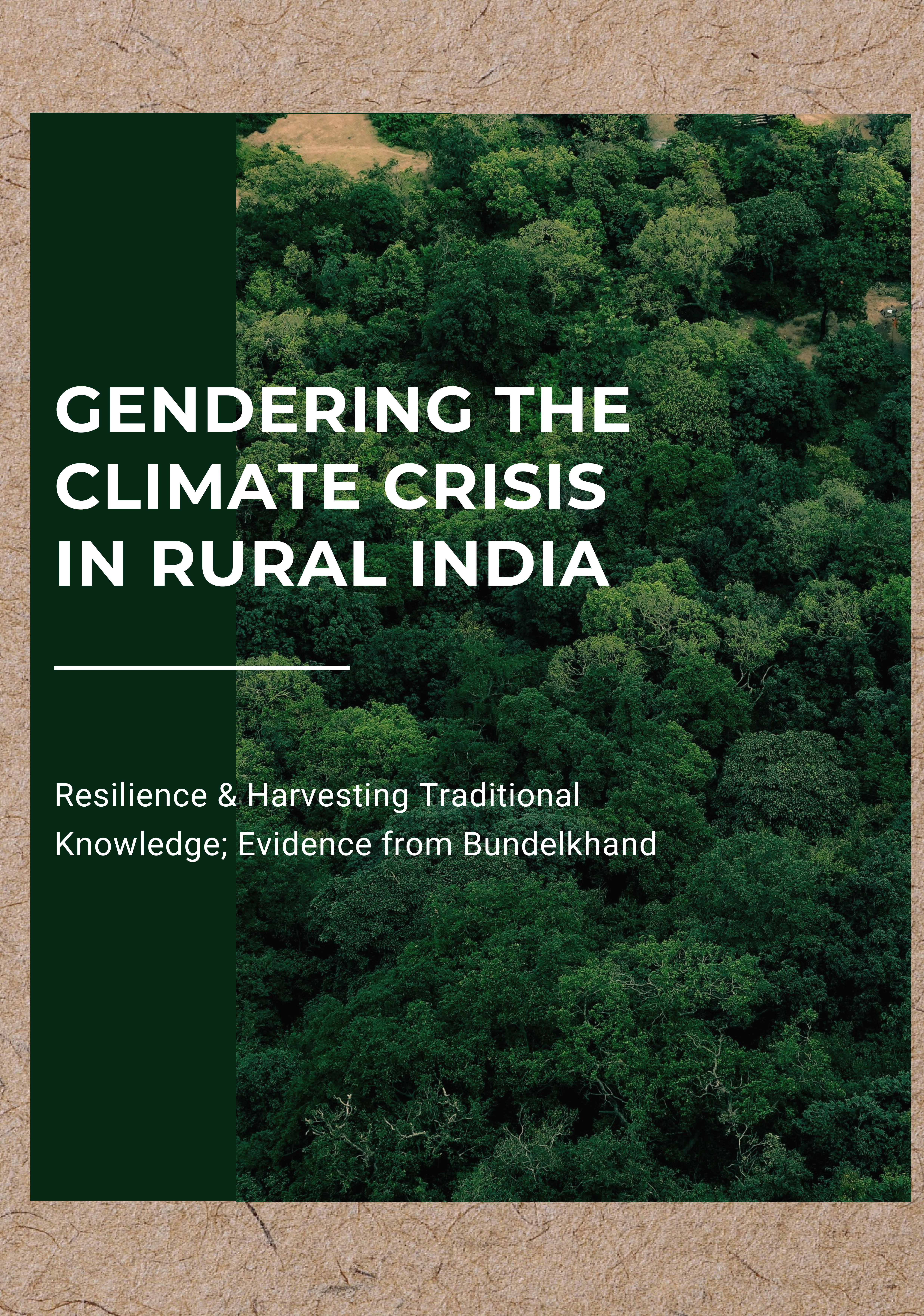




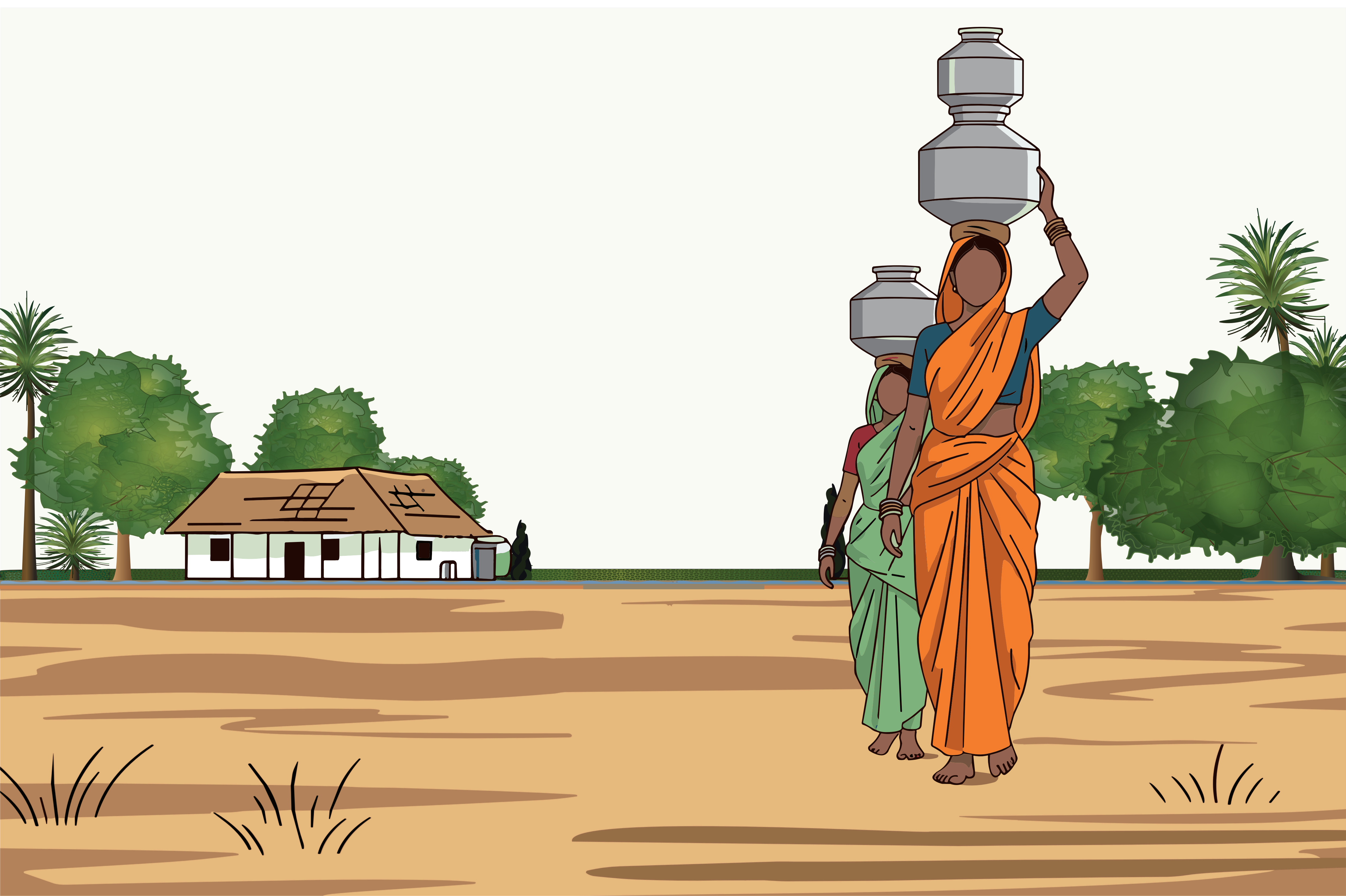
GENDERING THE CLIMATE CRISIS IN RURAL INDIA

