by DANIDA and Ford Foundation

Brief History

- Promoted by Foundation for Revitalisation of Local Health Traditions, Bangalore with the field NGO Partner, Covenant Centre for Development, Madurai and Community Based Organizations, i.e. Maha Kalasam.
- **Unique model:** Public limited company owned by Self-Help Groups of medicinal plants gatherers and small cultivators; founded in 2000.



Orthodox or Traditional

Ethnobotany has two main foci:

- Economic botany – a discipline oriented towards the exploration of new plant resources that can be used to provide raw materials for food, textiles, medicines, etc.
- Ethnoscience – a discipline dedicated towards understanding the role played by plants in the material culture of people

Orthodox ethnobotany questioned because

1. The large increase in the number of new professionals in the fields of biology and anthropology during the last half of the 20th century which generated a large group of young researchers
2. The politicization of the teaching of biology at major education centers that has occurred since the 1968 student movement

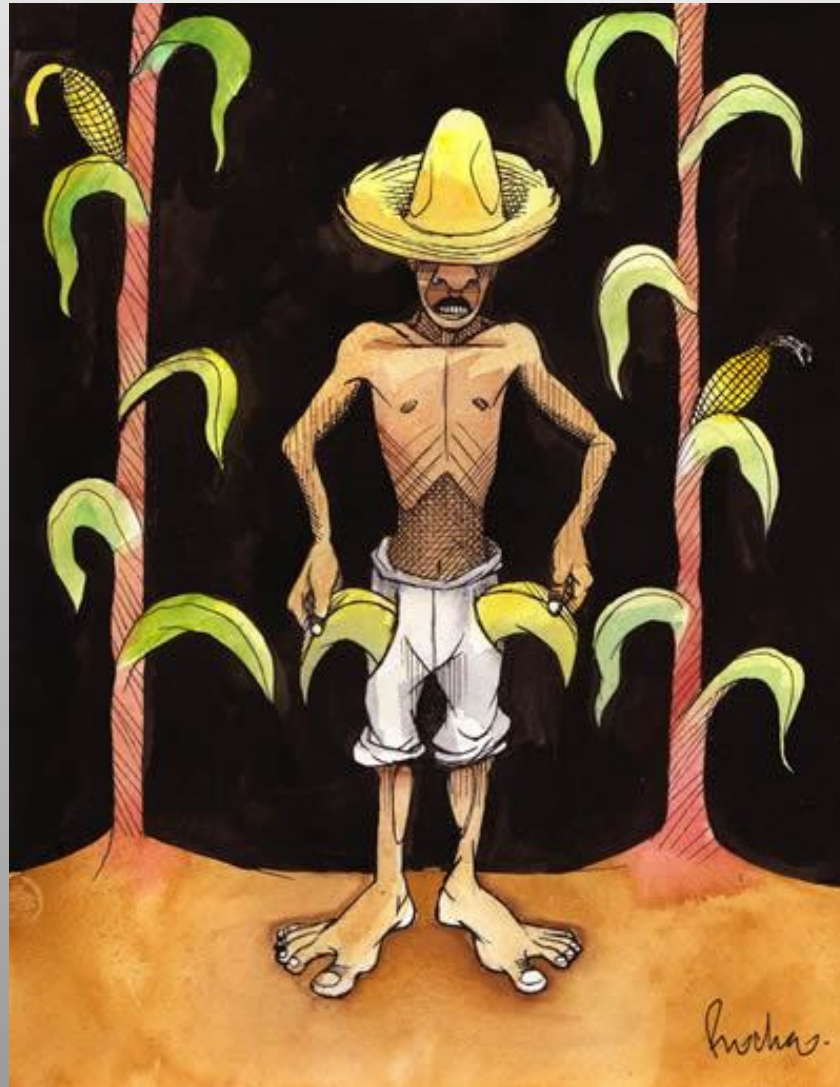
Orthodox ethnobotany questioned because

3. The enormous ecological and floristic wealth of India due to the country's large size, complex topography and biogeographical location between the temperate and tropical south. India is home to 45 different ecosystem types, and 30,000 species of flowering plants, at least 3500 of which are endemic to India

Orthodox ethnobotany questioned because

4. The cultural and linguistic richness of the country reflected by More than 4,269 ethnic communities use them for human, veterinary and crop health
5. The profound Indian social crisis that in rural areas results in an increasing destruction of natural resources (1 to 2 million hectares lost each year to expanding agriculture, especially large scale cattle ranching, industrial pollution, and over-exploitation of forests) and the impoverishment and exploitation of traditional small farmers, especially among groups of native people

Cartoon about costs of campesinos planting hybrid corn



Orthodox ethnobotany questioned because

6. The struggle by native people from the 1970's onward – people who are resisting economic and political oppression and the destruction of natural resources and native culture

Who benefits from drugs developed from plants in developing nations?



