MANDI II Agricultural Livelihood Diaries

Health and Food Security

At a Glance

Through the Walmart Foundation-funded Market Access eNabled by Digital Innovation in India Phase 2 (MANDI II) project, Grameen Foundation USA (GFUSA) and its Indian subsidiary, Grameen Foundation India (GFI) (together, Grameen), received funding to strengthen Farmer Producer Organizations (FPO) in the Purvanchal region of Uttar Pradesh (UP) and West Bengal, India. A series of monthly surveys ("diaries") were completed with 30 FPO member households with one man and one woman from two FPOs in UP—AKPCL and Bankelal Bio Energy—resulting in of 60 individuals interviewed.

Findings from the 12 surveys reveal the multifaceted ways in which smallholder farmers navigate food security, health challenges, and financial constraints particularly during the lean season. While many households demonstrate resilience through agricultural self-reliance, small-scale vegetable farming, and government entitlements such as Kisan Samman Nidhi and ration cards, financial vulnerability remains a critical issue, especially in relation to health. Households largely consume food produced from their own farms and ration entitlements, with minimal dietary diversity or changes unless driven by health conditions like diabetes. Kitchen gardens are used by a significant number of families to support household consumption, typically lasting 3–6 months, helping to stabilize nutrition during periods of food scarcity.

Health continues to be a major burden both financially and emotionally. While only a few households report being free of chronic illness, most face conditions like diabetes, arthritis, kidney stones, and potential cancers. Despite government programs like Ayushman Bharat, many still rely heavily on out-of-pocket expenses and financial help from extended family. The burden is further amplified by loss of workdays and the need to prioritize health costs over other essential expenditures. Coping mechanisms during lean seasons include borrowing money, selling grains, reducing food consumption, or depending on daily vegetable sales. While some households save money or grains in anticipation, others operate with little to no buffer. Notably, most respondents report a lack of health insurance or sustainable savings mechanisms, making them vulnerable to shocks—particularly health-related ones. Government schemes like pensions, scholarships for girls, and ration cards do provide essential support, yet access remains uneven and underutilized.

Female smallholder farmer from Uttar Pradesh	"We store enough for the family's needs and also keep some for family members who live away. The rest is sold. When they come home, we check with them about their expenses and store the grain accordingly."

Acknowledgements

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GRAMEEN FOUNDATION

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Acronyms

CSA	Climate-Smart Agriculture
FPO	Farmer Producer Organization
GFI	Grameen Foundation India
GFUSA	Grameen Foundation USA
HH	Household
IGA	Income-generating Activities
MANDI	Market Access eNabled by Digital Innovation in India
SHF	Smallholder Farmer
UP	Uttar Pradesh

Introduction

Through the Walmart Foundation-funded Market Access eNabled by Digital Innovation in India Phase 2 (MANDI II) project, Grameen Foundation USA (GFUSA) and its Indian subsidiary, Grameen Foundation India (GFI) (together, Grameen), received funding to strengthen Farmer Producer Organizations (FPO) in the Purvanchal region of Uttar Pradesh (UP) and in West Bengal, India. A series of monthly surveys ("diaries") were completed with 30 FPO member households with one man and one woman from two FPOs in UP—AKPCL and Bankelal Bio Energy—resulting in 60 individuals interviewed. This research brief covers one theme—health and food security—over the 12-month period, which spanned March 2024 through February 2025, crossing all agricultural seasons.