Resilience & Harvesting Traditional
Knowledge; Evidence from Bundelkhand

RESEARCH REPORT 2026

Gendering the *Climate Crisis* in Rural India

Resilience & Harvesting Traditional Knowledge
Evidence from **Bundelkhand**



Introduction & Background to the Study

In times of climate crisis, the genders are differently impacted and face varying challenges of their own. Women are the worst hit in times of drought, famine, and ecological degradation. A vulnerable and disproportionately affected group – they face a negligible role in decision-making, with their specific needs receding into the background. Owing to the gender normative, assigned role of being the ‘caregiver,’ women carry out several tasks of affective labour both within and outside the household. Their roles keep them linked to natural resources, such as the collection of fuel, firewood, water, and timber.

There is little to no food or health security for the female members of the household, who are equal participants in agricultural production but do not have a say in matters of consumption. With the advent of the Green Revolution, an increasing focus on consumerism and quantity of production, little thought was given to how the farmers might be affected. Such an approach, though it increased production and benefited market interests, ended up ruining soil health and fertility, leading to an increase in fallow lands unfit for cultivation.

The extensive use of chemical fertilisers and pesticides ruined agricultural land and led to the steady depletion of natural resources. It is in this context that the feminisation of agriculture (*Pattnaik et al., 2017*) grew. No longer a rewarding profession, the rates of male outmigration to urban areas increased.

The women, now left behind, toiled in the field day and night to make ends meet with whatever little land they may own. Despite their glaring work in the fields, women are often not recognised as farmers. Their work, in this manner, is not only invisibilised in the domestic sphere but also within paid labour.

Upper-caste women may be perceived to have ‘assumed’ power (*Chakravarty, 1993*). However, owing to their caste status and a need to maintain caste-based purity, upper-caste men do not allow their wives to work in the fields they own, as it may impact their familial status in society.

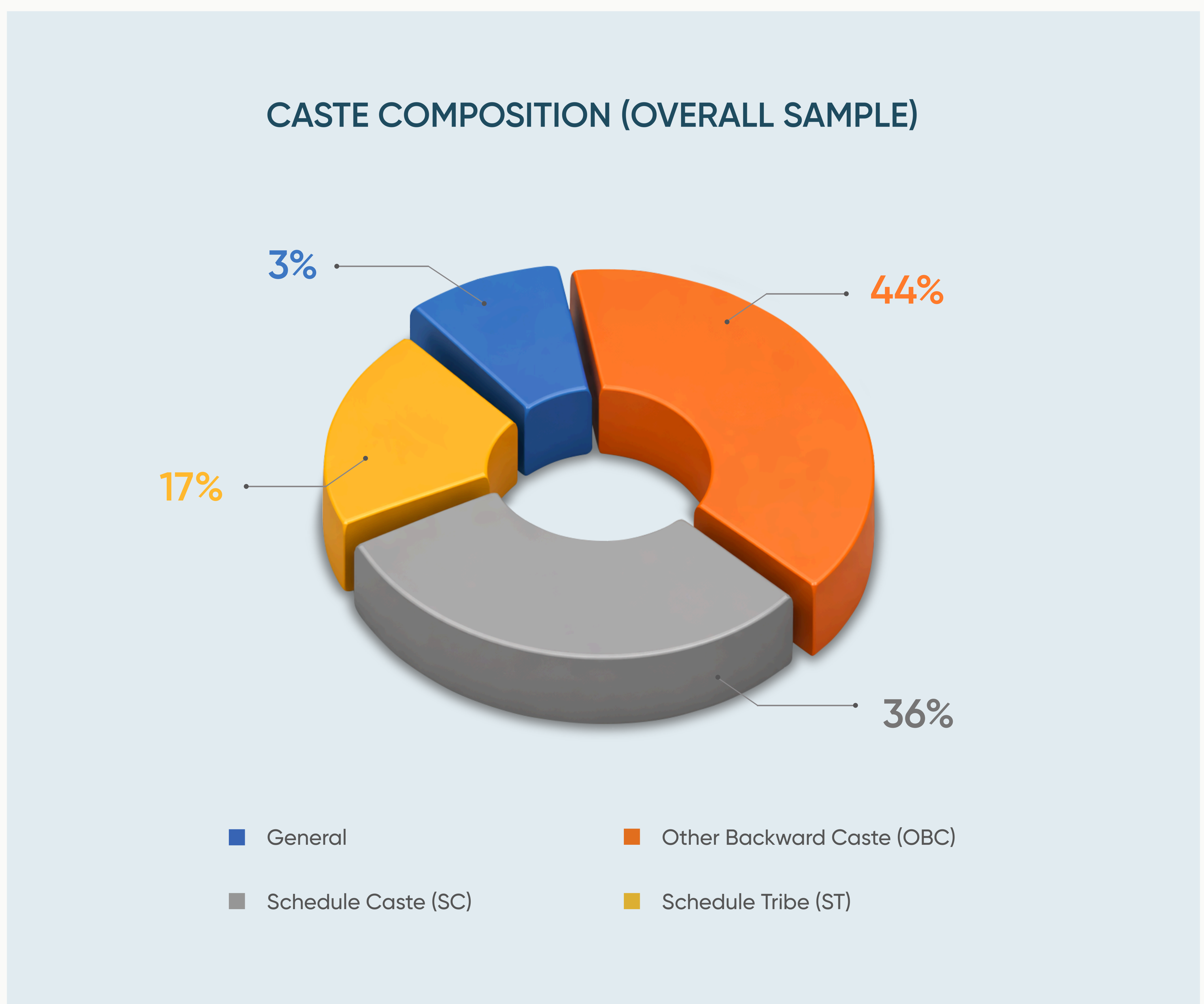
For women from the lower castes, however, there is no two ways about it. They work on however little land they own, as well as on others’ fields in case of landlessness. However, in either situation, can the women be seen as exercising agency or choice? Our research wishes to explore the dynamics involved in such a complex power play.



