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Case Study

Perspective of Subsidy in Agriculture Service Delivery at Lamjung District

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Abstract

Agricultural subsidies are important policy instruments for improving agricultural productivity, supporting farmers' livelihoods, and ensuring food security. This study assessed the pattern, accessibility, and effectiveness of agricultural subsidy and service delivery mechanisms under Nepal's federal governance system in Lamjung District. A cross-sectional convergent parallel mixed-method research design was employed. Primary data were collected from 194 respondents, including 140 farmers and 54 service providers, using semi-structured interviews, focus group discussions, and key informant interviews. Secondary information was obtained from relevant literature and reports. Quantitative data were analyzed using descriptive and inferential statistics through SPSS and Microsoft Excel, while qualitative data were interpreted through observation and literature review. The findings revealed that only 44.8% of respondents had received agricultural subsidies, with most support concentrated on seeds and fertilizers, while mechanization and technology-related subsidies remained limited. Farmers faced several barriers in accessing services, including repeated office visits, inadequate information, lengthy documentation procedures, and the absence of extension workers. The study further identified a significant perception gap between farmers and service providers regarding transparency, awareness, and effectiveness of subsidy programs. Although local governments were perceived as the most suitable institutions for agricultural service delivery, weak institutional capacity and inadequate human resources constrained effective implementation. The study emphasizes the need for a more demand-driven, transparent, inclusive, and participatory agricultural service delivery system to ensure sustainable agricultural development in Nepal.

Keywords: Agricultural subsidy; decentralization; service delivery.

Context

Agricultural subsidies are key mechanisms and policy instruments to support farmers, stabilize production, and enhance food security through mechanisms used by governments which can be direct payments, price stabilization, input support, infrastructure development, and insurance. Subsidies effectiveness majorly depends on efficient agricultural service delivery systems, particularly extension services that promote knowledge exchange, encourage the adoption of improved technologies, and strengthen farmer–service provider linkages (GFRAS, 2010; Anderson and Feder, 2004). In Nepal, despite long-term investments in extension services and institutional reforms since 1956, agricultural productivity remains stagnant due to challenges such as limited irrigation, weak coordination, inadequate technical capacity, and poor service accessibility (Pandey *et al*., 2009). The transition to federalism, especially after the 2017 restructuring under the Local Government Operation Act 2074, has decentralized agricultural service delivery and subsidy management to local governments. However, unclear mandates, limited resources, and weak accountability continue to constrain effectiveness (World Bank, 2014; Acharya, 2018).

Moreover, subsidies are criticized for unequal distribution and market distortions (Ajala *et al*., 2013), while effective decentralization requires strong legal, financial, human, and accountability frameworks (Brosio, 2014). In this context, the study aims to analyze the existing agricultural subsidy and service delivery system, identify key challenges and opportunities under federal governance, and propose context-specific strategies to improve effectiveness, equity, and sustainability of agricultural services in Nepal.

Methodology

Besishahar Municipality, Sundarbazar Municipality, Kwhlosothar Rural Municipality and Dordi Rural municipality of Lamjung District were purposively selected as research site. As the research was cross sectional, convergent parallel mixed method design was used to examine agricultural service delivery and subsidy mechanisms in Lamjung District, Nepal. Primary data were collected concurrently from 194 respondents (140 farmers and 54 service providers) using semi-structured interviews, focus group discussions, and key informant interviews. Secondary data was taken from different publications and literature. The statistical package for social science (SPSS) and Microsoft Excel was used for qualitative and quantitative data. Qualitative data was analyzed by different tools such as prioritization, observation and literature review. Similarly, for quantitative data both descriptive statistics and inferential statistics was used. This integrated approach enabled a comprehensive assessment of institutional, socio-economic, and governance factors influencing agricultural subsidy delivery under Nepal's decentralized system.

