

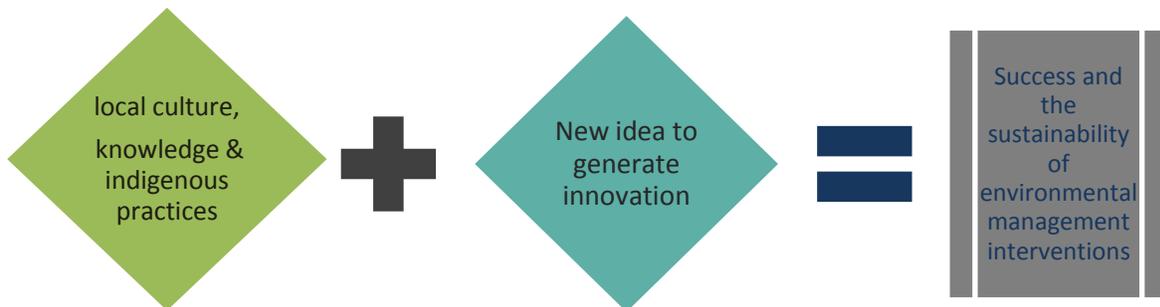
PROJECT TITLE:

Indigenous Knowledge Management for Disaster Mitigation and Sustainable Development in the Eco Community Villages of India

1. INTRODUCTION

According to the United Nations Environmental Program (UNEP), traditional communities rely on indigenous knowledge to conserve the environment and deal with disasters. These communities, particularly those in hazard-prone areas, have generated a vast body of indigenous knowledge on disaster prevention and mitigation. This knowledge is the sum of facts that are known or learned from experience or acquired through observation and study and handed down from generation to generation.

Further, it is said that the success and the sustainability of environmental management interventions at the community level depend, among a number of factors, on the availability of relevant local culture, knowledge and indigenous practices that can combine with new ideas to generate innovation. Thus, the importance of indigenous knowledge contributes not only to the success of intervention, but also more importantly to its sustainability in the longer term. In a particular reference of disaster management, considering the participation and integration of these communities in all disaster-related processes as a necessary means, the importance of indigenous knowledge acquisition can well be appreciated. Even before the advent of high technology based early warning systems, or standard operating procedures (SOPs) for response, numerous local communities worldwide have prepared, operated, acted, and responded to natural disasters using indigenous methods passed on from one generation to the next.



The United Nations already considers indigenous knowledge within Priority-3 of the Hyogo Framework for Action, which focuses on education and knowledge. One of the key activities identified under this priority action focuses on the importance of information management and exchange, and

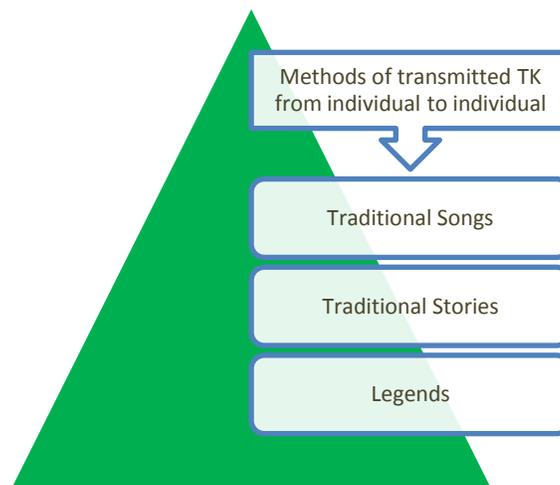
highlights the use of “relevant traditional and indigenous knowledge and cultural heritage” to be shared with and adapted to different target audiences. In order to fulfill this objective, we all need to understand, acknowledge and respect indigenous knowledge as a valuable source of information and as a key contributor to reducing risk in many parts of the world.

Director General of UNESCO (Mayor, 1994) defined traditional knowledge as:

...The indigenous people of the world possess an immense knowledge of their environments, based on centuries of living close to nature. Living in and from the richness and variety of complex ecosystems, they have an understanding of the properties of plants and animals, the functioning of ecosystems and the techniques for using and managing them that is particular and often detailed. Equally, people’s knowledge and perceptions of the environment, and their relationships with it, are often important elements of cultural identity.

Most indigenous people have traditional songs, stories, legends, methods and practices as means of transmitting specific human elements of traditional knowledge. In virtually all of these systems, knowledge is transmitted directly from individual to individual. Some of the basic tenets of indigenous knowledge transmission are:

- Practical common sense
- Knowledge of the environment and the relationships between things
- Holistic
- Rooted in the spiritual health, culture and language
- Dynamic, cumulative and **stable**



“Each time an elder dies it is as if a library had burned down.”
Amadou Hampate Ba