Methodology:

Method: This study was conducted in chosen districts (*Tikamgarh, Mahoba, Chitrakoot and Niwari*) of the *Bundelkhand region in Madhya Pradesh and Uttar Pradesh*. We conducted focus-group discussions with five women from each district. Quantitative surveys were conducted with 20 respondents each across the four districts. The sample is represented by *SC, ST, OBC* and general category participants.

Fig 1: District-wise Caste Composition



Theoretical Framework: The paper uncovers the *gender-power-environment nexus*. Keeping gender as the focal point, we acknowledge the multiplicity of differences and power differentials within individuals of the same gender. Through this framework, we engage gender as a crucial part of what determines the distribution of and access to natural resources. Women are primarily engaged in activities that involve the use of water, fuel, and firewood, and, thereby, this link needs to be studied.

Findings

Livelihood Options:

During the survey, all respondents were asked to recall the primary sources (or sectors) of income. Most of the households (96.68 per cent) earn their livelihood by working in the primary sector, which includes agriculture and forestry. Only a small percentage of households engage in secondary or tertiary sectors. Roughly 5 per cent of the households engage in non-farm-based livelihoods. They engage in activities like weaving and handlooms. When we look at the reasons why households prefer a shift to non-farm livelihoods, we notice that there are two main reasons: the lack of water resources forces them to opt for different livelihoods (33 per cent) and the need to increase their income by looking for alternate sources (67 per cent).

Agricultural Work:

Due to the irregularity of rainfall in the *Bundelkhand region*, female farmers across all four districts talked of growing crops which require less water. *Mungfali* (peanuts), *til* (sesame seeds), *urad daal* (black gram), *matar* (peas), and *chana* (chickpea) were some of the main selections.

In the survey area, the *kharif and rabi* seasons are mostly suitable for growing crops, as irrigation is a problem in the summer. A comparison of major crops grown in the *kharif and rabi* seasons is presented in Table 1. Only a quarter of households (28 per cent) grow Zaid crops, and most of them grow vegetables.

Table 1: Major Kharif and Rabi Crops

Major Kharif Crops	% of HHs	Major Rabi Crops	% of HHs
Peanuts/Groundnuts	71.09	Wheat	91.94
Urad (Lentil)	63.98	Mustard	77.73
Sesame	61.61	Gram	69.67
Moong (Lentil)	58.29	Peas	38.86
Paddy	24.17	Vegetable	24.17

Reliance on NTFP: Women from *Adivasi* sections of the population relied on collecting firewood for the same. The increase in the depletion of natural resources and growing encroachment on their lands make it difficult for women to collect these products, as they have to travel longer distances. When asked about their responsibilities in the field, the women spoke of being involved in the entire agricultural process – planting seeds, ploughing the soil, and watering the fields. None of them, however, was involved in the sale of the crops.

A lady from *Niwari* mentioned that their male counterparts work less in the fields than women. *‘Khet mein bohot kaam hain, sukh se roti nahi kha sakte’* (There is a lot of work in the fields; we cannot eat our food in peace).

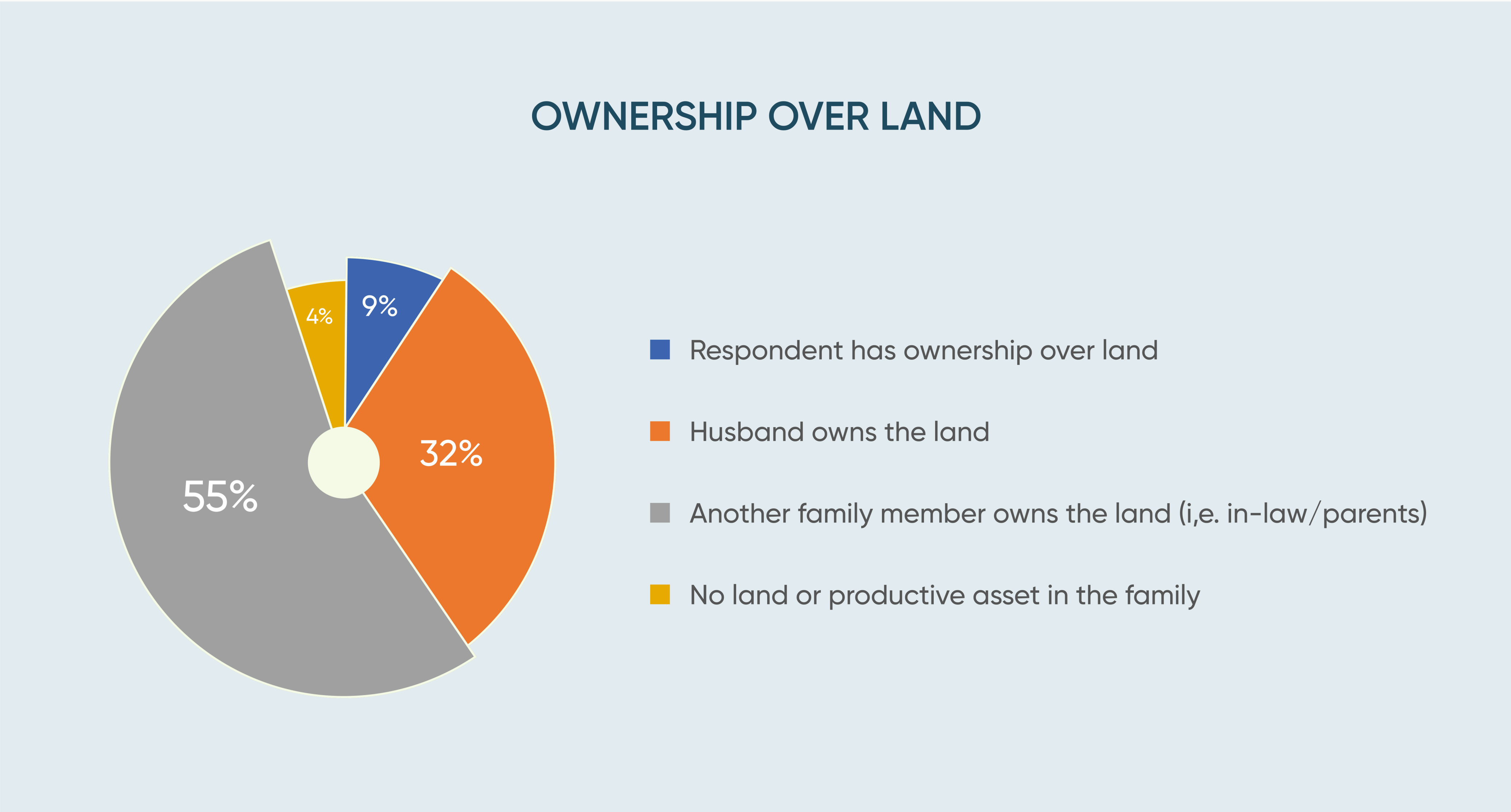
Women respondents further answered about their decision-making rights over crop selection, especially who in their family mainly decides which crop is to be produced. Mostly, the husband has a major role in decision-making when it comes to crop selection. Self-involvement and involvement of in-laws in decision-making are significant as well (Table 2).

