

## **Indigenous Worldview: the Missing Link to Sustainable Development**

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### **Abstract**

*Indigenous communities live in some of the most difficult terrains in the world. The skills, practices, beliefs and traditions that formulate the knowledge system of these communities can be therefore be perceived as survival strategies that they have gathered after years of experience, living near nature. Unfortunately, even with the notable contribution made by indigenous people in ecological and other domain, indigenous knowledge still faces the threat of extinction in the modern world. Attributing this phenomenon simply to the oral transmission of indigenous knowledge as opposed to the well documented western knowledge would only be scratching the surface. A look into the literature about indigenous knowledge, especially the botanical studies showcase writings on the vast number of plants and species discovered by indigenous communities beneficial for humans. This reduction of indigenous knowledge, however, into taxonomies and categories not only oversimplifies the complexity of indigenous epistemology; it also portrays it as static. In this paper, the authors have tried to present some of the principles and worldviews common to indigenous communities across the world. The idea is to move beyond the perception of indigenous knowledge as a repository of information to a way of living which has the notion of communal living and accountability in its core.*

**Keywords:** Indigenous knowledge, indigenous ecological knowledge, sustainable development

### **1. Introduction**

According to World Commission on Environment and Development (1987), “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs”. In the present time, words like “eco-friendly” and “sustainable” have become a catchphrase used and abused in all kinds of ways.

In the post-industrial world, sustainability is showcased as yet another “feature” that a particular product may possess. Whether it is a car that runs on less fuel or an air-conditioner that uses less electricity, as a society, we have left sustainable development in the hands of the same techno-driven industry that posed a threat to it in the first place. The idea of sustainability is sold to us as some form of novel “innovation” portraying sustainable means of living to be alien to the human civilization. We seem to have lost the idea of what sustainability means and what purpose it serves. In such times, therefore, we need to ask ourselves- is sustainability limited to modern-day twists to the same old practices? If no, then what is the essence of sustainability? What kind of thinking do we require to live in harmony with the environment around us? In this paper, we have traced the idea of sustainable development to the indigenous knowledge system that holds it as a fundamental part of its way of life.

Indigenous community refers to a group of people bonded with some common cultural and social ties and have a history of continuity or affiliation with a given place (Kumar, 2018; Maweu, 2011). Indigenous knowledge is thus a multi-faceted knowledge body developed and maintained by a community living near nature in a particular environment for a stretch of time. (Johnson, 1992; Warren, 1991 as cited in Kumar, 2018). Indigenous knowledge is transmitted experientially and orally through stories, history, songs, rituals, practices. Many of these indigenous communities live in really extreme climatic conditions and their knowledge is refined through hands-on method of trial and error, validated by their own survival. However, it is not fair to perceive indigenous knowledge merely as adaptive strategies for survival. For people involved in work like fishing, hunting, farming, pottery, etc. indigenous knowledge could be considered as a specialized skill-set that helps them thrive in a location with the available resources while also providing them with a mean of livelihood.

In this paper, we have attempted to explore the link between indigenous knowledge and environment. Some of the question central to the paper are- What is the significance of indigenous knowledge in ecological conservation? And what worldviews and perspective are central to the indigenous population? The authors have also tried to explore some of the strategies and principles that may help in protecting indigenous knowledge in the world.

## **2. Indigenous knowledge and Environment**

The knowledge, culture and environment of indigenous people have a very strong linkage. Every society has a history of stemming from a unique local environment with its challenges and resources- shaping its culture in the process. In fact, Herskovits (1948) has called culture as a screen between man and the environment. The practices, believes and traditions passed on through generations in indigenous communities define their culture and also in turn, the knowledge rooted in the respective environment. It is for the same reason D. M. Warren (1991) believed indigenous knowledge to be “unique to a given culture or society”.

