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Farmers' Perceptions of Agricultural Input Subsidies and Their Impact on Agricultural Productivity in Pokhara

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Abstract

This study aims to investigate farmers' perception of agricultural input subsidies and their impact on agricultural productivity in the context of the Prime Minister Agricultural Modernization Project (PMAMP). This study employed both descriptive and causal-comparative research designs and was conducted among 1,012 registered farmers in Pokhara Metropolitan City. The sample size was 212 using Rao soft sample size calculator. A sample of 201 farmers was surveyed using purposive and snowball sampling design for the selection of the study area from 19 different wards. Primary data were collected through a structured survey questionnaire with a five-point Likert scale administered through both physical and online methods using Google Forms. The collected data were analyzed using some descriptive statistics, correlation, and multiple regression analysis. The findings of the study revealed that access to agricultural subsidies, access to credit and financial support, market proximity, and infrastructure had significantly positive effects on agricultural productivity, while land ownership status and regional disparities in subsidy allocation showed insignificant positive effects on agricultural productivity. Future research direction could be interventions needed to improve input delivery methods, raise awareness, and provide integrated support services.

Keywords: Agricultural input subsidies, agricultural productivity, credit and financial support, land ownership status

Introduction

Agriculture is the backbone of Nepal's economy, employing a significant portion of the population and contributing to national food security. However, agricultural productivity in Nepal remains relatively low due to several factors, including limited access to modern farming inputs, financial constraints, and inadequate infrastructure. To address these challenges, the government has implemented various agricultural input subsidy programs aimed at supporting farmers by providing access to essential resources such as fertilizers, seeds, irrigation support, and machinery. These subsidies are to enhance productivity and reduce the farming costs of farmers. Agricultural productivity delves deeper, signifying the efficiency with which these outputs are generated from given inputs, often measured by indicators like increased yields per unit of land (Koppmair et al., 2017). It encompasses the capacity and efficiency of farm operations with enhanced productivity, ultimately contributing to improved farm income (Khatri et al., 2024). Therefore, improving both production and productivity is essential to achieving food security and sustainable rural development. Studies conducted in various countries indicate that subsidies contribute significantly to improving farm productivity and income levels (Kaur, 2012). However, the effectiveness of such subsidies depends on factors such as accessibility, transparency, and equitable distribution. Previous studies suggest that subsidies have a dual impact on economic growth and fiscal sustainability. For instance, Kaur (2012) found that agricultural input subsidies in India disproportionately benefited wealthier farmers, leading to disparities in resource allocation.

Koppmair et al. (2017) examined Malawi's farm input subsidy program (FISP) and found that while it significantly increased the use of inorganic fertilizers and improved seeds, it also encouraged farmers to adopt sustainable agricultural practices. This indicates that well-designed subsidy programs can promote both short-term productivity gains and long-term environmental sustainability. The PMAMP in Nepal was established with the ideal goal of providing agricultural input subsidies to foster food security. This disparity is particularly evident in the implementation of the PMAMP's subsidy programs. The project's regulations, which often require land ownership certificates to access subsidized inputs, create a major institutional barrier that excludes tenant farmers and perpetuates inequality (Paudel & Crago, 2017). Studies revealed that a lack of financial and logistical assistance, such as easy access to credit and efficient market linkages, the intended benefits of subsidies (Pandey et al., 2020). Delayed payments and inadequate monitoring of financial institutions contribute to financial stress, which has been linked to a decline in farmer interest and a reduction in cultivated land (Pandey, 2022). This study investigated the specific experiences of farmers to understand how these gaps related to subsidy access, credit availability, land ownership, and market proximity collectively influence their agricultural productivity. This study is significant as it provides an in-depth understanding of the impact of government. The study focuses on the impact of agricultural input subsidies on agricultural productivity in Pokhara Metropolitan City, especially those receiving subsidies from PMAMP.

Access to agricultural subsidies directly influences productivity by enabling investment in inputs and technology. However, challenges like inadequate

information, bureaucratic hurdles, political favoritism, and documentation requirements (Ghimire & Upreti, 2020). Therefore, access to agricultural subsidies is expected to significantly impact agricultural productivity.

H1: There is a significant positive impact of access to agricultural subsidies on agricultural productivity.