Results and Discussion

Demographic and Socio-Economic Characteristics of Respondents

In the study area, as shown in Table 1 it was found that 65.7 percent were male and 34.3 percent were female. According to CBS (2021), female headed household was 31.55 percent in the country. This might be the reason for higher percentage of male in the study area. Further, male has more access to technology and resources in context of Nepal (Tiwari *et al*., 2008). Most of the service receivers were economically active aged (83 percent). Family size of study area was small sized (<4 members) was 10 percent, medium sized (4-7 members) was 72.9 percent) and Large sized (>7 member) was 17.1 percent. Every respondent has their own landholding out of which 37 percent were commercial farmers and remaining 63 percent were subsistence farmers. Among them 40.7 percent services receivers had small land holding size i.e. 0 - 0.25 Hectare and 40 percent owned 0.25 - 0.50 Hectare of lands. Similarly, remaining 12.9 percent, 2.9 percent and 3.6 percent owned land of 0.50 – 0.75 Hectare, 0.75 – 1.00 Hectare and more than 1.00 Hectare respectively. Average land holding size in the study area was 0.37 Hectare. Most of the respondent (36.8 percent) were engaged in mixed farming system. Furthermore, study revealed that 36.42 percent of the service receivers were educated secondary level; followed by literate (18.57 percent), intermediate (17.14 percent), and primary (16.42 percent), bachelor's degree and above (7.85 percent) and illiterate (3.57 percent). Among which 96.74 percent of male service receivers and 95.84 percent of female receivers were educated. Average literacy rate of the study area (96.42 percent) was quite higher than that of national and district average. Average literacy rate of Nepal was 76.3 percent and district was 77.49 percent (CBS, 2021). Overall, the higher participation of male, economically active, and relatively educated farmers indicates potential bias in access to subsidy programs, raising concerns about equity and inclusion, particularly for women, less educated farmers, and marginalized groups, thereby highlighting the need for more targeted and inclusive subsidy delivery mechanisms (Karamba and Winters, 2015).

Table 1: Socio-demographic characteristics of study area in Lamjung, 2025.

Variables	Characteristics	
Gender	Male: 65.7 percent	Female: 34.3 percent
Age	Economically active aged: 83 percent	Economically Inactive aged: 17 percent
Education	Illiterate:3.57 percent Primary:34.99 percent	Secondary:53.56 percent Bachelor and above:7.85 percent
Family size	Small (>4 members):10 percent Medium (4-7 members):72.9 percent	Large (<7 members): 17.1 percent
Household head	Household head: 63.3 percent	Household member: 36.7 percent
Types of farmers	Commercial Farmers: 37 percent	Subsistence Farmers: 63 percent
Land holding size	0-0.5 Ha: 80.7 percent 0.5-1.0 Ha: 15.7 percent	<1 Ha: 3.6 percent
Commodity produced	Vegetables: 15 percent Fruits: 4.3 percent Cereals: 34.3 percent	Livestock: 5 percent Fish: 2.9 percent Composite: 38.6 percent

Pattern and Nature of Agricultural Subsidy and Service Delivery

The study revealed that less than half of the respondents (44.8%) had received agricultural subsidies, whereas the remaining 55.2% had not yet benefited from any form of subsidy support. Among the beneficiaries, seed subsidies (38.9%) and fertilizer subsidies (33.3%) were the most common forms of assistance provided. In comparison, subsidies related to farm mechanization and modern agricultural technologies were relatively limited. Only a small proportion of farmers received support for mini tillers (7.6%), plastic tunnels (6.3%), livestock (3.5%), tractors (2.8%), grass cutters (2.8%), mulching plastic (2.1%), coffee pulping machines (1.4%), and threshers (1.4%) which is shown in Fig. 1.

This distribution pattern suggests that agricultural subsidy programs in the study area are primarily concentrated on basic agricultural inputs rather than on long-term productivity-enhancing technologies. While input subsidies such as seeds and fertilizers may provide immediate support to farmers by reducing production costs, the limited emphasis on mechanization and improved technologies may restrict opportunities for sustainable agricultural transformation and increased efficiency (Jayne and Rashid, 2013; Dorward, 2009).