Table 2: Decision-making on Crop Selection

Overall	Decides which crops to produce	Average decision percentage	N
Myself	20.38	75	43
Husband	56.40	64	119
In-laws	21.80	87	46
Son	0.47	100	1
Others	0.95	80	2
Total	100.00		211

As per the data, a smaller percentage of respondents have ownership over land resources. In most cases, the husband (32 per cent) or another member of the respondents’ families (55 per cent) owns the land resources.

Fig 2: Ownership Over Land



Distance and Time to Collect Water

The water usually dries up more often in May and June due to the extreme heat. While the women in *Chitrakoot* said they had no availability of borewells, those in *Niwari* pointed towards the inability to dig borewells, as the large rocks make it difficult to dig deeper. 76 per cent of the respondents think that the water supply has decreased in wells over the years. Less rainfall in recent years is the major reason for this decrease in water availability, as 90 per cent of the respondents stated the same. 5 per cent of the respondents also stated that wells became drier due to a temperature rise.

Table 3: Time & Distance taken for Water Collection

Particulars	Average	Min	Max	N
Distance to walk for collecting water for domestic uses (In km)	0.35	0	2	142
Time taken to collect water in a day (In hours)	1.5	0.5	3	211

The Social Nature of Water:

While speaking to the women from *Mahoba*, a woman from the upper-caste community voiced, *‘hum pandit hain, lekin sab log humaare saath bharte hain.’* (We belong to the *Pandit* caste, but everyone collects water with us).

Similarly, women from the SC and ST communities in *Niwari* spoke of their woes related to water. They said that the *Yadav* community overrules all water resources. *‘Chaar baatein sunni padti hain’* – they spoke of not being able to collect water peacefully without having to hear taunts and insults. They, too, have to pay five hundred rupees per month to collect water just for domestic purposes. *‘Taane maarte hain, itne maarte hain ki sunne nahi jaate. Gaali dete hain’* (People insult and abuse us so much. We cannot listen to it).

For *Chitrakoot*, too, the situation was no different. The women who are a part of the self-help groups in the villages believe that the recent generation is learning to overcome caste-based hierarchies. However, a few individuals still live in the Dark Ages. Due to the lack of resources, the women often go to the nearby pond to bathe – caste differentials abide there too. They abuse us – *‘naal se bahar hojao, hum paani nikal rahe hain, bhagwaan ko chadaenge. Yeh paani peena ka hai, cheetah nahi aana chahie.’* They also spoke of a sense of fear and internalised control which has settled in their minds. Whenever they see them coming, they move away – for fear of being ridiculed or mocked – *‘hum phir bahaar chale jaate hain, bacchon ko marte hain.*

Health Implications, Food Insecurity

All of the women in the FGDs complained of facing recurring back and stomach aches. Toiling in the heat in the fields all day, they spoke of feeling dizzy and dehydrated. The women, even when heavily pregnant, were expected to work. Many of them experienced symptoms of anaemia, irregular menstrual cycles and lack of nutritious food.

‘Khoon ki kami hain, agar paise hote toh auro se kaam karvate, kacche makkan hain, mitti bhi chhap rahe hain. Humaari toh awaaz tak nahi aati hain, didi; makkan kaccha hain humara.’

Due to the lack of water resources and electricity, the women do not have access to proper toilets. This lack of sanitation facilities makes them walk twenty-five minutes to relieve themselves in the nearby hillocks. This leads to an increase in their being prone to diseases and an increased risk of violence and sexual conflicts. *‘Gareebi hain, kheti itni zyaada nahi hain, ki khaana hojaye aur bech ke makkan bhi banale.’*

‘Dheere-dheere kaam toh karna padega, kamar ya pair main dard, itna paisa nahi hain ki kissi se kaam karvalu.’ ‘Bacchon ke liye nahi bahaenge toh kiske lie bachaenge – isilie toh mahila kamzor hain, dusro pe dhyaan zyaada deti hain, khudh pe kum. Kaam bhi wohi karti hain – sochte hain kaam karlete hain phir khayenge. Humein dhale dikkat hain, bacchon ko nahi honi chahie.’



