

ANALYSE HOW INDIGENOUS COMMUNITIES UTILIZE GEOGRAPHICAL KNOWLEDGE SYSTEMS AND PRACTICES

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Abstract

Over many generations, indigenous people have honed specific spatial knowledge systems and practices that have allowed them to flourish in a variety of locations. These systems are complex webs of information, beliefs, and rituals that are intricately entwined with their culture and spirituality rather than just collections of facts. The interaction of Indigenous groups, their knowledge systems, and geographic activities is examined in this study. It draws attention to the growing acceptance of Indigenous knowledge (IK) and how it might improve geographical knowledge systems and practices. The study explores the difficulties in defining "indigenous peoples" as well as the difficulties in gathering and applying indigenous knowledge. Following an analysis of the shortcomings of the resource management strategies now in use, the "geosystem" concept is put forth as a framework for the smooth integration of Indigenous Knowledge.

Keywords: *Indigenous Communities, Geographical Knowledge, Traditional Knowledge, Environmental Practices, Land Use*

1. INTRODUCTION

The Indigenous Communities sessions held over the last three Yearly Meetings of the Association of American Geographers gave the catalyst to the dissemination of these ideas. The Indigenous Nation's Specialty Gathering financed these meetings, which are still gone to by concerned academics seeking out other similar researchers. These sessions allow participants an opportunity to situate themselves inside various intellectual debates on research methods and scholastic practices that are developing in Indigenous communities [1]. These debates have addressed a large number of issues, including: Indigenous priorities and the scholastic predicament in the research process; Indigenous epistemologies and the knowledge economy; shifting scholarly paradigms; research on cultural personality, resistance, and new frontiers; the job of scholastic scholarship in the worldwide economy, culture, and society; and Indigenous knowledge with respect to intellectual property rights.

1.1. Who are "indigenous peoples"?

Local Americans and tribal peoples are not universally characterized. A set of goal and subjective standards are given by Show No. 169 that can be used to distinguish these groups. 1. By designating both "tribal" and "indigenous" peoples with equivalent rights [2], the Show provides a sober minded and comprehensive system for recognizable proof that acknowledges self-ID as a vital

standard (Table 1). The expression "indigenous peoples" is embraced in this report for commonsense reasons, as it is as of now generally used universally to allude to these communities.



Figure 1: Indigenous peoples

Likewise, the Unified Nations Special Rapporteur on the rights of indigenous peoples has observed that [3], in various nations, such as those in Asia, despite the fact that the extraordinary greater part of the general population might be considered local to the area, there are specific groups that set themselves separated from the overall people and are in this manner covered by the global worry for indigenous peoples.2. These incorporate, for instance, groups known as "tribal peoples," "slope tribes," "scheduled tribes," and "Adivasis" or "Janajatis," who, despite not being formally acknowledged as "indigenous peoples," in some nations get special consideration being developed plans, programs, and schemes [4].3. Explaining the meaning of indigenous peoples in the African setting — while representing pastoral and migrant communities — has been significantly supported by the Functioning Gathering on Indigenous Populations and the Communities of the African Commission on Human and Peoples' Rights in Africa.

Table 1: Identifying indigenous peoples

	Subjective Criteria	Objective Criteria
Indigenous peoples	Self-identification as belonging to an indigenous people.	ancestors who lived in the nation or the area when it was conquered, settled, or the boundaries of the current states were drawn. Regardless of their legal status, they maintain part or all of their own social, economic, cultural, and political structures.
Tribal peoples	Self-identification as belonging to a tribal chief	They are distinct from other groups within the national society because to their social, cultural, and economic circumstances.

		Their own customs and traditions, as well as any applicable laws or regulations, either fully or partially govern their position.
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2. LITERATURE REVIEW

Tripathi, N., & Bhattarya, S. (2004) [5] Analyze the writing that is as of now accessible on the topic of coordinating indigenous knowledge with geographic data systems to support participatory normal resource management and give the local community the opportunity to participate being developed initiatives and decision-production processes as knowledge providers and users.

San Martin Saldias, D. (2020) [6] The purpose of this article is to find and investigate novel relationships between advanced geospatial innovation and Indigenous knowledge of place. The creator's analysis is coordinated around three significant holes in previous research: The overrepresentation of computerized information concerning space as opposed to place knowledge is one issue. Different issues incorporate (a) the powerlessness to distinguish between various types of knowledge access and the absence of support for Indigenous information sovereignty; and (c) the failure to keep up with and foster relationships among Indigenous and non-Indigenous peoples. The study goes on to recognize and investigate flow GI science research issues that are appropriate to filling in these gaps.

