

Prevalence of Chronic Food Insecurity, Policies, and Redressal Patterns among the Indigenous community: A Case Study of Sahariya Tribe from India

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Abstract

Zero hunger and good health are two main goals for sustainable development, but when it comes to vulnerable sections of society, they struggle to meet basic needs. Sahariyas are a Particularly Vulnerable Tribal Group (PVTG) that faces numerous challenges in achieving food security and adequate nutrition. This study sought to comprehend the complexities of food and nutrition among the Sahariya Tribe. It also aimed to determine the coping mechanisms used by households to mitigate food insecurity. This study is the result of empirical data collected through fieldwork among 168 households in the Shivpuri district of Madhya Pradesh. Household surveys, interviews, participant observation, case studies, and focus group discussions were used as methods of data collection. The study revealed that Sahariyas are mainly landless laborers (80.95%), beggars and ragpickers (25%), and forest dwellers (61.31%). 69.12% of households migrated for food and money. Thus, Sahariyas are found to be food insecure; an immediate solution is needed for their survival.

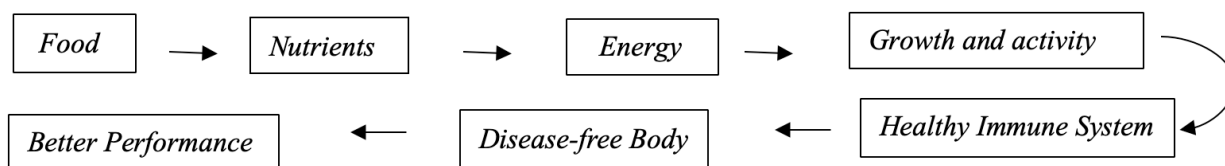
Indigenization statement

As an anthropologist dedicated to ethnographic research, I conducted a comprehensive seven-month fieldwork study among the Sahariya tribe. This immersive engagement involved residing within their community, participating in daily activities, and fostering relationships built on mutual trust and respect. Throughout this period, I endeavored to understand their lived experiences, cultural practices, and the challenges they face concerning food security. While I am not a member of the Sahariya or Bedia communities, my research approach was rooted in ethical, decolonizing methods that prioritized the voices and perspectives of Indigenous populations. I adhered to cultural protocols, acknowledged diverse worldviews, and ensured that

the community's insights were central to the study's findings. This commitment emphasizes respectful engagement and the prevention of cultural appropriation. I am grateful for the Sahariya community's openness and collaboration, which were instrumental in the development of this research. Their contributions have been duly recognized in the manuscript, reflecting a partnership that honors their knowledge and experiences.

Introduction

Food is a fundamental requirement for human survival, serving as the primary source of energy. The type of food a person eats and their eating behaviors have a significant impact on their health and well-being. Food choices and eating behaviors are underlying factors that drive how food is acquired, prepared, stored, and distributed (Blake et al., 2021; Stroebele & Castro, 2004). Also, diseases and infections of the body are regulated through the food we eat. Therefore, it is necessary to consume enough healthy food for growth and activity. Access to nutritious food leads to better performance and a healthy, disease-free body with a strong immune system (World Health Organization [WHO], 2024).



Access to food is considered secure when all individuals within a household have enough resources to obtain a balanced diet (quantity, quality, and diversity) (Jones et al., 2013). But, if we look towards the tribal sphere in India, especially those belonging to particularly vulnerable tribal groups (PVTGs) (See Appendix A for full list of acronyms), they have been struggling with hunger and food-related crises for centuries (Radhakrishna, 2009). The Ministry of Tribal

Affairs defines PVTGs as tribal communities with pre-agricultural technology, stagnant or declining population growth, an extremely low level of literacy, and a subsistence economy (Ministry of Tribal Affairs, 2019). Studies have found that many Indigenous people in India are not meeting their minimum recommended dietary allowances except for cereals (National Nutrition Monitoring Bureau, 2017). PVTGs still rely on their surrounding environmental and ecosystem services (direct and indirect contributions that ecosystems provide for human well-being and quality of life) to meet their basic requirements because of the scarcity of permanent access to stable sources of food and livelihood. Studies have supported the notion that wild and biodiverse foods and non-timber forest products (NTFPs) play a crucial role in sustaining the food and livelihood systems of rural communities (Angelsen et al., 2014; Powell et al., 2015). The government of India has identified 75 such communities out of a total of 705 ethnic groups and designated them as PVTGs (Vikaspedia, n.d.). These communities are afflicted with quadruple disease loads compared to non-PVTG communities in addition to starvation, making it an ongoing fight for them to find nourishment. As a result, children of lactating mothers are suffering due to poor food consumption (Ministry of Health and Family Welfare & Ministry of Tribal Affairs, 2018).

The aim of the study is to examine the prevalence of widespread food insecurity among PVTGs and to explore how Sahariyas manage their daily dietary needs. It will also assess their difficulties with food access and the functioning status of Public Distribution Systems (PDS). The findings of this study will aid in the development of an evidence-based intervention that meets the dietary needs of PVTGs while also being compatible with tribes' on-the-ground realities.

Literature Review

According to estimates in the Food and Agricultural Organization's (FAO) 2020 publication, *The State of Food Security and Nutrition in the World*, 189.2 million people in India are undernourished, and around 51.4% of women of reproductive age are anemic. India has been ranked 68th in the Global Food Security Index in 2022 out of 113 countries (FAO, 2020). This index is calculated through the pillars like affordability, availability, quality and safety, and sustainability and adaptation of the food material. The availability pillar had highest percentage impact at 62.3% compared to the other three pillars (Suri, 2021; The Economist Impact, 2022).

