**Original Research Article**

**Constraints faced by tribal farmers in seeking livelihood security through forest- based resources**

**Abstract**

Tribal farmers in India depend heavily on forests for livelihoods, but face challenges like insecure land rights, poor market access, weak institutional support, and climate change. This study surveyed 240 farmers in Udaipur and Pratapgarh, Rajasthan, using a three-point scale to rank key constraints. Results highlight major barriers to livelihood security and point to the need for targeted policies and sustainable forest management. A total **of 30 major constraints** were identified and categorized into eight thematic areas: Legal and Regulatory Constraints, Marketing Constraints, Financial Constraints, Land Encroachment and Deforestation Constraints, Socio-Cultural Constraints, Technical Knowledge Constraints, Social and Institutional Support, and Shifting Agricultural Practices. The Mean Percentage Score (MPS) was calculated for each constraint statement to assess its severity and significance as perceived by the farmers. Based on the MPS values, constraints were ranked to determine their relative importance. The findings provide critical insights into the most pressing challenges faced by tribal communities and offer a basis for policymakers, development agencies, and extension workers to design focused interventions aimed at improving the livelihood security of tribal farmers through sustainable use of forest resources.

**Keywords:** Forests, Tribal, Legal and Regulatory Constraints, sustainable forest management.

**Introduction:**

Forest-based resources play a pivotal role in sustaining the livelihoods of tribal communities across India, particularly in states such as Madhya Pradesh, Chhattisgarh, Odisha, Jharkhand, and Rajasthan. Tribal farmers depend heavily on forests for food, fuel, fodder, medicinal plants, and non-timber forest products (NTFPs) like tendu leaves, mahua, honey, sal seeds, and lac, which contribute significantly to household income and livelihood security (Sahoo *et al.*,2022). According to the Ministry of Tribal Affairs (2021), around 8.6% of India’s population comprises Scheduled Tribes, many of whom are forest-dependent. However, tribal farmers face multiple constraints in harnessing forest-based resources for livelihood security. These include insecure land and forest tenure, restrictive implementation of forest and conservation laws, weak institutional support, poor access to credit and markets, lack of infrastructure for storage and processing, and exploitation by intermediaries (Tejaswi, 2008). Moreover, climate change impacts, declining forest productivity, and deforestation have heightened the vulnerability of tribal livelihoods, often forcing farmers to migrate for wage labor or switch to less remunerative livelihoods (Pandey, 2016). Although the Forest Rights Act (FRA) of 2006 was intended to secure tribal land and forest rights, its uneven implementation has limited the intended benefits. Studies have shown that lack of awareness, bureaucratic delays, and political resistance have constrained the realization of FRA entitlements, further marginalizing tribal communities (Colchester, (1994)) .A nuanced understanding of these constraints is essential for designing policies and interventions that not only improve the income and livelihood security of tribal farmers but also promote sustainable forest management and conservation (Sarap, 2007 )

**Materials and Methods:**

Southern Rajasthan comprises seven districts: Udaipur, Rajsamand, Dungarpur, Bhilwara, Banswara, Pratapgarh, and Chittorgarh. For the study, two districts—Udaipur and Pratapgarh—were selected based on their Scheduled Tribe population and forest area. Udaipur comprises 11 tehsils out of which Jhadol and Kotra were selected on the basis of maximum schedule tribe population and forest area cover. Similarly, Pratapgarh comprises 5 tehsils among which Peepalkhoont and Arnod tehsils were selected on the basis of same criterion.Three villages were selected from each tehsil purposively fulfilling the criteria of forest and schedule tribe population. Thus, 6 villages were selected from each selected district. Total 12 villages were selected for present study. 20 farmers were selected randomly from each selected village. Thus, a total of 240 farmers were selected for the present investigation. To identify the constraints faced by tribal farmers in achieving livelihood security through forest-based resources, responses from the respondents were recorded using a three-point continuum: Most Severe (score: 2), Severe (score: 1), and Not Severe (score: 0).The recorded responses were tabulated, and the scores for each statement were counted and converted into a Mean Percent Score (MPS). Based on these scores, the constraints were ranked to highlight the most significant challenges faced by the farmers.