Problems with Ethnoscience

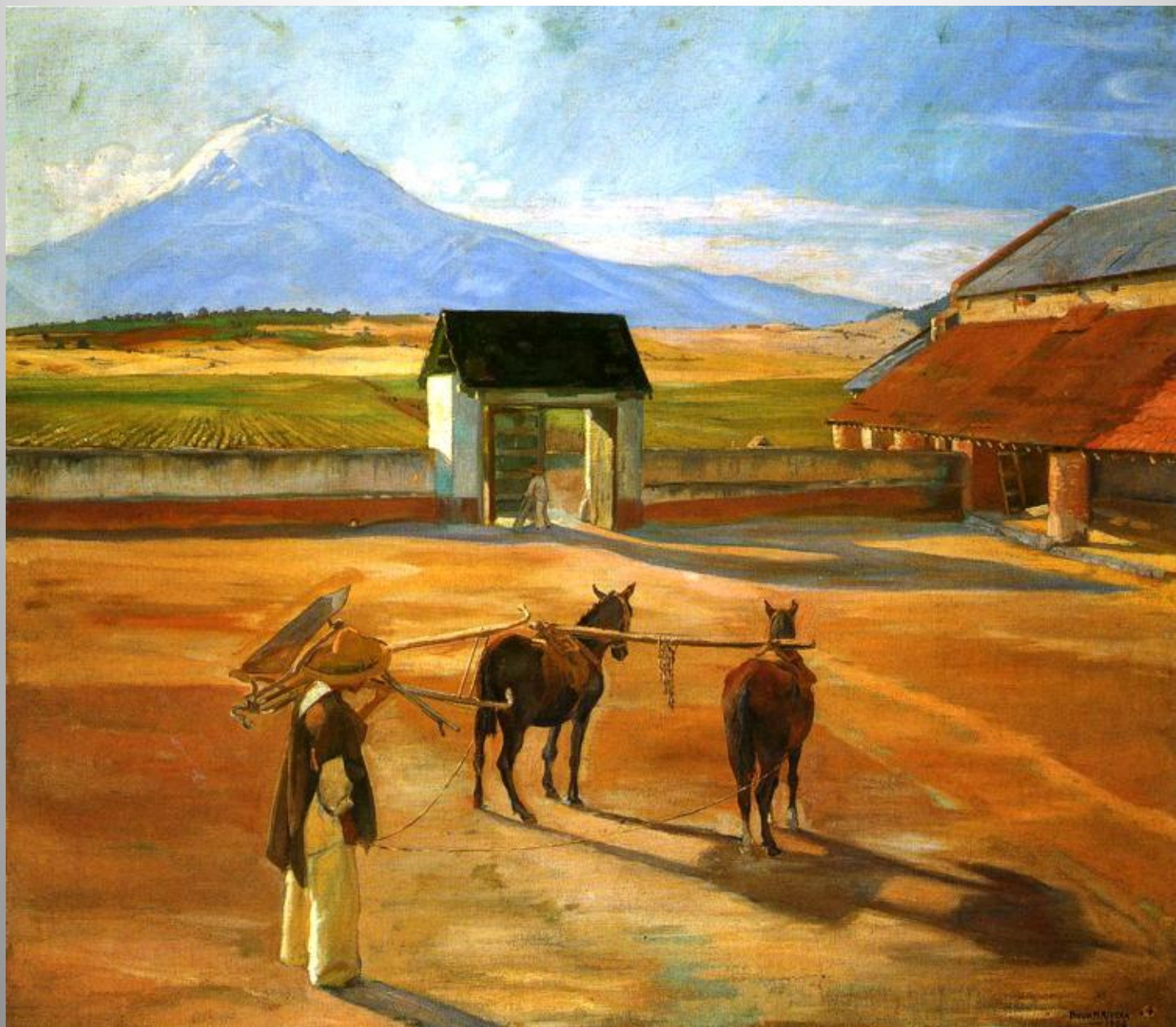
- How are indigenous informants treated?
- There is a possibility that indigenous people will be treated as objects like the plants rather than as an equal and participant in the research
- There is also the fear that the indigenous people and their culture remain outside the realm of interest of the orthodox researcher

Richard Schultes with Yukuna Dancers – 1952, Rio Guacaya



Traditional Agriculture

- Even today about 60% of the earth's land surface is used by people practicing traditional farming
- Many of these farmers are either indigenous or mestizo or peasants and often they do not participate in the global economic system



AZFAR HUSAIN

The Flower Carrier



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Traditional Agricultural Systems

- Traditional agricultural systems form an organization of producers, a strategy of how to work with nature, and many different technologies as well as what is really the sum total of human knowledge about a particular ecosystem and its interrelations