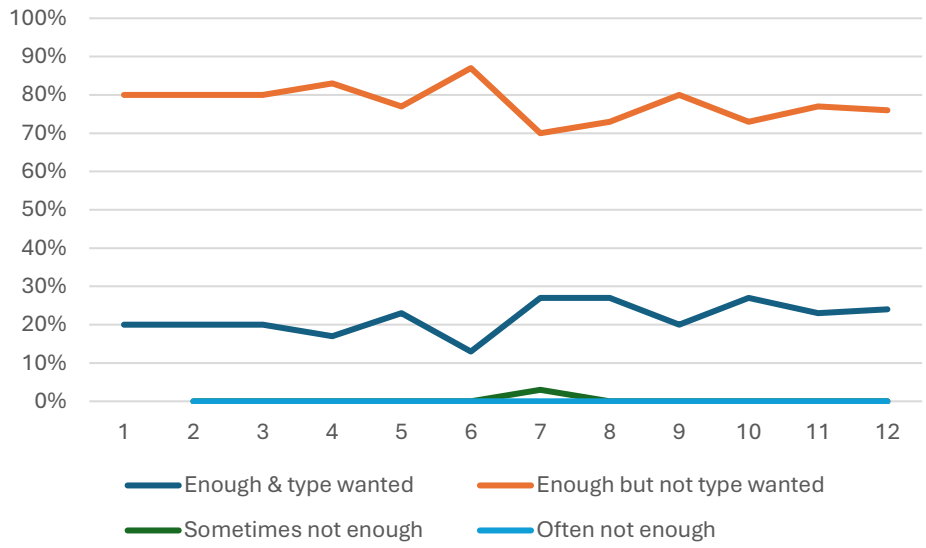
Results

Food Security and Dietary Habits

Food security is a critical aspect of household well-being, encompassing not only the availability of food but also its quality and accessibility throughout the year. This section explores the food security and dietary habits of households.

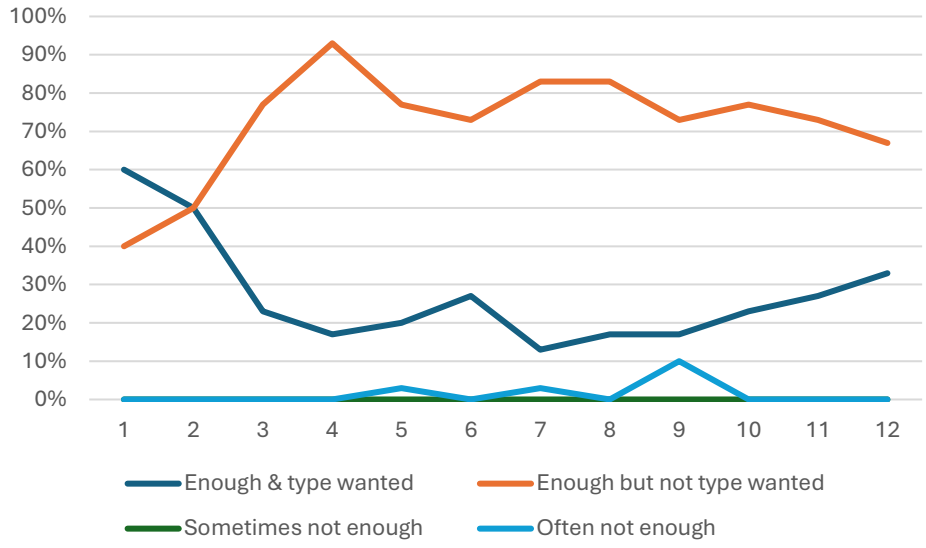
Over the course of 12 months, most women reported having sufficient food, though it was not always the type they preferred (ranging between 73% and 83%), indicating low food insecurity (food insecurity without hunger). Food security reached its lowest point in Month 6 (August), when only 13% reported having enough food of the desired type. Only in Month 7 (September) did a small proportion (3%) report sometimes not having enough food. At no point during the year did any respondents report often not having enough to eat. These findings suggest that although food availability remained relatively stable, food quality or preference was a persistent issue among women.

Figure 1 Women's food security in past year



Similar to women, most men reported having sufficient food, though often not the type they preferred. In Month 1 (March), 60% of men stated they had enough food of the type they wanted, representing the highest level of food security over the 12-month period. However, in several months, particularly in Months 4 (June), 7 (September), and 9 (November), the percentage declined to as low as 13–17%. For the majority of the 12 months, men's food security stayed below 30%, which is like women's food security. Instances of food insufficiency were relatively limited. In Months 5 and 7, 3% of men reported sometimes not having enough to eat, while the highest proportion of food insufficiency occurred in Month 9, where 10% reported the same. Importantly, at no time did any male respondents report often not having enough food. Overall, the data suggests that while food quantity was generally adequate, access to preferred food types and occasional shortfalls in sufficiency were areas of concern for men.

Figure 2 Men's food security in past year



These findings for both women and men align closely with Indian cropping seasons. March and April, following the rabi harvest season, tend to have better food availability and greater dietary diversity, which is reflected in higher food security among men (60%) but not so much for women (20%). However, as the year progresses toward June, August, and September, food stocks deplete, and households enter the lean season when fresh produce and dietary diversity become scarce. This scarcity is clearly mirrored in the data, with satisfaction regarding preferred food dropping sharply to 13% among women in August and 13–17% among men in June, September, and November. Despite relatively stable food availability due to government interventions such as the Public Distribution System (PDS), which supplies basic staples like rice and wheat, access to varied and preferred food types remained limited. Furthermore, occasional instances of food insufficiency, particularly in September and November, correspond with periods of seasonal transition between harvests and highlight vulnerabilities caused by market delays, storage challenges, and the high dependency on rain-fed agriculture. Thus, it reflects that while food quantity remained relatively stable across the year, food quality and diversity were persistent challenges for rural populations, deeply tied to the seasonality and structural features of the Indian agricultural system. These patterns indicate that food security in these communities is more nuanced, centred not only on having enough to eat but also on the quality and cultural appropriateness of food.