Credit and financial support are basic to agricultural output, allowing farmers to acquire essential inputs and modern technology and large-scale farming (MOALD, 2022; Paudel et al., 2021). There is limited access due to insufficient banking services, high interest rates, and collateral requirements, and smallholders hinder investment. Thus, the availability of financial resources is expected to significantly affect agricultural productivity.

H2: There is a significant positive impact of access to credit and financial support on agricultural productivity.

Land ownership status influences agricultural output and access to support programs in Nepal. Informal tenure, fragmented landholdings (Ghimire & Upreti, 2020). These limitations hinder investment and modern practices, leading to a hypothesized significant impact of secure land ownership on agricultural productivity.

H3: There is a significant positive impact of land ownership status on agricultural productivity.

Market proximity and quality infrastructure are vital for profitable agricultural production. Farmers near markets benefit from reduced transportation costs and better buyer access, enhancing profitability and productivity (Dhakal et al., 2021). However, poor road networks and limited storage in remote areas hinder competitive sales and investment in productivity. Thus, efficient market access is expected to significantly impact agricultural productivity.

H4: There is a significant positive impact of market proximity and quality infrastructure on agricultural productivity.

Regional disparities in agricultural subsidy allocation directly impact productivity in commercial farming regions like the Terai, compared to underserved hilly areas (MOALD, 2022). Geographical, political, and administrative inefficiencies hinder productivity in neglected regions, which supports the hypothesis that uneven distribution significantly affects agricultural productivity.

H5: There is a significant positive impact of regional disparities in subsidies allocation on agricultural productivity.

The theory of production, grounded in neoclassical economics, suggests that the relationship between inputs and outputs (crop yields) is central to agricultural productivity. Governments can reduce the cost burden on farmers by subsidizing agricultural inputs. This leads to an increase in the productivity of the agricultural sector (Becker, 2014). Behavioral economics theory, which focuses on how psychological factors and cognitive biases influence farmers' decision-making (Kahneman, 2011). Farmers exhibit behavior that deviates from rational decision-making due to factors like risk aversion, bounded rationality, or a lack of information regarding the benefits of new farming practices. Institutional theory emphasizes the

role of institutions in economic behavior and outcomes (North, 1990). Agricultural subsidy allocation in Kaski District has exhibited significant fluctuations over recent fiscal years, reflecting shifts in government priorities and budgetary planning. During fiscal years 2018/19 and 2019/20, substantial amounts were allocated to support various agricultural programs, indicating a strong policy focus on enhancing local agricultural productivity. However, from fiscal year 2020/21 onward, a sharp decline in subsidies is observed, with the allocation dropping drastically to minimal levels by 2023 (PMAMP, 2025). Pandey (2022) found that the government has targeted agricultural credit expansion through banking and financial institutions (BFIs) via various policies, programs, and acts, and barriers. Poudel et al. (2022) revealed that farmers' education level positively influenced the adoption of practices like mulching and pruning, while secondary income sources were linked to the use of chemical fertilizers. Khatri et al. (2024) conducted a socio-economic return analysis of apple farming in Mustang district, Nepal, revealing that apple farming has significantly improved farmers' living standards and created both self-employment and seasonal job opportunities.

Research Methodology

This study employed a descriptive and causal-comparative research design to analyze the impact of agricultural input subsidies on agricultural productivity. The descriptive design examined a detailed overview of farmers' experiences, challenges, and conditions related to government agricultural subsidies. In addition to, the causal-comparative design examined the relationships between these factors and changes in agricultural productivity. The target population comprised all the registered agro firms and livestock companies in Pokhara Metropolitan City. Farmers receiving subsidies from the PMAMP, Kaski during the fiscal years 2018/19 to 2019/20. The total population of farmers receiving subsidies from PMAMP was 1,012 (PMAMP, 2024). To guarantee the accuracy and dependability of the findings, a 5 percent margin of error and a 95 percent confidence level were selected for the sample size. The sample size was calculated using the Cochran formula, resulting in an estimated sample size of 287. The questionnaire was distributed among 220 farmers residing in different wards of Pokhara Metropolitan City. A total of 201 farmers from 19 wards of Pokhara participated in the survey using purposive and snowball sampling design. The primary data were gathered using a structured questionnaire with five-point Likert-scale-based statements to measure farmers' access to agricultural subsidies, credit and financial support, land ownership status, market proximity and infrastructure, and regional disparities in subsidy allocation. It was administered through physical and online methods using Google Forms. To ensure an acceptable and reliable interpretation of the data, both descriptive and inferential statistical approaches were used to examine the effects of agricultural input subsidies on agricultural productivity. The regression model can be expressed as;

$$\text{Agricultural productivity} = \beta_0 + \beta_1 (\text{access to agricultural subsidies}) + \beta_2 (\text{access to credit and financial support}) + \beta_3 (\text{land ownership status}) + \beta_4 (\text{market proximity and infrastructure}) + \beta_5 (\text{regional disparities in subsidy allocation}) + \epsilon_i$$

