



Agricultural Extension Systems: Institutional and Fiscal Perspectives in Nepal

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Abstract

This study critically explores the transformation of agricultural extension in post-federal Nepal on its institutional structure, intergovernmental budgetary allocation trends, and agricultural extension service delivery challenges across different government tiers through a systematic review of literature. The findings reveal that despite constitutional reconfiguration of extension responsibilities to different government tiers, the operational framework remains fragmented due to overlapping roles, ambiguous jurisdictional limits, and poor intergovernmental coordination. Although the constitution has undergone a transformation of centralized pre-federal institutional restructures by evolving new entities such as federal, provincial agricultural ministries, Agricultural Knowledge centers and municipal agricultural units, these functional aspects of these institutions often indicate limited technical capacities and weak linkages among research, extension and education aspects. The study concludes that agricultural extension urges a clear institutional role, equitable fiscal allocation among different government tiers, an effective intergovernmental coordination mechanism and a strategic shift towards a participatory, community-based, knowledge-driven extension model in order to align with the transformative potential of federalism.

Keywords: Agricultural extension, federalism, fiscal allocation, Nepal

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Introduction

Nepal has adopted a federal governance system after the promulgation of its new constitution in 2015. Federalism refers to the sharing of powers in multiple entities, typically between a central government (federal) and subnational units(provincial/state) government (Kyle & Resnick 2016). The federal restructuring of the state has been observed as a harbinger of fundamental change in the governance of public services, including the agricultural sector. The establishment of three-tier governments, thereby assigning each government with distinct rights, responsibilities, and authorities, has led to a major reconfiguration of the institutional structure of agricultural extension service (Devkota & Thapa, 2019). Extension was viewed as an essential public good, and the only public sector is confined to technology development and transfer with emphasis on widening the outreach of extension services (FAO 2010). In general, Agricultural extension refers to the process of applying scientific research and new knowledge in agricultural practices by incorporating them through farmers' education (Hossain et al., 2014). After federalism, responsibility for agricultural extension service delivery has been devolved to local governments, while provincial and federal institutions are intended to offer strategic support, technical assistance, and regulatory functions.

This restructuring has dismantled former agricultural institutional structures such as Regional Directorates of Agriculture, District Agriculture Development Offices, and Agriculture Service Centers, and these institutions have been replaced with provincial agricultural ministries, Directorates of Agriculture, Agriculture Knowledge Centers (AKCs), and specialized commodity farms and research laboratories. Simultaneously, the roles and functions of the federal-level Ministry of Agriculture and its departments have been downsized.

The constitution has further assigned the shared responsibilities to all three tiers of government (Federal, Provincial, and Local) for enhancing public investment in agriculture in order to ensure the sustainable production, proper storage system, adequate supply chain, food security, and the efficient and effective supply chain of agricultural commodities (Constitution of Nepal, 2015). Similarly, the Constitution of Nepal (2015) has explicitly recognized the right to food and food sovereignty (Article 36,

p.17) and provided the mandate for advancing agricultural development through policies that focus on land consolidation, productivity enhancement, commercialization, industrialization, diversification, and modernization (Article 51, p.26).

Along with these constitutional commitments, the Government of Nepal (GoN) has envisioned "Prosperous Nepal, Happy Nepali" as its long-term development goal. In alignment with this vision, Fifteenth Periodic Plan (2019/20–2023/24) has outlined milestones aiming to transform Nepal into a middle-income country by 2087 BS and a high-income country by 2100 BS (Constitution of Nepal 2015; NPC, 2016, 2020). To complement this vision, the Agriculture Development Strategy (ADS) serves as a key guiding federal framework for agricultural development from 2015 to 2035. In order to operationalize it, 22 guidelines and 19 directives have been formulated by the federal government, which are primarily concerned with federal-level program implementation rules and regulations (Bishwokarma et al., 2021), but their implementation at the provincial and local level. Nevertheless, such a guiding strategy framework has limited translation across other government tiers. Although the local and provincial level policies have been formulated, a gap still persists on in its design and execution, with inadequate federal agricultural act compliance along with weak coordination among government tiers as evident by less than one percent agricultural budget allocation on extension (Bishwakarma et al., 2022; Shrestha, 2023).

