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How traditional agriculture contributes to the global narrative for sustainability: A case from a community in northeast India

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Abstract

Among food practices that foster climate resilience, traditional agricultural practices of Indigenous communities have been recognized and noted in recent times. These forms of agriculture include shifting cultivation and its adaptations across communities in the tropics. However, the policy narrative around shifting cultivation is rooted in its misunderstanding, as it was once seen as primitive and backward. New research and a reinterpretation of existing research present challenges to long-held policies that have discouraged and deterred the practice of shifting cultivation. With the onset of this new narrative is a call to action that seeks a rethinking by policymakers and governance actors around the nature and merits of traditional agriculture. Through the case of Meghalaya, a small hilly state in the northeastern region of India largely inhabited by Indigenous Peoples, this commentary aims to provide the dominant narrative at the local context, evidence of the adaptations in shifting cultivation that contribute to sustainability, and the need to rethink policy relating to shifting cultivation at the local level.

Keywords

Traditional Knowledge Systems, Meghalaya, Shifting Agriculture, Shifting Cultivation, Agriculture, Indigenous Peoples, Northeast India

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Introduction

In the global food systems narrative, Indigenous Peoples and their food practices and knowledge systems recently have been recognized as a system that fosters resilient agricultural systems; the contribution of farmers to the conservation and development of plant genetic resources has been recognized, leading to a re-evaluation of how to strengthen agri-food systems at the local level (Food and Agriculture Organization of the United Nations [FAO], 2009). Among these indigenous food systems, shifting cultivation is a major agricultural practice.

As per the United Nations' *Glossary of Environment Statistics* (1997), shifting agriculture is a "system in which a plot of land is cleared and cultivated for a short time, then abandoned and allowed to revert to producing its normal vegetation while the cultivator moves on to another plot" (p. 66). In 1957, the FAO declared shifting cultivation to be the most serious land use problem in the tropical world (FAO Staff, 1957). This resulted in the start of a consistent narrative around this agricultural practice (and any other form of indigenous farming) as primitive and unscientific, although it continues to exist as a critical farming method for Indigenous communities across the tropics.

A closer look at shifting cultivation reveals its potential to adapt and mitigate climate change through its agroecological features (Erni & Carling, 2014). It aligns with the United Nations' Committee on World Food Security (CFS) target goals for food security through its potential for sustainable food production. It can provide a diverse, extended, and nutritional food supply with lower pest pressures and higher surrounding biodiversity (FAO, n.d.). Carbon sequestration within the production area is also enhanced (Borah et al., 2018). Shifting cultivation, when "managed sustainably from the viewpoints of both natural resource management and household food security under conditions of sufficient and legally recognized access to land (Erni, 2015, p. viii), remains a suitable system for many Indigenous Peoples around the world.

Global Narrative

There is increased local government interest in traditional agriculture for sustainable food security (FAO, 2009) while also realizing the importance of maintaining the Indigenous people's cultures, environments, and food and knowledge systems (Kuhnlein et al., 2009). This discourse is relatively new in academia and policy, in contrast to the dominant international policy narrative that consistently 'dis-included' indigenous growing methods and which, in turn, influenced national agendas. For decades, laws and policies around indigenous food systems of colonial governments as well as postcolonial governments in Asia reflected this. The Lao government, for example, has consistently maintained a strict policy against swidden (shifting) cultivation since 1975 (Kenney-Lazar, 2012).

Indian Context

In India, too, shifting cultivation, locally known as *jhum, bewar, podu, valre,* and other names, has been misrepresented for decades. The geography textbook currently in use throughout the country and released by the National Council of Educational Research and Training (NCERT) refers to shifting cultivation as "slash and burn agriculture"—a form of "primitive subsistence farming" (NCERT, 2007, p. 34). This negative perception of shifting cultivation, which starts in school, continues to demonstrate the established paradigm: a narrative of shifting cultivation as harmful and backward.

Indigenous people groups make up 8.2% of India's population (Office of the Registrar General & Census Commissioner, India, 2011). Government policies continue to incentivize settled agriculture at the state and national level even as an estimated 2,100,000 acres (8,500 square kilometers) are still under shifting cultivation.