Where:

β_0 is the constant term, $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ are the coefficients of the independent variables, ϵ_i represents the error term.

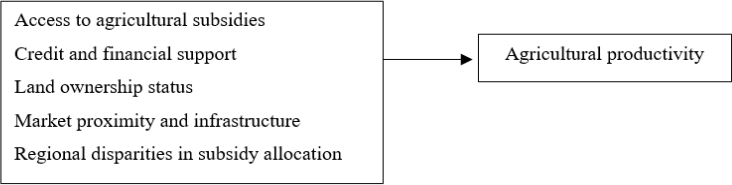
This includes access to subsidies, access to credit and financial support, land ownership status, market proximity and infrastructure, and regional disparities in subsidy allocation.

Figure 1

Research Framework

Independent Variables

Dependent Variable



Results and Discussion

The demographic profile of respondents involved in agro-enterprises, as presented, provides insightful data regarding the composition of individuals actively participating in the agricultural sector. A total of 201 respondents were surveyed, and the gender distribution reveals that males are more dominant in agro-enterprise operations, accounting for 59.2 percent of the total respondents, while females comprise 40.8 percent. This indicates that men are more involved in this sector; there is a significant representation of women as well, reflecting female participation in agricultural entrepreneurship. In terms of age distribution, the majority of respondents, 83.6 percent, fell within the working-age range of 25 to 59 years, whereas only 16.4 percent were 60 years or above, showing that middle-aged farmers are more actively involved in agricultural enterprises compared to older groups. Regarding marital status, the majority of respondents, 96 percent, are married, while only four percent are unmarried. This trend may reflect the tendency of agro-enterprise involvement to be associated with family responsibilities and household economic support, where married individuals often seek stable income sources and long-term investments. Educational attainment among respondents varies significantly, with a predominant portion, 79.6 percent, having achieved intermediate or below levels of education. This reflects the relatively low formal education levels within the agricultural sector, which may affect their access to technical knowledge, modern farming practices, and financial management skills.

The reliability of the survey instrument used to measure the key variables in this study was assessed using Cronbach's alpha, with all variables demonstrating acceptable to high internal consistency. Access to agricultural subsidies (AAS) yielded a Cronbach's alpha of 0.80, indicating good reliability. Access to credit and financial support (ACF) showed the highest reliability at 0.89, reflecting strong internal consistency among its items. Land ownership status (LOS), market proximity and infrastructure (MPI), and regional disparities in subsidy allocation (RDS) reported alpha values of 0.73, 0.75, and 0.74 respectively, suggesting satisfactory reliability. Similarly, the dependent variables—agricultural productivity

(AP) demonstrated acceptable reliability with alpha values of 0.73. These results confirmed that the measurement scales used in the questionnaire were consistent and suitable for further statistical analysis.

Table 1 illustrates that the highest-rated statement is the subsidies provided to me have significantly reduced my farming costs with a ($M= 4.42$, $SD =0.64$) which means that strong and consistent agreement among respondents. The lowest rated statement 'I can easily access government subsidies for fertilizers, seeds, and irrigation' with ($M= 3.84$, $SD= 0.90$) indicating that while most respondents agree access is manageable, and minority face difficulty.

Table 1

Mean and Standard Deviation of Access to Agricultural Subsidies

Statements	SD	D	N	A	SA	M	SD
I can easily access government subsidies for fertilizers, seeds, and irrigation.	3	19	25	114	40	3.84	0.90
The agricultural subsidy programs in my area are well-implemented and beneficial.	4	6	11	131	49	4.07	0.77
I regularly receive the agricultural subsidies I apply for without major delays.	3	7	9	87	95	4.31	0.83
The subsidies provided to me have significantly reduced my farming costs.	1	1	7	96	96	4.42	0.64
I am satisfied with the transparency and fairness of the subsidy distribution process.	3	9	24	105	60	4.04	0.86
Average						4.14	0.8

Note. SD : strongly disagree; D : disagree ; N : neutral ; A : agree; SA: strongly agree; M : mean ; SD : standard deviation

Table 2 illustrates that the highest-rated statement is the availability of credit and financial incentives has positively impact my farm productivity with a ($M= 3.78$ $SD = 0.93$) which means favorable perception and relatively consistent responses.