Hunger Season and Coping Mechanisms

The lean or hunger season is described as the season when the household has the least amount of income due to agricultural cycles or based on key income sources. The lean season typically occurs in northern India from **July to September**, after the rabi harvest (March–April) is consumed and before the kharif crops (like paddy, maize, and pulses) are harvested in October. The challenges posed by the lean season are acknowledged by both men and women; they both exhibit a strong sense of resourcefulness and adaptability in their households. These strategies include financial planning, food preservation, alternative income generation, and drawing on social support systems. The responses provide insight into how households anticipate, prepare for, and manage through the lean season, often making difficult choices to ensure food security and financial stability.

Men and women both recognize the concept of a lean or hunger season and understand its significance regarding income and food security. They agree that planning and preparation for this period are crucial for ensuring the household can manage its needs effectively. Mentioning various strategies, such as saving grain and money, indicates a proactive approach to coping with expected challenges during this time. Men tend to focus on agricultural cycles and direct resource management strategies. In contrast, women emphasize a combination of agricultural planning and broader social strategies, including community cooperation and diversification of income sources, to effectively manage the challenges associated with the lean or hunger season.

Saving money and financial planning: Qualitatively, during the lean or hunger season which is typically characterized by low agricultural income and limited employment opportunities, households adopt a range of strategies to ensure food and financial stability. One respondent shared, "We save some money, which helps in managing household expenses, but when there is no other option, we borrow money from others to run the household." In some households, financial decision-making is primarily managed by men, as noted in a statement: "We save some money, which helps in managing household expenses, and the male members of the house manage how to run the household and what needs to be done. The women in the house don't play a significant role in managing household expenses." While some women expressed limited involvement in financial decision-making, one reflected, "I don't have much of a role in managing the household expenses; it is the men in the house who are responsible for figuring out how to manage and handle the expenses." Men typically emphasize the importance of agricultural cycles and may identify specific months or seasons when income is anticipated to be low, often correlating these times with farming activities such as sowing and harvesting. They may detail practical steps taken to prepare for the lean season, such as saving harvested crops, allocating specific quantities of grain for future use, or making investments in livestock that can provide additional resources during scarcity. Women's roles in managing food production and savings were evident.

As one explained, “We sell milk and grow vegetables. Yes, we save money, but we don't keep grains for selling, only for eating.”

Income diversification: Families also diversify income through activities like labour work and animal husbandry, with several stating they engage in *“selling stored grains”* or *“doing labour work”* during financially tight periods. Men generally reported taking the lead in financial planning while women contributed to home gardens and food management. Women's responses highlight diversification of income sources more explicitly, indicating efforts to venture into side businesses, cooperative ventures, or crafts that can supplement household income during lean times. They may also express concerns about not only food availability but also the need to manage various household expenses, tying their planning to broader family and community dynamics. One woman shared, “When there is no agricultural work, we sell milk, and our children who work outside send money. Sometimes, we run out of grains and borrow from neighbours, repaying them later. My husband drives a vehicle, which also helps with expenses.”

Selling grains: A common approach is selling stored grains to cover essential expenses. Crops like maize, pearl millet, and wheat play a crucial role in sustaining households during this time.

Vegetable gardening and sales: Many households shared that they grow vegetables specifically for their own household consumption, often maintaining small kitchen gardens adjacent to their homes or on small plots of farmland. These home gardens play a significant role in ensuring food security and dietary diversity, especially for 3–6 months of the year. The crops grown vary by household, but often include onion, spinach, mustard greens, okra, tomatoes, gourds, brinjal, radish, and seasonal vegetables like bitter gourd and fenugreek.