Food security is defined as access to enough food for all individuals at all times for an active and healthy life, and its foundation is the availability, access, and absorption processes (Department of Food and Public Distribution, n.d.). Food insecurity occurs when there is inadequacy in terms of the quantity, quality, and stability of food (Pinstrup-Andersen, 2009). Less land ownership, high wage labor dependency, drought/water scarcity, land degradation, loss of off-farm jobs, subpar technology, debt, social unrest, and fluctuating product prices are the key risk factors for the household level food security among tribal communities because they are not able to cope with these sudden changes. Ineffective system adaptation planning and policy initiatives are further contributing factors to food insecurity (Misselhorn, 2005; Khatri-Chhetri & Maharjan, 2006).

Chronic and transitory are the two types of food insecurity (Barret & Lentz, 2009), where chronic food insecurity develops when households cannot satisfy their food demands during normal periods due to a lack of sufficient income, land, productive assets, or because they have a high dependency ratio, chronic illness, or social impediments. Tribes of rural India have been victims of the above-mentioned conditions for a long time. Transitory food insecurity is a

condition caused by fluctuation in availability, access, and utilization of food (Barret & Lentz, 2010).

History of Public Distribution Programs in India

To combat the problem of hunger and food insecurity in India, the National Food Security Act (NFSA), also known as the Right to Food Act, was passed by the government of India in 2013 and was based on the idea of a subsidy for food grains. It is operated jointly by the central and state government. Food Corporation of India, a body under the central government, fulfills the major responsibility of the Act's allocation, procurement, and operation. The Act legally entitles up to 75% of the rural population and 50% of the urban population to subsidized grains under the Targeted Public Distribution System (TPDS). TPDS was launched in 1997 by the government of India with a focus on those who are unable to afford adequate food. It was previously named the Revamped Public Distribution System in 1992, which aimed to connect citizens in hilly, remote, and inaccessible areas. Under the PDS scheme, States were expected to develop and put into action concrete plans for the Fair Price Shop level's Identification of the Poor Program, transportation of grains, and distribution of those grains in a transparent and accountable way. It was intended to benefit around 60 million families living below the poverty line (BPL) over 72 lakh tons of food grains annually, which was increased to 103 lakh tons as per the requirement for BPL families. The allocation was based on the average consumption in the past ten years. Central Issue Prices were different for Above Poverty Line and BPL families. Further, Antodaya Anna Yojna (AAY) is a scheme by the Government of India which came into effect in 2000 to address hunger amongst the one million most impoverished people in the

country. Food grains were provided at a highly subsidized rate, such as wheat at 0.2 rupees per kg, rice at 0.3 rupees per kg, and so on (Department of Food and Public Distribution, n.d.).

On October 17, 2016, the government of India launched the Zero Hunger Program, placing special emphasis on agriculture, nutrition, and health. In 2018, Development of the Government of India launched the Prime Minister's Overarching Scheme for Holistic Nourishment [POSHAN] Abhiyan program, a major initiative with the goal of eradicating malnutrition in India by 2022. Due to a variety of reasons, these programs have not been translated into reality among PVTGs.

Circumstances of the Sahariya Tribe

Sahariyas are one of the PVTGs that live in the Indian states of Madhya Pradesh and Rajasthan. They continue to be a socially, economically, and politically marginalized group who, having been uprooted from their traditional ecology, are forced to migrate frequently in search of resources to support their way of life. They used to be landholders of the area but a lack of literacy, awareness related to documentation, and financial needs led them to sell their lands and then migrate in the search of livelihood. Due to their isolation and remoteness, their nutritional situation is frightening. According to National Sample Survey Office (2007) data, the calorie consumption of the Sahariyas continues to be 30% to 50% lower than that of the financially privileged population. As a result of their involvement in more physically demanding work, they require a higher intake of nutritious foods. As per the 2022 Status of Adivasi Livelihood report in Madhya Pradesh, around 32% of Adivasi households, 27% of non-Adivasi households, and 61% of PVTG households were found to be severely food insecure. Also, only 50% villages of PVTGs have PDS outlets (Professional Assistance for Development Action [PRADAN], 2022).

Sahariyas are primarily dependent upon the PDS for food, which itself has its own shortcomings. According to data, 47% of the PDS' food is distributed unofficially, often involving malpractice. This diversion of food is done to non-beneficiaries, which leads to a shortage of food for the registered recipients (Drèze & Khera, 2015). Thus, there are numerous challenges among PVTGs related to food security, which are to blame for the Sahariya's vulnerable food systems.

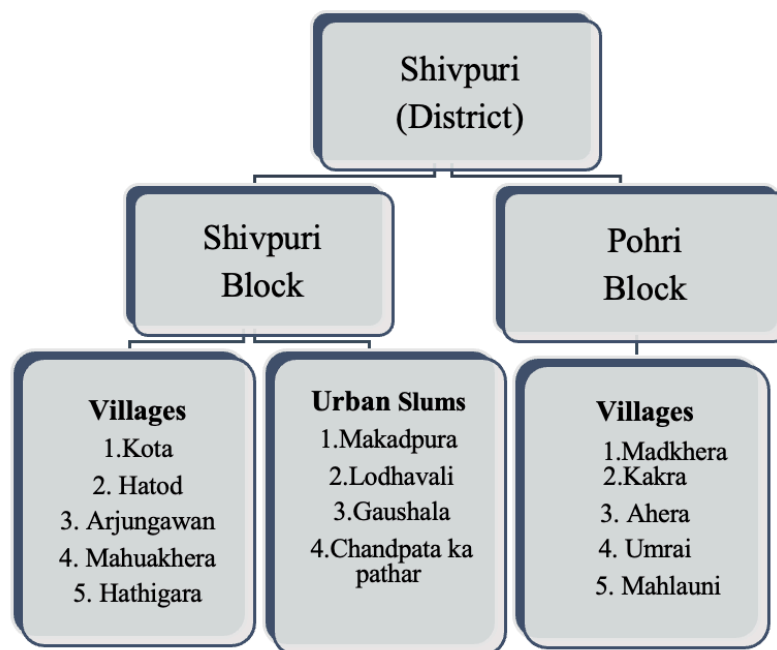
This paper discusses the food security related challenges among the Sahariya (PVTGs) population in India. It also contains their mitigation strategies and how policy addresses these issues. At the end, some suggestions have been provided based on field work observations.