Indigenous community form less than 5% of the world's total population, but still, they maintain 11 per cent of our planet's forest, translating roughly into 80% of all of the planet's biodiversity. Tapping into their wisdom can play a significant role in addressing environmental issues related to natural resources, land management, climatic extremities and disaster management, especially in volatile geographical conditions. Some examples include- the use of Bamboo drip irrigation system in Meghalaya to bring water to seasonal crops. Another such example is the use of thatched granaries by various South African communities meant for preserving grains and edible items in the face of food scarcity (Kamwendo & Kamwendo, 2014). These examples show how indigenous knowledge across the globe could be linked with finding solution to the relevant ecological challenges. This subset of indigenous knowledge is often referred to as Indigenous Ecological Knowledge (IEK) (Maweu, 2011). Terms like Indigenous knowledge (IK), Traditional Ecological Knowledge (TEK) and Indigenous Ecological Knowledge (IEK) are at times used synonymously (U.S. National Park Service).

### **3. Significance of Indigenous Ecological Knowledge**

According to Berkes (1993) IEK “is a cumulative body of knowledge and beliefs, handed down through generations by cultural transmission, about the relationship of living beings (including humans) with one another and with their environment.” IEK is passed on through generations and used in life-sustaining ways (U.S. National Park Service). There are several reasons why IEK is significant for environmental conservation. First, it is a source of biological knowledge and ecological insights that sustains people in difficult terrains. It is rooted in the local habitat of the community, therefore, adapted to the native environment of the people. The culturally sensitive nature of IEK also empowers local communities to be self-sufficient, allowing decision-making in a bottom-up fashion (Whyte, 2013). This way, development can take place in a cost-effective, participatory and sustainable way. There have

been several initiatives where scientists, environmentalists, local governments and organizations have collaborated with Indigenous people to make some significant progress in issues regarding local environmental. One such example is scientists teaming up with Australian natives to probe into forest fires. Based on the observations by the indigenous group, they realized that birds like kites and falcons might actually start fires in unburned places by dropping burning branches to catch preys like rodents and snakes (Yale School of Forestry & Environmental Studies). Similarly, local organizations like North Eastern Development Finance Corporation Ltd (NEDFi) is supporting the local practice of making handicrafts products out of Water hyacinths- a form of water weed notorious for blocking the irrigation canal connected to the farming fields in India.

With the popularity of indigenous knowledge in the developed parts of the world, it is important to remember not to reduce indigenous knowledge to taxonomic categories ready to be extracted and used. Although it is commendable that indigenous knowledge is being acknowledged for its contribution to sustainable development, treating it merely as a repository of facts and information would be a grave mistake. The solution-oriented approach to developmental policies often ignores the socio-political and cultural context of the place (Maweu, 2011). This perspective towards Indigenous knowledge overlooks the fact that like any other knowledge system, indigenous knowledge has its epistemology based on:

- symbolic meanings of traditions, rules
- a distinct world view or cosmology
- communal relationships with living and non-living things and institutions dealing with resource management based on shared knowledge (Berkes, 1989)

Whyte (2013) sees indigenous knowledge as a system of responsibilities based on native believes about the relationship between humans, living, non-living things and the universe. Participation in this responsibility towards the world is central to the indigenous worldview. Indigenous knowledge is an amalgam of knowledge, practices and believes (Berkes 1989; Magni, 2017) interwoven into the society's cultural fabric, making it situated in nature.

