



Role of Indigenous Technical Knowledge on Conservation of Biodiversity

[Article ID: SIMM0304]

R. Jayashree¹, M. Suji²

¹Associate Professor, Department of Environmental Sciences, Tamil Nadu Agricultural University, Coimbatore-641 003

²TamilNadu Agricultural University, Coimbatore-641 003

INTRODUCTION

Indigenous knowledge is the specialized, age-old local knowledge that has grown up around and within the unique circumstances of the native women and men of a particular region. Local knowledge, or knowledge specific to a particular culture or community, is referred to as indigenous knowledge. Much of this knowledge is at as much risk of being lost as is the case with biodiversity (Prakash et al., 2012).

Indigenous knowledge has the following unique qualities:

- ❖ **Tacit:** Tacit knowledge makes it difficult to change.
- ❖ **Transmitted orally, by imitation, or through demonstration:** It might lose some of its properties if it is codified.
- ❖ **Experience-based** rather than academic learning Native knowledge is continually reinforced by experience, trial and error, and the harsh laboratory of local groups' survival.
- ❖ **Learned through repetition** which, despite the addition of new information, remains a tradition's distinguishing feature. The retention and reinforcement of indigenous information is aided by repetition.

- ❖ **Constantly changing,** even if it is frequently viewed by outside observers as being fairly static, being made as well as duplicated, discovered as well as lost.

Agrobiodiversity conservation:

The indigenous Technical Knowledge (ITK) system was created by the people using their experiences and centuries of impromptu experimentation for ongoing improvement. These ITKs are integrated and part of the populace's cultural life. With 14 sastras, 4 vedas, 4 upvedas, and 6 branches of vedangas, India boasts one of the world's greatest collections of ancient manuscripts.

ITKs are dynamic and changing, based on experience, frequently tested over a long period of usage, adaptable to local culture and environment, and place more emphasis on reducing risks than maximizing profits. (Yashaswi Singh, 2016)

Characteristics of ITK

(Prakash, et al., 2012)

- ITK is dynamic rather than static.
- ITK changes as a result of exogenous knowledge and internal innovation.
- ITK has an intuitive way of thinking.
- ITK is primarily of a qualitative nature.
- ITK research requires a comprehensive strategy.
- If used effectively, ITK can offer important insights into the resources, procedures, opportunities, and issues in a certain sector.
- Oral tradition is used to record and transmit ITK.
- ITK is acquired by direct experience and observation.
- ITK creates a database of information for variety.
- ITK honors regional customs.

Classes of ITK in agriculture

- ✓ Climatology,
- ✓ local soil and taxonomy,
- ✓ soil fertility,
- ✓ primitive cultivars,
- ✓ intercropping,



- ✓ agronomic techniques,
- ✓ irrigation and water management,
- ✓ plant protection, and
- ✓ post-harvest technology and
- ✓ procedures are some of the other factors.

Roles of ITK

- ❖ ITK is a significant resource for creating relevant technologies and can support development efforts by facilitating local people's engagement.

Scope of ITK analysis

- New biological and ecological insight
- Resource management
- Protected areas and conservation education
- Development planning
- Environment assessment

Integration of indigenous traditional knowledge (ITK) for the preservation of forest biodiversity:

Indigenous knowledge of the flora of India and the surrounding area predates ancient scriptures, bio-geographical niches, cultural histories, and natural resources that are essential to the subcontinent's indigenous inhabitants. Indigenous traditional knowledge (ITK) from various communities in India is remarkably similar to that from neighboring regions (Warren, 1992). The Indian subcontinent has a vast diversity of forest life. "To acquire a comprehensive base of knowledge for genetic resource conservation, the genetic establishment must accept a mandate to be concerned not only with germplasm but also the knowledge systems that produce it" (Brush 1989).

The usage of ITK base products is supported by their long history, low cost, purity, environmental friendliness, and widespread acceptance. There is an urgent need for the application and integration of knowledge due to the shrinking of the bioresource-rich areas inhabited by indigenous populations and the disappearance of indigenous knowledge. Registration of grassroots innovations, product certification for authenticity, and the development of benefit sharing mechanisms on a sustainable basis are all necessary.

Furthermore, this knowledge offers new models for development that are both ecologically and socially sound"

Indigenous knowledge of the flora of India and the surrounding area predates ancient scriptures, bio-geographical niches, cultural histories, and natural resources that are essential to the subcontinent's indigenous inhabitants. The geography, in conjunction with the enormous watershed river system, distinct highland, desert, and oceanic habitats, as well as various climate impacts and other variables, has greatly influenced the region's unique flora and the range of living forms that depend on it.

Indigenous traditional knowledge (ITK) from many communities in India exhibits pronounced similarities to ITK from Indo-Tibetan, Sino-Himalayan, Indo-Nepal, Bhutan, Bangladesh, Pakistan, Sri Lanka, and Myanmar regions, which are abundant in genetic variety and forest biodiversity. The Indian subcontinent's flora and fauna are mixed with those from other continents, including Africa, Europe, the Mediterranean, Australia, and South America.

Need and priorities:

The need and priorities for the integration of ITK with forest biodiversity are covered, including biogeographical levels of characterization of biodiversity rich areas, registration of community innovations by IKH, characterization of products through application of scientific knowledge, preparation of extension materials, involvement of community through participatory approach, and gender initiatives with regards to various aspects of sustainable utilization (Indian Council of Forestry Research & Education Dehra Dun)

Conclusion:

For the benefit of the community as a whole, this knowledge is created and transmitted from one generation to the next through stories, songs, cultural values, customary laws, regional languages, rituals, healing arts, and agricultural practices.

Traditional Knowledge (TK) or Traditional Ecological Knowledge (TEK) is significant not only for its own sake, but also because it has the potential to contribute to



the design of more effective conservation strategies for ecological systems in general and for biodiversity in particular. This is because traditional knowledge refers to the environmental knowledge.

Reference

1. Brush, A. and Stephen, B. (1989). Rethinking Crop Genetic Resource Conservation. Conservation Biology 3 (1): 19-29.
2. Prakash, N., Roy, S.S and Ngachan, S.V. (2012). Role of ITK in Conservation Agriculture: Blending Indigenous and Scientific Knowledge ICAR Research Complex for NEH Region, Umiam – 793103, Meghalaya
3. [Yashaswi Singh](#) (2016) Traditional Knowledge systems in India for biodiversity conservation, [Indian Journal of Traditional Knowledge](#) 15(2):304-312
4. Warren, D. M. (1992). Indigenous knowledge, biodiversity conservation and development. Keynote address at the International Conference on Conservation of Biodiversity in Africa: Local Initiatives and September, Nairobi, Kenya.

