



International Journal of Research in Agronomy

E-ISSN: 2618-0618
P-ISSN: 2618-060X
© Agronomy
NAAS Rating (2026): 5.20
www.agronomyjournals.com
2026; SP-9(4): 406-408
Received: 13-01-2026
Accepted: 17-02-2026

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Prioritizing challenges of Jhumias: A study on Jhum cultivation in Tripura

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DOI: <https://www.doi.org/10.33545/2618060X.2026.v9.i4Se.5431>

Abstract

The present study focuses on analyzing the problems faced by Jhum cultivators (Jhumias) in various blocks of Gomati district, Tripura. Data were collected through interviews with farmers to identify their major challenges and perceptions related to Jhum cultivation. The Garrett Ranking Technique (Garrett, 1969) was employed to prioritize these problems for better utilization of scarce government resources. The findings revealed that the non-use of high-yielding variety (HYV) seeds was the most severe problem, followed by the perception of Jhumming as the least risky method of cultivation and the shrinkage of the Jhum cycle leading to low productivity. Moreover, a majority of the Jhumias considered Jhumming as an integral part of their cultural identity and was reluctant to adopt settled farming. The continuous increase in Jhumia population and lack of plain land further aggravated the situation. The study highlights the need for focused policy interventions, awareness programs, and promotion of sustainable agricultural alternatives to address the economic and ecological challenges associated with Jhum cultivation in Tripura.

Keywords: Jhum cultivation, Jhumias, Tripura, Garrett ranking technique, agricultural problems

Introduction

Jhum cultivation, also known as shifting cultivation, is one of the oldest traditional farming practices followed by tribal communities across North-East India, particularly in the hilly regions of Tripura. For generations, it has remained the main livelihood source and a vital part of the socio-cultural identity of tribal farmers (Ramakrishnan, 1992) ^[4]. The system involves clearing forest patches, burning vegetation, and cultivating crops for a few years before moving to a new site to allow natural regeneration. Earlier, the long fallow periods made this system sustainable; however, rapid population growth and limited availability of cultivable land have led to a drastic reduction in the Jhum cycle, resulting in declining soil fertility and productivity (Borthakur, 2007) ^[1].

In Tripura, Jhum cultivation continues to be significant, especially in the hilly subdivisions of Gomati and Dhalai districts. Despite several government efforts to promote settled agriculture, Jhumming persists due to its low cost, minimal risk, and cultural attachment among the Jhumias (Tripura Tribal Research and Cultural Institute, 2018) ^[5]. The practice now poses environmental challenges such as deforestation, soil erosion, and loss of biodiversity (Singh & Singh, 2006) ^[6]. Therefore, understanding the major problems and perceptions of Jhum cultivators is crucial for designing effective interventions. The present study aims to analyze these issues and prioritize them using the Garrett Ranking Technique (Garrett, 1969) ^[3] to help in formulating targeted policies and sustainable alternatives for the livelihood improvement of Jhum farmers in Tripura.

Methodology

The study was conducted to analyze the major problems faced by Jhum cultivators (Jhumias) in Gomati district of Tripura. Three subdivisions—Udaipur, Amarpur, and Karbook—were selected, covering six blocks: Matabari, Killa, Kakrabon, Amarpur, Ompi, and Silchari, where Jhum cultivation is widely practiced.

Data Collection

Primary data were collected through personal interviews with Jhum cultivators using a

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structured questionnaire. The questions focused on issues such as shrinking *Jhum* cycles, crop productivity, land availability, use of inputs, and farmers' attitudes toward *Jhuming*. Secondary data were also gathered from government reports and related studies for background information.

Sampling and Analysis

A purposive sampling method was adopted to select representative *Jhumia* households from each block. The data collected were analyzed using percentage analysis to determine the frequency of responses. To prioritize the problems according to their severity, the Garrett Ranking Technique (Garrett, 1969) [3] was employed. This statistical tool helped in converting the farmers' rankings into scores and identifying the most critical issues affecting them.

The findings were interpreted to highlight key challenges and suggest measures for improving the livelihood and sustainability of *Jhum* cultivators in Tripura.