**Result and discussion:**

**Aspect wise constraints faced by tribal farmers in seeking livelihood security through forest- based resources.**

For analysis constraints faced by tribal farmers in seeking livelihood security through forest- based resources., 30 major constraints were enlisted in eight different categories as “Legal and Regulatory Constraints”, “Marketing constraints”, “Financial constraints”, “Land Encroachment and Deforestation constraints”, “Socio-Cultural constraints”, “Technical Knowledge Constraints”, Social and Institutional Support and Shifting Agricultural Practices. The MPS for each statement was computed and based on MPS rank was allotted. The analyze data were presented in the table below.

**Table 1: Aspect wise distribution of respondents related to constraints**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S. No.** | **Aspect wise constraints** | **Udaipur** | **Pratapgarh** | **Overall** |
| **MPS** | **Rank** | **MPS** | **Rank** | **MPS** | **Rank** |
| 1 | Legal and Regulatory Constraints | 72.08 | 2 | 69.90 | 4 | 70.98 | 2 |
| 2 | Marketing constraints | 66.77 | 5 | 71.15 | 2 | 68.96 | 5 |
| 3 | Financial constraints | 66.25 | 7 | 66.77 | 8 | 66.51 | 8 |
| 4 | Land Encroachment and Deforestation constraints | 70.83 | 3 | 68.44 | 6 | 69.64 | 4 |
|
| 5 | Socio-Cultural constraints | 70.21 | 4 | 72.92 | 1 | 71.56 | 1 |
|
| 6 | Technical Knowledge Constraints | 65.10 | 8 | 70.73 | 3 | 67.70 | 7 |
|
| 7 | Social and Institutional Support | 72.36 | 1 | 68.06 | 7 | 70.20 | 3 |
| 8 | Shifting Agricultural Practices | 66.53 | 6 | 69.03 | 5 | 67.78 | 6 |

Here, table 1 indicates different constraints faced by tribal farmers which are given with their mean per cent score and rank. The information in the table 1 reveals that “Socio cultural constraints” was assigned first rank with overall 71.56 MPS. Whereas Udaipur district have got fourth rank with 70.20 MPS and Pratapgarh ranked first with 71.56 MPS. Again, Legal and Regulatory Constraints was ranked second with overall 70.98 MPS further, Udaipur got second rank with overall 72.08 MPS and Pratapgarh district got fourth rank with overall 69.90 MPS in the same constraint.

Further examine of table 1 shows that “Social and Institutional Support” stands at third position with 70.20 MPS. Similarly, Udaipur District have secured first rank with 72.36 MPS and Pratapgarh district got seventh rank with 68.06 MPS.

Again, analysis of table 18 shows that “Land Encroachment and Deforestation constraints” got fourth position with overall 69.64 MPS. Similarly, Udaipur district has got third rank with 70.83 MPS and Pratapgarh district got sixth position with 68.44 MPS.

 Analysis regarding “Marketing constraints” has showed 68.96 MPS and got fifth rank whereas district wise analysis showed 66.77 MPS for Udaipur with fifth rank and Pratapgarh districts stands at second position with 71.15 MPS. Whereas, “Shifting Agricultural Practices” related constraints ranked sixth with overall 67.78 MPS. In Udaipur district the same constraint was ranked sixth with 66.53 MPS and Pratapgarh districts stands at fifth position with overall 69.03 MPS.

Again, analysis of Table 18 shows “Technical Knowledge” related constraint has got seventh rank with overall 67.70MPS. District wise analysis shows Udaipur district got eighth rank with 65.10 MPS and Pratapgarh district has got third rank with 70.73 MPS. Whereas, “Financial constraints” has got eight rank with overall 66.51 MPS. Further, Udaipur district secured seventh rank with 66.25 MPS and Pratapgarh district has got eighth rank with 66.67 MPS.