As one respondent explained, “Yes, we grow vegetables behind the house for eating—things like brinjal, chili, coriander, and fenugreek. We eat from it for about 5 to 6 months.” Another respondent emphasized the continuous nature of vegetable cultivation in their household: “We grow vegetables, so we are never free throughout the year. If something is lacking in the house, we buy it from the market, but mostly we manage with what we grow.” Men emphasize the management and decision-making aspects related to gardening, such as the choice of which crops to plant and the cultivation methods used. Men provide a more quantitative approach, mentioning specific amounts of crops that can be expected from the garden and their importance in overall household food security

Women often illustrate a more comprehensive view of the garden's role within the household, discussing not only the crops grown but also the significance of these gardens in terms of nutritional value and family well-being. For many, these gardens are not just a means of sustenance but also a way to reduce dependency on market-bought produce. “We have a small garden where we grow spinach and okra, which lasts us for about 3 months. It helps in reducing some household expenses.” Others see gardening as part of a broader strategy for health and self-reliance, particularly during lean or high-price seasons. Women's responses usually reflect a broader perspective on consumption, such as sharing surplus crops with neighbours or the community, emphasizing cooperation in food security. Overall, these gardens serve as a buffer during times of scarcity and reflect a strong connection between food, land, and everyday resilience.

Many households maintain small home gardens that play a critical role in meeting their food requirements for nearly half the year. One respondent explained how their family grows a variety of vegetables such as bottle gourd, cauliflower, coriander, lady’s finger, bitter gourd, and ridge gourd, primarily for home consumption. These vegetables are cultivated seasonally during winter, monsoon, and early Kartik and typically last up to 5–6 months. During the summer, when vegetable cultivation is not feasible due to climatic conditions, families rely on market purchases. However, when financial resources are limited, some households resort to bartering or selling small quantities of grains (e.g., 5–10 kg) to buy vegetables as one respondent stated “We use the home-grown vegetables for up to 5-6 months a year. The rest of the year we need to buy vegetables. If we don't have money, then we sell 5 kg or 10 kg grains

and get our vegetables. There are only two ways: eat own vegetables and or sell what we have and buy vegetables." Another shared, "We grow vegetables, so we are never free throughout the year. If something is lacking in the house, we buy it from the market, and since vegetables are sold daily, there is no major problem regarding money." These perspectives highlight both the significance of home gardening in ensuring dietary diversity and the strategies families adopt during off-seasons or financial stress. Home gardens thus serve as a buffer during lean periods, reducing dependence on markets and offering an essential source of nutrition and resilience.

The presence of gardens focused on household consumption and emphasize the importance of these gardens in supporting their family's food needs. Indicating that these spaces are utilized to grow vegetables and other crops for direct household consumption. Both men and women recognize the importance of household gardens for food consumption and report similar types of crops and durations of availability. However, men typically emphasize the practical management and decision-making aspects of gardening, whereas women often provide a more relational and holistic view, focusing on family well-being, emotional significance, and community interactions stemming from garden produce.

Borrowing money: Some families mentioned borrowing money as a last resort to manage household expenses, with repayment planned once income is restored. One respondent shared, "We take goods on credit from shops for 1–2 months, and when we harvest grains, we give those grains to the shopkeepers. Alternatively, if we get money from elsewhere, we pay the shopkeepers." Some women noted they made very little decisions about borrowing, "We save some money, which helps in managing household expenses, but when there is no other option, we borrow money from others to run the household. Once we have the money, we repay the borrowed amount. Even so, I don't have much of a role in managing the household expenses; it is the men in the house who are responsible for figuring out how to manage and handle the expenses."

Community and family support: While men might indicate reliance on agricultural know-how or experience to navigate the challenges posed by the lean season, women often discuss their emotional resilience and the importance of family cooperation in facing challenges, emphasizing the balance between managing household needs and supporting each other psychologically. Women tend to provide a broader and more community-oriented perspective on coping strategies. For example, one woman shared, "We manage household expenses with the money we earn from our jobs. Additionally, we run a community group, so when we need money, we get support from there. Selling cow's milk also provides some financial support. When there are significant problems, we sell the stored grains to manage." They note relying on other family members, "During such times, we think in advance about the type of work we should do based on the season and its demands, and we adjust our work accordingly. My older brother also runs a gym, which helps cover our expenses." Another shared, "If we run out of grains, we borrow from neighbours and sell milk to cover expenses. Sometimes, we cut down on food and other expenses to manage."

