RESEARCH ARTICLE

An Analysis of Expenditure Pattern of Farm Families in Prayagraj District of Uttar Pradesh

Pushpa Kumari[1] and Sunita Dixit[2]

ABSTRACT

The study was conducted in the Chaka and Kundhiyama blocks situated in Prayagraj district of Uttar Pradesh, India. Altogether, 200 farmers were randomly selected from four villages of the selected blocks. The results of the study revealed that the average monthly family expenditure increased as the land size increased, except in the case of medium-sized farm-holders, as the average family size was larger than that of small-sized farm holders. The percentage of expenditure was found to be more on food; it was found that the percentage of the amount spent on food decreased as the income increased. The percentage of expenditure on food items decreased with the increase in holding size.

Keywords: Clothing; Expenditure Pattern; Land Holding; Living Standard; Per Capita Expenditure; Uttar Pradesh

INTRODUCTION

The agricultural production and productivity of Uttar Pradesh State of India have considerably increased since its independence. About 47% of the population of Uttar Pradesh is directly dependent on agriculture, making it a state with an agricultural economy. The state produces around 12% of India's rice and 28% of its wheat. Improved practices provide the main venue for increasing productivity in the country's agriculture (Edna et al., 2009).This has also improved the state's farm families' income and standard of living. Human resources are the most precious resource for any country. Socioeconomic or political-cultural transformation of any society is essentially achieved through the progressive development of human resources.

Historically, the size of landholdings, the kinds of crops farmed, and the total amount of money earned from agricultural pursuits have all been directly related to the spending habits of farm families. Studies reveal that smaller landholders frequently spend a larger portion of their income on food and other essentials, leaving less for investments in agricultural inputs, healthcare, or education (Rao and Gulati, 1998). Fan et al. (2000) noted that because they are less susceptible to the risks connected with agriculture, households with a greater variety of income sources typically exhibit more stable and balanced spending habits.

This emphasises how crucial revenue diversification is to improving farm households'

[1] Department of Home Science, Banaras Hindu University, Varanasi, Uttar Pradesh, 221005
[2]Department of Home Science, Vasant Kanya Mahavidyalaya, Varanasi, Uttar Pradesh, 221010

financial stability. Additionally, studies have indicated that among farm families, spending preferences are highly influenced by the size of their landholdings. Because they can afford to spend more on non-food things like healthcare, education, and investments in agricultural production, larger landholders usually have more disposable income (Ellis, 2000). There are significant gaps in the literature despite the large body of research on rural household economics, especially when it comes to the incorporation of non-farm income sources and the influence of social and gender dynamics on spending patterns (Kabeer, 1999). There is still a dearth of comparative studies among other geographic locations. It is essential to comprehend how regional legislation, market accessibility, and climate impact consumer spending behaviour (Smith and Jones, 2018). The impact of technology adoption on spending patterns has not received enough attention, especially when it comes to the way expenditures in contemporary farming equipment influence other spending domains like healthcare and education (Rahman, 2019). Research on how gender roles affect spending decisions in farm families is scarce. Knowing these patterns can help with the distribution of resources within households (Ahmed &Banu, 2020). Further research is needed to determine the relationship between health-related costs and agricultural output, particularly in light of how ill health affects the amount of money allocated for agricultural inputs (Nair & Thomas, 2021).The charges in the living standard of farm families call for a detailed inquiry into the same, the findings of which may be of use to planners, policymakers, and scientists.

Singh et al., 2009 had concluded that the differentiation between viable and non-viable farmers varies across regions and farming categories in terms of the intensity of different factors. The impact of gender and social dynamics on spending patterns is frequently ignored in the research. Understanding how social norms, gender roles, and household decision-making processes affect spending priorities and resource allocation among farm families is lacking (Kabeer, 1999). A lot of research studies concentrate on particular areas, which restricts the applicability of results. Comparative studies that look at how spending patterns change in various agro-ecological zones or regions with varying degrees of development are lacking. Comparative research could be used to pinpoint needs unique to a certain area and guide more specialised policy responses (Fan et al., 2000).

Majority of studies on the spending habits of farm families are cross-sectional in nature, taking a moment in time. A deficiency exists in longitudinal research that monitors changes in spending patterns over an extended period, especially in reaction to modifications in market circumstances, agricultural policy, or environmental issues such as climate change (Barrett and Swallow, 2006). Behavioural economics has not been applied with much sophistication to farm households' spending decisions. Research on how risk preferences, cognitive biases, and other behavioural factors affect expenditure decisions is lacking, particularly in unstable or unpredictable agricultural situations (Tversky and Kahneman, 1986).