Table 2

Mean and Standard Deviation of Access to Credit and Financial Support

Statements	SD	D	N	A	SA	M	SD
I can easily access agricultural loans or microfinance services for farming activities.	37	38	42	57	27	3.00	1.32
The loan repayment terms and interest rates for farmers in my area are reasonable.	20	62	55	63	1	2.82	1.01
I have received sufficient financial support to expand and improve my farm operations.	15	42	49	77	18	3.20	1.10
The process of obtaining financial assistance for agriculture is simple and efficient.	9	25	37	98	32	3.59	1.04
The availability of credit and financial incentives has positively impacted my farm productivity.	4	17	39	100	41	3.78	0.93
Average						3.28	1.08

Note. SD: strongly disagree; D: disagree; N: neutral ; A : agree; SA: strongly agree; M : mean ; SD : standard deviation

The lowest-rated statement is that the loan repayment terms and interest rates for farmers in my area are reasonable, with a ($M= 2.82$, $SD = 1.01$) significant

dissatisfaction and variability in opinions. The entire responses indicate that access to credit and financial systems remains inconsistent and somewhat problematic, with dissatisfaction regarding terms and accessibility.

Table 3 illustrates that the average mean score is 4.18 which means of high overall agreement among participants that land ownership positively influences various aspects of framing. The highest-rated statement is 'I have proper legal documents that confirm my ownership or leasing rights of farmland with (M=4.81, SD = 0.49), which means strong consensus and legal security among respondents. In addition to the lowest rated statement, 'Owning land gives me greater financial security and access to agricultural loans' (M= 3.68, SD=0.98), which means that land ownership contributes to financial leverage.

Table 3
Mean and Standard Deviation of Land Ownership Status

Statements	SD	D	N	A	SA	M	SD
I own the land I cultivate, allowing me to make independent farming decisions.	3	50	29	18	101	3.82	1.32
My land ownership status enables me to access agricultural subsidies without restrictions.	0	13	7	89	92	4.29	0.82
I have proper legal documents that confirm my ownership or leasing rights of farmland.	0	1	5	26	169	4.81	0.49
Owning land gives me greater financial security and access to agricultural loans.	1	30	44	84	42	3.68	0.98
My land tenure status supports long-term investment in modern farming techniques.	1	2	10	108	80	4.31	0.66
Average						4.18	0.85

Note. SD: strongly disagree; D: disagree; N: neutral; A: agree; SA: strongly agree; M: mean; SD: standard deviation

Table 4 shows a mean of 3.84, indicating a positive attitude towards access to markets and supporting infrastructure.

Table 4
Mean and Standard Deviation of Market Proximity and Infrastructure

Statements	SD	D	N	A	SA	M	SD
I have easy access to markets where I can sell my agricultural products.	0	12	4	114	71	4.21	0.75
The transportation in my region facilitates the smooth movement of farm production.	2	5	8	115	71	4.23	0.73
I have access to well-developed storage and supply chain for my agricultural goods.	29	66	66	29	11	2.64	1.07
I can deliver my produce to buyers without experiencing logistical difficulties.	3	14	10	110	64	4.08	0.88
The proximity of markets allows me to get fair prices for my farm products.	3	14	10	110	64	4.02	0.96
Average						3.84	0.88

Note. SD: strongly disagree; D: disagree; N: neutral; A: agree; SA: strongly agree; M: mean; SD: standard deviation

The highest rated statement 'the transportation in my region facilitates the smooth movement of farm production 'with (M= 4.23, SD =0.73) signifying that

most farmers benefit from adequate transportation networks. Similarly, ‘I have access to well-developed storage and supply chain for my agricultural goods’ with ($M= 2.64$, $SD = 1.07$) highlighting a major gap in post-harvest infrastructure.

