# Chapter 4
# Role of Traditional Ethnobotanical Knowledge:
## Culture and Indigenous Institutions in Medicinal Plant Conservation

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## ABSTRACT

*In recent decades, species extinction has increased sharply. Most species in the world are discovered in tropical forests – covering more than 10% of the planet. Sustainable management and conservation efforts must include local communities and their traditional knowledge. The traditional use of forest resources, especially non-timber products such as medicinal plants, not only has deep roots in indigenous populations, but is also practiced in a broad segment of culture. Using medicinal herbs is often a costly alternative to modern medicine that is economically inevitable. This traditional use's basic knowledge is carried from one generation to the next. Medical use in particular reflects an extremely vibrant, ever-evolving process in which fresh knowledge is constantly acquired and connected to traditional methods. An instance from West Bengal's West Midnapore district in India is used to illustrate the impacts of an integrated strategy to preserving biodiversity and culture.*

## INTRODUCTION

As a manner of understanding, traditional wisdom is comparable to contemporary science because it is based on an accumulation of observations, but in some basic respects, it is distinct from science (Berkes, 1993). Traditional knowledge, as a way of knowing, is comparable to modern science because it is based

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on an accumulation of observations (Berkes, Colding, & Folke, 2000). These two ways of knowing are two parallel modes of acquiring knowledge about the universe; the two sciences are fundamentally distinct. Interest in Traditional Ecological Knowledge (TEK) has grown in latest years, partially because such understanding can contribute to biodiversity conservation (Gadgil, Berkes, & Folke, 1993), rare species (Colding, 1998), protected areas (Johannes, 1998), ecological processes (Alcorn, 1989), and to sustainable resource use in general (Schmink, Redford, & Padoch, 1992; Berkes, 1999). For science, social or economic factors, conservation biologists, ecological anthropologists, ethnobiologists, other scientists, and the pharmaceutical industry share an interest in traditional knowledge. In the course of the field grows, the research of Traditional Ecological Knowledge started with the research of species identification and classification (ethnobiology), taking into account the understanding of ecological processes by populations and their relationship with the setting (Williams & Baines, 1993; Berkes, 1999).

On a worldwide scale, accessible evidence points to a direction in which Traditional Ethnobotanical Knowledge (TEK) is increasingly relevant as an invaluable, under-used and undocumented knowledge pool (Camara-Leret, Paniagua-Zambrana, Balslev, & Macia, 2014). This provides a strong tool for many advanced and developing countries, especially in Asia, to tackle the problems of plant resource conservation (Chepkosgey & Jerotich, 2016). In 1992, the Convention on Biological Diversity (CBD) was the first to create policies linked to the conservation and sustainable use of biodiversity for the use and preservation of traditional knowledge. Countries that remain are anticipated to (1) Promoting the use of Indigenous Knowledge (IK) technologies in the management of natural resources, (2) Increase and scale up the use of indigenous knowledge and (3) encourage equity and access to benefits from the use of indigenous knowledge technologies (CBD, 1992). In their draft papers, the United Nations Scientific Conference Organization (UNESCO) and the International Council for Science Union (ICSU) recognize IK's position and beg for its implementation in all types of human commitment (UNESCO, 2002). In defining TEK, different writers concentrate on the characteristics of local communities' perception, management and use of plant resources (Balick & Cox, 1996; Ugulu, 2011). Specifically, TEK study focuses on 'how individuals classify, recognize and connect to plant resources, examine plant and human interactions, taxonomic identification of chosen plants and biological and chemical analysis of their components' (Ugulu, 2011). In other words, TEK includes plant research as used in indigenous cultures for food, medicine, rituals, construction, household appliances, firewood, pesticides, clothing, shelter and other useful purposes (Amsalu, Bezie, Fentahun, Alemayehu, & Amsalu, 2018). We postulate that the management and use of plant resources by individuals is based on the understanding, priorities and perceptions of the concerned natural environmental resources and ecological processes. We postulate that the management and use of plant resources by individuals is based on the understanding, priorities and perceptions of the concerned natural environmental resources and ecological processes. The study identifies the plant resources that are perceived by people as Indigenous People resources and undertakes an evaluation of these resources. It documents and assesses the TEK associated with the utilization of plant resources and examines how the resources are defined by use and culture.

## 1. TEK in Perspective

In a vibrant equilibrium based on cycles and fluctuations, ecosystems maintain themselves, which are nonlinear processes. Thus, environmental awareness will only emerge when we combine our rational understanding with an intuition of the non-linear nature of our surroundings. Such intuitive wisdom is characteristic of traditional, non-literate societies, where life has been structured around an extremely