According to Smith (2020), farm families tend to allocate a significant portion of their income to farm-related expenses, which can impact their ability to invest in other areas such as education and healthcare. Data collected from the National Agricultural Census (2022) indicates that farm families in rural areas spend about 30% of their income on farm maintenance. The findings align with the work of Thompson (2018), who noted that fluctuations in farm income directly impact the financial stability of farm households.

The present study was undertaken to analyze the expenditure pattern of different categories of farm families in the Prayagraj District of Uttar Pradesh with the following objectives-

- To assess the average monthly expenditure per capita and per family

- To examine the average monthly expenditure of different categories of families on different items

- To analyze the per capita monthly expenditure of different categories of families on different items

METHODOLOGY

Uttar Pradesh is generally divided into 4 zones or regions—Western, Central, Eastern, and Bundelkhand. Agricultural diversity, socio-economic diversity, government scheme and support, proximity to markets, the impact of climates on farming, cultural practices, and the presence of cultural universities are reasons for choosing Prayagraj as the sample in Uttar Pradesh. This study determined the sample size of 200 farmers based on a combination of factors, including the research objectives, the need for a representative sample, and logistical considerations such as budget and resources. A multi-stage random sampling technique was employed to enhance the representativeness of the sample.

The choice of 200 farmers was guided by the aim to capture a diverse range of farming practices and challenges across different landholding sizes (small, medium, and large farmers) within the selected blocks. By preparing a list of households in each village and categorizing them according to landholding size, we ensured that the sample included a proportional representation of different farming categories. Although the sample size was subject to practical constraints, the random selection process within each category was designed to minimize selection bias and ensure that the results could be generalized to the broader population within the district. An interview schedule was developed for data collection from the selected households.

FINDINGS AND DISCUSSION

Average Monthly Expenditure per Capita and Per Family

The average monthly expenditure per capita and per family was calculated and presented in Table 1.

Table 1: Average Monthly Expenditure per Capita and Per Family (in Rupees - INR)

Sl. No.	Categories of Farm Families	Average no. of members per family	Expenditure per family	Expenditure per capita
1	Small	6.4	8344.38	1303.84
2	Medium	8.3	19130.23	2304.85
3	Large	10.0	30584.73	3058.47

The data in Table 1 shows the average family income of small farmers was 8344.59, medium 18950, and large 30584.73 INR which highlighted that the average monthly expenditure of the family increased as the land size increased except in the case of medium farmers because the average family size was found to be bigger than small farmers. According to Kumar and Mishra (2020), farm families are spending a larger percentage of their income on non-farm

expenses, which is indicative of broader shifts in rural economies. Research by Mishra and Singh (2016) found that food accounted for almost 55% of the income of rural Indian farm families, underscoring the importance of food security in their spending habits.

Average Monthly Expenditure of Different Categories of Families on Different Items

The average monthly expenditure of different categories of families on different items was assessed and presented in Table 2.

Table 2: Average Monthly Expenditure of Different Categories of Families on Different Items.

Sl. No.	Items	Small	Medium	Large	Total
1	Food	3128.60	5712.48	8567.56	17408.64
2	Clothing	692.48	2177.18	2221.27	5090.93
3	Housing	101.84	531.78	521.31	1154.76
4	Education	107.67	750.68	1025.09	1883.44
5	Fuel and lighting	1150.94	2701.18	4062.13	7914.25
6	Medical expenses	500.69	725.23	517.60	1743.52
7	Traveling and transportation	600.23	1250.08	3517.72	5368.03
8	Social ceremonies & festivals	1096.74	3058.62	6085.89	10241.25
9	Household & durable goods	200.28	944.34	1521.11	2665.73
10	Recreation & entertainment	215.08	628.49	1317.02	2160.60
11	Miscellaneous	550.03	650.17	1228.03	2428.23
Total		8344.38	19130.23	30584.73	58059.38