#### **4. Indigenous knowledge in relation to western scientific knowledge**

Indigenous knowledge is often portrayed in contrast to western knowledge. This distinction may lie in the very purpose of both these knowledges. Scientific knowledge is known for

valuing knowledge for its own sake and for manipulating the world around us for the material gain of humans (Vucetich & Nelson, 2015). Levi- Strauss (as cited in Berkes, 1993), however, contradicts this point and holds that technological-skills involved in tools like water-tight pots could not have been possessed by the indigenous societies if it was not for scientific curiosity and desire for knowledge for its own sake. Distinctions have also been made on the grounds of the normative, procedural and holistic nature of indigenous knowledge and the amoral, theoretical and compartmentalized nature of scientific nature of western scientific knowledge. Kimmerer (2002) emphasizes the qualitative nature of indigenous knowledge. According to him, it is formed out of observation carried on in a specific place (diachronic data), as opposed to scientific knowledge, which attempts to collect data over a large area (synchronic data). Indigenous means to collect information can hardly match the experimental control or manipulation of scientific knowledge. Still, then, it can be argued that indigenous knowledge is not concerned with its broader applicability and predictions. Indigenous knowledge inclines more towards intuition and trial and error instead of experimental control, and pure rationality. Moreover, unlike the “production” of knowledge by a specialized group of researchers, the information under indigenous knowledge is meant to be utilized by the same community that gathers it.

Instead of differentiating the two, some theorists have tried to portray indigenous and scientific knowledge as complementary to each other. Kimmerer (2002) calls indigenous knowledge “intellectual twin to science” and a knowledge form that runs “parallel to western science”. Both indigenous knowledge (arts) and science try to create some order out of disorder (Berkes, 1993). According to this perspective, both these knowledge systems are not valuable in their distinct ways but valuable together and can fill the gaps in each other (Whyte, 2013). It is noted that most of these comparisons between the two knowledge systems are on epistemological grounds. In this paper however, we have advocated the value of indigenous knowledge for sustainable development based on its worldviews that comprise of epistemology, metaphysics and ethics of a particular knowledge community (Vucetich & Nelson (2015). Epistemological parts deal with the nature of knowledge as well as sources and validity of knowledge. Metaphysics delves into the idea of being and the relationship between human and nature. Ethics deal with the issue of values, morality, good and bad. How we interact with the world depends on these worldviews. It is how indigenous people relate to nature and their inclusive ethic that extends beyond humans is what makes indigenous knowledge *a way of life* and not merely what indigenous people *know*. The question thus

becomes that can IEK be used as a sustainable development strategy in a real sense without adopting the notions and worldviews fundamental to it. In the next section, we will go into the details of the kind of worldviews that are vastly common to the indigenous cultures throughout the globe.

## **5. Indigenous worldviews**

Central to the indigenous worldview is the notion of living well together or *buen vivir* (Magni, 2017). It poses a very strong emphasis on community and a harmonious reciprocal relationship between human nature and the universe. Nature in indigenous culture is often portrayed as a living being and so the idea of “live and let live” dominates the indigenous perspective. Maweu (2011) holds this standpoint in complete contrast to western ecological knowledge that commodifies the natural environment for its potential to meet mankind’s needs. Western knowledge has been contrasted with indigenous knowledge on its inability to take a moral standing for the non-human world. The “objective” treatment of western science towards nature decontextualizes humans from it as a separate and often superior entity. TEK, on the other hand, holds that our relationship with the natural world needs to be reciprocal- the environment is not here to just serve the human purpose, we are equally accountable to it too.

American academician Ronald Trosper (1995) presents four principles that provide indigenous worldview or *Weltanschauung* (philosophy of life), which he argues support “an ethic of respect”:

- 1) **Community:** Humans beings are part of a community where every individual has certain roles and responsibilities towards others. Most indigenous societies believe all living and non-living entities to have a spirit- often rendering them sacred. Indigenous people in various parts of India, especially the North- East, are known to leave large patches of forest untouched because of spiritual and religious reason. The cutting or damaging these ‘Sacred Groves’ is strictly barred by the local communities in these regions. This practice has protected not only some of the rarest medicinal plants but also many endangered species like flying fox (Khan, 2003). This aspect of indigenous worldview highlights the value of reciprocity among all natural beings.
- 2) **Connectedness:** Indigenous communities acknowledge the fact that our actions can have far-reaching consequences due to the connectedness inherent in all events occurring in this

world. This idea of interconnectivity among various entities in nature resonates with the “butterfly effect” from chaos theory (McGregor, 2018). The idea of connectedness cautions us not to treat things in isolation, but as a series of interrelated events.