Household Health and Well Being

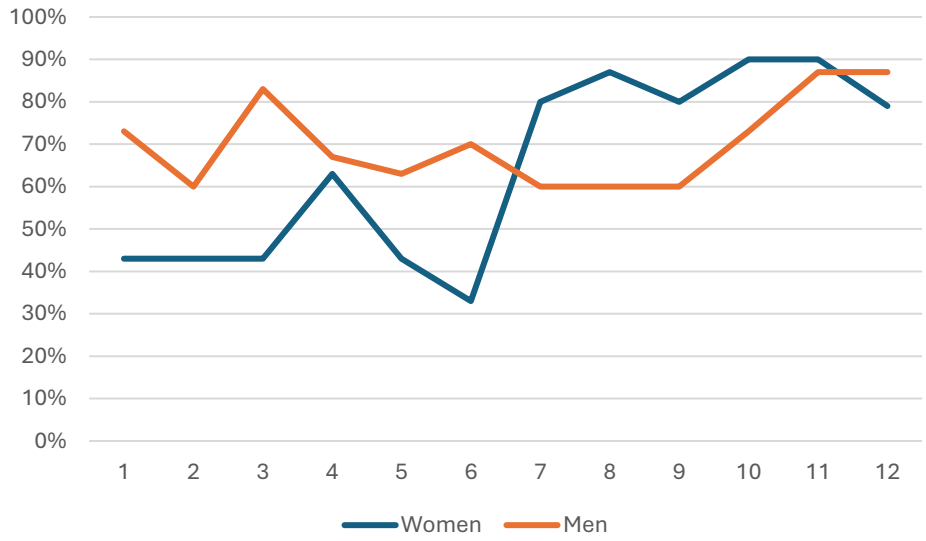
Health plays a critical role in the overall well-being and productivity of households. This section explores both the general health status of household members and the coping mechanisms adopted when faced with illness. Drawing on quantitative data and qualitative narratives, it highlights how households manage chronic conditions, access healthcare services, and navigate the financial burden of treatment. The responses reveal not only the physical health status of families but also the socioeconomic factors that shape health-seeking behaviour and resilience in the face of illness.

Over the 12-month period, the proportion of female respondents reporting excellent or very good household health was relatively high in the later months, particularly from October to February (months 8 to 12), where it ranged between 79% and 90%. This period coincides with the post-monsoon and winter seasons, which are typically associated with fewer infectious diseases and more stable food availability, potentially contributing to better perceived health. Over

the 12-month period, men reported generally positive perceptions of household health, with excellent or very good ratings consistently high throughout the year, ranging from 60% to 87%. Interestingly, when women's health perceptions improve, men's health perceptions decline and vice versa. Moreover, unlike women, men's perceptions of health showed less fluctuation across seasons, suggesting a more stable or optimistic assessment.

In contrast, lower ratings were observed during the summer and monsoon months especially in August (months 6) for women when only 33% reported excellent or very good health. These months are known for increased health vulnerabilities in India due to heat-related illnesses, waterborne infections, and vector-borne diseases such as malaria and dengue. Overall, the data reflect a seasonal pattern in household health perceptions, with poorer health reported during the hotter and wetter months and improved health during the cooler post-monsoon period.

Figure 3 Health perceived by men and women



The differences in health perceptions between male and female respondents can also be closely linked to the challenges of the lean season, which typically occurs just before or after harvest, when food stocks are low, and resources are limited. During this time, women often face an increased workload, as they are primarily responsible for food preparation, childcare, and managing household duties, all of which become more demanding with fewer resources. The lean season exacerbates the nutritional inequity, as women may eat last or in smaller portions, leading to poorer health and greater fatigue. This, combined with the added stress of caregiving, means that women are more likely to experience health issues that they may perceive as more severe, especially in months with heat and humidity. Moreover, during the lean season, access to healthcare may be even more restricted due to financial constraints or limited mobility, particularly for women who are often less likely to seek or receive treatment. As a result, women's health perceptions during this period tend to be more fluctuating and negative, reflecting the compounded strain of seasonal health risks, increased responsibilities, and limited resources. In contrast, men may be less affected by these seasonal shifts, perceiving household health more positively, as they are less likely to bear the full brunt of domestic and caregiving responsibilities during this time.

Chronic and serious health conditions are a reality for many households, with only a few reporting no such illnesses. The most common conditions mentioned include diabetes, arthritis, kidney stones, and even a suspected case of cervical or uterine cancer. These ongoing health concerns place a significant financial and logistical strain on families. Medication costs range widely, with some households reporting monthly expenses between ₹800–₹4,000 (~USD 9-46), and others citing annual out-of-pocket costs between ₹25,000–₹60,000 (~USD 286-687). Qualitatively speaking, the