The amount of subsidy provided also varied considerably across commodities. Subsidies for seeds, mini tillers, tunnels, and grass cutters showed high variability, indicating differences in the level of support received by farmers as shown in Table 2. In contrast, subsidies for tractors, coffee pulping machines, and threshers were fixed with no observed variation in cost. Moderate variation was observed in commodities such as mulching plastic, livestock, and fertilizers, implying that most farmers received relatively similar amounts with only minor differences.

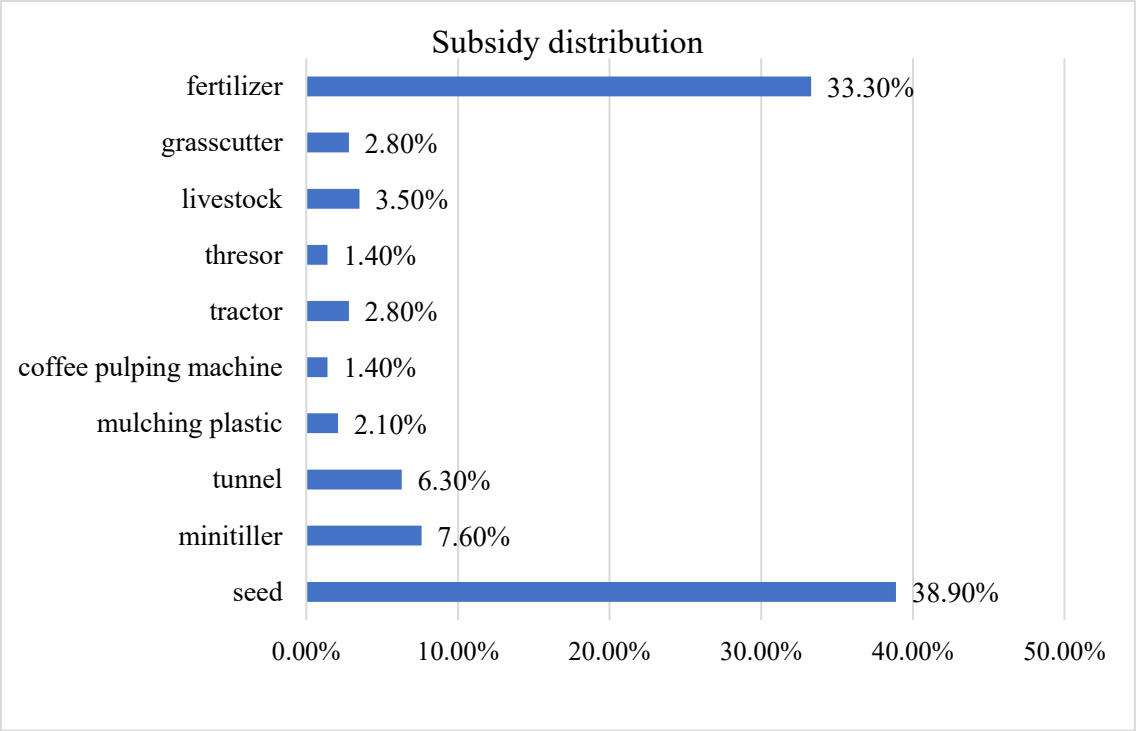

Fig. 1: Subsidy distribution in Lamjung, 2025

Table 2: Amount of subsidy according the commodity in Lamjung, 2025

S. N	Commodity	Minimum amount	Maximum amount	Mean	St. Deviation
1.	Seed	210.00	15200.00	3864.98	4885.09
2.	Mini tiller	37500.00	75000.00	47727.27	17516.26
3.	Tunnel	11500.00	51750.00	24277.77	14877.33
4.	Mulching plastic	1900.00	5700.00	3800.00	1900.00
5.	Coffee pulping machine	11000.00	11000.00	11000.00	.00
6.	Tractor	412500.00	412500.00	412500.00	0.00
7.	Thresor	30000.00	30000.00	30000.00	0.00
8.	Livestock	40000.00	60000.00	49000.00	7416.19849
9.	Grass cutter	10000.00	30000.00	17500.00	9574.27108
10.	Fertilizer	300.00	1500.00	894.5652	330.0215