1.1 What is Indigenous Knowledge?

The expressions 'traditional,' 'local' and 'indigenous' knowledge are used in the literature interchangeably. However, the use of 'indigenous knowledge' (IK) seems to have become more popular than others have. IK is also being used erroneously for some categories of information produced indigenously. Development of databases of locally produced literature, creation of institutional repositories, and such other activities focusing on the management of certain categories of national information output as reported by Sukula (2006), Tjiek (2006), and some other writers should not come within the purview of IK. Indigenous knowledge has been defined as "the local knowledge – knowledge that is unique to a given culture or society. IK contrasts with the international knowledge system generated by universities, research institutions and private firms. It is the basis for local-level decision-making in agriculture, health care, food preparation, education, natural-resource management, and a host of other activities in rural communities" (Warren, 1991, as cited in World Bank, 1998). Flavier et al (1995) have also described it as "the information base for a society, which facilitates communication and decision-making. Indigenous information systems are dynamic, and are continually influenced by internal creativity and experimentation as well as by contact with external systems".

1. Source: Role of Information Management in the Preservation of Indigenous Knowledge; Mumtaz A. Anwar

1.1.1. Meaning of Traditional Knowledge

Traditional Knowledge (TK), variously referred to as 'traditional knowledge', 'traditional ecological knowledge', 'local knowledge', 'folk knowledge' is knowledge developed by local and indigenous communities over time in response to the needs of their specific local environment. The World Intellectual Property Organization (WIPO) defines traditional knowledge as "indigenous cultural and intellectual property," indigenous heritage," and customary heritage rights.²

The need to protect the traditional knowledge captured the attention of the international community only recently but the standard setting was left to the national governments. The absence of the international standards, that causes serious negligence for the protection of the traditional knowledge and the benefits of new technology.

2. Source: Protection of Traditional Knowledge in India by Patent: Legal Aspect, Dr.Vishwas Kumar Chouhan, IOSR Journal of Humanities and Social Science (JHSS) ISSN: 2279-0837, ISBN: 2279-0845. Volume 3, Issue 1 (Sep-Oct. 2012), PP 35-42

According to Warren (1991), typical definition of indigenous knowledge is as follows:

Indigenous knowledge (IK) is the local knowledge- knowledge that is unique to a given culture or society. IK contrasts with the international knowledge system generated by universities, research institutions and private farms. It is the basis for local level decision-making in agriculture, health care, food preparation, education, natural-resource management and a host of other activities in rural communities (Warren, 1991).³

IK refers to the unique, traditional, local knowledge existing within and developed around the specific conditions of women and men indigenous to a particular geographic area.

The words we use to denote indigenous knowledge are not still significant and confusing, since these terms are affected by high risk of inter-subjectivity and often used interchangeably.

Whether we speak off the terms like indigenous knowledge (IK), indigenous technical knowledge (ITK), ethnology, local knowledge, folk knowledge, traditional knowledge, traditional environment/ecological knowledge (TEK), People's science, there are always arguably enough overlap.

3. Source: Indigenous knowledge of the other people: A humanitarian approach by Ashok Das Gupta, Department of Anthropology, University of North Bengal, West Bengal

1.2 Domains of Indigenous Knowledge:

This Indigenous Knowledge System (IKS) not only includes the indigenous technological knowledge traits, but also the set of knowledge traits used to maintain a folk life and that is why, IKS is also termed as Peoples' Knowledge. The folk peoples are closely associated with the nature and therefore, the Indigenous Knowledge System is also found to be closely attached with the nature; this close attachment gives IKS the name of Indigenous Ecological / Environmental Knowledge System. So, known by various names, IKS is found closely attached with social, cultural, natural and human capitals within the non-reflective population. It could also be classified into various systems of gender, and age group. Though being functional in nature, IKS is closely associated with various non-functional symbols of human life.

3. Source: Indigenous knowledge of the other people: A humanitarian approach by Ashok Das Gupta, Department of Anthropology, University of North Bengal, West Bengal

1.3 Special Features of Indigenous Knowledge

Several authors have identified some special features of IK. Mearns, Du Toit and Mukuka (2006) have summarized these as follows:

- ✓ IK is local, holistic, and integrative because it is rooted in a particular community and its experiences are situated within broader cultural traditions of the people living in that place.
- ✓ IK is essentially functional and is geared to practical response and performance.
- ✓ IK is experiential rather than theoretical and is reinforced through continuous experience, trial and error.
- ✓ IK is learned through repetition, which aids in its retention and reinforcement.
- ✓ IK is constantly changing by way of being produced and reproduced, discovered and lost.
- ✓ IK is characteristically shared to a greater degree than other forms of knowledge, although its distribution is socially differentiated, based on gender and age.
- ✓ The distribution of IK is always fragmented. It does not exist in its totality in either one place or one individual.
- ✓ IK is tacit and cannot easily be codified.
- ✓ IK is transmitted orally, or through imitation and demonstration and the process of codification may lead to the loss of some of its properties.

1. Source: Role of Information Management in the Preservation of Indigenous Knowledge; Mumtaz A. Anwar

1.4 Indigenous and Scientific knowledge

In case of indigenous knowledge, some native classification is available only by virtue of its relationship to human activities and feelings. These comparisons sometimes incorrectly lead scientists to trivialize traditional understanding. As we know, science generally excludes the humanistic perspective whereas traditional understanding assumes a holistic view including language,

culture, practice, spirituality, mythology, customs and even the social organization of the local communities.