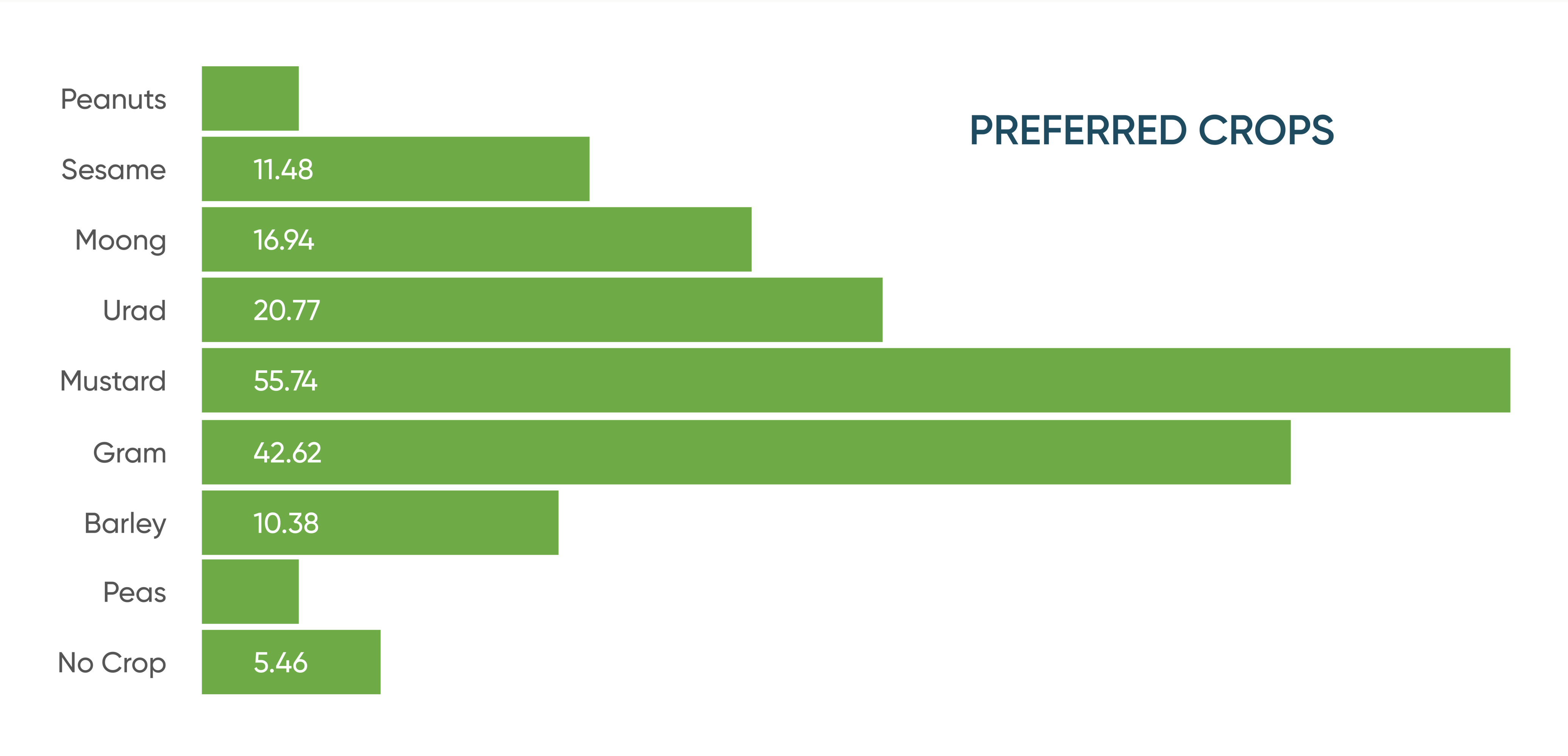
Resilience Strategies

In terms of the agrarian crisis and absence of monetary resources, the respondents spoke of an increase in male out-migration looking for work in urban areas. Some spoke of growing alternative crops which do not require as much water. A few turned to adopting alternative livelihoods, opening a *kirana*/grocery store, and stitching clothes. Some, in terms of extreme crisis and food shortage, fell prey to loan sharks. Additionally, some respondents sold their livestock, as they did not have adequate resources to fend for them. They do not have fodder available to feed the animals.

If they are malnourished, no one will buy them, which is why they have to resort to selling them.

While the men shift to urban areas, the women are left to tend to the fields. The agrarian distress caused by the crop failure makes it difficult for women to salvage the crops that are left. In times of water crisis, they grow less water-intensive crops such as *makka*, *bajra* and *sarson*.

Fig 3: Preferred Crops in Times of Water Scarcity

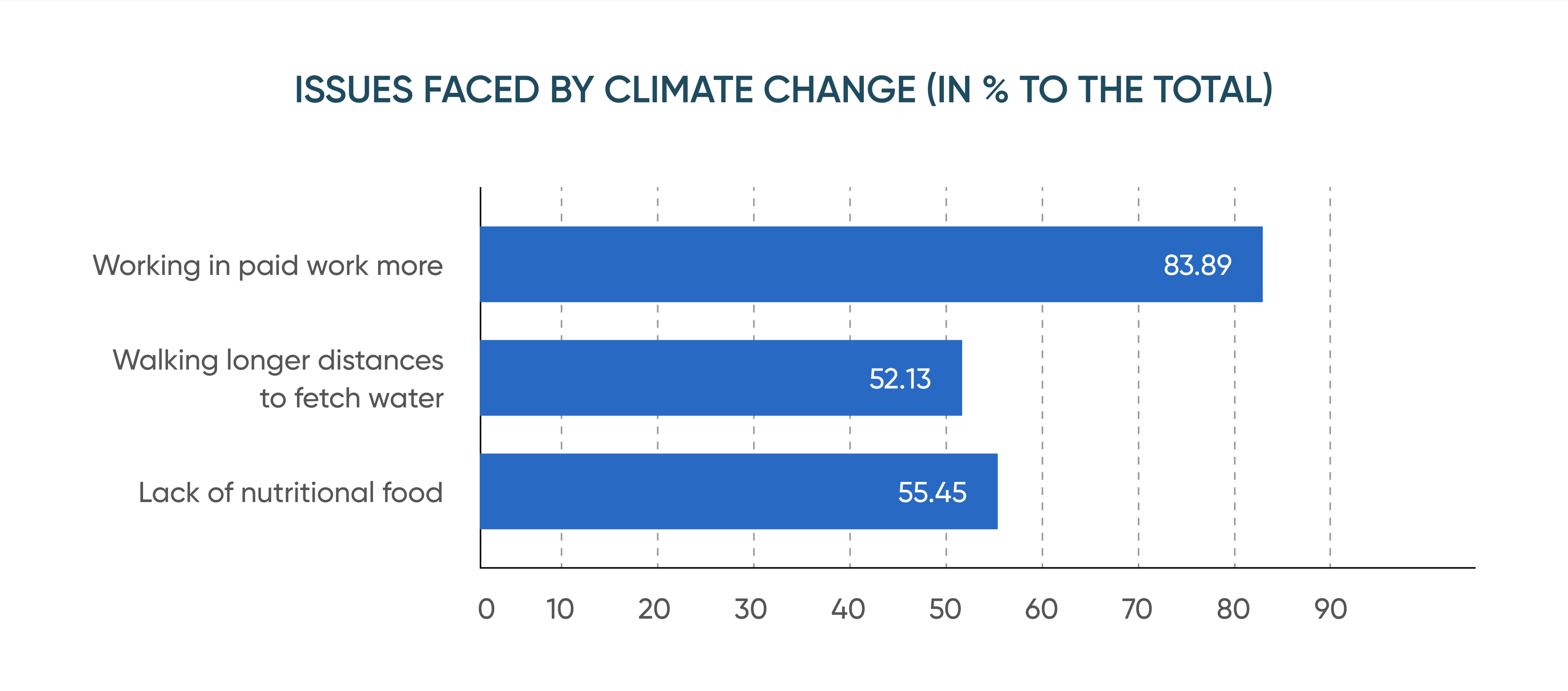


Additionally, the women in *Chitrakoot* complained about the increase in indebtedness during such times. They take loans worth 15, 30 and 40,000, which accrue an increased amount of interest over time. While sometimes such loans are taken to fund weddings or build houses, other times, individuals heavily trapped in the cycle of poverty have to take loans to meet their basic food needs.