financial burden is compounded by the time and income is lost when family members travel to obtain medication or receive treatment. Men emphasize on the economic implications of chronic ailments, discussing how treatment costs directly affect household finances and budget management. One respondent shared, *"I have a long-standing issue with dizziness, and my medication costs around ₹800 to ₹1,000 (~USD 9-11). My son pays for the medication. When we go to get medicine, we have to leave work, and the labourers look after the fields during that time*." Men also talk about the need for family unity in addressing these health-related challenges, focusing on responsibility and leadership within the household. Another echoed this, stating, "*Yes, we face difficulties due to health problems, and the medical expenses are around ₹15,000 (~USD 171) per month. This affects agricultural work and household expenses*." Men often highlight practical coping mechanisms, such as working extra hours, finding alternative income sources, or cutting back on other expenses to manage the financial burden. The impact extends beyond finances to the disruption of education and employment. Women's responses include discussions about the health implications for the entire family, addressing how a family member's inability to work or attend school affects everyone's daily life and responsibilities. For example, one woman recounted her experience with cancer: "*Suddenly, I started menstruating again after it had stopped for a long time... the doctor said I had cancer. I underwent treatment and am better now, but I still have to go for check-ups occasionally, which my younger son accompanies me to. When he goes, his studies get interrupted*."

For others, the cost is shared among family members. "*My brother has diabetes, so he takes regular medication. Our medication costs around ₹2,000 to ₹3,000(~USD 23-34) per month. When we need to get the medicine, we have to close the shop, affecting our income*," one participant said. Another added, "*Yes, one person in the house has diabetes, and my father has knee and back pain. The monthly cost of medication is around ₹3,000–₹4,000 (~USD 34-46). The children who have jobs also support. The person who goes to get the medicine loses time, whether it's the grandson taking leave from school or the children taking leave from their jobs*." Women often focus on the emotional and relational aspects of dealing with chronic health issues, discussing how the family comes together to support the affected member emotionally and practically. They describe caregiving roles and the emotional labour involved in managing chronic illnesses, highlighting a deeper connection to the patient's experience. These narratives underscore how chronic illness affects not just individual health, but the broader economic stability, education, and daily functioning of rural households.

Overall, rural households reported generally good health throughout the year, with both male and female respondents noting fluctuations. Men and women identify chronic health ailments as impactful on their families, men typically emphasize financial and practical coping strategies tied to economic responsibilities. In contrast, women focus more on emotional support, caregiving roles, and the broader family dynamics associated with these health challenges. This highlights a nuanced understanding of how both genders perceive and manage the burdens of chronic health issues within their households. While perceptions were mostly positive, chronic illnesses like diabetes, arthritis, and cancer were common and placed a significant financial and emotional strain on families. Men emphasized economic impacts and coping strategies, while women highlighted caregiving, emotional support, and disruptions to daily life. These insights reveal the multidimensional burden of chronic illness and underscore the importance of both financial and emotional resilience in rural health management. Combined with the qualitative insights, it is evident that while rural health remains seasonally influenced, families employ various coping strategies from borrowing and shared caregiving to adjusting work routines to manage both acute and chronic health challenges.

Health and Nutrition Practices

Most of the households reported qualitatively that they had not made major changes to their diets in the past year, some indicated they had adapted their food choices due to health-related reasons such as diabetes, high temperatures, or illness. These adaptations included reducing the use of oil and spices, increasing the intake of leafy vegetables and salads, and avoiding high-starch items like potatoes and rice. For example, one respondent shared,

"*Yes, due to illness, we started eating bitter gourd, which we didn't eat before, and okra. We stopped eating rice and potatoes due to diabetes*." Women tend to emphasize the social and emotional impacts of dietary changes, discussing how these adjustments affect not just nutrition but also family dynamics and overall well-being. Their responses often detail specific health-related changes made in the household, such as modifications in food intake due to advice from healthcare providers, reflecting a more personal connection to the family's health. Another respondent reflected on how seasonal changes impacted their meals, stating, "*Earlier, we used to eat anything, but now due to the heat, we've reduced the amount of potatoes, stopped eating lentils, and started eating more green vegetables, yogurt, and buttermilk*." Women address family members' preferences or needs when discussing nutrition, focusing on how they implement changes in response to the group's collective health and tastes.

Dietary habits were also shaped by economic constraints, such as one family noting, "*No significant change in diet, but sometimes we cut down on expenses for children's education, like stopping eating pigeon pea and growing our own vegetables due to high costs*." In some cases, families shifted from their traditional food practices due to changing availability. For instance, "*Earlier we did not get the ration, so we don't eat the fat rice. Now sometimes we don't have rice, we have to eat the fat rice we get from the ration shop*." Another noted, "We have stopped having milk for the last one year because we don't have cows and buffaloes at home. We used to have milk, curd, etc. in the past." Men often focus on practical changes made within the household, such as planting new crops or altering farming practices that contribute to increased food availability. Their responses highlight the economic aspect, discussing how changes might help save money or produce more food for sale, which in turn indirectly enhances nutrition.