3) **The Seventh Generation:** The idea of seven generations in indigenous teachings holds that our choices, behaviours and mistakes reverberate to generations before and after us- encouraging care and concern for the future generation, again, emphasizing the connected nature of everything. The concept of seven generations reinforces our dependency on each other- those who came before us and those who will come after us. This pushes people to move beyond their immediate needs and encourage each generation to think about the survival of the lives that come after them. (Clarkson, Morrisette & Régallet, 1992).

4) **Humility:** Indigenous knowledge do not profess control over nature as a celebration of human intellect and reasoning- something perpetuated by European Modernism figures like René Descartes, Francis Bacon, Isaac Newton etc. (Merchant, 1990). Instead, the indigenous community acknowledges that humans cannot even grasp the complex relationship that connects different elements of nature. Therefore, given the limited nature of our knowledge, one must adopt the approach of humility instead of arrogance towards the environment (McGregor, 2018).

### **Conception of self**

The idea of self in connection with place, land and others is inherent to the worldview of indigenous knowledge. Perceiving oneself intrinsically connected to one’s tribe and family, as well as one’s land or place is central to native indigenous communities. Apart from interconnection, indigenous ethics are based on care and responsibility towards the others where humanity is considered “equal to all elements but superior to none” (Owens, 1994). The idea of care towards all of nature and resistance against its dominance has been voiced by the perpetrators of Ecofeminism in contemporary time. Ecofeminism is against the dominant and alienated view of the west towards the environment, causing its destruction. It supports the idea of kinship and reciprocity with nature, resonating with the principles of indigenous groups who consider themselves to be a part of nature and not above it.

## **6. Strategies and principle to save indigenous knowledge**

There are certain ways through which we can try to conserve indigenous knowledge. One of the most common ways includes creating database repository of indigenous knowledge as done by Indian Traditional Knowledge Digital Library (TKDL 2013) and People's Biodiversity Register in India. Such databases are helpful because they document useful information about biodiversity gathered by indigenous community usually only present in their oral histories. Moreover, such initiatives also ensure that the intellectual property of indigenous community is acknowledged and attributed to its rightful stewards. Creation of such platforms also allows common masses to get familiar with the indigenous way of life-promoting the mobilization of this knowledge to the larger society. However, again, creating a repository or database of any knowledge form does not do justice to its depth and diversity. Therefore, we need solutions which have a deeper and long-lasting impact in the revival of indigenous knowledge.

### **Formal education**

A more comprehensive way of saving indigenous knowledge is to integrate it with formal schooling. This will not only safeguard the knowledge, but it would also help in contextualizing the curricular content in schools. Land-based pedagogy and environmental education may balance out the overly theoretical nature of formal education by reconnecting the students with their surrounding environment. This is also needed because children belonging to indigenous communities and households engaged in the informal sector often possess valuable skills and experiences which can be utilized as a pedagogical resource in the classroom. However, this cultural capital is not just ignored but actively discriminated against in most formal educational institutes (Simpson 2004, NCF 2005). Therefore, integrating indigenous learning with formal education is also needed to ensure Right to Education guaranteed by the law. This integration, however, needs to be done more cautiously than one would think. Attempts to integrate local knowledge of the people in formal setup have resulted in some skewed practices in educational institutions in the past. Whether it was the introduction of SUPW (Some useful productive work) by the Ishwarbhai Patel Committee Report in 1977 or the creation of vocational stream separate from the academic subjects at 10+2 level by National Education Policy in 1986, history has shown that local and indigenous knowledge cannot become part of the academic discourse in true sense unless it is perceived in its entirety. Nor can it be applied as a supplement to the traditional school curriculum. Such attempt oversimplifies the nature of the indigenous knowledge and may also lead to its further discrimination in the educational sphere (Burnett 2007).