Speaking of the troubles of money sharks, a woman remarks, *‘tumhare ghar mein khaana ho, koi margaya ho, dena hi dena hain. Ghar mein taala laga denge, gaali dete hain.’*

In *Mahoba*, the entire family tends to migrate to urban areas when agriculture is not possible: *‘kahin khaana toh hain – jab baarish nahi hoti hain tab jaate hain.’* For those who stay back, they engage themselves in alternative professions of herding livestock and opening clothing stores. An old lady spoke about owning around fifty hens and selling them to make ends meet.

Fig 4: Impact of Climate Crisis



The respondents then shared some of the coping strategies they have adopted to address the climate-related issues, which include both on-farm and non-farm-based activities. Changing cropping patterns is the major strategy followed in agriculture. A significant number of the households kept their land fallow, and some sold their livestock as well

Non-farm-based coping mechanisms are frequent in the communities, and the major strategy appears to be migration. A quarter of the total households shifted to non-farm-based activities for their livelihoods.

Fig 5: Coping Strategies of Households

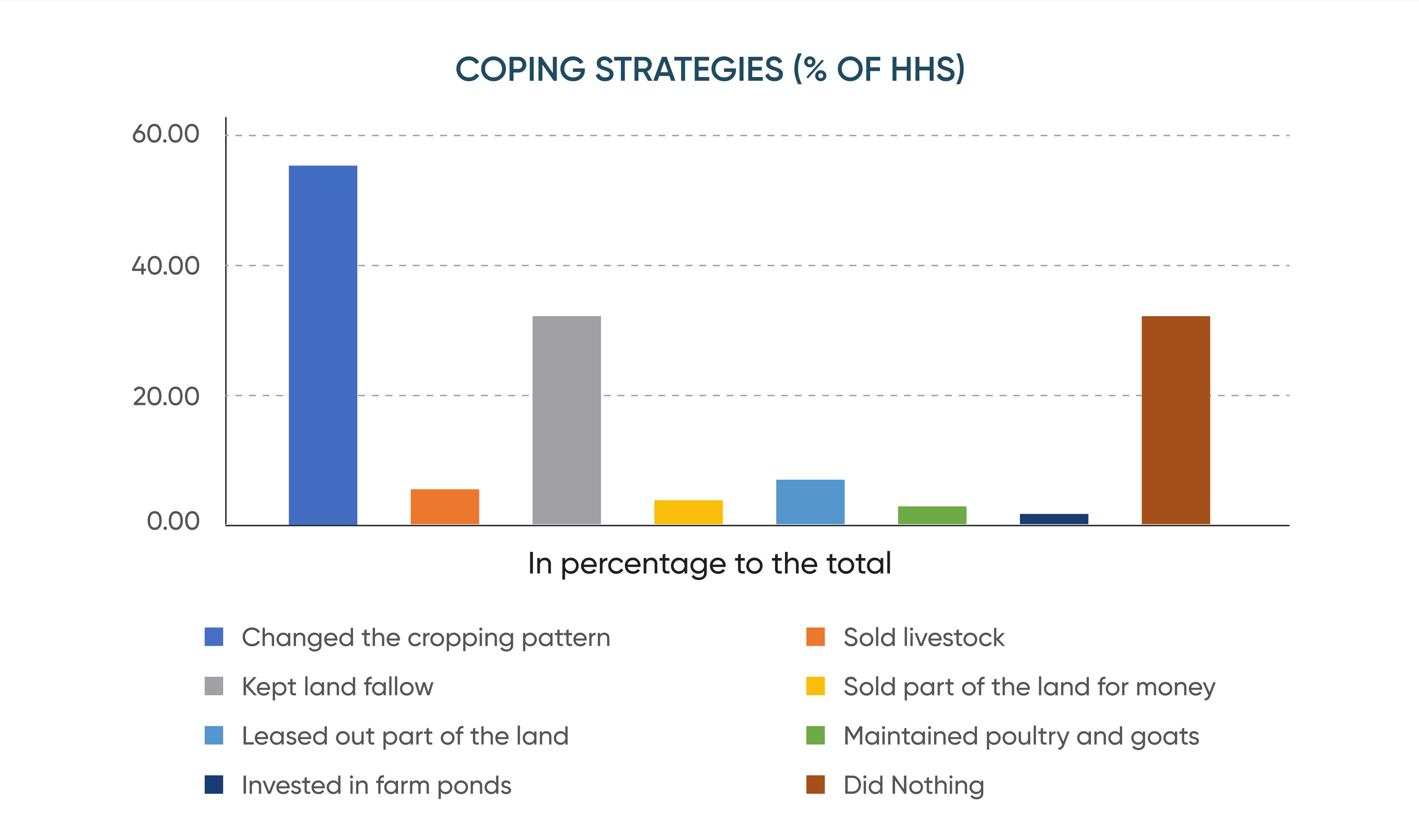
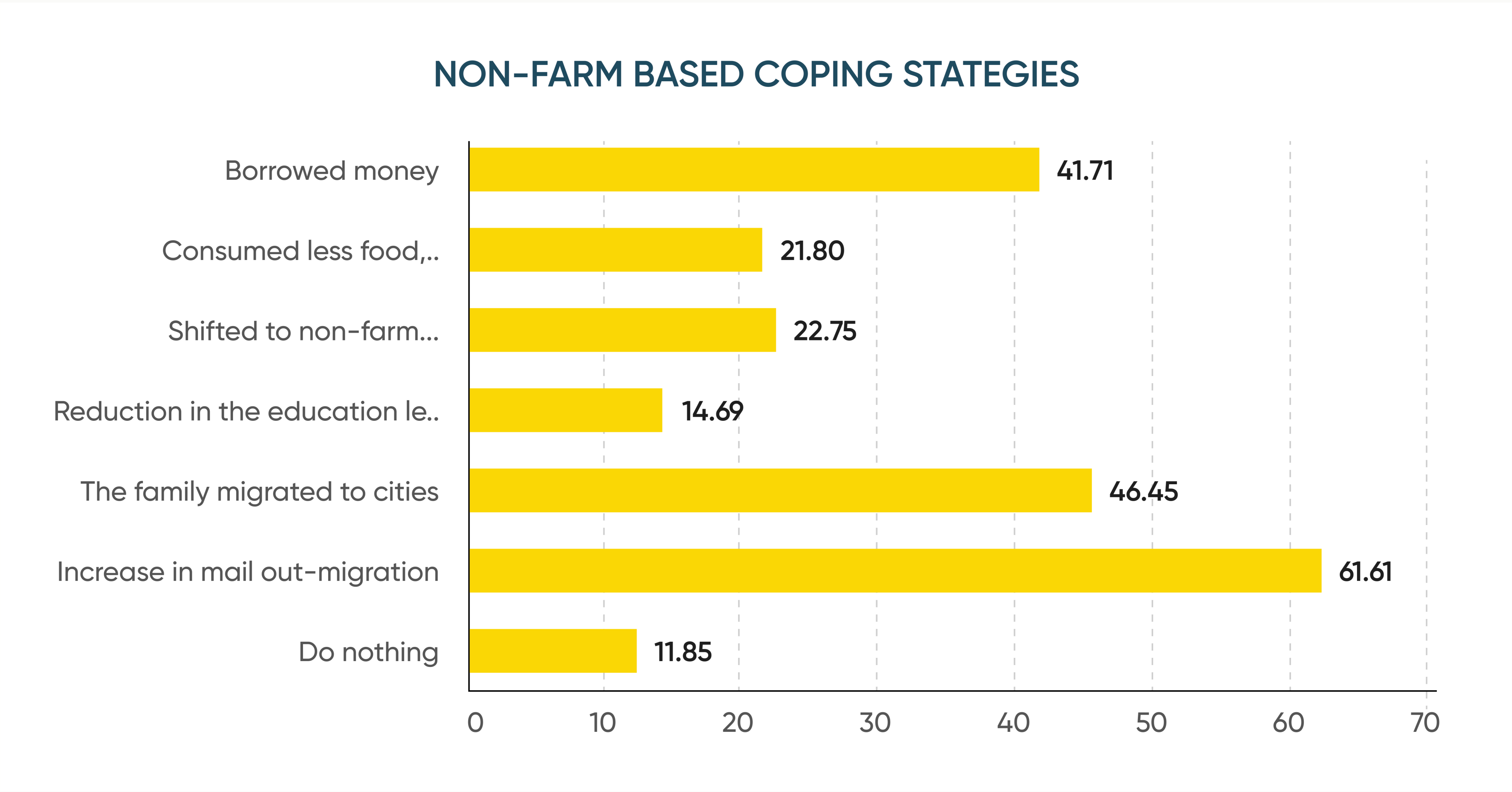