These responses reveal both the challenges and agency households exhibit in adjusting food consumption—whether due to health, affordability, or availability—highlighting the interplay between nutrition, livelihood, and access. While both men and women acknowledge having made changes that influence their household nutrition, men typically emphasize practical and economic factors related to food production and availability. In contrast, women highlight the social, emotional, and health-related facets of dietary changes, showcasing a more integrated approach to nutritional decision-making within the family. Most households reported minimal dietary changes over the past year, but some adapted their food habits due to health concerns, seasonal shifts, or economic constraints. Women emphasized the emotional and health-related impacts of these changes on family well-being, while men focused on practical and economic aspects like crop choices and affordability. These insights show how food decisions are shaped by a mix of health needs, financial pressures, and gendered roles in managing household nutrition.

Health Savings and Insurance

Health-related expenses continue to be a major concern for rural households, especially in the absence of formal financial protection. This section explores how families prepare or struggle to prepare for medical costs, and the impact these challenges have on their ability to access timely healthcare. Through qualitative insights, it becomes clear that while some households attempt to set aside small savings, most rely on ad-hoc coping strategies like borrowing or seeking help from family. In some cases, financial constraints even lead to postponement or avoidance of necessary treatment, highlighting the critical gap in healthcare affordability and access.

Many households benefit from government welfare schemes that support their basic needs and agricultural livelihoods. Around 21 households reported receiving benefits from the **Kisan Samman Nidhi**, a scheme providing ₹6,000 (~USD 69) annually to eligible farmers in three digital instalments. In addition, several households mentioned receiving **pensions** and **ration cards**, which enable them to access subsidized food items such as wheat, rice, sugar, salt, and lentils. These rations are typically distributed through the **Public Distribution System (PDS)**, and beneficiaries authenticate their identity through fingerprint scans. Men tend to provide straightforward accounts of the types of assistance received, often focusing on specific programs. One respondent shared, "*Through government we get the pension and we get Kisan Nidhi amount thrice a year. We have only this support. We also get ration, 5 kg per*

head. We get wheat and rice, only two." While households with small children do not universally benefit from Anganwadi nutrition programs, some noted that adolescent girls in the household receive **educational allowances**. As one respondent noted, *"These girls have filled their forms and they are getting allowance of 2500 (~USD 29) rupees, which they are using for their studies. There is provision of some benefits for girls in some Yojnas, but there is no benefit to boys."* Women often offer a more comprehensive view of how these programs fit into the larger context of their family's well-being and nutrition. They discuss not only the types of assistance available but also the social implications of these benefits, such as how they contribute to children's education or overall family health. However, aside from these, few households reported access to additional government schemes or local nutrition programs.

Most households reported not having formal health insurance, with only a few noting access to schemes such as Ayushman Bharat, which provides coverage for hospitalization. However, even among those who possess Ayushman cards, utilization appears low, likely due to its limited scope. Men highlight the role of insurance policies in providing peace of mind and financial security for the household, reflecting a protective stance regarding their family's health." *Yes, we have Ayushman Bharat health insurance but no other insurance. We receive treatment under Ayushman Bharat up to 5 lakhs*," one respondent shared, while another explained, "*We don't have Ayushman card. We don't have any health insurances. We manage our medical expenses from the money we earn through our work*." Some households mentioned life insurance policies like LIC or Shree Ram Insurance, which are not directly applicable to health expenses but represent a form of financial planning. Men focus on practical aspects of insurance and savings, specifically mentioning types of insurance they have (such as medical or life insurance) and detailing how these help in covering health-related costs. Their responses often include a discussion about the financial planning involved, such as setting aside a specific amount each month or engaging in discussions with financial advisors. As one respondent noted, "*One insurance from LIC is done with another insurance from Shree Ram Insurance. Every month around 250Rs is being deducted from that. We have Ayushman card as well. My wife is working in Anganwadi, so she has an insurance of 2.5–3 lakhs*". Others spoke about pension income helping to offset medical costs: "*We haven't got any insurances in the family. We are not able to save money, but we have the support of pension which we get every 3 months... we save that money for health purpose*." However, in the absence of sufficient income or savings, some households reported borrowing to meet healthcare needs: "*Suppose earning declines and I don't get my pension, then I borrow from others and repay them when I get money*". Women emphasize on the emotional component of having savings or insurance, discussing how these financial arrangements allow them to care for their family's health without excessive worry. These responses highlight a mixed landscape wherein awareness of public insurance schemes exists, but actual financial preparedness for health emergencies remains low and heavily reliant on irregular income or borrowing.