Materials and Methods

Study Area and Population

This study was conducted in the villages and settlements of Sahariya communities in Shivpuri district. It is a small district of approximately 10278 km² that is situated in the northwest part of the State of Madhya Pradesh, about 116 kilometers from Gwalior city. Madhav and Kuno National parks are in its vicinity. Two blocks (an administrative subdivision of a district in India), namely Shivpuri (district name as well as one of the block's names) and Pohri were selected due to their sizable Sahariya population (Figure 1). This region forms part of the Ajmer-Gwalior highland and is naturally bordered by the Malwa Plateau to the south and the Betwa River to the east. Administratively, the Shivpuri District shares boundaries with Rajasthan to the west, Gwalior to the north, Sheopur to the northwest, Guna to the south, and Datia and Jhansi to the east. The district comprises a total of 1,459 villages, 133 that have a desert climate and 15 that are forested areas. The region has sporadic, drought-like conditions and is semi-arid with rocky soil. The district has a water shortage.

Figure 1: List of the Villages and Urban Slums Selected for the Study from the Two Blocks of Shivpuri District



Study Population and Demography

In India, Sahariyas have a total population of 614,958, with sex ratio of 943 women/1000 men. (Government of Madhya Pradesh, 2011). The literacy rate is 42.1%, where female literacy is 32% lower than male literacy (51.5%). 44.9% of Sahariyas are a part of the working population (Government of Madhya Pradesh, 2011).

Sahariyas in Shivpuri District

About 40% of the population of Shivpuri District is made up of Indigenous people, especially the Sahariya and Bedia Tribes (Government of Madhya Pradesh, 2011). Sahariya is the main tribal community of Shivpuri district and constitutes 11.27% of the total population (Government of Madhya Pradesh, 2011). They originally migrated from the Malwa and Nimar

regions. Their total inhabited area within the district is only 102 km², situated between 25°21' - 25°32' N latitude and 77°7' - 77°32' E longitude, within the broader district area of 10,278 km². The Bhil and Bhilala are other communities accounting for 3% of the population and inhabit parts of the Badarwas Development Block in Shivpuri District. The landscape is characterized by hilly, rocky, and forested terrain, with elevations ranging from 250m to 510m. Shivpuri District experiences a semi-arid climate, with high temperatures during the summer months, occasionally reaching up to 44°C in recent years. Winters are relatively mild, with an average temperature of around 15°C. Rainfall is limited and primarily occurs during two months of the monsoon season, mainly due to the southwest monsoon (Sati, 2015).

Sahariyas reside in the outskirts of the cities, in villages and nearer to forests. They speak Hindi along with a mixture of some local dialects such as *Bundelkhandi*. They are also addressed as *Adivasi*, which is also printed on their Adhar cards (a unique 12-digit ID for personal identification provided by government of India). They live in a community place called *Sehrana*. Their economy is based on daily wage-based labour, agriculture, and commodities like medicinal plants, and plants for basket weaving gathered from the nearby forests. Due to absence of any stable source of income, they were dependent upon these activities for their survival.

Figure 2: Sample of the Studied Villages in Shivpuri Block (Source: Google Maps)

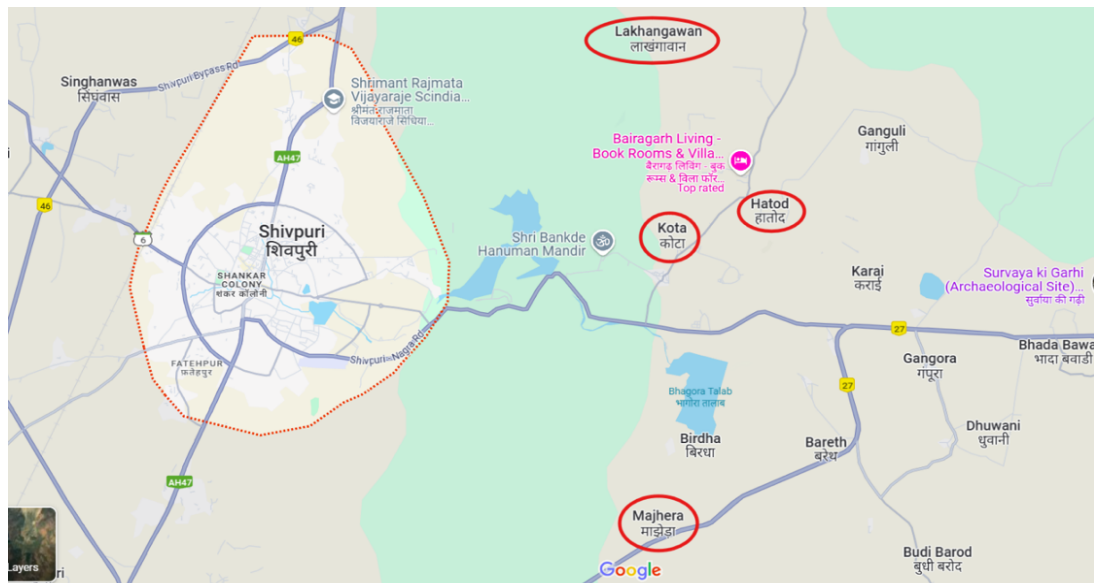
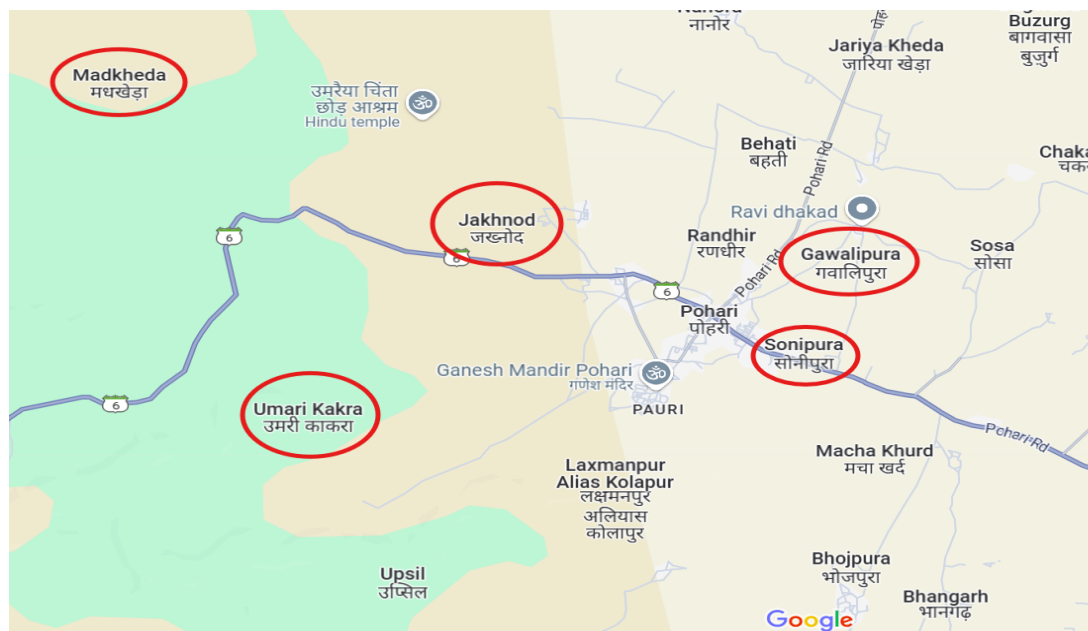