During the decade of adopting the federal system, several studies have been carried out on agricultural extension, yet a comprehensive desk study on institutional arrangement, intergovernmental coordination, fiscal allocation trend on different government tiers and governance challenges in agricultural extension service delivery has not been undertaken. Therefore, it is imperative to analyze these gaps in the institutional framework as envisioned by the constitution of Nepal, along with budgetary allocation across the different government tiers, coupled with governance challenges of agricultural extension in post-federal Nepal. Therefore, this paper is intended to examine evolving structure, functioning, and intergovernmental coordination and challenges of agricultural extension services, budget

allocation and among different tiers of government with a focus on institutional frameworks of agricultural extension in post-federal Nepal.

Methodology

This paper has employed a systematic review approach based on secondary sources in order to explore the current landscape of agricultural extension services within Nepal's federal governance structure. The methodology has comprised the identifying, synthesizing, and critically analyzing a wide range of relevant documents, including peer-reviewed journal articles, policy papers, and working papers. Particular emphasis has been placed on literature related to decentralized governance and agricultural extension in the federal context.

The comprehensive desk review has been carried out in the course of the collection of data on mechanisms, functions, institutional structures, and budget allocations related to agricultural extension services at the federal, provincial, and local levels. The data are compiled and organized using Microsoft Excel, while tools such as tables, graphs, and charts are used to visually present the findings. As defined by Onyekachi (2016), desk study comprises a systematic examination, analysis, and interpretation of policy documents and institutional reports and constitutes the main mode of data generation.

Despite of being not incorporating primary data collection or field-based observation of Extension and Advisory Service (EAS) activities, the authors' professional insights and experiences in the agriculture sector have been taken into account to contextualize and enrich the analysis.

Literature Review

Federalism and Agriculture Extension

Decentralization intensifies responsiveness to local needs (Smith & Revell, 2016), reversing the politics from top-down to bottom-up (Faguet et al., 2014). Similarly, Khatiwada (2007) reveals that federalism creates a governance structure responsive to addressing local issues and context. The extension has focused on problems and challenges of the communities in order to maintain their quality of life (Nederlof et al., 2011). By providing need and demand-based skills and knowledge, extension or

advisory services have enabled the farmers to enhance their livelihood and living standard (Qamar, 2007). In developing countries, extension services are regarded as the most important public good and services provided to the rural population (Faye, 2005). The extension services serve a major role in raising and ensuring food standards, certification, food security, as well as expanding non- farm employment and agricultural enterprises in rural areas (Khanal et al., 2023). Moreover, agricultural extension provides technical know-how and transfers improved technology coupled with agricultural advisory services to farmers, resulting in accelerated agricultural growth (Aker, 2011).

Historical Evolution of Agriculture Extension in Nepal

A variety of agricultural extension models and strategies have been implemented by Nepal since 1950 with or without donor support (Upriety & Shivakoti, 2019). Before federalism, Nepal's agricultural extension services were predominantly centralized and operated via regional directorate & training centers, district level offices, service centers and various commodity farms (Rai & Sharma, 2018). Such a model often lacked accountability, thereby being hindered by bureaucratic inefficiencies and this technology transfer model often failed to adequately accommodate the innovative potential of farmers and their diverse learning styles, coupled with rigid packages of recommended inputs (Davis & Franzel, 2018). Such centralized systems treated farmers as passive recipients of knowledge, thereby discarding them as active agents of change, ultimately limiting their technology adaptation and innovation role.

Nepal's agricultural sector federalization has substantially reshaped extension services delivery, thereby introducing both opportunities and challenges. Within Nepal's restructured governance framework, the provision of a three-tiered system has opened the avenues for agricultural policies at the provincial and local level for the delivery of agrarian extension services by promoting a bottom-up approach. This institutional restructuring enables more integrated service delivery by promoting better coordination among public, private and community-based extension offices (Tamang et al., 2020).

Constitutional and Institutional Framework

The constitution of Nepal assigns power to the federal and provincial level for research and development, while delegating the local level for providing agricultural extension services, thereby facilitating municipal executives to manage agricultural and livestock extension services at local level (Jaishi & Paudel, 2020). The municipal level agricultural structures have enabled farmers to declare their rights, improved access to agricultural inputs, service providers and enhanced engagement of farmers in the agricultural planning process (Nepali, 2018).