Table 5 illustrates that ‘I do not experience any difficulties in accessing subsidies due to my location’ with ($M= 4.29$, $SD= 0.62$) which means that most farmers feel geographically well-positioned to benefit from subsidy programs. However, ‘the subsidy programs in my region are sufficient to meet the needs of local farmers’ with ($M= 3.14$, $SD = 0.89$) signaling dissatisfaction or uncertainty about the adequacy of local subsidy provisions.

Table 5

Mean and Standard Deviation of Regional Disparities in Subsidies Allocation

Statements	SD	D	N	A	SA	M	SD
Agricultural subsidies are evenly distributed across different regions in my country.	3	18	29	90	61	3.94	0.97
Farmers in my region receive subsidies at the same rate as those in other areas.	1	12	25	124	39	3.94	0.78
I do not experience any difficulties in accessing subsidies due to my location.	1	1	8	119	72	4.29	0.62
The government ensures that all farming communities receive fair agricultural support.	1	4	18	114	64	4.17	0.71
The subsidy programs in my region are sufficient to meet the needs of local farmers.	6	39	88	57	11	3.14	0.89
Average						3.90	0.79

Note. SD : strongly disagree; D : disagree ; N : neutral ; A : agree; SA: strongly agree; M : mean ; SD : standard deviation

Table 6 shows that the highest-rated statement is ‘My farm yields have significantly increased over the past few years’ ($M = 4.35$, $SD = 0.65$), indicating that farmers have experienced gains in output. Similarly, ‘My farming activities are profitable and sustainable in the long run’ ($M = 4.27$, $SD = 0.65$) means that farmers feel confident in the long-term viability of their operations.

Table 6

Mean and Standard Deviation of Agricultural Productivity

Statements	SD	D	N	A	SA	M	SD
My farm yields have significantly increased over the past few years.	1	2	8	105	85	4.35	0.65
I have adopted improved farming techniques that have enhanced my productivity.	2	0	7	117	75	4.31	0.64
My overall farm income has increased due to better agricultural practices.	1	4	6	107	83	4.33	0.68
I effectively utilize modern farming technologies to improve production efficiency.	1	2	8	107	83	4.34	0.65
My farming activities are profitable and sustainable in the long run.	1	1	14	112	73	4.27	0.65
Average						4.32	0.65

Note. SD : strongly disagree; D : disagree ; N : neutral ; A : agree; SA: strongly agree; M : mean ; SD : standard deviation

Table 7 illustrates the relationship between agricultural productivity (AP) and access to agricultural subsidies (AAS) was found to be moderately and significantly positive ($r = 0.481, p < 0.01$). This implies that farmers are more likely to claim greater levels of production if they have better access to government subsidies for things like irrigation, seeds, and fertilizer. Better agricultural results seem to be directly supported by the efficient operation of subsidy programs. Additionally, there is a substantial correlation between AP and access to credit and financial support (ACF) ($r = 0.378, p < 0.01$), suggesting that financial accessibility, including loans and microfinance services, is crucial for increasing farm output.

Table 7

Relationship Between Agricultural Subsidies Factors and Agricultural Productivity (N=201)

Variables	AAS	ACF	LOS	MPI	RDS	AP
AAS	1					
ACF	.315**	1				
LOS	.246**	.273**	1			
MPI	.302**	.402**	.269**	1		
RDS	.528**	.389**	.376**	.389**	1	
AP	.481**	.378**	.228**	.410**	.421**	1

** Correlation is significant at the 0.01 level (2 -tailed)

Note. AAS: access to agricultural subsidies; ACF: access to credit and financial support; LOS: land ownership status; MPI: market proximity and infrastructure; RDS: regional disparities in subsidy allocation; AP: agricultural productivity

The relationship between land ownership status (LOS) and AP is weaker but still statistically significant ($r = 0.228, p = 0.001$). This implies that land tenure security contributes positively to productivity, likely by encouraging farmers to invest in long-term improvements. However, the weaker strength of the correlation suggests that land ownership alone may not be as impactful as other factors, such as financial access or subsidies. A stronger positive correlation exists between market proximity and infrastructure (MPI) and AP ($r = 0.410, p < 0.01$), suggesting that better access to markets and transport facilities facilitates the movement and sale of farm products, thereby enabling farmers to increase their production levels through reinvestment and efficient operations. Regional disparities in subsidy allocation (RDS) also show a significant correlation with AP ($r = 0.421, p < 0.01$). This result highlights that equitable distribution of agricultural subsidies across regions positively influences agricultural productivity. Farmers who receive fair support regardless of geographic location tend to achieve better agricultural performance. Farmers who are more productive are more likely to experience improvements in their household income, living standards, access to healthcare and education, and financial independence.