**Legal and Regulatory Constraints**

Tribal Farmers face numerous “Legal and Regulatory Constraints” that can significantly impact their operations. Major constraints related to product are enlisted as complex and restrictive laws and regulations related to forest resources, Lack of clarity in land, inadequate recognition of traditional rights and limited access to permits and licenses.

**Table 2: Distribution of respondents according to their constraints related to legal and regulatory constraints**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.no.** | **Legal and Regulatory Constraints** | **Udaipur** | **Pratapgarh** | **Overall** |
| **MPS** | **Rank** | **MPS** | **Rank** | **MPS** | **Rank** |
| 1 | Complex and restrictive laws and regulations related to forest resources | 78.33 | 1 | 75.83 | 1 | 77.08 | 1 |
| 2 | Lack of clarity in land | 70.42 | 3 | 63.33 | 4 | 66.87 | 4 |
| 3 | Inadequate recognition of traditional rights | 66.67 | 4 | 71.67 | 2 | 69.17 | 3 |
| 4 | Limited access to permits and licenses | 72.92 | 2 | 68.75 | 3 | 70.83 | 2 |

Here, Table 2 indicates that Legal and Regulatory Constraints faced by Tribal Farmers which were given with their mean per cent score and rank. The information in the table reveals that constraint related to “complex and restrictive laws and regulations related to forest resources” secured rank first with overall MPS of 77.08 and in case of Udaipur and Pratapgarh district the rank was first with 78.33 MPS and 75.83 MPS respectively.

Further analysis of table reveals that “limited access to permits and licenses” constraint secured second rank with overall 70.83 MPS. District wise analysis shows that Udaipur district secured second rank with 72.92 MPS and Pratapgarh district has got third rank with 68.75 MPS.

Again, analysis of table reveals that “inadequate recognition of traditional rights” constraint has secured third rank with overall 69.17 MPS and district Udaipur secure fourth rank with overall 66.67 MPS whereas, Pratapgarh has got second rank with overall 71.67 MPS.

Further, “Lack of clarity in land” constraint had got fourth rank with overall 66.87 MPS. District wise analysis shows Udaipur has secured third rank with overall 70.42 MPS and Pratapgarh got fourth rank with 63.33 MPS.

**Marketing constraints**

Agricultural Tribal Farmers face several marketing constraints that impact their ability to serve farmers for their products and generate profitability. Major constraints related to marketing were Limited transportation infrastructure, lack of market linkages, Transportation cost is high, and information gaps about market demand and prices.

**Table 3: Distribution of respondents according to their constraints related to marketing constraints**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.no.** | **Marketing constraints** | **Udaipur** | **Pratapgarh** | **Overall** |
| **MPS** | **Rank** | **MPS** | **Rank** | **MPS** | **Rank** |
| **1** | Limited transportation infrastructure | 65.83 | 3 | 76.25 | 1 | 70.04 | 3 |
| **2** | lack of market linkages | 60.00 | 4 | 67.08 | 4 | 63.54 | 4 |
|
| **3** | Transportation cost is high | 72.50 | 1 | 69.58 | 3 | 71.04 | 1 |
| **4** | Information gaps about market demand and prices | 68.75 | 2 | 71.67 | 2 | 70.20 | 2 |

Here, table 3 indicates marketing constraints faced by Tribal Farmers which were given with their mean per cent score and rank. The information in the table reveals that constraint related to “Transportation cost is high” secured rank first with overall MPS of 71.04 and in case of Udaipur the rank was first with overall 72.50 MPS and Pratapgarh district the rank was third with 69.58 MPS. Further analysis of table reveals that “Information gaps about market demand and prices” constraint secured second rank with overall 70.20 MPS. District wise analysis shows that both Udaipur and Pratapgarh got second rank with 68.75 MPS and 71.67 MPS respectively.