The findings further indicate that the subsidy system is largely input-oriented, with greater emphasis on the distribution of physical materials rather than on knowledge-based support services. Farmers mainly received assistance in the form of seeds, machinery, tunnels, livestock, and other agricultural inputs, whereas training, technical guidance, advisory services, and regular follow-up support were comparatively limited. Such a pattern reflects a supply-driven approach to agricultural service delivery, where programs are designed and implemented based on available resources and institutional priorities rather than on the actual needs and demands of farmers.

In addition, the study observed irregularity in service provision, as many farmers reported receiving support inconsistently. This inconsistency may reduce the overall effectiveness and sustainability of agricultural interventions, particularly when farmers are unable to access continuous technical and institutional support (Bromley, 1982). From a theoretical perspective, the dominance of input subsidies over extension and advisory services contrasts with the principles of participatory and demand-driven agricultural extension systems, which emphasize farmer empowerment, capacity building, and the integration of both material and knowledge-based support (Masangano *et al*., 2017). Therefore, a more balanced subsidy and service delivery mechanism that combines input assistance with effective extension, training, and follow-up services is essential for achieving sustainable agricultural development (Alawode, 2025)

Accessibility and Efficiency of Service Delivery Mechanism

Distance between service receiver's home and local government's office:

Due to geographical condition and other transportation facilities distance between farmers' home or field and service providers' office is not same for all. One of the major concerns of federal concept was to reduce that distance for effective service delivery.

According to decentralization theorem, advanced by Oates (1972), "each public service should be provided by the jurisdiction having control over the minimum geographic area that would internalize benefits and costs of such provision." Comparing the present scenario with the decentralization theorem present agriculture seems to be going in right direction. But still distance between the subsidy receivers and services provides has wide difference. According to the Table 3 minimum distance between subsidy receivers was 1 km and maximum distance was up to 10 km. And average distance between subsidy receivers and government was 2.94 Km.

Table 3: Distance between the subsidy receivers' home and government office in Lamjung, 2025

Mean distance	2.94 KM
Maximum distance	10 KM
Minimum distance	1 KM
SD	1.483

Source: Field survey, 2025

Number of attempts to receive single services:

Table 4: Number of attempts to receive services by subsidy receivers, Lamjung, 2025

Mean number of attempts	2.5
Maximum number of attempts	7
Minimum number of attempts	1
S.D.	1.222

Source: Field Survey, 2025

Those who have visited an office for services were asked how many attempts it took before they received the agriculture service they required. Fig. 2 shows that most of them required more than single time. Table 4 shows that maximum number of attempts was 7 whereas minimum was 1. Average number of attempts was 2.5=3.

As compared to commercial farmers, subsistence farmers are more likely to receive services on the first attempt. Those who have had more than one attempt to receive a service were asked why. Overall, absence of staff (extension worker) is the most common reason (32.14 percent) which was followed by inadequate information (24.29 percent), incomplete document (18.57 percent), crowding of subsidy receivers (11.43 percent), insufficient time (being unable to complete the request during office hours) (9.29 percent) and unwillingness of service providers (4.29 percent).

The findings suggest that decentralization has not fully translated into improved accessibility at the grassroots level. While authority has been devolved to local governments, institutional capacity, infrastructure, and administrative efficiency remain limiting factors.

This observation partially challenges the decentralization theorem, which assumes that local-level governance enhances service delivery efficiency. In practice, weak institutional arrangements and capacity constraints at the local level may hinder expected outcomes (Ekpo, 2008).