Figure 3: Sample of the Studied Villages in Pohri Block (Source: Google Maps)



Study Design, Sampling, Data Collection, & Analysis

The present study was a community-based, cross-sectional study of the food insecurity among the Sahariya (PVTG) community. The household was the basic unit of data collection that was included in the study based on a random sampling method.

Sample Size

The study included 168 households. Because of the dispersed layout, migration, and diminutive size of Sahariya settlements, it was difficult to identify additional households. Out of 168 households, there were 87 households from the rural Shivpuri block, 32 households from the urban slum area of the Shivpuri district, and 49 households from the villages of the Pohri block. The study incorporates data and information from the Sahariya population informants and additional stakeholders including district and block level officials associated with development. They are as follows: District Program Officer of Women and Child Development, Shivpuri, Officials of Adim Jati Kalyan Vibhag (A State body for tribal Welfare), the Sarpanch and Secretary of some villages, and the PDS distributor.

Data Collection and Analysis

This study reports on ethnographic fieldwork conducted in two phases: first, from December 20th, 2021 to January, 29th 2022, and secondly from February 7th, 2023 to June, 17th, 2023, and includes methods such as household surveys (to collect data for basic information), in-depth, open-ended interviews, (about issues related to food resources, availability, delivery, and redressal mechanisms [a mechanism to address food insecurity]), participant observation (daily life and practices), and focus group discussions (regarding policies and programs) with residents

and stakeholders. Additionally, case studies were used to explore land issues and food struggles. The data collected was analyzed thematically using narrative analysis. The study also conducted a comparison and percentage distribution analysis of resource availability for food and migration in villages and urban slums of the blocks.

Ethical Approval

Before commencing the study, formal approval was obtained from the Institutional Research Ethics Committee of Department of Anthropology, University of Delhi, who conducted a thorough review of the research objectives, methodology, and ethical considerations. This approval ensured compliance with institutional standards and ethical guidelines. Following this, all participants received verbal and written informed consent forms, requiring signatures or thumb impressions to be taken for authenticity. They were provided with clear details about the study's purpose, procedures, and their rights, including confidentiality assurances and the option to withdraw at any time without consequences. To safeguard their privacy, participant data was anonymized and securely stored in encrypted digital formats, accessible only to authorized personnel. In the case of minors, consent was obtained from the parents and the study was performed in their presence. Since children were not always able to describe things fulsomely, their parents and relatives were able to help explain the scenarios. All the names that have been used in this article are pseudonyms to protect the individual's identities and follow ethical guidelines. Ethical standards, particularly those concerning data protection and confidentiality, were strictly adhered to throughout the study, ensuring the rights and well-being of the tribal populations involved.

Results

Prevalence of Food Insecurity

This study presents compelling evidence of the widespread food insecurity experienced by the Sahariya community, which faces various obstacles in accessing food for their daily needs. Their primary source of income is wage-based labor, which is not consistently available. Findings show that approximately 81% (See Table 1) of the population engages in occasional labor work, with the highest demand for work occurring between March and May when they migrate to neighboring cities for agricultural work. Additionally, younger members of the community also migrate to megacities for work. According to the accounts of participants, including Kammo Bai, Shusheela Adivasi, Kamla: *“hamaye khon do wakhat ki roti naseeb naiyan aur rehan khon ghar”*, which means that they “do not have a secure house for living and two times meal in their fate”. It was found that they were residing in thatched houses with limited access to food. Kammo Bai continued by saying that they go to bed without meals sometimes.

