

INDIGENOUS KNOWLEDGE COMMUNICATION IN THE 21ST CENTURY

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Abstract

Indigenous knowledge -- the knowledge developed by local people and passed down over generations -- is a major, untapped resource for development. In the 21st century indigenous information is transmitted mainly through indigenous communication channels: indigenous organizations, folk media, traditional education, and so forth. Emerging information and communication technology (ICT) is setting the pace for changing, competitive and dynamic local and global information, representing an invaluable vehicle for exchange and sociocultural development and introducing new forms and structures of society that are no longer affected by geographical or time barriers. This paper analyzes current approaches to indigenous knowledge, exchange of indigenous knowledge and various channels of indigenous communication. The authors also explain the impact of ICT on the exchange of indigenous knowledge in the electronic era.

Keywords: Indigenous Knowledge, Traditional Knowledge, Local Knowledge, Information and Communications Technologies, Indigenous Communication.

Introduction:

IK can refer to the knowledge belonging to a specific ethnic group, for example: *'Indigenous knowledge is the local knowledge that is unique to a given culture or society. 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.'* Another useful definition is the following: *'Indigenous knowledge is 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.'* Or: *'Indigenous knowledge is the knowledge that people in a given community have developed over time, and continue to develop. It is based on experience, often tested over centuries of use, adapted to local culture and environment, dynamic and changing.'*

IK may be related to a common practice seen in communities that are indigenous to a specific area. Or the focus might be on the long history of the practice, in which case it is often called 'traditional knowledge'. The following definition is a combination of these different aspects: 'Indigenous knowledge also referred to as traditional or local knowledge refers to the large body of knowledge and skills that has been developed

outside the formal educational system. IK is embedded in culture and is unique to a given location or society. IK is an important part of the lives of the poor. It is the basis for decision-making of communities in food security, human and animal health, education and natural resource management.’

Analysis of this selection of definitions reveals that several interrelated aspects appear to be more or less specific to IK.

IK is:

- ❖ Locally bound, indigenous to a specific area;
- ❖ Culture- and context-specific;
- ❖ Non-formal knowledge;
- ❖ Orally transmitted, and generally not documented;
- ❖ Dynamic and adaptive;
- ❖ Holistic in nature; and
- ❖ Closely related to survival and subsistence for many people worldwide.

What is indigenous knowledge?

Herbal medicine is a good example of IK, which has affected the lives of people around the globe. The literature on IK does not provide a single definition of the concept. Nevertheless, several traits distinguish IK broadly from other knowledge. IK is unique to a particular culture and society.

Sample Definitions of Indigenous Knowledge

Indigenous knowledge 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 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.

Indigenous Knowledge is (...) 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.

IK is the basis for local-level decision making in:

- Agriculture,
- Health care,
- Food preparation,
- Education,
- Natural-Resource Management, and
- Host of other activities in communities.



IK provides problem-solving strategies for communities. It is commonly held by communities rather than individuals. IK is tacit knowledge and therefore difficult to codify. It is embedded in community practices, institutions, relationships and rituals.

IK is dynamic and continuously evolves and innovates.

Features of the Indigenous Knowledge

The following highlights the special features of indigenous knowledge, which distinguishes it broadly from other knowledge. According to the literature, IK is:

- ❖ Local, in that it is rooted in a particular community and situated within broader cultural traditions; it is a set of experiences generated by people living in those communities. Separating the technical from the non-technical, the rational from the non-rational could be problematic. Therefore, when transferred to other places, there is a potential risk of dislocating IK.
- ❖ Tacit knowledge and, therefore, not easily codifiable.
- ❖ Transmitted orally, or through imitation and demonstration. Codifying it may lead to the loss of some of its properties.
- ❖ Experiential rather than theoretical knowledge. Experience and trial and error, tested in the rigorous laboratory of survival of local communities constantly reinforce IK.
- ❖ Learned through repetition, which is a defining characteristic of tradition even when new knowledge is added. Repetition aids in the retention and reinforcement of IK.
- ❖ Constantly changing, being produced as well as reproduced, discovered as well as lost; though it is often perceived by external observers as being somewhat static.

Approaches to indigenous knowledge

Various underlying views of indigenous knowledge can be identified in the literature. These views are not all mutually exclusive -- indeed, they overlap to some degree. Some individuals lean toward one view without necessarily rejecting the validity of the others. Below are brief stereotypes of seven such views.

1. **The Scientist** studies indigenous knowledge for its own sake -- as an interesting phenomenon that may yield insights into culture or the physical world. The scientist views knowledge as something to be shared openly for the betterment of all humankind.
2. **The Development Agent** sees that farmers and other local people are acutely attuned to their surroundings. They have intimate knowledge of their soils, climates, and markets. Recommendations derived from outside research may not fit local needs and require costly inputs. The development agent recognizes that recommendations are more likely to be useful and sustainable if they are based on existing practices and are couched in terms that local people readily understand.
3. **The Facilitator** pressures for indigenous knowledge as a resource that local people can use to further their own development. Instead of trying to persuade farmers to adopt technologies developed elsewhere, in this view, agricultural extensionists and other development workers should facilitate farmers' experiments and encourage local people to exchange information.