Wood, C. (2004) [7] The connection between mapping, present day GIS applications, and Indigenous knowledge is analyzed in this essay. It opens with an outline of Indigenous knowledge and peoples, as well as a clarification of why Indigenous peoples are mapping. The paper then investigates the reception and utilization of GIS by Indigenous peoples, drawing on hands on work, the authors' own observations and experiences, and published writing as a hierarchical system. The authors use a diffusion of development model.

3. GEOGRAPHIC INFORMATION SYSTEMS

The use of GIS in regular resource management decision-production is turning out to be more widespread. The issues with the processing, analysis, and storage of indigenous data are addressed by GIS innovation. The reconciliation of the two forms of data also makes use of it. Arranging and decision-production for the sustainable management of resources benefit from the reception of such a strategy. Mapping software that connects area-based information with trait-based information is known as a GIS. Whereas "what you see is what you get" with a paper map, a GIS map allows you to blend numerous layers of information. A computerized guide or picture of a town, watershed, or the whole country can be overseen and deciphered with the use of geographic data systems (GIS), a specialized subset of data and correspondence innovation (ICT). An increasing number of researchers, planners, and other specialized experts are using this information [8]. Devices that measure geographic area (worldwide positioning system, or GPS, receivers); systems for storing, making due, and dissecting geographically referred to information

(geographic data systems, or GIS); and airborne information assortment systems that intermittently give land use, land cover, and other topical data (ethereal photos and satellite remote sensing) are among the tools.

Geographically referred to information are offering fresh insights into worldwide issues like the patterns and processes of human settlement, the use and debasement of regular resources, agricultural execution, disease, and possible clash, notwithstanding the constraints that still persist, especially in non-industrial countries. GIS is a tool that uses geographic area and normal information to create visually engaging, understandable, and useful maps that can be used for arranging. A guide's capacity to represent information in their regular setting allows the watcher to consider the information itself as well as all of the surrounding components that add to it, including topological details like contiguousness [9]. It has been applied to the construction of knowledge base systems, correspondence, visualization, information management, and normal resource management.

Participatory mapping, where experts team up with local groups (such as farmers) to construct spatial inventory of regular resources, property status, land-use rights, and saw issues, is one of the most immediate uses of GIS in agricultural countries. These inventories add to a consultation process that seeks to agree on additional sustainable and fair arrangements for the management of resources. Based on past experiences, villagers can connect with geographic representations of their current circumstance quickly. Also, community mapping can support the process of moving additional monetary and decision-production authority from the administrative to local levels of government.

4. INDIGENOUS KNOWLEDGE (IK)

Brokensha, Warren, and Werner first used the phrase "indigenous knowledge" in their altered work *Indigenous Knowledge Systems and Advancement*, published in 1980. Warren (1996) claims that trying to move past the prejudices connected to the expression "traditional" that had been being used up to that point, the three made this term (as well as Robert Chambers in the UK separately at the same time). Their goal was to distinguish a phrase that "represented the powerful contributions of any community to critical thinking, based on their own perceptions and conceptions, and the ways that they recognized, sorted and classified peculiarities vital to them".

IK has earned respect as "local knowledge that is special to a given culture" in later times. A society's data establishment makes correspondence and decision-production easier [10]. Indigenous data systems are dynamic and constantly affected by both outer system communication and interior advancement and trial and error. This thought of dynamic knowledge has been discussed previously and appears to incorporate this thought as well. As per Colson (1984), "Values once remembered to be crucial for directing the manner in which specific individuals managed one another and their current circumstance have ended up being situational and time connected." The statement "Individuals living inside the same community seem to espouse a scope of beliefs, use a host of terms, that don't cover generally speaking"

Indigenous knowledge systems can and should be accumulated using different techniques. The traditional survey philosophy comes first. At the point when the researcher knows the questions to ask, this works well for getting information on a specific topic. In spite of the fact that surveys are a speedy way to deal with gather information, they have limitations because the information is outlined by the researcher's personal prejudices, which might cause informants to disregard possibly valuable ideas [11]. Member observation is an alternate methodology that entails delayed, mindful observation and contribution in the informants' everyday activities. Albeit this is a fantastic system for advancing as you go and reduces some of the inborn biases in survey techniques, there is regularly restricted time all through improvement for exhaustive long-span observations. Consolidating the two approaches seems to be the best course of activity, with survey and restricted observation carted out to kick away strategy execution and long haul member observation to gain a comprehensive understanding of the situation. Nonetheless, issues frequently arise that should be perceived before to undertaking this sort of study.