Table 1: Availability and Distribution of Resources for Food Among Sahariyas, Based on Surveyed Locations

Types of Resources for Food	Category	Shivpuri Block (Rural) N (%) = 87 (51.79)	Shivpuri Block (Urban Slums) N (%) = 32 (19)	Pohri Block (Rural) N (%) = 49 (29.17)	Total N (%) = 168 (100)
Agriculture	Own	17(19.54)	4 (12.5)	11(22.45)	32 (19.05)
	Other (Landless Laborers)	70(80.46)	28 (87.5)	38(77.55)	136(80.95)
PDS	Beneficiary	68(78.16)	21(65.63)	33(67.35)	122(72.62)
	Non- Beneficiary	19(21.84)	11(34.38)	16(32.65)	46 (27.38)
Wild Plants	Dependent	53(60.92)	14(43.75)	36(73.47)	103(61.31)

	Non-Dependent	34(39.08)	18(56.25)	13(26.53)	65 (38.69)
Begging and Rag-picking	Involved	15(17.24)	18(56.25)	9 (18.37)	42 (25)
	Not Involved	72(82.76)	14(43.75)	40(81.63)	126 (75)

The table data shows that only 19% of surveyed households had agricultural land, which was mainly in the rural area. The rest of the households are either landless or only use a fraction of land (unregistered land near their house or forest) which was not cultivable in some places due to climate conditions. So, participants were either migrating or working in labor-related roles such as agriculture or on a construction site. Thus, approximately 81% of households were without any reliable resources for their daily dietary needs. The situation was very grim among households in the urban slums due to family expansion, where PDS was the main food source for 72.62% of households. Still, 27.38% of these households were not getting its benefits due to a lack of registered land records and poor maintenance of the documents. Due to a lack of sustainable sources of vegetables and pulses, 60% of Shivpuri rural households, 43.75% of the Shivpuri urban slum households, and 73.47 % of households in the Pohri block's rural were dependent upon wild plant leaves (*Bhaji*) for their vegetable needs. These plant leaves were the most accessible option for their dietary needs just after the rainy season. Other than that, 42% of the population were involved in begging and rag-picking for their daily dietary needs.

For the mid-day meal, only chapati and vegetables or pulses were provided and in insufficient quantity. The Prime Minister's dream initiative, POSHAN Abhiyan, was launched in 2018 with the goal of providing mothers and children with nutritious food by 2022. However, only a small fraction of those who were eligible for the program received any food. Residents of Kakra and Hathigara have complained that they do not get adequate food because Aanganwadi (a government center responsible for adolescent food and nutrition related issues) is so rarely open.

Adim Jati Kalyan Vibhag of the Madhya Pradesh government gave an extra thousand rupees under the Ahar Anudan Yojna (AAY) to women of the Baiga, Sahariya, and Bhariya tribes to combat malnutrition. However, since the beginning of COVID-19, they have not received the benefits of the AAY scheme. All the programs collapsed due to COVID, which was an extra burden for them. In some places, Ujjwala gas connections have been provided, but they do not have money to refill them. So, they still use wood and dried leaves for cooking. Due to a lack of skill in using gas they have a fear of it. For example, Sangam from Madhkhera village burned down his house while cooking with gas, and nothing was left to him. He searched for aid, but did not get any substantive help.

Case Study No. 1: *Chandpata ka Pathar*, a fringe village, is situated in the outer vicinity of Shivpuri city near national highway number 27. There was sandy clay soil on the land. The area was adjacent to the forest and was dry compared to the other villages in the lower part of the Shivpuri block. There were around 50 huts made from grass and mud, with heavy stone slabs to protect them from the wind. I observed many people bringing sacks of discarded onions that had been thrown from a vehicle near the highway. The onions were rotten and had been dumped. The people were sorting out useful onions for their vegetable needs. Their staple diet consisted of chapati with salt and sometimes with vegetables (leaves of some wild plants). The elderly were seen complaining about their land and demanding only two meals of food from the government per day. They said that their ancestors were residing in this place and now forest officials are asking them to vacate. They shared that forest officials once burnt down their houses due to their unofficial settlements; they have already spent a lot of money fighting the case for their land since they were adamant that their ancestors had land here. Thus, they have been in a grim situation. In observation, most of the children, the elderly, and the women were found to be

skinny with continuous coughing. Sundar Adivasi, said that for us it is like “*roj ka kuwa khodno aur roj pani peeve*” (to dig wells on a daily basis and then drink water every day), which implies that they need to find a source of food on a daily basis in order to survive.

Lack of Dietary Diversity

For a healthy body and mind, there is a need for a balanced and nutritious diet. But Sahariyas mostly consume carbohydrate-based foods; protein, fat, and vitamins are in short supply. Participants were observed making huge amounts of chapatis in the morning, which they consumed throughout the day with salt and, on occasion, foraged herbs. Whenever they had money, they used to purchase vegetables like potatoes and onions. In some villages, people were given chicks for rearing to help with protein nutrition, but due to their proximity to Madhav National Park and wild animal attacks, chicken populations have plummeted to a finger count. Sometimes, during specific times of the year, they will go fishing on the nearby river. The children who frequented Aanganwadi centers were either going hungry or being given only a few ounces of porridge per day, as they typically receive wheat and rice from PDS. According to the auxiliary nurse midwife worker from Kota village, health difficulties among Adivasi women are caused by their inability to follow dietary guidelines during and after pregnancy due to food constraints.