### **Community-based and participatory researches**

Participatory action researches (PAR) are emerging out to be some of the most important breakthroughs in sustainable development projects. It is a collaborative research process that plans to include “multiple stakeholders, including the public and community providers, who affect and are affected by a problem of concern” (Horowitz, Robinson, and Seifer 2009 as cited in Gaudet, 2014). This form of research method aims to shift the power dynamic from the scientific community to the research participants who are affected by the issue at hand. Participatory Action Researches are becoming popular because of their democratic nature, scientific rigour and their action-oriented approach to the issues/concern. Participatory researches make sense in the context of indigenous communities because they promote respect for the local perspective and knowledge by including them in the change-making process. Moreover, participation from the local communities in contemporary issues also counters the misconception about the nature of indigenous knowledge being static and fixed.

Apart from these basic measures, it is also important that Indigenous knowledge systems, including IEK must embrace flexibility and adaptability. Posey (2002) in this context, talks about finding “a middle ground between romanticizing IEK and allowing it to change” (as cited in McCarter, Gavin, Baereleo & Love, 2014). This process may involve challenging taboos, superstitions and discriminatory practices carried on in indigenous communities. At the same time, we should understand that saving indigenous knowledge and incorporating it in the larger society is impossible without focusing on the issues of rights and agency of indigenous people. This is highly relevant in terms of ownership of the natural resources used by all, the intellectual property of indigenous people and the modern-day development projects that often end up harming the interests of indigenous communities around the world.

### **7. Conclusion**

In the paper, we have elaborated on the inherent link between indigenous population, their environment and the culture they may build around it to sustain themselves. We have argued that the decontextualization of indigenous knowledge as an “instant recipe” for sustainable development is not going to work unless it takes into consideration the social, situated and dynamic nature of IK. In this paper, we have discussed the significance of indigenous knowledge for sustainable development at the local level. McGregor (2018) has contrasted the culturally sensitive and participatory nature of IEK with western scientific knowledge that only focuses on the factual description of nature in an objective and distant manner and does

not go into detail about how one ought to live in relation with nature. We have elaborated on the views of Berkes (1989) concerning the distinct epistemology of indigenous knowledge. The paper focuses on the holistic idea of indigenous culture as an amalgam of knowledge, practice and believes. We have also discussed the indigenous idea of responsibility of humans towards the nature, demanding active participation from each individual. Here the ethics and values of the indigenous community come into the picture- based on certain worldviews as elaborated by Trosper (1995). The paper details how the idea of living well together is central to almost all indigenous communities. This reflects in their treatment of all living and non-living being with respect and care, as if they all possess a spirit. The idea of reciprocity and community over immediate individual gains is what defines indigenous culture. The connectivity and interdependence of humans with all of nature reflects in the idea of “seven generation” popular in many traditional and native communities across the world. Ethic of care defines indigenous worldview. McGregor (2018) has here also emphasized on how indigenous communities have a very distinct sense of self in connection with the nature around them. Unlike western worldview dominated by modernist thinkers, indigenous people do not consider themselves to be the master of nature. In many indigenous cultures, trees, mountains, rivers are considered sacred and thus treated with humility. These ethics and values inherent in indigenous knowledge have been deemed irreplaceable for its integration in the modern practices of sustainable development. The paper also discusses some of the ways through which we can help to save indigenous communities and their knowledge. These strategies include the creation of database for indigenous knowledge, its integration in formal educational setup, participatory research methods etc. It is important to understand that to empower indigenous communities, linkages need to be drawn vertically among different stakeholders as well as horizontally within the indigenous community (McCarter, Gavin, Baereleo & Love, 2014). Lastly, but most importantly, it should be taken care that the efforts to utilize indigenous knowledge at a macro-scale should lead to the empowerment of the community and not leave them drained.

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