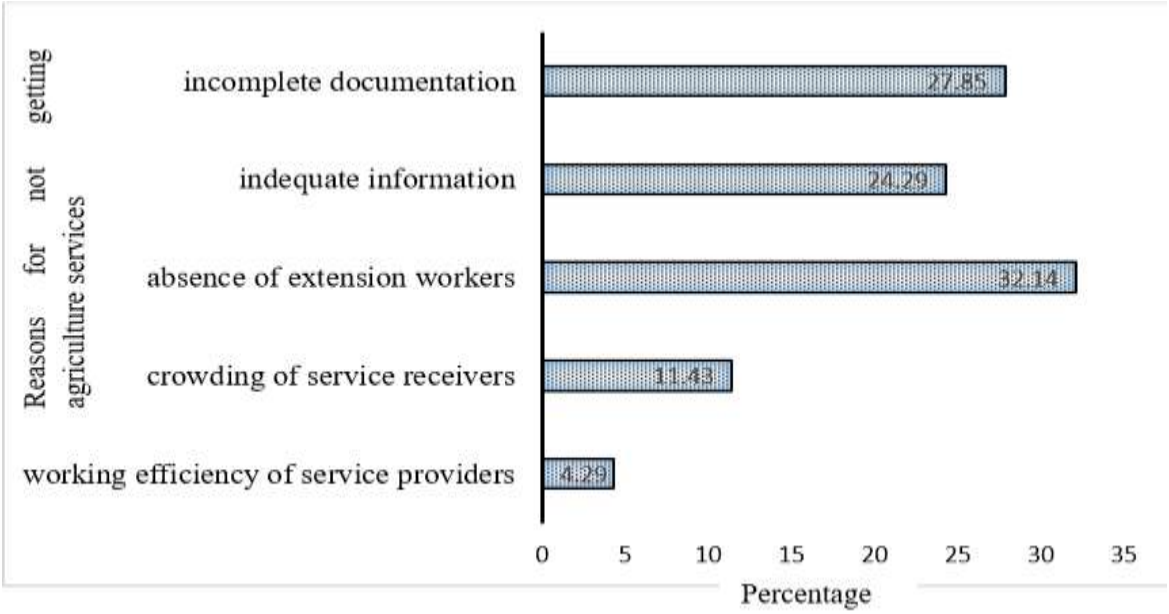

Fig. 2: Reasons for not getting agriculture services in first attempt in Lamjung, 2025

Table 5: Perception of farmers and extension workers on subsidy, 2025

S. N	Statements	Extension worker(mean)	Farmers(mean)
1.	Subsidy contribution to increase productivity	3.68	2.64
2.	Delay in receiving subsidy	2.40	2.33
3.	Budget sufficient for subsidy delivery	2.62	1.81
4.	Feedback facilities regarding subsidy	3.45	1.61
5.	Aware about subsidy programmes	3.00	2.30
6.	(mobile apps, SMS) for informing	4.05	4.06
7.	Farmers consulted regarding planning phase programme	3.68	3.07
8.	Bribe in subsidy	1.00	1.29
9.	Reason to not have subsidy in 1st attempt		
	Unclear process	3.38	3.89
	Long documentation process	2.17	3.58
	Distance	2.10	2.67
	Others	1.00	2.20
10.	Follow up conducted after subsidy delivery	3.35	1.52

Comparison Between Perception of Farmers and Extension Workers

In the below Table 5, it is seen the comparison among extension workers and the farmer perception. There is a clear difference in how the subsidy was perceived. Extension workers generally view the subsidy system more positively, believing that subsidies contribute to productivity. Extension workers rated 3.68 to subsidy contribution to increase productivity where as farmers rated (2.64).

In case of delay in subsidy mean score for delay in receiving 2.40 vs 2.33 both took delay as problem. Extension workers believed budget was somewhat sufficient for subsidy (2.62) where as farmers were dissatisfied (1.61) with budget for allocation. Extension workers believed feedback mechanism exist (3.45), while farmers hardly believed (1.61). Extension workers thought farmers were aware about subsidy programmes (3.00) where as farmers were not much aware about it (2.30). Both extension workers and farmers believed (mobile apps, SMS) for informing will be the best option to inform about subsidy in future (4.05 vs 4.06).

