Empowerment through Traditional Knowledge System for Agricultural sustainability

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Developing agricultural sustainability by harnessing Indigenous Knowledge often referred to as Traditional Knowledge. Innovations and practices derived out of success stories from rural locale provided zeal to research scholars to probe into these systems of empowerment. Educational initiatives ranging from classroom culture to farmer centered knowledge require a thorough research investigation and ultimately need to be introduced in higher education. Rich cultural heritage and knowledge dimensions, which have natural tendency to diminish with spatio-temporal changes need to be protected and is required to be brought back either in its native form or slightly modified form. Either of these may be, advantageous for agricultural productivity. Indigenous knowledge, which is centered on beliefs, practices and traditional technologies, is required to be documented through systematic planned approach by educational initiatives.

As a prelude to educational initiatives, documenting Indigenous Knowledge, through established protocols may be the primary requirement. This includes community, individual and public domain knowledge systems, so that the existing data structures and efforts of organizations working to document this knowledge system are strengthened.

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Traditional knowledge refers to the knowledge, innovations and practices of indigenous and local communities around the world. Derived from experience gained over the centuries and adopted to the local culture and environment, traditional knowledge is transmitted orally from generation to generation. It is derived form of stories, songs, folklores, proverbs, cultural values, beliefs, rituals, community laws, local language, and agricultural practices, including the development of plant species and animal breeds.

Traditional knowledge is mainly of a practical nature, particularly in such fields as agriculture, fisheries, health, horticulture, and forestry. There is a growing appreciation of the value of traditional knowledge. This knowledge is valuable not only to those who depend on it in their daily lives, but to modern industry and agriculture as well. Many widely used products, such as plant-based medicines and cosmetics, are derived from traditional knowledge. Other valuable products based on traditional knowledge include agricultural and non-wood forest products as well as handicrafts.

Agricultural development practitioners and workers who are instrumental for the empowerment of farmers may need to conceptualize on the strength of this knowledge system in order to reach the optima of agricultural sustainability in production agriculture. Farmers do have this wealth of knowledge, which eventually do not extinct but transfer from generation to generation on its own strength and influence. It is very much essential to concretize this experience into a system and develop it as methodology.

Systematizing Traditional Knowledge System

Indigenous knowledge is shared and communicated orally, by specific examples and through culture. Traditional knowledge centers on educational initiatives, known practices and derived technologies, belief system, more than all and the operating human resources. Schematic view of influencing factors to traditional knowledge is presented (Fig. 1).

To understand indigenous practices, one must have knowledge and understanding of the concepts on which they are based (both content and context). This is particularly relevant in cases where intervention or improvement of indigenous practices in changing ecological and economic scenarios is aimed at social

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sustainability. Indigenous knowledge has been passed down from generation to generation through traditional education, with adults teaching practical knowledge of culture, environment, survival through demonstrations and through a wide range of ceremonies, stories, songs, village meetings and taboos.

Recently, few attempts were made to integrate indigenous knowledge into formal education due to its potential value in solving contemporary problems. The variation in learning sequencing attitude and methodology has pronounced effect on traditional knowledge acquisition. The perception of indigenous knowledge objective and method of this knowledge acquisition is often found to be traversing from generation to generation and sometimes gets distorted.

Practices and technologies are generally adopted by time tested efficient and result-oriented methods, borrowed and transferred by information transferred by elders. Human resources who impart this knowledge are artisans, local intelligent resource persons and agricultural practitioners who are considered as powerful sources of knowledge transfer.

**Documenting Traditional Knowledge**

Indigenous knowledge has two powerful advantages over outside knowledge—it has little or no cost and is readily available. Indigenous knowledge systems and technologies are found to be socially desirable, economically affordable, and sustainable and involve minimum risk to rural farmers and producers, and above all, they are widely believed to conserve resources. There are situations in which modern science is not appropriate, and use of simpler technologies and procedures are required. Thus IK provides basis for problem-solving strategies for local communities, especially the poor.

Learning from IK can improve understanding of local conditions and provide a productive context for activities designed to help the communities. In addition, the use of IK assures that the end user of specific agricultural development projects is involved in developing technologies appropriate to their needs.

With all this, IK is still an underutilized resource in the development activities. It needs to be intensively and extensively studied, and incorporated into formal research and extension practices in order to make agriculture and rural development strategies more sustainable. Special efforts are needed to understand, document, and disseminate IK for preservation, transfer or adoption.

It is pertinent that in order to streamline the traditional knowledge through systematic knowledge transfer methodology (Fig. 2) documenting the TK is not only essential but has high terminal advantages at user level.

A researcher who wants to document the Indigenous knowledge gets unintentional data all derived from local people generally got by participatory approaches. A researcher who likes to document this needs to exercise caution by obtaining prior information from the resource provider, and through literature, probe into available resources and research initiatives, followed by information gathering, collecting, collating and systemizing. The source identity and veracity of information are much-required essentials.

Frames of reference to traditional knowledge system (Fig. 3) in the acquisition of traditional knowledge have three distinct vision sequences.

The individual knowledge obtained from elders is often distorted. When practiced to its partial advantage is got either by modification or alteration. The community and public domain knowledge, which again follows similar sequence result in individual acquiring and many times is under utilized or unutilized. Depending on time and the requirements of the user, this knowledge is selectively utilized.
The concern and zeal of the researchers lead to the development of Traditional Knowledge databases that may not be of great value but many a time lead to sustained adoption and utilization of the researcher.

**Conclusion**

Educational initiatives need to be directed for learning through culture, across generation and from the known to unknown all outside the classroom. Traditional knowledge is best acquired from the local knowledge and intelligence resources.

Indigenous knowledge is stored in culture in various forms such as traditions, customs, folk stories, folk songs, folk dramas, legends, proverbs, myths, etc. Use of these cultural items as resources in educational institutions can be very effective in bringing indigenous knowledge alive for the learners. It would allow them to conceptualize places and issues not only in the local area but also beyond their immediate experience.

In view of its potential value for sustainable agricultural development, it is necessary to preserve indigenous knowledge for the benefit of future generations. Perhaps the best way to preserve indigenous knowledge would be the integration of indigenous knowledge into the educational curriculum.

Identifying, documenting and incorporating IK in agricultural extension organization are essential to achieve sustainable agricultural development. IK systems provide a frame of reference for strengthening agricultural extension programmes. The participatory technologies that are developed through IK integration will provide diversified technological options, which enable farmers to choose using their own decision-making systems; originate from the farmers’ own knowledge and use diversified sources in active participation of research minded farmers.

Lobbying for national policies in support of IK can be one of the viable options for promoting in the society. Developing methodologies for building local capacity to identify, document, analyze and share IK, and offering training programs for both sensitizing & conceptualizing. Converting IK into products and practices amenable to the society is one of the viable options.
Methodology for ensuring the effective participation of local communities in decision-making and policy planning will have high relevance for reaching desirable results. The conservation and sustainable use of biological diversity will have lasting consequences in developing appropriate technologies.

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References