For example, in the state of Mizoram (inhabited largely by Indigenous people), a new land use policy was passed in 2011, banning shifting cultivation and replacing it mainly with the cultivation of palm oil plantations (Bose, 2019). Forest departments of various states continue to see the practice as bad land use and a cause of forest destruction due to burning. The National Forests Policies, 1952 and 1988, have also emphasized the need to control shifting cultivation and rehabilitate the affected areas (Tripathi & Barik, 2003). From 1983 to 2008, the government of India continued its drive to move away from shifting cultivation and

toward the rehabilitation of Indigenous farmers through land consolidation, social forestry, the promotion of horticulture, the cultivation of cash crops, and other measures (Satapathy & Sarma, 2003).

Nonetheless, in 1997, the World Resources Institute (Thrupp et al., 1997) addressed various myths and realities around shifting cultivation, noting that the practice was diverse and nonlinear, responding to both agroecological and socioeconomic factors. Moreover, through the documentation in 2015 of the International Centre for Integrated Mountain Development (ICIMOD), supported by the International Fund for Agricultural Development (IFAD), it was revealed that the common stereotype of shifting cultivators as engaging in wanton destruction of forest ecosystems is more the result of "misunderstanding and misinterpretation than a real truth" (Erni, 2015, p. 12).

A historical analysis of the use of controlled fire among forest dwellers and Indigenous people shows that the use of controlled fire dates back to 50,000 years. This use of controlled fire has been mainly for the maintenance of forest ecosystems and pest control (Thekaekara et al., 2017). Since then, the FAO itself has changed its stance—most notably with the FAO Policy on Indigenous and Tribal Peoples 2015, which provides a clear framework that engages with the interests of Indigenous communities in the context of agriculture and food policy. This shift of perspective has emerged from key international instruments, such as the International Labour Organization (ILO) Convention 169 (Indigenous and Tribal Peoples Convention, 1989) and the subsequent United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) (2007), which has had significant policy implications in recognizing the role of Indigenous Peoples as indisputable stakeholders in the development mandate in the world.

In India, a similar change in policy orientation emerged with the National Institution for Transforming India (NITI) Aayog, the premier think tank of the national government, when releasing the report *Shifting Cultivation: Towards a Transformational Approach* (Pant et al., 2018). This was the first time the Indian government had recognized a roadmap for a positively transformative approach to shifting cultivation policy in India. Recognizing the significance of indigenous food systems for many upland states in northeastern India, the need to do away with previous policies' incoherence, and the importance of regenerating fallow land for increasing forest cover, the report brought about a new optimism for the possibility of new national policy that would be beneficial to Indigenous Peoples, and especially Indigenous farmers of upland regions (Pant et al., 2018).

However, questions remain. If New Delhi's premier think tank recommends changes, will it translate into tangible outcomes for Indigenous farmers?

Shifting Cultivation in Meghalaya

Drawing from the above inquiry, we will examine the case of a small state in the Himalayan region of northeast India, Meghalaya. It has a population of 2.9 million, of which 86% are Indigenous people (Census of India, 2011). The state is inhabited mainly by the Khasi and Garo Indigenous communities, both of which practice the matrilineal system of lineage and inheritance. Women play crucial roles in agrobiodiversity management, subsistence agricultural production, and household food provisioning (Ellena & Nongkynrih, 2018). Both shifting and settled agriculture are practiced in this hilly state, with 80% of its population depending on agriculture for their livelihood (Rao et al., 2013). Meghalaya also represents an important part of the Indo-Burma biodiversity hotspot, with high species diversity and a high level of endemism (Meghalaya Biodiversity Board, Government of Meghalaya, 2017).

The mainstream narrative around *jhum* cultivation in Meghalaya, especially among policymakers and those in government, is negative. Despite Meghalaya's government being dominated by Indigenous people, it brought out a planning document detailing the government's vision for 2030 that explicitly stated that shifting cultivation poses one of the greatest dangers to Meghalaya's forests (Rao et al., 2013). Even the *Meghalaya State Biodiversity Strategy & Action Plan 2017,* released by the Meghalaya Biodiversity Board, sees shifting cultivation as a threat to biodiversity (Meghalaya

Biodiversity Board, Government of Meghalaya, 2016).