Perception analysis revealed mixed responses from both farmers and service providers regarding the effectiveness of the subsidy system. Farmers expressed moderate satisfaction with the availability of subsidies but raised concerns about transparency, fairness, and timeliness.

A notable gap exists between the perceptions of farmers and service providers. While providers focus on structural constraints, farmers emphasize issues of fairness and access. This perception gap indicates the need for improved communication, transparency, and participatory planning.

These findings support the argument that trust in public service delivery is closely linked to perceived service quality and governance practices (Mishra and Attri, 2020; Lanin and Hermanto, 2019).

Improvement of Agriculture Subsidy and Service Delivery Mechanisms

With the specified given socio-cultural setting, level of political culture and maturity, situation of conflict, central government influence and bureaucratic culture as well as limitation within the Local Bodies, practice of local governance missed the philosophy and spirit of the most democratic decentralization, subsidiary principle and local-self-governance. In conclusion the current status of Local Government is illegal, incomplete and dysfunctional as it is in its service delivery. The people's experience over the public service is below the satisfactory level.

Table 6: Number of household and extension in Lamjung, 2025

Municipality	Number of farmers' household	Number of extension worker
Besishahar	6837	3 (1 officer + 2 JTA)
Sundarbazar	4927	3 (1 officer + 2 JTA)
Kwhlosothar	1646	3 (1 officer + 2 JTA)
Dordi	2514	2 (1 officer + 1 JTA)

Source: Municipality and field survey, 2025

Table 6 shows that the ratio of extension worker to farmers' household is 1:1447 in study area. Therefore, there is a need of increasing the number of extension workers. According to the FDG result, every ward needs minimum one extension workers (JTA). It can be well related to OVOT (one village one technician) approach. This finding is in same line as the ratio of extension worker to client is very low. An extension worker needs to reach a large number of clients. The factors like human capital status of extension workers, exposure of extension officers to management, marketing, training and infrastructure development are the major issues in delivering the effective extension services. In accordance with the human capital theory Education and Agricultural Education and Training (AET) are the major factors influencing agricultural productivity through enhancing farmers' ability to choose optimum combinations of farm inputs and farm outputs, by uplifting the farmers' ability to acquire and adapt new technologies, thereby reducing innovation time lags, fostering the capacity to exploit new market opportunities (Idachaba,1997; Atchoerena and Gasperini, 2003), affecting performance and success through enhanced worker productivity. Since the aged extension agents are not up to date in the modern technical knowledge, the effectiveness of extension services in the rural areas is not as expected. The achievement of competitive advantage of an individual or any farming entity irrespective of its size or type depends on the management, marketing, training and infrastructure capacity (Ortmann and King, 2007). These skills categories are needed to emerging farmers, and should ideally be imparted to them by extension services. The extension workers should themselves be versed with these qualities for imparting them to the clients.

Service receivers and service providers were asked with the question "Who will be the best service provider in your locality?" Majority of subsidy receivers (57.90 percent) and service provider (81.50 percent) answered for municipality followed by government agency (Krishi Gyan Kendra), University, Private Sectors and NGO/INGOs as shown in Fig.3.