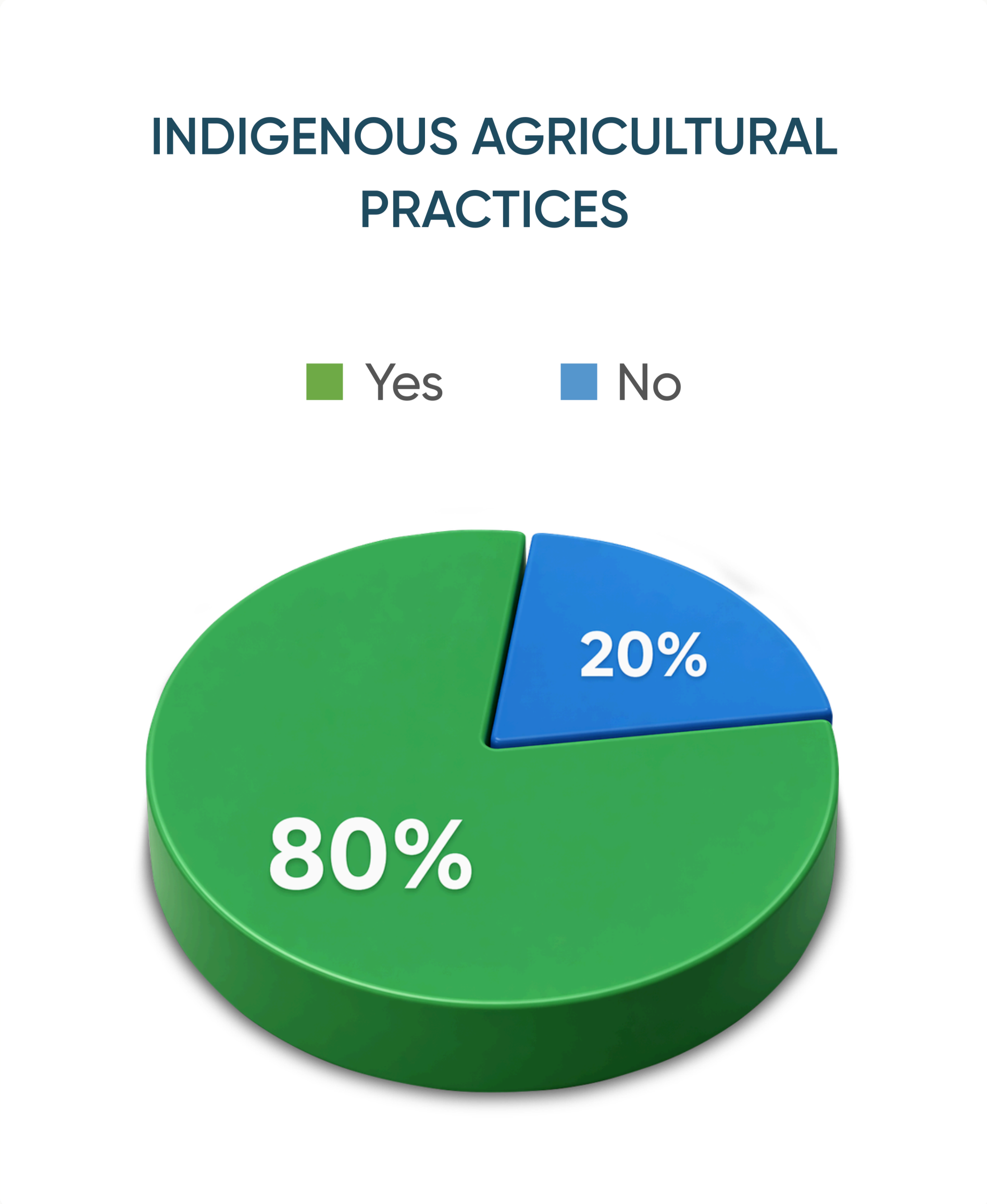
Fig 6: Non-Farm Coping Strategies



Traditional, Indigenous Knowledge

Women across the districts advocated the use of organic and natural fertilisers and pesticides. They mentioned that it improved soil health and crop productivity. Making *gobar ka khaad* and fertilisers such as *jeevamrut* and *dhanjeevamrut* at home – they found organic options more cost-effective and sustainable.