4. **The Conservationist** views with alarm the current rapid rates of environmental destruction and biodiversity loss. Traditional, minority societies occupying remote, often forested and mountainous areas, are suffering similar disruption under the onslaughts of environmental destruction, urbanization, and outside culture. The conservationist advocates the protection of these societies and the preservation of their cultures and knowledge in situ.
5. **The Political Advocate** perceives local people as being suppressed by wealthy, often foreign, elites. This view supports the protection of rights and the end of exploitation. It denies the scientist's ideal of sharing of wisdom for mutual betterment, instead seeing relationships with potential of exploitation. Sanctions must protect the weaker party -- for instance by introducing patent rights for indigenous knowledge to prevent their expropriation by outsiders.
6. **The Capitalist**, by contrast, sees indigenous knowledge as a resource to be tapped by outsiders in pursuit of a profit. Examples of this are the "chemical prospecting" of tropical forests by drug companies and germplasm collecting by crop breeding firms. Both may draw on the knowledge of local people to identify promising sites, species, and uses.
7. **The Skeptic** views indigenous knowledge at best as amusing, and at worst as dangerous superstition -- a barrier to progress. According to the skeptic, indigenous knowledge should be eradicated as soon as possible through education and the modernization process. If only local people were "rational," the skeptic argues, they would recognize the superiority of introduced technologies or new economic forms.

Why is indigenous knowledge important?

Indigenous knowledge provides the basis for problem-solving strategies for local communities, especially the poor. It represents an important component of global knowledge on development issues. IK is an underutilized resource in the development process. Learning from IK, by investigating first what local communities know and have, can improve understanding of local conditions and provide a productive context for activities designed to help the communities. Understanding IK can increase responsiveness to clients. Sharing IK within and across communities can help enhance cross-cultural understanding and promote the cultural dimension of development.

How is indigenous knowledge exchanged?

The integration of IK into the development process is essentially a process of exchange of information from one community to another. The process of exchange of IK involves essentially six steps:

- ❖ **Recognition and identification:** some IK may be embedded in a mix of technologies or in cultural values, rendering them unrecognizable at first glance to the external observer (technical and social analyses may, therefore, be required to identify IK);
- ❖ **Validation:** This involves an assessment of IK's significance and relevance (to solving problems), reliability (i.e., not being an accidental occurrence), functionality (how well does it work?), effectiveness and transferability;

- ❖ **Recording and documentation** is a major challenge because of the tacit nature of IK (it is typically exchanged through personal communication from master to apprentice, from parent to child, etc.). In some cases, modern tools could be used, while in other circumstances it may be appropriate to rely on more traditional methods (e.g., taped narration, drawings);
- ❖ **Storage** in retrievable repositories: Storage is not limited to text document or electronic format; it could include tapes, films, storytelling, gene banks, etc.
- ❖ **Transfer:** This step goes beyond merely conveying the knowledge to the recipient; it also includes the testing of the knowledge in the new environment. Pilots are the most appropriate approach in this step; and
- ❖ **Dissemination** to a wider community adds the developmental dimension to the exchange of knowledge and could promote a wider and deeper ripple impact of the knowledge transfer.

Exchange of IK is the ideal outcome of a successful transfer and dissemination. This is essentially a learning process whereby the community where an IK practice originates, the agent who transmits the practice, and the community that adopts and adapts the practice all learn during the process.

Information and Communications Technologies

ICT has been defined as electronic technologies for collecting, storing, processing, and communicating information. ICT is the complete system of technologies. It is comprised with two strong technologies; one is Information technology (IT) that actually deals with the hardware and software elements, which allow us to access, store, organize and manipulate the information by electronic means. The second is communication technology, which deals with equipment, infrastructure and software through which information can be received, accessed and disseminates, e.g. phone, fax, modem, networks etc. major component of Information infrastructure are as:

- ❖ Electronic communication infrastructure;
- ❖ Online information repositories;
- ❖ Legal framework; and
- ❖ ICT skilled workforce.

Exchange of Indigenous Knowledge through the Information and Communication Technology (ICT)

The use of modern ICT is still the exception rather than the rule in the direct exchange of indigenous knowledge within and between communities. As the countries establish connectivity, modern ICT could become a powerful enabler for the exchange of knowledge. In the near future, however, more traditional and appropriate tools for dissemination could be used to facilitate the transfer and exchange of IK.

“Over the last few years, a wide consensus has emerged on the potential of information and communications technologies (ICT) to promote economic growth, combat poverty, and facilitate the integration of developing countries into the global economy. [...] First,

our efforts must be based on the real needs of those we are seeking to help. They must be fully and genuinely involved.”

