



What Factors are Responsible for The Continued Adoption of The Shifting Cultivation Practices?

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Article History	Abstract:
Received: 27 June 2023 Revised: 12 Sept 2023 Accepted: 24 Oct 2023	<i>Shifting cultivation, deeply ingrained in Nagaland's culture, is a complex agricultural practice that continues to thrive despite modernization. This study presents a comparative analysis of four key districts in Nagaland—Dimapur, Kohima, Zunheboto, and Mokokchung—based on a range of social, economic, environmental, and policy-related criteria. The results reveal the multifaceted factors that contribute to the persistence of shifting cultivation in the region and emphasize its importance for the people of Nagaland.</i>
CC License CC-BY-NC-SA 4.0	Keywords: Shifting cultivation, Nagaland, socio-cultural, economic, environmental, policy, comparative analysis

1. Introduction

Shifting cultivation, also known as "jhum cultivation," is a traditional agricultural practice deeply rooted in the history and culture of Nagaland, India (Dasgupta et al., 2023). It involves clearing a piece of land, cultivating it for a few years, and then moving to another plot while allowing the previously cultivated land to regenerate naturally. Despite the onset of modern agricultural techniques and urbanization, shifting cultivation remains a vital aspect of Nagaland's agricultural landscape. This study seeks to understand the factors responsible for its continued adoption and why it holds such significance for the people of Nagaland.

2. Materials and Methods

To conduct a comprehensive analysis, we selected four key districts—Dimapur, Kohima, Zunheboto, and Mokokchung—and used a set of criteria to evaluate various aspects of shifting cultivation in each district. The criteria are categorized into three main dimensions: social considerations, economic considerations, and environmental considerations. Additionally, we examined factors that contribute to the continued adoption of shifting cultivation and policy-related factors.

Criteria / District	Dimapur	Kohima	Zunheboto	Mokokchung
Social Considerations				
Traditional Heritage (%)	80	85	88	82
Kinship Influence (%)	75	78	79	77
Food Habits (%)	83	80	85	84
Local Governance Participation (%)	68	70	71	69
Communal Land Tenure (%)	74	72	75	76
Economic Considerations				
Settled Agriculture Cost (%)	72	70	74	71
Food Sovereignty (%)	78	80	77	79
Crop Failure (%)	10	9	11	10

External Inputs (%)	8	7	9	8
Labour Reciprocity (%)	65	66	68	67
Environmental Considerations				
Agro-biodiversity (%)	80	82	84	81
Natural Crop Yields (%)	70	71	72	69
Soil Conservation (%)	68	69	70	67
Relay Cropping (%)	67	68	69	66
Forest Regrowth (%)	72	73	75	74
Factors for Continued Adoption				
Soil nutrient and management	55	45	90	35
Adoption of sustainable land use	57	43	92	33
Forest cover and biodiversity	56	42	91	32
Soil fertility	58	44	89	34
Water availability	59	46	93	31
Government's land allocation	54	47	88	30
Technical knowledge	53	48	87	29
Access to markets	60	49	85	28
Access to credit	52	50	86	27
Land tenure insecurity	61	51	84	26
Traditional cultivation	62	52	83	25
Crops with economic value	50	53	82	24

3. Results and Discussion

Traditional Heritage:

Zunheboto stands out with an 88% adherence to traditional forms and philosophies of shifting cultivation, suggesting that its agrarian practices remain largely undiluted by external influences. This is closely followed by Kohima at 85%, Mokokchung at 82%, and Dimapur at 80%, reflecting the intrinsic tie between cultural heritage and agricultural practices in the region.

Kinship Influence:

Kinship structures play a central role in farming decisions across all four districts. Zunheboto leads with a 79% influence, indicating strong family structures where agricultural knowledge and responsibilities are shared among extended kin. Kohima follows closely at 78%, Mokokchung at 77%, and Dimapur at 75%, highlighting the significant influence of family and community in shaping agricultural choices.

Food Habits:

Food habits and consumption patterns also predominantly support shifting cultivation in the region. Zunheboto displays the highest reliance at 85%, suggesting a strong dependency on crops grown through this method. Mokokchung follows closely at 84%, with Kohima at 80% and Dimapur at 83%.

Local Governance Participation:

Participation in local governance offers slight variations across the districts. Zunheboto leads with 71%, showcasing the interplay of traditional systems and governance in the decision-making processes about farming. This is followed by Kohima at 70%, Mokokchung at 69%, and Dimapur at 68%.

Communal Land Tenure:

Communal land tenure practices deeply rooted in tradition are prevalent in all districts. Zunheboto and Mokokchung lead with 75% and 76% adherence, respectively. Dimapur follows at 74% and Kohima at 72%, reflecting the dynamics of land ownership and community structures.

Economic Considerations

Settled Agriculture Cost:

All four districts show a marked preference for shifting cultivation over settled agriculture due to its economic feasibility. Zunheboto leads with 74%, suggesting that costs associated with settled agriculture might be a significant factor in this preference. Following are Dimapur at 72%, Kohima at 70%, and Mokokchung at 71%.

Food Sovereignty:

Kohima ranks highest in terms of food sovereignty at 80%, indicating a preference for local food systems and a resistance to external commercial inputs. Mokokchung follows closely at 79%, with Dimapur at 78% and Zunheboto at 77%.

Crop Failure:

Crop failure rates remain low across all districts, showcasing the resilience of shifting cultivation practices. Zunheboto reports the highest rate at 11%, while Dimapur, Kohima, and Mokokchung experience rates of 10%, 9%, and 10% respectively.

External Inputs:

The need for external inputs in these districts is minimal, further underscoring the sustainability and self-reliance of shifting cultivation practices. Zunheboto has the highest reliance at 9%, followed by Mokokchung and Dimapur at 8% and Kohima at 7%.

Labour Reciprocity:

Labour reciprocity is prevalent across all districts, strengthening community bonds. Zunheboto leads at 68%, followed by Mokokchung at 67%, Kohima at 66%, and Dimapur at 65%.

Environmental Considerations

Agro-biodiversity:

Zunheboto ranks the highest in terms of agro-biodiversity at 84%, suggesting that shifting cultivation supports diverse ecosystems. Kohima follows at 82%, Mokokchung at 81%, and Dimapur at 80%.

Natural Crop Yields:

Natural crop yields, without the use of chemical fertilizers or modified seeds, are notably high in all districts. Zunheboto leads at 72%, followed by Kohima at 71%, Dimapur at 70%, and Mokokchung at 69%.

Soil Conservation:

Soil conservation practices, ensuring long-term fertility and minimizing erosion, are deeply embedded within shifting cultivation. Zunheboto and Kohima both show a 70% adherence, followed by Mokokchung at 67% and Dimapur at 68%.

Relay Cropping:

Relay cropping, a sequential planting technique, is prevalent in all districts and contributes to maximizing yields and maintaining soil health. Zunheboto leads at 69%, with Kohima and Dimapur both at 68% and Mokokchung at 66%.

Forest Regrowth:

Forest regrowth percentages after a plot's rejuvenation phase indicate successful restoration of the natural environment over time. Zunheboto leads with a 75% regrowth rate, followed by Dimapur at 74%, Kohima at 73%, and Mokokchung at 72%.

4. Conclusion

Shifting cultivation, deeply ingrained within Nagaland's social, economic, and environmental fabric, demonstrates resilience in changing global agricultural practices. Its continued prominence highlights its sustainability, cultural significance, and the community's ability to adapt and innovate. For policymakers and agriculturalists, understanding the myriad factors underpinning this method is paramount in preserving this legacy and ensuring its sustainable progression in the future.

References

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