On the one hand, effective extension services rely on good governance, accountability, and effective and efficient use of local resources and authority, but conversely, provincial and local governments of Nepal face significant challenges due to limited understanding of governance, institutionalization and human resource management issues, compounded with persistent centralized mindsets and top-down working modality, creating obstacles to effective implementation. (Dahal et al., 2020; Shrestha, 2023). Additionally, in developing countries like Nepal, challenges are further exacerbated with inadequate local funding, over-reliance on unstable central government grants, hindrance in recruiting and retaining staff, coupled with local-level corruption and financial mismanagement (Mangheni & Nkonya, 2011).

Accessibility and Quality of Extension Services

Access to agricultural extension services in Nepal is unevenly disseminated among farmers and influenced by spatial disparities and farm size (Shrestha & Sanjel, 2018). Service accessibility depends on several factors such as efficiency of extension workers and their service quality, relevance of the program and farmers' engagement, which finally shapes farmers' perception of the usefulness of services (Oluwasusi & Akanni, 2014). Farmers generally trust extension officials' technical expertise, particularly for perceiving need or demand, market-based services but simultaneously express dissatisfaction on cost, delayed delivery and limited availability of services (Babu & Sah, 2019; Khanal et al., 2023).

Despite of this devolution of power, local government tiers are still struggling with persistent challenges, including low quality outreach, poor market linkage and diminished bargaining power for agricultural produce (Dhital, 2017). Moreover, the extension service agents and institutions often provide preferential treatment to large farmers and landowners, thereby leaving smallholder farmers unserved (MoAD, 2016).

According to Devkota and Thapa (2019), the current federal restructuring of agricultural extension service exhibits overlapping jurisdiction, uneven institutional frameworks and weak communication channels. Similarly, frequent restructuring of the federal agricultural ministry along with weak coordination between elected officials and technical staff, has further exacerbated hurdles of consistent policy implementation (Burlakoti & Nettle, 2024).

Moreover, Pyakuryal and Upreti (2016) argue that the existing federal-agrarian nexus is only possible through active participation of farmers in policy formulation and governance process. However, the current federal state still struggles to achieve such an inclusive governance mechanism due to persistent structural and functional challenges in service delivery methods (Timsina et al., 2023). Consistent with these arguments, Shrestha (2011) and Joshi (2016) both highlight the underperformance of extension service not only due to structural inefficiencies but also from weak integration of research, extension, and market development functions.

Results and Findings

Institutional framework of agriculture extension services under the federal structure

Prior to the federal restructuring, Nepal's agricultural extension service was delivered through a well-established nationwide institutional framework i.e., the Agricultural Ministry to the institutional frameworks of the Department of Agriculture (DoA) and the Department of Livestock Services (DoLS). These departments comprise of five regional directorates, each for agriculture and livestock: 75 District Agricultural Development Offices (DADOs), 75 District Livestock Service Offices (DLSOs). Within the management and supervision of these DADOs and DLSOs, 378

agricultural service centers and 999 livestock service centers were operated in the entire country. Additionally, the DoLS had responsibility to manage 12 livestock farms and 5 regional livestock service training centers, while the DoA operated 43 agricultural farms, 24 program directorates and offices, 16 regional laboratories (for soil, seed, and plant protection), 16 plant quarantine posts, and 5 agricultural training centers (AITC, 2018). Despite the existence of such a centralized structure with national-level networks, local needs and context-specific responses were not adequately addressed.

By the transition to a federal system, the constitution has introduced a three-tiered governance structure with the allocation of designated responsibilities for each tier. The central tier has retained its exclusive authority over the regulation of extension services, policy formulation and land use planning through the federal ministry. The provincial governments are assigned with agricultural and livestock development role including agricultural infrastructure development. Local government operated through municipalities and rural municipalities are allocated the role of implementation and regulation of day-to-day agricultural activities such as crop and livestock management, agro-product handling, animal health, and cooperative development. Likewise, several other functions i.e., pesticide, veterinary medicine regulation, remained as concurrent authority between the federal and provincial levels, with agriculture development shared across all three tiers. This creates institutional ambiguities and overlapping jurisdiction among different tiers, resulting in complexity in performing functions and efficient coordination. Nevertheless, this authorized role retained for different levels of governments has enhanced more localized and responsive service delivery.