The primary driver of false data or wrong information is mistrust between the researcher and the source [12]. There are numerous possible causes of this mistrust. For instance, a researcher encountering society shock might provide informants with a false view of the researcher, which could cause tension between the two. Moreover, because of the field methods used to accumulate the information, the communities under study can accept that researchers just take data from them and never give it back. "Temporary" researchers — instant experts who spend next to no time in the community — may also be a cause of mistrust. This area of study on intellectual property rights is one that has just as of late taken off [13]. These speedy specialists spend so brief period with individuals and so little exertion into learning the language of the community that the nuances of the way of life are regularly missed and the information is habitually deciphered inaccurately. Lastly, scholars have habitually experienced harsh criticism for focusing on the traditional habits of the general population instead of focusing on the thing individuals are thinking today.

4.1. Applying Indigenous knowledge to Geographical Knowledge system management

There has been an outstanding shift since 1993 from resource management, which prioritizes material worth, to ecosystem management, which places more emphasis on environmental sustainability. Albeit this is without a doubt a major step toward raising environmental consciousness, it seems to be shifting the worldview from easily resting in the center to the opposite side of the wall separating short-term from long haul goals. This indicates that instead of seeing humans and the climate as residing in a criticism system where sustainability can be kept up with and resources can be assembled simultaneously, we have shifted from considering humans residing above and underneath the climate [14]. This brings us back to a thought that seemed to be disregarded and forgotten: the geosystem.

Offering fresh perspectives on worldwide concerns such human settlement patterns and processes, the use and weakening of normal resources, agricultural efficiency, disease, and even clash. GIS is a tool that uses geographic area and normal information to deliver visually engaging,

understandable, and useful maps that can be used for the purpose of arranging. A guide's capacity to represent information in their regular setting allows the watcher to consider the information itself as well as all of the surrounding components that add to it, including topological details like contiguousness. It has been applied to the construction of knowledge base systems, correspondence, visualization, information management, and normal resource management. Participatory mapping, where experts team up with local groups (such as farmers) to fabricate spatial inventory of regular resources [15], property status, land-use rights, and saw issues, is one of the most immediate uses of GIS in non-industrial countries. These inventories add to a consultation process that seeks to agree on additional sustainable and fair arrangements for the management of resources. Based on past experiences, villagers can connect with geographic representations of their current circumstance quickly. Also, community mapping can support the process of moving additional monetary and decision-production authority from the administrative to local levels of government.

The relationship among humans and the regular habitat is the fundamental emphasis of the geosystem way to deal with land use decision making. Taking note of that "human activity, expressed in terms of land improvement, depends fundamentally on human impression of the geosystem's components" while considering the geosystem thought corresponding to land use is significant." An assessment that attributes an advantage to be gotten from the geosystem relying upon how the system is seen is made under the assumption that discernment drives activity "(Lein 1997). It's difficult to find examples of IK, or whatever else, being used with the idea of a geosystem because it hasn't been used a lot. IK has, nevertheless, been applied to and suggested for use in various projects relating to geosystem issues, including, to specify a couple, those in the fields of forestry, medication, farming, hydroponics, steers management, and untamed life management. At the point when these kinds of projects are done without considering local knowledge, they every now and again end unfortunately. Yet, there are many advantages when local expertise is considered. The two Latin American examples that follow serve to feature this thought.

5. CONCLUSION

Indigenous people all across the world have developed a close relationship with the land and have woven complex geographic knowledge systems and customs into the very fabric of their communities. These systems do much more than just identify resources or create maps. The idea of Indigenous knowledge has been investigated in this study, along with its possible applications in geographical knowledge systems and practices, especially in relation to the geosystem approach to land use decision-making. The paper emphasizes the value of acknowledging and incorporating Indigenous Knowledge into a range of initiatives, using examples from Latin America to show the advantages of doing so.

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