Agricultural Crisis

Although Sahariyas did not have enough land to engage in extensive agriculture, a few of them had small plots of land on forests partially cleared by their ancestors. Agriculture was a significant source of income and food for some Sahariyas in the rural parts of Shivpuri. The

landholding was incredibly small in size (approximately 1-2 Acres). In other areas, the majority of community members faced the widespread problem of not having *patta* (registered land) due to a lack of documentation and fear of the dominant caste people. According to an official from *Adim Jati Kalyan Vibhag* (a dedicated government body for tribal welfare), on the contrary, “they are not interested in the land but rather in money, their mental block is the cause of their condition, and they are less ambitious individuals. Since 2001, the government has not allocated any land [to them].” This shows the divide between the officials and tribals. Thus, most tribal residents of the Shivpuri district lacked land ownership and relied on hired farm labor. Further, drought and flooding were wreaking havoc on the land, rendering typical farming techniques unfeasible. In addition, due to documentation issues, people who owned land were not receiving the monetary support promised under the Kisan Samman Nidhi program. Following COVID-19, the program was halted and has not yet resumed service for those who were previously receiving it.

Case study No. 2: A case study was conducted in the four villages of the Shivpuri block (Hatod, Kota, Arjungawan, and Hathigara) on the ongoing topic of land alienation and the agricultural crisis among the Sahariyas. Hatod and the surrounding villages became well-known thanks to colonel G.S. Dhillon, a member of the Indian Army. According to Sikh community members, he lived here. However, Sahariyas claim that although Sardars and Gurjars arrived during the reign of G.S. Dhillon and took control of this region, it was formerly home to their ancestors. According to the evidence, the government allotted four to five *beeghas* of land to each Sahariya family in Piproniya, around 11 kilometres away from their communities.

It has been claimed that the Gurjars and Sardars rule the area. They employ large tracts of land for agriculture. Sahariyas are unable to use it, though, as members of the dominant caste

have threatened them in the past. They passed statements like “*Agar ettai kadam bhi rakho tumne, hum tumhaye pairan ko alag kar dainge*” which roughly translates as “if tribals will try to use the lands, we will break their legs,” (as said by Shiv Adivasi from Hatod village). The distance of the given land from their communities is also a contributing issue. Therefore, agriculture did not also meet their diet-related needs, leading them to work for the Gurjars and Sardars on their farms for a meagre 200 rupees per day. They had been using mortgages to fund medical expenses, marriages, and other necessities, ultimately running out of money and losing their farmland.

Smoking and Alcoholism

Out of 168 households surveyed, 112 households had an average of one person per household who consumed alcohol and an average of two people per household who consumed tobacco (*ghutkha*). Most of them were males of adult age. Children of adolescent age were also found to be using chewing tobacco. As per the respondents who used to drink alcohol, smoke and chew tobacco, these substances use to provide relief from long day tiredness. It further exacerbated their financial strain, domestic violence, societal brawls, and more, ultimately resulting in decreased productivity.

Dependency and Discrepancies in PDS

Most Sahariyas were economically disadvantaged, as evidenced by their inability to grow enough of their own food to sustain themselves and their widespread landlessness. Because of this, most of them had to rely on the government’s food stamp program (PDS) and were allotted a budget for subsidized food. Although the PDS’ functioning status was satisfactory, further

issues remained which posed challenges for community members. Some issues are highlighted here:

- I. *Beneficiary list exclusion:* Since around 81% of Sahariyas were landless or did not have registered land or cultivable land, they were sometimes left off the beneficiary list and instead received ration cards. Authorities expected them to proceed with the cards, but they were unable to do so due to a lack of understanding of their function and no instruction. Conditions were even worse in urban slums. According to data from the Comptroller and Auditor General of India (2015), 49% of beneficiaries are still not identified by the state government. Early marriage also created issues in list creation.
- II. *Lesser quantity:* As per the NFSA report (n.d.), 2.5 crore households (approximately 12-13 crore individuals) of the total population of India are vulnerable to hunger and food insecurity, are unable to secure two meals a day, and sometimes sleep without eating (Department of Food & Public Distribution, n.d.). Even though Sahariyas are entitled to TPDS, Savita, a local lady, shares that they used to get around 20kg of rice, 10kg of wheat, and sometimes 1kg sugar per family, which was not sufficient due to their large extended families. In Lodhawali and other urban slum areas, many of the Sahariya's families were not receiving rations, leaving them dependent on labor. In Arjungawan and villages in the Pohri block, irregular distribution was found. Overall, it was in accordance with government regulations, but it was only observed among a small number of Sahariya families at certain locations. Many of them were even unaware of the distributor's identity. They did not get every listed food item, only wheat and rice.
- III. *Food Divergence:* Food was frequently misdirected to those who were not beneficiaries. This was caused in large part by power dynamics: according to participants' accounts,

those that are strong and capable found the supply to be consistent for them. Even though they were not entitled to the food, they were receiving plenty promptly. Distribution was occasionally skipped, and sometimes distribution was done only on paper, rather than in person. By seeing their ration cards, I found that they were not mentioning the quantity of the food they were entitled to receive in their cards and this lack of information was used to justify the distribution of lesser amounts of food.

- IV. *Improper Treatment by the Distributor:* Many community members expressed dissatisfaction with how the distributor, who typically comes from a non-tribal group, was treating them. When they left without the required documentation for obtaining food, he used to yell at them. Because of their appearance, they have been pushed away and intimidated. People from higher castes were typically given preference. As per the wording of Jamuna, a local old lady says, “*Humkhon kuttan ki naiyan bhaganven, aur gareeban ko sabre pagal banaven hain,*” which translates to “we are treated like dogs, and everybody makes a fool of poors”. This sentence was pointing out that Sahariyas are treated like dogs when they acquire their food through PDS. It also reflects their anger, that “poors like us [Sahariyas]” can easily be made fools by others when seeking government-aided support. Thus, issues of the public distribution and parallelly the expansion of the family size leaves Sahariyas vulnerable to food insecurity, compelling them to enact various strategies for nutrition, some of which were not ideal (Table 1).