Despite this dominant mindset about shifting cultivation, ethnological studies have shown that *jhumming* is a diversified system, well adapted to local conditions in moist forest and hilly tracts (Shankar Raman, 2000). Shifting cultivation in its practice of clearing small patches of forest with long fallow periods is, in fact, beneficial to biodiversity, due to the creation of a variety of habitats. Mixed cropping is managed over time through sequential harvesting and crop rotation (Prakash et al., 2017). Farmers in Meghalaya can plant at least 45 traditional varieties of crops throughout the different seasons (NESFAS, 2019).

Further, contrary to the common modern belief that shifting cultivation degrades forests, it has been documented that the fallows are a carbon sink and sustain the local climate. As a system, it is an integrated approach to establishing an agroecosystem in the difficult terrains of tropical hill regions that involve forest, soil, biodiversity, and livestock management through Indigenous culture, tradition, and rituals that coevolved with the associated ecosystem (Bhagawati et al., 2015). Also, a long fallow period of 15 years or more after a crop cycle can restore the original soil conditions (Karthik et al., 2009). It is essential to note that the fallow land continues to be a source of fuel and food for the Indigenous communities, as they can forage wild edible plants to supplement their food and nutritional security.

Besides the apparent benefits from shifting cultivation, the larger discourse of the rights of Indigenous people is to secure their food security and food sovereignty. Shifting cultivation relates to "food sovereignty" in that it allows for achieving food security at the local level while also protecting people's broader values and rights regarding traditional farming (Leventon & Laudan, 2017). This is largely due to the adaptable nature of shifting cultivation as a food system. In the upland areas of Meghalaya, *bun* cultivation, a modified version of the traditional shifting cultivation, is practiced. Modifications of bun include changes in cropping patterns, a reduced fallow period, and organic pest management, among others. These adapt well to the local climate and have demonstrated higher economic and food returns. Reasons behind the adaptation are linked to two essential factors: a steady rise in population and a reduction in available common lands (Upadhaya et al., 2020).

This adaptability also allows for indigenous sustainability solutions to emerge even in the face of new challenges, such as shifting cultivation. In Meghalaya, Indigenous farmers have responded in innovative ways, such as developing their own indigenous weather forecasting methods and saving traditional, stress-tolerant seeds, which demonstrates the climate-resilient nature of indigenous food systems (Mawlong, 2020; NESFAS, 2018, 2019, 2020). Also, in light of the COVID-19 pandemic, it is imperative to recognize the integral role of indigenous food systems in the larger discourse around "health and sustainability solutions." These indigenous food systems are also critical for Indigenous people's own response to current and future pandemics (Argumedo et al., 2020).

The Way Forward

The importance of shifting cultivation for Indigenous Peoples has been underlined in high-level policy documents (such as reports, research papers, etc.) as well as through academic research and discourse. Yet, these have little influence on the ground unless they are made enforceable through policy or law and are disseminated and made widely available. Hence, we ask, how do we put policy into practice? What remains is the need for a change in perspective. In order for the narrative to change, the way that people think about shifting cultivation must change. A change in mindset among local policymakers and government officials through engagement and dialogue would pave the way toward support for this indigenous food system. This would then inform new policy in the state to shift its focus from narrow, sectoral approaches to more contextual interventions that bring about a balance between the promotion of traditional shifting cultivation and the prevention of overexploitation of natural resources. This is because if *jhummias* (or practitioners of shifting cultivation) are given adequate support, they will be able to leverage their traditional ecological knowledge (TEK) for better natural resource management and promote

higher agrobiodiversity (Darlong, 2004).

A transformed and "transformational" approach to the subject also has larger implications for food sovereignty and nutrition security (Behera et al., 2016). Further research on the subject is also much needed to create a strong and credible database on shifting cultivation in the region. But beyond that, increasing education and raising the awareness of representatives in government, officials in positions of authority, and policymakers in the state are the most critical factors to a transformed approach. A change in mindset can only be the product of a gradual change in local narratives around traditional food systems.

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