Results and Analysis

The major problems faced by *Jhum* cultivators in Gomati district of Tripura are presented in Tables 1, 2, and 3, and the prominent results indicate that

- 85 to 100 per cent farmers in different blocks opined that shrinkage of *Jhum* cycle had led to low productivity of crops under *Jhuming*. And it was mainly attributed to increase in *Jhumia* population.
- Nearly 90 to 93 per cent respondents considered *Jhum* cultivation as their identity and tradition across the blocks, for which they were little reluctant to leave the age-old practice and take up settled cultivation.
- Only a small segment of *Jhum* farmers i.e. 8 to 10 per cent were not aware of the harmful effect of *Jhum* cultivation on the flora and fauna of the locality.
- Around 5 to 20 percent farmers were of the opinion that they were continuing with the *Jhum* cultivation due to non-availability of plain land.
- There was no instance of using HYV seeds by the *Jhumias*.
- Almost all the respondents, i.e. 90 to 100 percent considered *Jhum* cultivation as the least risky method of cultivation.

Table 1: Problems faced by *Jhum* Cultivators in Matabari, Killa and Kakrabon block under sub division Udaipur, district Gomati (percentage)

Sl. No	Problems	Matabari Block		Killa Block		Kakrabon	
		Yes	No	Yes	No	yes	No
1.	Shrinkage of <i>Jhum</i> cycle leads to low productivity of crops under <i>Jhuming</i>	93	7	100	0	94	6
2.	Shrinkage of <i>Jhum</i> cycle is due to increase in <i>Jhumia</i> population	85	13	89	13	85	13
3.	<i>Jhum</i> cultivation is an identity of the <i>Jhumias</i>	95	5	93	7	95	5
4.	<i>Jhumias</i> are not aware of the harmful effect of <i>Jhum</i> cultivation	20	80	27	73	21	79
5.	<i>Jhum</i> cultivation is practiced for non-availability of plain land	20	87	13	87	20	87
6.	<i>Jhumias</i> do not use HYV seeds.	100	0	100	0	100	0
7.	<i>Jhumia</i> feels that it is the least risky method of cultivation	100	0	100	0	98	2

Table 2: Problems faced by the *Jhum* Cultivators in Amrapur and Ompi Block under Amrapur subdivision, Gomati district of Tripura (In percentage)

Sl. No	Problems	Amrapur block		Ompi Block	
		Yes	No	Yes	No
1.	Shrinkage of <i>Jhum</i> cycle leads to low productivity of crops under <i>Jhuming</i>	86	14	93	7
2.	Shrinkage of <i>Jhum</i> cycle is due to increase in <i>Jhumia</i> population	92	8	100	0
3.	<i>Jhum</i> cultivation is an identity of the <i>Jhumias</i>	92	8	87	13
4.	<i>Jhumias</i> are not aware of the harmful effect of <i>Jhum</i> cultivation	8	93	13	87
5.	<i>Jhum</i> cultivation is practiced for non- availability of plain land	10	90	40	60
6.	<i>Jhumias</i> do not use HYV seeds.	100	0	100	0
7.	<i>Jhumia</i> feels that it is the least risky method of cultivation	90	7	87	13

Table 3: Problems faced by the *Jhum* Cultivators in karbook and Silchari Block under Karbook subdivision, Gomati district of Tripura (In percentage)

Sl. No	Problems	Karbook Block		Silchari Block	
		Yes	No	Yes	No
1.	Shrinkage of <i>Jhum</i> cycle leads to low productivity of crops under <i>Jhuming</i>	84	14	93	7
2.	Shrinkage of <i>Jhum</i> cycle is due to increase in <i>Jhumia</i> population	98	2	100	0
3.	<i>Jhum</i> cultivation is an identity of the <i>Jhumias</i>	90	10	87	13
4.	<i>Jhumias</i> are not aware of the harmful effect of <i>Jhum</i> cultivation	10	90	13	87
5.	<i>Jhum</i> cultivation is practiced for non- availability of plain land	5	95	40	60
6.	<i>Jhumias</i> do not use HYV seeds.	100	0	100	0
7.	<i>Jhumia</i> feels that it is the least risky method of cultivation	95	7	87	13

Source: Primary data. The Garret rankings for the problems of *Jhumias*

It is clear from the table that the Garret ranking for the problems confronted by the *Jhum* cultivators were worked out and presented in Table 4 to draw inference on the magnitude of the problems. Lower rank indicated higher intensity of the problems as given Garrett ranking that

- Jhumias* were not at all using HYV seeds and hence it ranked 1, in the problem list.

- The *Jhumias* also considered the practice as the least risky method of cultivation for which they wanted to continue with the *Jhum* cultivation. This attitude of *Jhumia*'s was the 2nd severe problem with rank 2.
- Shrinkage of *Jhum* cycle led to low productivity of crops grown under *Jhuming* was the third severe problem with rank 3.