Redressal Mechanism

The concept of food self-sufficiency has been a longstanding strategy employed by individuals and communities alike. The World Bank, for instance, has developed the concept of

social risk management, which involves a comprehensive range of formal and informal, proactive and reactive risk management strategies at the individual, group, national, and international levels (World Bank, 1986). The goal of this approach is to assist vulnerable households in achieving greater stability, managing risks, and reducing their vulnerability to welfare losses through social protection measures (World Bank, 1986). Within the context of the Sahariya community, there is evidence of both natural resource-based and non-natural resource-based strategies being employed to address their daily dietary needs. Sahariyas have adopted various coping strategies, some of which are unsustainable in the long term. Thus, the community's response to food insecurity are as follows.

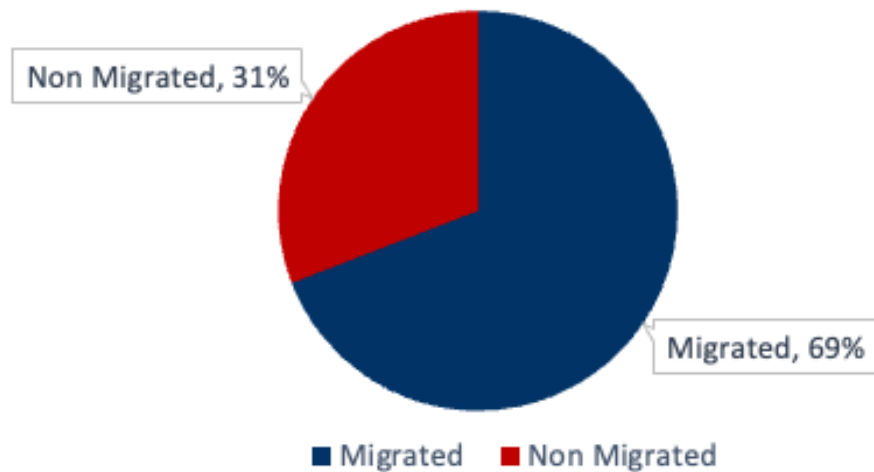
- I. *Reduce the frequency of meals in a day.* In the urban slums, those involved in labor work consumed food only twice a day, which consisted of plain chapatis with salt or onion. A lady was found making a pile of chapatis in the morning, and when asked, she said that it was for the whole day and the next morning. In the villages, some people shared that sometimes they have to sleep without food or eat barely once a day. Children who are in higher education and above skipped meals due to school time.
- II. *Using wild plants:* In the village regions, they ate the tubers, roots, and leaves of wild plants. Due to the availability of *bhaji* (gram's leaves), *sarso* leaves (mustard), and *matar* (pea) during the winter season, farm workers used to pluck those for their vegetable needs, and were yelled at if caught. They also consumed wild plants such as *sahijana* and *batu* (local name), as well as the fruits of some wild plants.
- III. *Selling and consuming forest products:* In villages, community members collected and sold forest woods, NTFPs, and medicinal plants such as *appo* and *sona ki jad*, *ghamira*, *aanwri*, *nai*, *kareri*, *dhanvantar*, *piya bans*, *kinja*, and so on. They fulfilled their

vegetable and other essential food item needs with the money acquired from these sales.

They also consumed forest-based products to meet their dietary needs. Examples include *sahijana* (drumsticks) and *tendu* (persimmons) fruits.

- IV. Migration:** A high rate of seasonal migration was found in almost every studied village due to community members' inability to fulfill their dietary and monetary needs properly in their home villages. As per my survey during fieldwork, 69.12% of studied households used to migrate for agricultural and labor related works (Figure 4). Migration was toward cities and states like Gwalior, Punjab, Jhansi, Goa, Muraina, Dhaulpur, Delhi, and Lalitpur. On average, 20-22 households from each village migrated to earn their living at the time of my field visit. They used to migrate seasonally during Rabi and Kharif agriculture seasons. Most of the time, the whole family migrated together, and only brought food items instead of money back home from work. Sometimes, they faced many adverse conditions when living and working on farms such as food item scarcity, poor living quality and sanitation, health related issues, and more. They have even been tortured when they are not able to perform as per owner's expectations.

Figure 4: Percentage of Migrated and Non-Migrated Sahariyas for Food and Resources



- V. *Labor-related work.* Being landless, Sahariyas were working in construction and on the farms of upper caste people, and many of them were practicing sharecropping. They were working as laborers on their own lands; the land where they worked used to be theirs but their ancestors had sold it for money-related needs. Some were also ill-treated if the yield was insufficient or was eaten by animals.
- VI. *Investing in small crops and vegetables.* Since food, vegetables, and spices were expensive in the markets, not everyone was able to afford them: only people who had stable food and income sources were able to afford those products. Many community members were accustomed to growing *bhaji*, tomato, potato, coriander, and garlic around settlements for daily consumption. Stray animals, dry weather, and water scarcity were hindrances to food production in certain villages.
- VII. *Herding and selling ruminants:* In some places, people had domesticated animals like sheep, goats, cows, and occasionally buffaloes. Goat and cow's milk were used for

consumption by a few households or sold. Cattle herding was not always possible due to the dry weather conditions, water scarcity, lack of grasslands, and prohibition in using forests for animal production.

- VIII.** *Rag picking and begging:* Some women and small children from urban slums were involved in the collection of discarded material to sell the plastic, paper, and iron. Many people were also begging for food. A woman who was observed carrying a mound of trash near the roadway later explained that she had to gather and sell it to provide for her children because her husband constantly consumed alcohol. As a result, they relied on short-term solutions to meet their food-related needs.