Again, analysis of table reveals that “Limited transportation infrastructure” constraints have secured third rank with overall 70.04 MPS and in case of Udaipur the rank was third with overall 65.83 MPS and Pratapgarh district the rank was first with 76.25 MPS.

Further, “lack of market linkages” constraint got fourth rank with overall 63.54 MPS. District wise analysis shows both Udaipur and Pratapgarh have secured fourth rank with overall 60.00 MPS and 67.08 MPS respectively.

**Financial constraints**

Tribal Farmers of both the districts i.e. Udaipur and Pratapgarh face several financial constraints that impact their ability to acquire income generating assets. Major constraints related to finance were limited access to credit, lack of investment opportunities, inadequate support for infrastructure development e.g. processing facilities or storage units and high Cost of Inputs and Lack of Price Information.

**Table 4: Distribution of respondents according to their constraints related to financial constraints**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.no.** | **Financial constraints** | **Udaipur** | **Pratapgarh** | **Overall** |
| **MPS** | **Rank** | **MPS** | **Rank** | **MPS** | **Rank** |
| **1** | Limited access to credit | 68.33 | 3 | 64.17 | 3 | 66.25 | 3 |
| **2** | Lack of investment opportunities | 72.50 | 1 | 70.83 | 1 | 71.66 | 1 |
|
| **3** | inadequate support for infrastructure development  | 70.42 | 2 | 69.17 | 2 | 69.79 | 2 |
| **4** | High Cost of Inputs and Lack of Price Information | 55.83 | 4 | 59.17 | 4 | 57.50 | 4 |

Here,table 4 indicates that financial constraints faced by Tribal Farmers, which were given with their mean per cent score and rank. Information in tablereveals that constraint related to “lack of investment opportunities” secured rank first with overall 71.66 MPS and in case of Udaipur and Pratapgarh districts secured same rank with overall 72.50 MPS and 71.66 MPS respectively.

Further analysis of table reveals that “inadequate support for infrastructure development” constraint secured second rank with overall 69.79 MPS. District wise analysis shows that both Udaipur and Pratapgarh district got second rank with 70.42 MPS and 69.17 MPS respectively.

Again, analysis of table reveals that “Limited access to credit” constraint has secured third rank with overall 66.25 MPS and in case of Udaipur rank was also third with overall 68.33 MPS and Pratapgarh district ranked third with 64.17 MPS.

Further, High Cost of Inputs and Lack of Price Information constraint has got fourth rank with overall 57.50 MPS. District wise analysis shows that both the districts i.e. Udaipur and Pratapgarh got fourth rank with 55.83 MPS and 59.17 MPS respectively.

**Land Encroachment and Deforestation**

Tribal Farmers of both the districts i.e. Udaipur and Pratapgarh face several land encroachment and deforestation that impact their environment and livelihood. Major constraints related to land encroachment and deforestation were Threats to availability and sustainability of forest resources, Increased pressure from outside communities, illegal logging and land-use changes.

**Table 5: Distribution of respondents according to their constraints related to land encroachment and deforestation constraints**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.no.** | **Land Encroachment and Deforestation** | **Udaipur** | **Pratapgarh** | **Overall** |
| **MPS** | **Rank** | **MPS** | **Rank** | **MPS** | **Rank** |
| 1 | Threats to availability and sustainability of forest resources | 76.25 | 1 | 70.83 | 2 | 73.54 | 1 |
| 2 | Increased pressure from outside communities | 66.25 | 4 | 68.33 | 3 | 67.29 | 3 |
|
| 3 | Illegal logging | 69.58 | 3 | 72.92 | 1 | 71.25 | 2 |
| 4 | Land-use changes | 71.25 | 2 | 61.67 | 4 | 66.45 | 4 |

Here, table 5 indicates land encroachment and deforestation constraints faced by Tribal Farmers which were given with their mean per cent score and rank. The information in the table reveals that constraint related to “Threats to availability and sustainability of forest resources” secured rank first with overall 73.54 MPS. District wise analysis showed Udaipur got first rank for the same constraint with 76.25 MPS and Pratapgarh districts secured second rank with 70.83 MPS.