Table 2 shows that the monthly expenditure pattern of families was estimated by recording the total monthly expenditure on various items like food, clothing, housing, education, fuel and lighting, traveling and transportation, medical expenses, and other miscellaneous items. According to Chudalil et al., (2011), a significant disparity exists in educational expenditure among farm households belonging to various income groups. The advantages associated with knowledge acquisition, medical expenses, and education tend to favor higher-income rural households. The level of expenditure directly correlates with the income level experienced by these households (Emmanuel, 2015). This research study found that age, education level, household member size, experience related to the farming business, income generated through farming business, off-farm income, and loan obtained impacted directly on farmer's capacity to save and invest in the study area. Many small and marginal farmers lack knowledge about investments and schemes of the government and other financial institutions. The study has suggested that the government should take some necessary actions to implement some programs for better communication of the investment schemes to the farmers regarding

the importance of savings and investment. Additionally, a sizeable amount of cash goes towards buying equipment, fertilizer, and seeds for the farm. Maintaining agricultural output and guaranteeing future revenue depends on this (Patil et al., 2018). Only 10% of farm family income went towards education, and much less went towards healthcare, according to research by Khan and Akram (2017), suggesting a possible vulnerability for these households.

Monthly Expenditure of Different Categories of Families on Different Items

The monthly expenditure of different categories of families on different items was ascertained and presented in Table 3.

Table 3: Per Capita Monthly Expenditure of Different Categories of Families on Different Items.

Sl. No.	Items	Small	Medium	Large
1	Food	488.84	688.25	856.75
2	Clothing	108.20	262.31	222.13
3	Housing	15.91	64.07	52.13
4	Education	16.82	90.44	102.51
5	Fuel and lighting	179.84	325.44	406.21
6	Medical expenses	78.84	87.38	51.76
7	Traveling and transportation	93.78	150.61	351.78
8	Social ceremonies & festivals	171.36	368.51	608.59
9	Household & durable goods	31.24	113.77	152.11
10	Recreation & entertainment	33.61	75.72	131.70
11	Miscellaneous	85.94	78.33	122.80

As shown in Table 3 highlighted per capita monthly expenditure of different categories of families on different items was followed by the same expenditure pattern of Table 2 as the average monthly expenditure of different categories of families on different items.

The percentage of expenditure was found to be more on food items that is, rupees 488.84, rupees 688.25, and rupees 856.75 in small, medium, and large farmers respectively. Among the five categories, it was found that the percentage of the amount spent on food decreased as the income increased which follows Engel's law (1857) of consumption. According to Engel's law (1857), as income rises, people allocate a smaller percentage of their total expenditure towards food items, such as basic staples like grains and vegetables. Instead, they allocate a larger proportion of their income towards non-food items like housing, education, healthcare, transportation, recreation, and other discretionary expenses. This law is based on the observation that as individuals and households experience an increase in income, their consumption patterns tend to shift. They can afford a wider variety of goods and services beyond meeting basic needs. As a result, the share of income spent on food, which is considered a necessity, declines relative to other expenditure categories.

Engel's law of consumption highlights the relationship between income levels and spending patterns, providing insights into how changes in income can influence consumer behavior and the composition of their consumption basket. According to Singh, (1973), on traditional lines, the analysis of family budgets runs essentially in terms of the Engel function relating per capita expenditure on any specific item to per capita actual total consumer expenditure or income. Babu & Singh, (2019), the researcher examined the investment, income, and expenditure patterns of the small and marginal farmers in Karnataka and Punjab. From the research, it has been observed that farmers in Punjab made a higher investment in farm, dairy, and household items than those in Karnataka. It was detected that in Punjab, expenditure on crop and dairy enterprises was more than in Karnataka. In Punjab, there is a need to increase farm inputs, which will automatically increase farm profitability. Whereas in Karnataka, off-farm employment opportunities should be improved. According to Sharma and Reddy (2019), there has been a shift towards income diversification as farm families in various regions of South Asia spend approximately 15% of their income on non-farm activities. According to a study by Das and Rao (2020), families with bigger landholdings prioritized food and essentials whereas smaller landholders spent a higher percentage of their income on agriculture inputs and schooling. According to Choudhury and Nayak (2018), during the monsoon season, when disease incidence usually rises, farm families in eastern India increased their spending on healthcare. According to Rao and Sahu (2017), farm families were able to devote a larger portion of their income to healthcare and education in areas where government subsidies were available for seeds and fertilizers.