Table 8 illustrates the results of a multiple regression analysis conducted to examine the impact of various agricultural input subsidies factors on agricultural

productivity (AP) among 201 respondents. The model includes five independent variables: access to agricultural subsidies (AAS), access to credit and financial support (ACF), land ownership status (LOS), market proximity and infrastructure (MPI), and regional disparities in subsidy allocation (RDS). The aim is to determine which of these factors significantly influence agricultural productivity when considered simultaneously. The R-value of 0.584 indicates a moderate positive correlation between the combined independent variables and agricultural productivity. The R-squared value of 0.341 indicates that 34.1 percent of the variation in agricultural productivity is explained by the five independent variables in the model. The overall model is statistically significant ($F = 20.167$, $p = .000$), confirming that the combination of variables has a meaningful impact on agricultural productivity. Access to agricultural subsidies (AAS) significantly increases agricultural productivity, with a standardized beta coefficient ($\beta_1 = .307$, $p = .000$).

Table 8
Impact of Agricultural Input Subsidies Factors on Agricultural Productivity (N=201)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	VIF
	B	Std. Error	Beta			
(Constant)	2.131	.249		8.558	.000	
AAS	.233	.053	.307	4.396	.000	1.426
ACF	.074	.033	.149	2.242	.027	1.322
LOS	.009	.046	.013	.196	.843	1.206
MPI	.151	.048	.209	3.146	.002	1.315
RDS	.093	.060	.115	1.550	.125	1.660

$R = .584$, $R \text{ square} = .341$, $\text{Adjusted } R \text{ square} = .324$, $F(5, 195) = 20.167$, $p < .001$

Note.. dependent variable: agricultural productivity (AP)

This suggests that ease of access to government subsidies for fertilizers, seeds, and irrigation strongly contributes to increased productivity. Therefore, it was supported by H1. Similarly, access to credit and financial support (ACF) is another significant predictor ($\beta_2 = 0.149$, $p = 0.027$), highlighting the importance of financial access and support mechanisms in enabling farmers to invest in productivity-enhancing inputs and technologies. So, it was accepted by H2. On the other hand, land ownership status (LOS) does not show a statistically significant influence on agricultural productivity, with a p-value of 0.843. Therefore, it was not supported by H3. Market proximity and infrastructure show a significant positive relationship ($\beta_4 = 0.209$, $p = 0.002$), indicating that better access to markets and transportation infrastructure enhances the efficiency and output of agricultural activities. Therefore, it was accepted by H4. Regional disparities in subsidy allocation (RDS) do not show a statistically significant influence on agricultural productivity, with p-values of 0.125. Therefore, It was not supported by H5. The variance inflation factor (VIF) values for all variables are below 2, indicating no significant multicollinearity among the independent variables.

The demographic characteristics section provides the specific profile of the current study's 201 respondents. This detailed demographic data revealed a male majority, a predominantly middle-aged and married workforce, and high proportion low formal education. The findings of this study highlight the significant role of agricultural input subsidies in improving farmers' productivity. Subsidized inputs have led to increased yields in this study, aligning with the neoclassical production function theory that lowers farmers' costs of seeds, fertilizers, and equipment, allowing them to participate in more productive activity (Becker, 2014). At the same time, farmers' preference for equipment subsidies over other types of input support suggests that they make strategic decisions about which inputs provide the greatest practical benefit. By stepping in where private markets lose strength, government programs eased financial barriers and facilitated investment in modern practices. Farmer decision-making is influenced not only by economic incentives but also by cognitive and psychological factors. Behavioral economics examined the strong link between subsidy receipt and willingness to experiment with modern inputs. This survey confirms that reducing financial risk can encourage farmers toward innovation (Kahneman, 2011). Farmers reported greater openness to unfamiliar methods when the upfront cost was removed, validating the idea that subsidies can reshape decision-making. Institutional theory emphasizes that the efficacy of subsidies depends on the strength and fairness of the frameworks that administer them (North, 1990; World Bank, 2007). In contrast, the regression analysis offers a quantitative examination of specific factors impacting agricultural productivity within a particular dataset of 201 respondents. The regression analysis concretely establishes that access to agricultural subsidies ($\beta_1 = .307$, $p = .000$), market proximity and infrastructure ($\beta_4 = .209$, $p = .002$), and access to credit and financial support ($\beta_2 = .149$, $p = .027$) significantly increase agricultural productivity, explaining 34.1 percent of its variance, and further quantifies that a one-unit increase in agricultural productivity. Subsidy programs may worsen existing disparities by conveying advantages to people who are already well-positioned to profit from them (Kaur, 2012). Accessing agricultural inputs is still difficult for many farmers, especially those in disadvantaged groups. The identified challenges to input access, including inconvenient processes and inconsistent institutional outreach, replicate. In both cases, social and administrative barriers restrict the reach of subsidy schemes.