Further analysis of table reveals that “illegal logging” constraint secured second rank with overall 71.25 MPS. District wise analysis showed Udaipur got third rank for the same constraint with 69.58 MPS and Pratapgarh districts secured first rank with 72.92 MPS.

Again, analysis of table reveals that “Increased pressure from outside communities” constraint had secured third rank with overall 67.29 MPS and district Udaipur got fourth rank with 66.25 MPS and Pratapgarh secured third rank with 68.33 MPS.

**Socio-Cultural constraints**

Agricultural Tribal Farmers face several Socio-Cultural constraints that impact their representation and role in decision making for overall development of social structure. Major constraints related to Socio-Cultural constraints were adhere to traditional beliefs and practices, Limited access to education, caste discrimination and limited roles and opportunities for women in farming.

**Table 6: Distribution of respondents according to their constraints related to socio-cultural constraints**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.no.** | **Socio-Cultural constraints** | **Udaipur** | **Pratapgarh** | **Overall** |
| **MPS** | **Rank** | **MPS** | **Rank** | **MPS** | **Rank** |
| **1** | **Adhere to traditional beliefs and practices** | 78.75 | 1 | 78.33 | 1 | 78.54 | 1 |
| **2.** | **Limited Access to Education** | 68.33 | 3 | 72.08 | 3 | 70.20 | 3 |
|
| **3** | **Caste Discrimination** | 72.92 | 2 | 76.25 | 2 | 74.58 | 2 |
| **4** | **Limited roles and opportunities for women in farming** | 60.83 | 4 | 65.00 | 4 | 62.92 | 4 |

Here, table 6 indicates socio-cultural related constraints faced by Tribal Farmers which were given with their mean per cent score and rank. The information in the table reveals that constraint related to “Adhere to traditional beliefs and practices” secured rank first with overall MPS of 78.54. District wise analysis showed that both Udaipur and Pratapgarh district got firstd rank with 78.75 MPS and 78.33 MPS respectively.

Further analysis of table reveals that “Caste Discrimination” constraint secured second rank with overall 74.78 MPS. District wise analysis shows that Udaipur got second rank with 72.92 MPS and Pratapgarh district also secured second rank with 76.25 MPS.

Again, analysis of table reveals that “Limited Access to Education” constraints have secured third rank with overall 70.20 MPS and in case of district wise analysis showed that both Udaipur and Pratapgarh district got third rank with 68.33 MPS and 72.08 MPS respectively.

Further, “Limited roles and opportunities for women in farming” constraint had got fourth rank with overall 62.92 MPS. District wise analysis showed that both Udaipur and Pratapgarh district got fourth rank with 60.83 MPS and 65.00 MPS respectively.

**Technical Knowledge Constraints**

Tribal Farmers face several technical knowledge constraints that impact their skill oriented work to cop up with advanced market trends and improving standard of living. Major constraints related to technical knowledge constraints were Limited access to training, Modern agricultural practices, insufficient knowledge of sustainable harvesting techniques and processing methods and market-oriented skills.

**Table 7: Distribution of respondents according to their constraints related to technical knowledge constraints**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.no.** | **Technical Knowledge Constraints** | **Udaipur** | **Pratapgarh** | **Overall** |
| **MPS** | **Rank** | **MPS** | **Rank** | **MPS** | **Rank** |
| **1** | Limited access to training | 64.17 | 3 | 68.75 | 4 | 66.45 | 3 |
| **2** | Modern agricultural practices | 66.67 | 2 | 69.58 | 3 | 68.12 | 2 |
|
| **3** | Insufficient knowledge of sustainable harvesting techniques and processing methods | 59.17 | 4 | 70.83 | 2 | 65.00 | 4 |
| **4** | market-oriented skills | 70.42 | 1 | 72.08 | 1 | 71.25 | 1 |

Here, Table 7 indicates technical knowledge related constraints faced by Tribal Farmers which were given with their mean per cent score and rank. The information in the table reveals that constraint related to “market-oriented skills” secured rank first with overall 71.25 MPS and in case of district wise analysis showed that both Udaipur and Pratapgarh district got first rank with 70.42 MPS and 72.08 MPS respectively.