Although spouses occasionally offered differing responses some saying they had never forgone treatment while others admitted they had there was a general pattern suggesting that while critical treatment is prioritized, financial challenges often delay or complicate access to medicines. Most households indicated they would eventually find a way to get care, often through borrowing, but not without hardship. Men may emphasize the practical side of forgoing treatment, often citing specific instances where they chose to skip healthcare services due to cost, framing it as a logical decision based on financial rationality. Their responses include statements about how they thought they could manage their health conditions without seeking treatment, demonstrating a focus on self-reliance. As one respondent explained, *"Yes, many times, when we don't have money, we can't buy medicine on time. We buy medicine after arranging for money."* Another echoed this sentiment, *"Sometimes we can't afford medicine due to lack of money. Occasionally, we borrow money to buy medicine and repay later."* Even when families prioritize health, delays are common: *"If I get sick, I don't buy medicine due to lack of money,"* one woman said. Women often delve deeper into the emotional aspects of forgoing treatment, discussing feelings of frustration, anxiety, or helplessness that arise when faced with the decision to avoid necessary healthcare due to financial reasons. Women are more likely to express concern for others within the household as a factor in their decision-making, indicating a tendency to prioritize

resources for family members over their own health needs. In some cases, households turn to home remedies for minor ailments: *"For minor illnesses, we sometimes use home remedies due to financial constraints."* Still, for more serious health needs, families often resort to loans: *"If we have to get medical treatment, then we will even take a loan for that... we don't think, we just immediately get health treatment, even if we have to borrow."* Men also discuss the perceived stigma associated with not being able to afford treatment, alongside an acknowledgment of the need to 'tough it out' in various situations.

These reflections highlight both the resilience and the financial vulnerability of households, where access to care is often delayed rather than denied outright, but only through precarious coping mechanisms. Both men and women recognize financial constraints as a reason for forgoing health treatment, men typically focus on the practical implications and decision-making process, while women emphasize the emotional and relational dynamics surrounding these tough choices. This highlights a nuanced understanding of how financial barriers affect both genders differently in the context of health care access. Health-related costs remain a major concern for rural households, with most lacking formal financial protection. While some rely on limited welfare schemes like Ayushman Bharat or pensions, many manage medical expenses through borrowing or sacrificing other needs. Men typically highlight the financial planning and practical trade-offs involved in managing healthcare costs, whereas women focus on the emotional and social toll of these decisions, especially how they impact family well-being. This gendered perspective reveals both the financial vulnerability and resilience of households navigating healthcare access with limited resources.

Conclusion

The findings from this assessment reveal the multifaceted ways in which smallholder farmers of the rural households navigate food security, health challenges, and financial constraints particularly during the lean season. While many households demonstrate resilience through agricultural self-reliance, small-scale vegetable farming, and government entitlements such as Kisan Samman Nidhi and ration cards, financial vulnerability remains a critical issue, especially in relation to health.

Households largely consume food produced from their own farms and ration entitlements, with minimal dietary diversity or changes unless driven by health conditions like diabetes. While most have not introduced major changes to their diets, some households have adjusted their food habits by reducing oily or starchy foods due to chronic illness. Kitchen gardens are used by a significant number of families to support household consumption, typically lasting 3–6 months, helping to stabilize nutrition during periods of food scarcity.

Health continues to be a major burden both financially and emotionally. While only a few households report being free of chronic illness, most face conditions like diabetes, arthritis, kidney stones, and potential cancers. Despite government programs like Ayushman Bharat, many still rely heavily on out-of-pocket expenses and financial help from extended family. The burden is further amplified by loss of workdays and the need to prioritize health costs over other essential expenditures. Coping mechanisms during lean seasons include borrowing money, selling grains, reducing food consumption, or depending on daily vegetable sales. While some households save money or grains in anticipation, others operate with little to no buffer. Notably, most respondents report a lack of health insurance or sustainable savings mechanisms, making them vulnerable to shocks—particularly health-related ones. Government schemes like pensions, scholarships for girls, and ration cards do provide essential support, yet access remains uneven and underutilized. Moreover, while some households benefit from educational allowances or Anganwadi services, many express gaps in access or awareness.