Fig 7: Usage of Indigenous Practices



All women opined that though chemical fertilisers increase the productive yield of crops, they dry up the crops and compromise soil health. All of them used to use chemical fertilisers earlier. 72 per cent of the respondents shared that their families practise indigenous agricultural practices. Ancestral knowledge and peer learning are the important factors that contributed to their ability to implement such indigenous practices in agriculture. However, being a part of self-help groups, they learnt the importance of sustainability in farming. For the women who were not part of SHGs, they learnt through trial-and-error methods and peer learning.

‘Lagta hain thodi bohot aadat hogayi hain, garmi zyaada padh rahi hain – baarish ki sambhavna hain. Karte karte anubhav hojaata hain.’ – Most of the women believed that through indigenous methods and their knowledge of agriculture, they were now able to understand the weather better.

The women in *Niwari* talked about the growth of nutrition gardens. With *1 bigha* of land each, they practised nutritional, pest management, *nimrastra*, *brahmastra*, and *agnihastra*. The nutrition gardens help them grow vegetables (tomatoes, *mirchi*, *palak*, *dhania*, and *methi*) for their consumption. They sell little of the produce and mainly use it at home, which helps in making them agents of what to produce and how much. In addition to improving agricultural growth, the women also look after the livestock and make sure they have healthy diets.



The Viability of Agriculture

In *Niwari*, all respondents agreed that in earlier times, agricultural production was better. '*Bimaari nahi hoti thi*' – now both crops and humans contract diseases faster. Such is the impact of a climate crisis, which leads to famine and health failures. They believe the environment is not safe anymore, as they have to go to the hospital every other day.

Speaking to an old lady, referred to as '*Amma*' (60 plus) in *Tikamgarh*, it was revealed that the crops were more nutritious earlier. She opined that earlier, the rains were more regular, which made it easier to grow crops, as all the water sources would be well replenished. Green, healthy vegetables such as *bhindi*, *soybean*, and *rai* would grow, which stopped growing very recently. Even women from the younger generation observed that due to wild animals and climatic changes, those types of crops can no longer grow. '*Khub barsaat hoti thi, tab soybean ugti thi.*' *Amma* believes that this change has become more visible over the past twenty years.

The women in *Mahoba*, however, were of a different opinion. They believe that the agricultural produce was less earlier, and now, thanks to the increase in organic options, they can grow healthy crops on fertile soil.

Matar, tomatoes, *methi*, and *mirch* are some of the crops they now grow. In *Chitrakoot*, too, the women felt that during their in-laws' times, one never had a full stomach and had to survive on one *chapati* each. In times of crisis, they would eat *mahua* leaves by crushing them. They feel their children have better nutritional health. They believe that there was a lot of agricultural potential earlier, but they did not have the technical know-how. While earlier individuals only relied on rainwater, people now have other sources – *borewells* and taps – to turn to.

'*Aaj kal ke bacchein zyaada palain karte hain. Sab chale gaye hain, ghar pe mama papa rehte hain, woh dekhlete hain.*' In *Mahoba*, too, the women wanted their children to move out, get further educated and have jobs in cities. Some did not want their children to be restricted to agriculture. Whereas a few women spoke of their children being keen on agriculture, as they were given exposure to the many ways in which agriculture can thrive as a profession through increased training and workshops.

Conclusion & Implications for Future Research

While we acknowledge women's knowledge throughout the paper, we also critically look at the notion of women being inherently closer to nature as a consequence of their gendered roles of being nurturing and caring. Rejecting such essentialist beliefs, therefore, we establish how women's responsibilities revolve around the environment, and they develop a greater sense of understanding of the same. It is imperative, in this context, to hone their role in the environment and how they can help develop resilience strategies in agroecology, as they are active participants in the same.

Focusing on receiving insights from qualitative interviews, the paper brings out the lived experiences of distinct female voices. More often than not, academic debates render women voiceless, incapable of expressing their agency or autonomy.

Looking at the category of gender intersectionally, we reveal a sense of heterogeneity amongst women. It is in this context that the paper points to the need to avoid homogenising households as a single unit, regardless of individual needs and demands.

Using *Brahmanical* patriarchy (*Chakravarty, 1993*) as a point of reference, we reveal the existence of multiple power mechanisms enforced on individuals. In so many cases, the power has manifested itself in various ways, so much so that women have internalised the same. The level and amount of work carried out by them have become normative. Tied to their socio-cultural position in society and owing to their caste-class social location, the women have come to live with the fact that they are meant to be subservient to those belonging to the dominant classes.

It is imperative, therefore, to design new approaches to develop sustainable agrarian practices which keep in mind both gender and practical needs. There is an increased need to include women in development debates and policy implementation programmes. The approach we stand by is to integrate gender within development, following a gender-transformative framework. Women should be able to have ownership over their resources and land, which would ultimately enhance not only their economic independence but also improve their nutritional status and their socio-cultural position within society.

About the Authors



Stutilina Pal

Stutilina Pal brings both depth and direction to her role as Program Director at SRIJAN, where she has been influencing systems since 2006. With a foundation in Agriculture from the Odisha University of Agriculture and Technology and a Master's in Gender and Development from the Institute of Development Studies at the University of Sussex—where she was awarded the Chevening Fellowship in 2016—her work is rooted in ground realities and theory. Her interests flow through questions of local governance, water security, and gender, converging in her leadership of SRIJAN's knowledge management, research, and communication efforts.



Prarthana Lumba

Prarthana Lumba works at the intersection of exploration and impact as a Project Executive in the Research Vertical at SRIJAN. Her research pursuits weave through questions of gender, sexual and reproductive health, power and governance, and the many textures of culture. Rooted in a Bachelor's degree in History from the University of Delhi and deepened by a Master's in Women's Studies from the Tata Institute of Social Sciences, Hyderabad, her work reflects a commitment to understanding and reimagining the worlds we inhabit.

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