Traditional knowledge incorporates knowledge of ecosystem relationships and a code of ethics governing appropriate use of the environment. This code includes rules and conventions promoting desirable ecosystem relations, human-animal interactions and even social relationships, since the latter continue to be established and reaffirmed through hunting and other activities on the land. Traditional knowledge articulates with nontraditional knowledge to form a rich and distinctive understanding of life and the world environment.

Presently, the communication of traditional knowledge is also hampered by competition from other cultures that capture the imagination of the young generation. They are tempted by technology that teaches them non-indigenous ways and limits the capacity of elders to pass on traditional knowledge to the young. As the elders die, the full richness of tradition is diminished, because some of it has not been passed on and so is lost. It is important therefore to find ways of preserving this heritage of knowledge.

Differences between traditional knowledge systems and western scientific system as indicated below:

Traditional Knowledge System	Western Scientific system
All parts of the natural world are regarded as animate, all life forms as interdependent.	Human life is generally regarded as superior, with a moral right to control other life forms.
Knowledge is transmitted largely through oral media.	Knowledge is transmitted largely through written media.
Knowledge is developed and acquired through observation and practical experience.	Knowledge is generally learned in a situation, which is remote from its applied context.
Knowledge is holistic, intuitive, qualitative and practical.	Knowledge is essentially reductionist, quantitative, analytical and theoretical.
Knowledge is generated by resource users in a diachronic (long-term) time scale.	Knowledge is generated largely specialist researchers on a synchronistic (short-term) time scale.
The nature and status of particular knowledge is influenced by socio-cultural Factors such as spiritual beliefs, and is communally held.	The nature and status of particular knowledge is influenced by peer review, and is held by individual specialists.
Explanation behind perceived phenomena is often spiritually based on subjective.	Explanation behind perceived phenomena is essentially rational and objective.
Knowledge is used to make suitable decisions under variable conditions.	Knowledge is used to put forward hypothesis and to verify underlying laws and constants.

4. Source: **Indigenous Technical Knowledge in Rice Cultivation**, P. Muthuraman & S.N.Meera, Senior Scientists (Agricultural Extension), Directorate of Rice Research (ICAR), Hyderabad – 500030.

1.5 Indigenous Peoples:

Now the term 'Indigenous Peoples' is being used in a greater sense and that includes the scheduled, the non-scheduled and the excluded tribal communities and any non-tribal community with IKS and sharing the Folk Life; therefore giving an assurance of long-existed close attachment with the locality inhabited. Its periphery has now been expanded from the forest dwelling stalks up to the rural communities overlapped by both folk life and peasantry.³

This concept of indigenous peoples is closely associated with the study of poverty, human rights, indigenous rights, land and forest rights, bio-piracy and illegal knowledge transfer, globalization and market system, human resource development and implementation of modernity, setting up of urban-industrial sectors and economic growth, anti-globalization anti-capitalist movements and need of sustainable development to condemn these agitations and the risks of terrorism and national disintegration by forming a balance between the World Views of traditional and the concepts of modern societies, decision-making system for the Policy Makers in Governance about minority development-poverty eradication-economic growth-community development in terms of health, education and social welfare, and so on.

3. Source: Indigenous knowledge of the other people: A humanitarian approach by Ashok Das Gupta, Department of Anthropology, University of North Bengal, West Bengal

1.6 Indigenous Rights:

Instead of being no universal scale for measuring indigenusness, the concern about Indigenous Knowledge System and Indigenous Peoples is day by day growing up in India since 1990s at various dimensions, for example, Peoples' Science, Traditional Knowledge System, Indigenous Technological Knowledge, Indigenous Agricultural Knowledge, Ethno-medicine, Folk life, Indigenous Environmental Knowledge and so forth (mainly for reducing the harmful effects caused by pollution, unidirectional and highly exploitative modern technological implementation for the sake of rapid technological development, economic growth, modernization, and market economy in this era of Globalization. In the Tenth Five Year Planning, emphasis has been given on Sustainable Development.

3. Source: Indigenous knowledge of the other people: A humanitarian approach by Ashok Das Gupta, Department of Anthropology, University of North Bengal, West Bengal

1.7 Protection for ITK in Indian Acts

Some of the India's new laws have implications for ITK and bio-resources. The following are given below:

1. The Geographical Indications of Goods-Registration and Protection Act 1999.
2. The protection of Plant Varieties and Farmer's Rights Act 2001.
3. The Biological Diversity Act, 2002.
4. The patent (Second Amendment act, 2002).

4. Source: Indigenous Technical Knowledge in Rice Cultivation, P. Muthuraman & S.N.Meera, Senior Scientists (Agricultural Extension), Directorate of Rice Research (ICAR), Hyderabad – 500030.