Discussion

The concept of vulnerability has been discussed in several ways in academic fields, with a focus on the economy, livelihood, risk management, and poverty (Alwang et al., 2001). Anthropologists and sociologists have added a further dimension, known as social vulnerability, which refers to the susceptibility of social groups to potential harm due to their social characteristics and the structure of society. It highlights how inequalities (such as poverty, gender, age, ethnicity, disability, and marginalization) affect a group's ability to prepare for, respond to, and recover from hazards — whether economic shocks, environmental disasters, or health crises (Alwang et al., 2001). It is also an important aspect which needs to be taken care of because it affects the synergetic nature of society. According to a report by Rao et al. (2006), Sahariyas face chronic food insecurity due to the exploitation and lack of resources. Their statements suggest that a significant proportion of the population relies on daily wage labor to meet their basic needs, which is also not regularly available. As a result of these challenges,

many individuals are forced to move to cities, where they are exposed to an unstable environment, making them more susceptible to illnesses and nutrition-related vulnerabilities. It also impacts the education of the children. For example, a group of Sahariyas had migrated to a factory in Punjab for work, but due to their lack of skills, they were dismissed without pay after a few days. Engaging in extensive labor work requires an additional energy expenditure, leading to increased dietary requirements. However, due to low wages, the community members cannot afford to meet these requirements. Their limited dietary intake could lead to nutritional deficiencies and hinder their growth. Previously, the community consumed sorghum, barley, corn, and healthy forest products. Despite their reliance on traditional agronomic practices, only 19% of the population practices settled agriculture. However, changing food availability and rising food prices have further exacerbated their uncertainty regarding food security. The environment further exacerbates their situation, with stony soil, lack of water, and a dry climate making it difficult to grow food. Caste-based threats are a further difficulty. The lack of education and awareness amongst the population has resulted in land loss and forced Sahariyas into a nomadic lifestyle.

Food insecurity or famine may arise due to the disruption of food from PDS, which can prevent households from accessing alternative sources of food. Individuals can experience a direct loss of entitlement in which they used to get food items like rice, wheat, sugar, and salt at minimal cost by government. When they are unable to access resources or experience crop failure, while an indirect loss of entitlement may result from unemployment or escalating food prices (Akerle et al., 2013). The PDS faces several challenges in delivering food to the population. Still, 27.38% of the households surveyed were not entitled to PDS due to various reasons, leaving them in poverty and food insecurity. Issues of documentation, coupled with

modern digital technologies, make it difficult for them to access the system. Many Sahariyas live in poverty due to irregularities in the beneficiary list and the growth of families. Hostile behavior from distributors and improper functioning of Aanganwadi also contribute to their food insecurity. There was issue of dietary diversity and quantity in the mid-day meal scheme which was contributing to poor growth of children. It is consistent with Sen's concept of entitlement, which highlights the importance of food distribution as well as availability in determining whether individuals experience hunger (Sen, 1982). The Prime Minister's Kisan Samman Nidhi scheme has not been effective due to landlessness and issues with the registry. POSHAN Abhiyan was also not able to meet its target of providing adequate food to the population. This study highlights that the programs were not that vibrant because they were not culturally conceptualized.

The COVID-19 pandemic has further worsened the community's food insecurity, with lockdowns and other measures disrupting the food supply chain and leading to widespread unemployment. These issues, compounded by historical marginalization and exclusion from mainstream society, have resulted in widespread poverty and food insecurity among the Sahariya people. Fieldwork observations indicate that children and mothers rely heavily on local food solutions, with young girls and women working in agriculture and some children and mothers engaging in rag-picking. Hunger, coupled with alcoholism, which consumed half of their everyday wages, placed a significant health burden on the community which has also led to domestic issues. The evidence suggests that the conservation and sustainable management of forests and their resources can contribute significantly to achieving food security and improving the nutritional status of rural populations. Therefore, targeted interventions that address the

complex social, economic, and environmental factors underlying food insecurity are urgently needed to support the Sahariya people.

Recommendations

Adequate monitoring and functioning of programs like Aanganwadi, mid-day meals, POSHAN Abhiyan, PDS, and more are required to ensure that the Sahariya people's food related needs are met. There is a need for new food provisions which are in compliance with tribal cultures and needs. Solutions for land alienation and land registration issues are needed and should be developed through further assessment with field visits in community. Increases in the food entitlement amounts, while also including more nutritious foods, is needed to support large families.

In terms of community-led programs, sample surveys and rigorous fieldwork should be conducted in collaboration with the tribes before the introduction of any new program. Community involvement should be ensured by bringing in representatives from tribal communities. There should also be a focus on proper financing and programs to ensure last mile connectivity so that Sahariyas can safely and efficiently prepare food in their homes.

Conclusion

Sahariyas are one of the most vulnerable tribes in the country and are struggling with day-to-day food. The complex challenges they face in achieving adequate nutrition stem from unstable livelihoods with no reliable income sources. Existing systems and initiatives have failed to effectively reach and support these marginalized groups due to various loopholes. Sahariyas rely on the surrounding environment and some unstable, temporary practices to fulfill their food

related needs. Developing sustainable coping strategies to achieve food security through a comprehensive understanding of the socio-economic and environmental factors is essential. Robust social protection measures are needed to build their resilience against shocks and provide greater stability and security to their livelihoods. Policies and interventions that ensure consistent access to sufficient, nutritious food for these tribes are urgently required. Addressing their malnutrition is vital for building a thriving economy and better future. Adequate data, improved food affordability, availability, quality and safety measures must be implemented to tackle malnutrition sustainably among vulnerable groups and overall and planetary health.

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Appendix A: List of Acronyms

AAY: Antodaya Anna Yojna

BPL: Below Poverty Line

FAO: Food and Agriculture Organization

NFSA: National Food Security Act

NTFP: Non-Timber Forest Products

PDS: Public Distribution System

POSHAN: The Prime Minister's Overarching Scheme for Holistic Nourishment

PVTG: Particularly Vulnerable Tribal Group

TPDS: Targeted Public Distribution System

WHO: World Health Organization