Both studies highlight that operators with greater knowledge and financial stability are more successful in leveraging subsidies, and the need for complementary investments in farmer training and income stabilization. Supporting farmers with education and financial help can make subsidy programs work better for everyone. Farmers' trust in subsidy programs is important for its success. Subsidies can encourage farmers to try new and better farming methods. The complementary adoption of sustainable practices alongside subsidized inputs as reported by Koppmair et al. (2017). These patterns suggest that when subsidies boost basic productivity, they can also catalyze interest in broader resource management strategies (Koppmair et al., 2017). This shows that subsidies can have a positive

effect beyond just increasing yields. Paudel and Crago (2017) paradoxical finding where fertilizer subsidies coincided with declining usage and yields absent secure land tenure. This means that improving land security and access to markets is key to making subsidies more useful for farmers. This highlights the need for better targeting and support to reduce inequality through subsidy programs. The reason why both theory and empirical findings point to productivity gains from input subsidies is that reducing the price of essential resources directly eases the financial burden on farmers.

Disparities surface when the institutional framework meant to deliver these subsidies proves weak or uneven. Local Argo ecological and market conditions shape which inputs deliver the greatest value, leading to variation in how subsidies are used. In some regions, irrigation support may yield the biggest return, while in others, mechanization or seed quality becomes the farmer's priority. This context-specific decision-making explains why blanket subsidy policies may produce different outcomes across studies: while the overarching theory captures the general trend of input cost reduction boosting productivity, the particular mix of environmental conditions, crop systems, and market access determines the precise impact in each locale. Unlike many other studies, which focus largely on subsidy or aggregate yield improvements, this study goes deeply into farmers' lived experiences, demonstrating not just broad productivity gains but also procedural barriers and knowledge gaps that influence who benefits and how much. This dual approach goes beyond simple correlation, demonstrating that, while subsidies, credit access, and market proximity all have a significant impact on productivity, other seemingly important factors such as land ownership and regional equity may have reduced effects when examined within a multivariate framework. These findings contradict the idea that secure land tenure or uniform regional distribution inevitably boosts productivity.

Conclusion

This study concludes that the experiences and challenges faced by farmers in accessing and utilizing agricultural input subsidies reveal a complex realization against the background of policy intentions. Whereas quite a number of operators benefit from machinery and irrigation support to reduce production costs. The application requirements need to be more user-friendly; case requirements on eligibility are often irrationally restrictive; and institutional outreach is variable in nature. The strong correlation between subsidy access and credit availability, market infrastructure, and agricultural productivity. Farmers who can pass through the subsidy system easily also tend to receive credit readily. When assessing the direct impacts of individual subsidy factors on agricultural productivity, it became clear that input support, credit access, and market proximity each play decisive roles; land tenure security and regional allocation. This suggests that while secure land rights and fair patterns of regional distribution are still important considerations, their influence on yields may be mediated through subsidy delivery efficiency and farmer access to other resources. The Government of Nepal should change how it gives out

farm subsidies. The current rules and paperwork are too hard for many farmers. The government should give more power to local groups and offices to handle subsidies. This make sure the money reaches all farmers, even those who are often left out. The subsidies should not be given alone. They must be connected to other support systems. The government should help farmers who get subsidies also get loans from microfinance groups. The government must fix basic issues like land ownership and fair distribution. The government should also make sure subsidies are given equally to all regions, not just some. This create a fair system where all farmers, including those who rent land and those in faraway places, can grow and succeed.

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Consent for publication: Not applicable

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