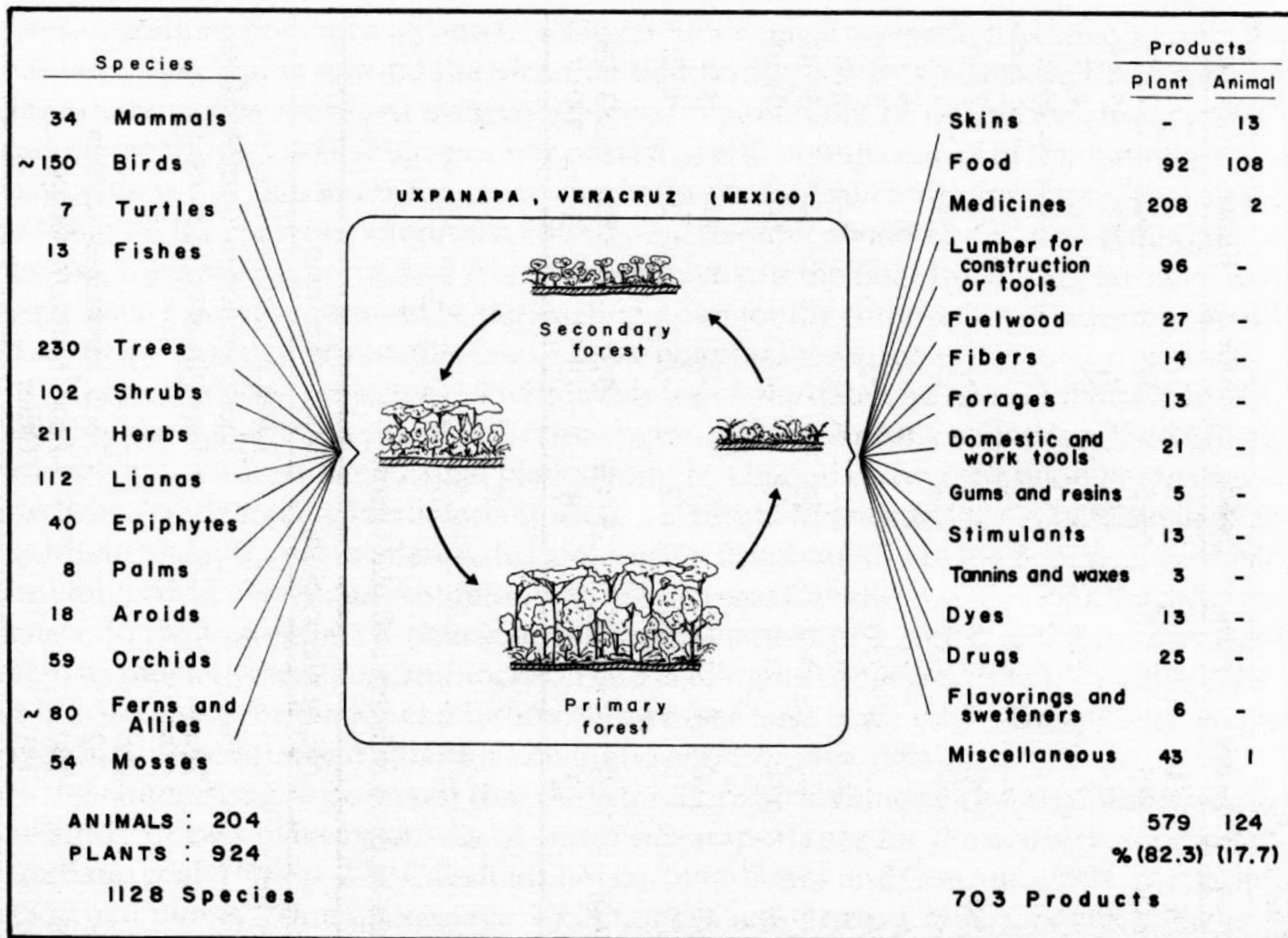


Figure 1. When compared with animal species, plant species in primary and secondary forests yield more useful products to indigenous peoples. Data based on Toledo et al. (1978).

Benefits of Traditional knowledge

- Two definitions of indigenous knowledge have been proposed by Brush (1996): (i) Broadly defined, indigenous knowledge is the systematic information that remains in the diverse social structures. It is usually unwritten and preserved only through oral tradition; (ii) narrowly defined, it refers to the knowledge system of indigenous people and minority cultures.

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- Some ancient records concerning knowledge of biological diversity have been preserved, for example, the Indian Vedas, the ancient Chinese herbal *Pen ts'ao kang m*, and Egyptian scrolls concerning medicinal and other plant uses (Schultes and von Reis, 1995). In one sense this is hardly surprising, the oldest and fundamental knowledge for human survival concerns the characteristics and properties of organisms. Knowing which species are beneficial and which are harmful is now, and always has been, a matter of life and death.

The New Socioethnobotanist

“I keep thinking that the best ethnobotanist would be a member of a cultural minority and, trained as a botanist and as an ethnologist, would study, from within and as part of it, the traditional knowledge, the cultural significance, and the traditional management and use of the flora. And it would be even better if his studies could bring economic and cultural benefit to his own community.”



THANK YOU