The percentage spent on education, fuel, and lighting, traveling and transportation, recreation, and entertainment was higher in the case of medium and large farmers when compared to the small farmers. Jacoby and Skoufias (1998) conducted a study focusing on how agricultural households in rural India adapt their consumption behavior in response to both expected and unexpected seasonal income fluctuations. The percentage of expenditure on clothing per capita monthly income was maximum in medium farm families rupees 262.31 followed by large 222.31 rupees and small 108.20 rupees farmers. Medical expenses were again found to be more in the marginal farmers category followed by small and medium. Percentage expenditure on social ceremonies and festivals was higher in the large farmers' category and that on miscellaneous items was maximum in the small farmers' category.

CONCLUSION

In conclusion, it can be said that the total as well as per capita monthly expenditure of farm families depends upon the size of the land holding of families in Uttar Pradesh. The percentage of expenditure on food items decreased with the increase in size of the holding. There is limited diversification of income sources among farm families, with a heavy reliance on agriculture. This vulnerability to agricultural fluctuations highlights the need for promoting alternative income-generating activities and strengthening rural livelihood. Understanding the expenditure patterns of farm families is crucial for formulating effective policies that address the unique challenges and opportunities in rural areas like Prayagraj, Uttar Pradesh. Targeted interventions can help improve the livelihoods and quality of life for these households, ultimately contributing to rural development and economic growth in the region.

A significant correlation has been found between the amount of landholdings and the economic behaviour of farm families based on

an investigation of their spending patterns. More specifically, landholding size has a major impact on monthly expenses, both in terms of total and per capita. Families with larger landholdings usually have more financial freedom, which enables them to distribute their resources among a wider range of demands and investments. On the other hand, due to their limited resources, smaller landholders tend to prioritise necessities, especially when it comes to food, which accounts for a higher share of their total spending. One noteworthy pattern that has been noted is the negative link between the percentage of expenditure on food products and the extent of landholdings.

Food expenditure as a percentage of income declines with landholding size. Larger landowners' greater ability to pay for non-food essentials like healthcare, education, and agricultural inputs is the reason for this reduction. Bigger landholdings allow households to invest in long-term raises in their standard of life because they not only produce more revenue but also better prospects for economic diversification. Notwithstanding these benefits, the study draws attention to a serious vulnerability that affects farm families: a strong dependence on agriculture as their main or only source of income. These households are especially vulnerable to changes in market conditions and agricultural output due to their reliance on the sector, which can be impacted by a variety of factors such as weather patterns, prices in the market, and agricultural policy.

Due to the absence of income diversification, these households may be more severely affected by unfavourable changes in agricultural productivity, which could result in unstable finances. Ultimately, creating policies that support long-term development objectives while simultaneously addressing urgent needs requires a thorough understanding of the spending habits of farm families. More resilience in the

rural economy can be achieved by encouraging economic diversification, expanding access to resources, and investing in infrastructure. This will help farm households as well as contribute to the general development and prosperity of areas such as Prayagraj, Uttar Pradesh.

Subsequent studies ought to explore diverse approaches to income diversification that may be successfully executed in remote regions such as Prayagraj. Finding sustainable non-agricultural sources of income that can lessen reliance on farming and offer stability in the face of agricultural oscillations is part of this. Although the present research indicates a connection between landholding size and food expenditure, more research may be needed to determine how landholding size affects other areas of household spending, like investments in healthcare, education, and agricultural inputs. Subsequent studies could contrast Prayagraj's income and spending patterns with those of other Uttar Pradesh or Indian locations. This could lead to more specialized policy responses by assisting in the identification of characteristics unique to a given location that affect rural livelihoods. Future studies should look into how social dynamics and gender affect spending patterns and income diversity in farm families. By comprehending these dynamics, policies that cater to the needs of every family member may be designed more inclusively.

Comprehending the spending habits of agricultural households enables policymakers to formulate and execute focused interventions and policies with the objective of enhancing rural lives. Subsidies, credit facilities, social welfare programmes, and rural development projects catered to the unique requirements of various farm family categories could all fall under this category. Extension services can create more pertinent and successful programs that cater to farmers' real needs by using information gleaned

from farm families' spending patterns. This could involve receiving instruction in sustainable farming methods, financial management, and revenue source diversification. The results can be used by development organisations and non-governmental organisations to create initiatives that raise farm households' standard of living financially. These organisations can find service shortages and regions most in need of support, such as healthcare, education, or alternative livelihoods, by analysing spending trends. Understanding the spending patterns and financial requirements of farm households can be advantageous for financial institutions, such as banks and microfinance organisations. This information can help create financial solutions that are specifically designed to satisfy the needs of rural households, like savings programmes, insurance policies, and credit facilities.

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