Further analysis of table reveals that “Modern agricultural practices” constraint secured second rank with overall 68.12 MPS. District wise analysis showed that Udaipur got second rank with 66.67 MPS and Pratapgarh district secured third rank with 69.58 MPS.

Again, analysis of table reveals that “Limited access to training” constraint has secured third rank with overall 66.45 MPS and in case of Udaipur the rank was third with 64.17 MPS and Pratapgarh district the rank was fourth with 68.75 MPS.

Further, “Insufficient knowledge of sustainable harvesting techniques and processing methods” constraint had got fourth rank with overall 65.00 MPS. District wise analysis showed that Udaipur got fourth rank with 59.17 MPS and Pratapgarh district secured second rank with 70.83 MPS.

**Social and Institutional Support**

Tribal Farmers faces several Social and Institutional Support constraints not only improve agricultural productivity but also enhance food security, environmental sustainability and the overall well-being of tribal communities. Major constraints related to social and institutional Support were Discrimination, Lack of representation in decision-making processes and inadequate support from government agencies or non-governmental organizations.

**Table 8: Distribution of respondents according to their constraints related to socio and institutional support constraints**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.no.** | **Social and Institutional Support** | **Udaipur** | **Pratapgarh** | **Overall** |
| **MPS** | **Rank** | **MPS** | **Rank** | **MPS** | **Rank** |
| **1** | Discrimination | 72.08 | 2 | 68.75 | 2 | 68.96 | 2 |
| **2** | Lack of representation in decision-making processes | 80.42 | 1 | 69.58 | 1 | 75.84 | 1 |
|
| **3** | Inadequate support from government agencies or non-governmental organizations | 64.58 | 3 | 67.08 | 3 | 65.83 | 3 |

Here, Table 8 indicates social and institutional Support faced by Tribal Farmers which were given with their mean per cent score and rank. The information in the table reveals that constraint related to “Lack of representation in decision-making processes” secured rank first with overall 75.84 MPS. District wise analysis showed that both Udaipur and Pratapgarh district got first rank with 80.42 MPS and 69.58 MPS respectively

Further analysis of table reveals that “Discrimination” constraint secured second rank with overall 68.96 MPS. District wise analysis showed that Udaipur and Pratapgarh district have secured second rank with 72.08 MPS and 68.75 MPS respectively.

Again, analysis of table reveals that “Inadequate support from government agencies or non-governmental organizations” constraint has secured third rank with overall 65.83 MPS. District wise analysis showed that Udaipur and Pratapgarh district have secured third rank with 64.58 MPS and 67.08 MPS respectively.

**Shifting Agricultural Practices constraints**

Shifting agricultural practices in tribal communities remains significant for food security, cultural preservation, and ecological balance. Major constraints related to shifting agricultural practices were Shift in market demands, migration to urban areas and adoption of commercial farming practices.

**Table 9: Distribution of respondents according to their constraints related to shifting agricultural practices constraints**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.no.** | **Shifting Agricultural Practices** | **Udaipur** | **Pratapgarh** | **Overall** |
| **MPS** | **Rank** | **MPS** | **Rank** | **MPS** | **Rank** |
| **1** | Shift in market demands | 64.17 | 3 | 62.50 | 3 | 63.33 | 3 |
| **2** | Migration to urban areas | 71.25 | 1 | 75.00 | 1 | 73.12 | 1 |
|
| **3** | Adoption of commercial farming practices | 65.42 | 2 | 72.92 | 2 | 69.16 | 2 |

Here, table 9 indicates shifting agricultural practices related constraints faced by Tribal Farmers which were given with their mean per cent score and rank. The information in the table reveals that constraint related to “migration to urban areas” secured rank first with overall 73.12 MPS. District wise analysis showed that both Udaipur and Pratapgarh district had got first rank with 71.25 MPS and 75.00 MPS respectively.