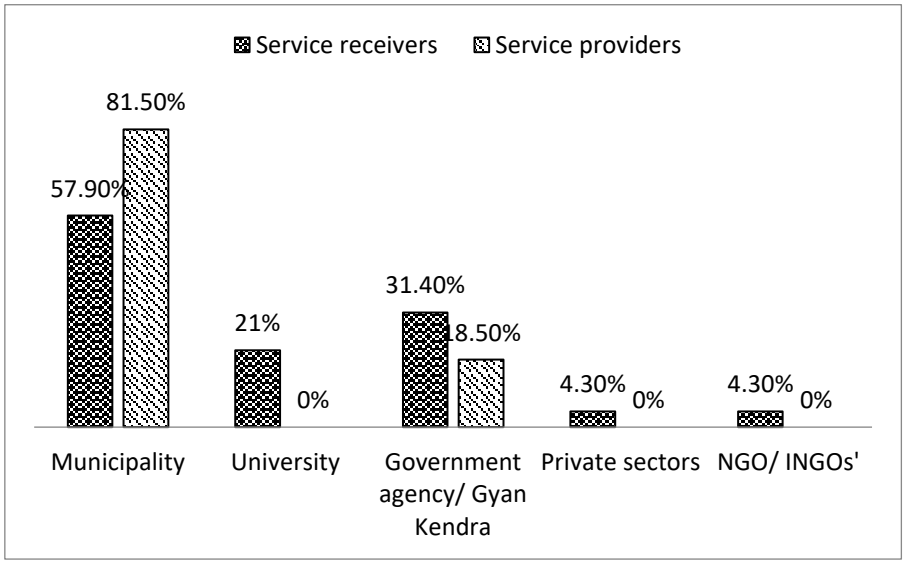

Fig. 3: Response of respondents on best service provider in Lamjung, 2025

This result supports that improved capacity of the existing ASCs and LSCs would be the major backstopping to the successful establishment and implementation of CAESCs at the VDC level (now at palikas level). It is because Local body is responsible for;

- policy making for local level agriculture extension
- human resource management and distribution in local level
- capacity building, technical assistance, skill development and empowerment of farmers
- supply and usage of seeds, fertilizers, chemicals and pesticides
- coordination between farmers' group, cooperatives and local bodies
- agriculture related information and communication
- technology adoption and dissemination
- development and management of farm centres
- crop and livestock insurance related planning and implementation
- infrastructure development for agro-market

Therefore, the integration with the agricultural education system with extension process and research can be the best format for agricultural service delivery (Gauchan, 2014). This response also supports the Stigler's menu. Stigler (1957) identifies two principles of jurisdictional design:

- The closer a representative government is to the people, the better it works.
- People should have the right to vote for the kind and amount of public services they want.

Another question was asked to subsidy receivers and service providers that "What type of structure arrangement do you prefer to make agricultural service delivery effective?"

In this question majority of subsidy receivers (62.90 percent) and service providers (51.90 percent) responded to the option ward office followed by community level (CAESC), Municipal office and district level as shown in Fig. 4. This response supports the decentralization theorem and stigler's menu, i.e. according to decentralization theorem, advanced by Oates (1972), "each public service should be provided by the jurisdiction having control over the minimum geographic area that would internalize benefits and costs of such provision," because

- Local governments understand the concerns of local residents;
- Local decision making is responsive to the people for whom the services are intended, thus encouraging fiscal responsibility and efficiency, especially if financing of services is also decentralized;
- Unnecessary layers of jurisdiction are eliminated;
- Inter jurisdictional competition and innovation are enhanced.

This finding supports the Local Government Operation Act which has provisioned to delegate many power and functions at lowest units called Wards. The Wards are regarded as the very closest units of the people, which ensure the citizens to have access of the services to the doorsteps of the people so that they have ample opportunities in services (Acharya, 2018). Despite the challenges, several opportunities exist to enhance agricultural service delivery in Lamjung district. Strengthening the linkage between research, extension, and education (R-E-E) can improve the relevance and effectiveness of services.

The role of local governments can be enhanced through capacity building, improved resource allocation, and streamlined administrative procedures. Establishing community-based agriculture service centers can improve accessibility and reduce transaction costs for farmers.