UN Secretary-General Kofi Annan, General Assembly 2002

The following represents the kind of tools that could be used depending on the local circumstances and the degree of access and connectivity of a country and a community. External support to build local capacity, including the dissemination of such tools among local communities could facilitate the process of IK exchange:

- ❖ **Video and radio broadcasts in local languages** could disseminate indigenous knowledge by using story telling techniques, especially in the rural areas;
- ❖ **Telecenters** could help make knowledge flow in a “two way street” from the local communities outward and from the global community inward. Telecenters are being introduced in several countries (e.g., Senegal, South Africa, etc.).
- ❖ **Electronic networking** would be most appropriate to establish exchanges among civil society groups and to link the nearly dozen existing local indigenous knowledge centers in various countries.

Communication technology enforces this development by supporting the knowledge exchange between people. In our opinion knowledge is best defined as "knowing how to act". For instance knowing how to make a product, how to deliver a service or how to communicate with people.

People can exchange knowledge in different ways:

- ❖ Through face-to-face online communication in teams or in workshops.
- ❖ Through information in documents either in print or electronic. The reader must read this information and internalise it to his/her knowledge. It actually becomes knowledge when the reader applies it successfully in practice.
- ❖ Through material products. There is a lot of knowledge creation during the development of a material product. This knowledge is hidden in the product.

ICT supports all these forms of knowledge exchange:

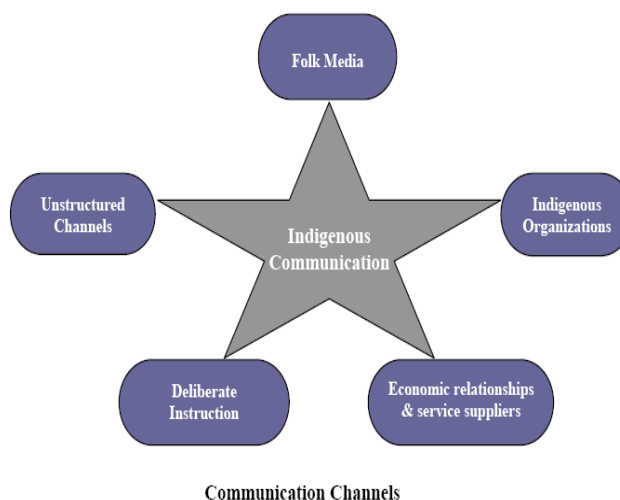
- ❖ Communication technology and virtual reality will support the remote communication between people with a quality near to face-to-face communication via teleconferencing. This supports remote communication in the form of virtual workshops, virtual classroom or distant learning.
- ❖ Information technology supports new forms of electronic documents. Multimedia and virtual realities are useful technologies in support of knowledge exchange and learning processes.
- ❖ ICT strongly enhance the amount of knowledge in the products (both material and immaterial) and in the services of companies. Material products like cars are currently designed and simulated with aid of the computer. A prototype of the car is tested and all test information is assembled and processed by a computer. Developers transform the information into new knowledge, which result in improvements of the car design and the resulting car construction.

ICT enforces a longer existing trend. Better education and more complex products and services have already made knowledge an important economic resource. Supported by ICT knowledge will become the most important economic resource in the 21st Century.

Types of Indigenous Communication

As indicated above, indigenous communication can take many different forms. Here are five:

1. **Folk media** include festivals, plays, puppet shows, dance, song, storytelling and poetry.
2. **Indigenous organizations** include religious groups, village meetings, irrigation associations, mothers' clubs and loan associations. These organizations orchestrate much communication: through formal meetings of members, by messages sent about activities and obligations, and through work activities.
3. **Economic relationships and service suppliers** such as traders, farm input suppliers, and indigenous specialists such as healers and midwives are important sources of information for local people. Market traders provide information on prices, varieties and fertilizer use. Healers explain diseases and treatments. Any society has individuals who are regarded as authorities in their field of specialization. They are potent sources of indigenous knowledge on that topic.



4. **Deliberate instruction.** When we are children, our parents, families and peers teach us how to eat, how to behave, how to cook, plough and plant. Warren (1964, p. 10) calls this process "deliberate instruction." It continues during adolescence and adulthood through initiations and other rites of passage, apprenticeship arrangements and the instructions given by village elders. Deliberate instruction would seem far more important in the communication of technical information than are the occasional folk media performances or village festival, or even than the mass media and schools. Yet deliberate instruction has received very little attention from development specialists.
5. **Unstructured channels.** Indigenous communication occurs in many other settings: talk at home and at the well, in the fields and on the road, in the teahouse and chief's house, and wherever else people meet and talk. A major part is communication among kin and peer groups. This communication is not organized or orchestrated but spontaneous and informal.

Conclusion: Indigenous knowledge and indigenous forms of communication should not become yet another way of extracting resources from the poor and of making them

comply with an outsider's will. Rather, they should be used to the benefit of local people, as vehicles they can themselves use to further their own development. The use of ICTs in the provision of exchange if indigenous knowledge is resulting in the disappearance of the old media of communications. It has transformed the nature of exchange over the period of time.

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