Further analysis of table reveals that “adoption of commercial farming practices” constraint secured second rank with overall 69.16 MPS. District wise analysis showed that both Udaipur and Pratapgarh district had got second rank with 65.42 MPS and 72.92 MPS respectively.

Again, analysis of table reveals that “Shift in market demands” constraint has secured third rank with overall 63.33 MPS and in case of Udaipur the rank was third with MPS 64.17 and Pratapgarh district the rank was also third with 62.50 MPS.

**Conclusion:** Our present study concluded that the socio-cultural constraints ranked first (71.56 MPS), followed by legal and regulatory constraints (70.98 MPS) and social and institutional support (70.20 MPS) faced by tribal farmers. Land encroachment and deforestation constraints ranked fourth (69.64 MPS), marketing constraints ranked fifth (68.96 MPS). Shifting agricultural practices and technical knowledge constraints ranked sixth (67.78 MPS) and seventh (67.70 MPS), respectively, while financial constraints came last at eighth (66.51 MPS). District-wise, Udaipur ranked socio-cultural constraints fourth but led in social and institutional support, while Pratapgarh ranked socio-cultural constraints first and technical knowledge third. The results highlight the variation in constraint severity between the two districts, pointing to the need for location-specific interventions for tribals.

**References**

Ministry of Tribal Affairs, Government of India. (2021). *Statistical profile of scheduled tribes in India 2021.*

Sahoo, U.K., Kumar, A., & Vanlalhriatpuia, K. (2022). *Improving livelihoods of forest-dependent communities: Policy gaps and recommendations.* Environmental Challenges, 7, 100462.

Tejaswi, P. B. (2008). Non-timber forest products (NTFPs) for food and livelihood security: An economic study of tribal economy in western ghats of Karnataka, India.

- A. K., Tripathi, Y. C., & Kumar, A. (2016). Non timber forest products (NTFPs) for sustained livelihood: Challenges and strategies. *Research Journal of Forestry*, *10*(1), 1-7.

Banday, M., Islam, M. A., Pala, N. A., Rashid, M., Ahmad, P. I., Rather, M. M., & Raja, R. (2021). Livelihood security and forest resource extraction by forest fringe communities in Indian Himalayan Region. In *Diversity and Dynamics in Forest Ecosystems* (pp. 163-194). Apple Academic Press.

Dhakal, B., Bigsby, H., & Cullen, R. (2010). Forests for food security and livelihood sustainability: Policy problems and opportunities for small farmers in Nepal. *Journal of Sustainable Agriculture*, *35*(1), 86-115.

Shit, P. K., & Pati, C. K. (2017). Non-timber forest products for livelihood security of tribal communities: A case study in Paschim Medinipur district, West Bengal.

Aggarwal, A., Paul, V., & Das, S. (2009). Forest resources: Degradation, livelihoods, and climate change. *Looking back to change track*, *219*, 91-108.

Banerjee, A., & Madhurima, C. (2013). Forest degradation and livelihood of local communities in India: A human rights approach. *Journal of horticulture and forestry*, *5*(8), 122-129

Shah, A., & Sajitha, O. G. (2008). *Poverty and Livelihood among Tribals in Gujarat: Status, Opportunities, and Strategies*. Ahmedabad, India: Gujarat Institute of Development Research.

Sarap, K. (2007). Forest and Livelihoods in Orissa. *Forests, People and Power. The Political Ecology of Reform in South Asia*, 261-99.

Colchester, M. (1994). Sustaining the forests: the community‐based approach in south and south‐east Asia. *Development and Change*, *25*(1), 69-100.