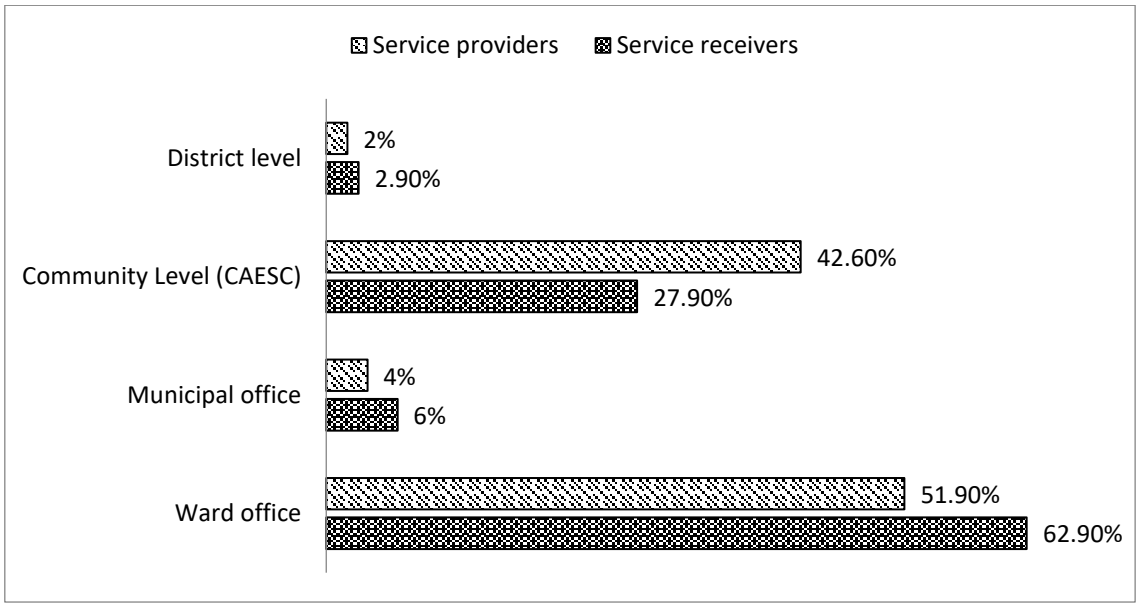

Fig. 4: Response of respondents on best structure arrangement for effective service delivery in Lamjung, 2025

Digital tools and information systems also offer potential for improving transparency, monitoring, and communication. Additionally, participatory approaches involving farmers in planning and decision-making can enhance accountability and responsiveness. A shift towards a more demand-driven and inclusive subsidy system is essential to ensure equitable access and sustainable agricultural development.

Conclusion

The study showed that agricultural subsidies in Lamjung District play an important role in supporting farmers; however, their effectiveness remains constrained by institutional, administrative, and governance-related challenges. The subsidy system is still largely input-oriented, focusing mainly on seeds and fertilizers, while comparatively less emphasis has been placed on technical support, mechanization, and knowledge-based advisory services necessary for long-term agricultural transformation.

After federal restructuring, decentralization process has brought agricultural services closer to local communities but still there are significant gaps remain in accessibility, efficiency, transparency, and inclusiveness. Farmers often face absence of extension workers, inadequate information, and lengthy documentation processes to access services. Moreover, the perception gap between farmers and extension workers highlights concern regarding fairness, accountability, participation, and communication within the subsidy delivery system. The findings also indicate that local governments are perceived as the most suitable institutions for agricultural service delivery due to their proximity to farmers and better understanding of local needs. However, inadequate human resources, particularly the low ratio of extension workers to farming households, weak institutional capacity, and limited coordination continue to hinder effective implementation. Strengthening ward-level and community-based agricultural service centers, increasing the number and competency of extension personnel, and integrating research, education, and extension systems can significantly improve service effectiveness.

Furthermore, the study focuses on the need for more demand-driven, transparent, participatory, and inclusive subsidy mechanism that ensures equitable access for marginalized and smallholder farmers. The adoption of digital information systems, mobile-based communication, participatory planning, and stronger monitoring and feedback mechanisms can enhance accountability and responsiveness. Overall, improving institutional capacity, decentralization practices, and farmer-centered approaches is essential for achieving sustainable and equitable agricultural development in Lamjung and similar contexts of Nepal.

Conflict of Interest

The authors declare no conflict of interest regarding the publication of this work.

Author's Contribution

All authors contributed equally at all stages of research and preparation of the manuscript. Final form of manuscript was approved by all authors.

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