- 4) Shrinkage of *Jhum* cycle was due to increase in *Jhumia* population was ranked 4.
- 5) The fifth ranked problem with the *Jhumias* was that they were not ready to leave the practice of *Jhum* cultivation as majority of them considered *Jhuming* as their identity or tradition.
- 6) Non-availability of plain land to go ahead with settled cultivation was identified as yet another problem with rank 6
- 7) The seventh important problem faced by the *Jhumias* was that they did not even realize the fact that this method of cultivation could destroy the flora and fauna of the State.

Table 4: The Garrett Ranking for the Problems of *Jhum* Cultivators

Problems	Rank
Shrinkage of <i>Jhum</i> cycle leads to low productivity of crops under <i>Jhuming</i>	3
Shrinkage of <i>Jhum</i> cycle is due to increase in <i>Jhumia</i> population	4
<i>Jhum</i> cultivation is an identity of the <i>Jhumias</i>	5
<i>Jhumias</i> are not aware of the harmful effect of <i>Jhum</i> cultivation	7
<i>Jhum</i> cultivation is practiced for non-availability of plain land	6
<i>Jhumia</i> do not use HYV seeds.	1
<i>Jhumia</i> feels that it is the least risky method of cultivation	2

The study identified and ranked the major problems faced by *Jhum* cultivators in Gomati district through field surveys and data analysis using the Garrett Ranking Technique. The findings revealed that the non-use of High-Yielding Variety (HYV) seeds was the most severe problem, followed by the perception of *Jhuming* as the least risky method of cultivation, and the shrinkage of the *Jhum* cycle leading to reduced productivity. These results are consistent with earlier studies highlighting that lack of improved agricultural inputs and population pressure are major causes of low productivity in shifting cultivation systems (Borthakur, 2007; Ramakrishnan, 1992) ^[1,4].

Further, about 90–93% of the respondents considered *Jhum* cultivation as part of their cultural identity, showing strong emotional and traditional attachment to the practice (Tripura Tribal Research and Cultural Institute, 2018) ^[5]. This finding aligns with Nongkynrih and Brahma (2014) ^[7], who emphasized that cultural factors often outweigh economic incentives when farmers make decisions about continuing *Jhuming*. Additionally, limited availability of plain land and the farmers' limited awareness about the environmental consequences of *Jhum* cultivation were found to aggravate the problem. Similar observations were made by Chambers and Conway (1992) ^[2], who suggested that livelihood security must consider both ecological and socio-cultural contexts.

Overall, the results suggest that improving productivity alone may not be sufficient; awareness creation, capacity building, and cultural sensitivity must be integrated into policy planning. The study highlights the need for a balanced approach that combines traditional knowledge with scientific interventions for sustainable agricultural development in the *Jhum*-dominated areas of Tripura.

Further based on the findings, several policy interventions can be proposed to address the challenges faced by *Jhum* cultivators in Tripura. Firstly, awareness and training programs should be organized to educate *Jhumias* about the adverse effects of short *Jhum* cycles and the benefits of sustainable agricultural practices. The government should promote the use of High-Yielding Variety (HYV) seeds, organic farming methods, and soil conservation techniques through extension services. Secondly, alternative livelihood opportunities such as

horticulture, agroforestry, animal husbandry, and handicrafts can be developed to reduce dependency on *Jhum* cultivation. Thirdly, land development and irrigation projects should be expanded to make settled cultivation more feasible, especially in areas with suitable terrain. Lastly, ensuring community participation in planning and implementing rural development programs will help maintain cultural harmony while fostering sustainable land use practices. By combining traditional knowledge with modern agricultural innovations, Tripura can achieve both livelihood security for its tribal farmers and ecological sustainability in the long run.

Conclusion

The study reveals that *Jhum* cultivation continues to be a deeply rooted livelihood practice and cultural identity among the tribal farmers of Tripura, despite its declining productivity and ecological consequences. The findings highlight that the major problems faced by the *Jhumias* include the non-use of High-Yielding Variety (HYV) seeds, perception of *Jhuming* as the least risky farming method, and the shrinkage of the *Jhum* cycle due to population pressure. These issues have led to reduced crop yields, soil degradation, and unsustainable land use patterns. Furthermore, the strong traditional attachment to *Jhum* cultivation and lack of awareness about its environmental impacts pose significant challenges to promoting settled and modern agricultural systems. Limited availability of plain land and scarce government resources further restrict the transition to alternative livelihoods. Therefore, it is essential to design integrated strategies that combine awareness generation, improved agricultural inputs, skill development, and community participation. Policy measures should focus on providing technical guidance, land management support, and incentives for adopting sustainable farming practices. Only through such inclusive and participatory approaches can the economic well-being of *Jhumias* be improved while ensuring ecological balance and sustainable rural development in Tripura.

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