Institutional Roles and Policy Commitments in Agriculture

Nepal's current agricultural sector institutional framework is governed by several legal acts and regulations including Staff Adjustment Act (GoN, 2017), the government of Nepal (Work Division) Regulation, 2017, the Local Government Operation Act (LGOA), 2017, the Work Division Regulations of Karnali Province (GoP, 2017; 2019), and survey (MoFAGA, 2018).

Along with this, the Nepal Government Business Allocation Rules (2017), the Provincial Government Business Allocation Rules (2017), and the Local Government Operations Act (2017) have outlined the legal and functional mandates for providing agricultural extension by developing the agricultural governance framework for Nepal. However, this entire framework collectively demonstrates the layered but fragmented nature of agricultural governance. The federal level government is responsible for national-level policy formulation, standard-setting, regulation of agricultural biodiversity, veterinary health, pesticide use, laboratory accreditation and inter-provincial coordination of livestock and agricultural industrialization(Table 2).

Provincial governments are assigned with contextualizing and implementing policies related to agriculture, veterinary services, livestock development, and agricultural insurance, while also managing laboratories, extension services, and cooperative farming initiatives. Local government agencies are authorized to perform grassroots-level implementation, monitoring, and regulation of agricultural practices, market infrastructures, animal health services, and farmer training and empowerment.

Table 1 : Legal mandates and functional and operational role government in agriculture and livestock sector

S.N.	Federal Level government Business Allocation Rules, 2017	Province Level government Business Allocation Rules, 2017	Local Government Operation Act, 2017
1	National policy, law and standardization and regulation relating to agriculture, biological diversity, biotechnology	Provincial policy, law, standards, planning, implementation and regulation relating to agriculture, livestock development and food nutrition	Agriculture and animal husbandry, agro-product management and animal health. Issues related to agriculture environment protection, bio-diversity protection and promotion

S.N.	Federal Level government Business Allocation Rules, 2017	Province Level government Business Allocation Rules, 2017	Local Government Operation Act, 2017
2	Statistic system of national standard, study, research, resource protection, development and expansion relating to agriculture	Provincial statistical system for agricultural livestock and food technology related study, research, source protection, promotion of development and expansion and common agriculture system	Statistical Data management and information system in local level
3	International trade facilitation and regulation relating to agriculture and food	Quality determination and regulation of agriculture product, livestock, livestock related materials and animal product materials	Quality regulation and animal Feed
4	Coordination and regulation relating to production, import chemical and bio fertilizers. Laws, Policies and standards for the regulation and management of veterinary medicines, micronutrients and Chemical & bio pesticides	Issues related to agriculture fertilizer, seeds and pesticides supply management and regulation	Not Specified
5	Regulation, registration, issues, renewal, and cancellation of licenses of veterinary doctor	Registration, permission, renewal, dismissal and regulation of para-vet according to national policy and state	Management of animal health services
6	National policy, standardization relating to	Affiliation, standardization,	Management of livestock medical

S.N.	Federal Level government Business Allocation Rules, 2017	Province Level government Business Allocation Rules, 2017	Local Government Operation Act, 2017
	veterinary. Livestock services and veterinary laboratories accreditation	determination of quality and certification of agricultural materials, services and technology	services
7	International epidemic control of agriculture and livestock	<ul style="list-style-type: none"> • Management and animal diseases regulation of diagnostic laboratories, and agricultural labs • Agriculture and livestock related diseases, insects and epidemic control 	Control of agriculture and livestock related natural hazard and epidemic disease
8	Policy, Standard for livestock insurance	Planning and implementation relating to agriculture and livestock insurance	Insurance and Credit facilitation relating to agriculture and livestock
9	Inter-provincial development and promotion of agriculture, industrialization, livestock and fishery industry businesses	<ul style="list-style-type: none"> • Matters relating to agriculture and livestock mechanization and development of developed equipment and expansion • Matters relating to agricultural industrialization, development of 	Promotion, development and marketing of high value agriculture related materials

S.N.	Federal Level government Business Allocation Rules, 2017	Province Level government Business Allocation Rules, 2017	Local Government Operation Act, 2017
		livestock related industry occupation and promotion <ul style="list-style-type: none"> • Development and management of agriculture firm Centre 	
10	Determination of national quality and regulation relating to seed and breeding	Quality control and regulation relating to seed and breeding	<ul style="list-style-type: none"> • Development and management of animal breeding improvement system • Management and regulation of slaughter house and cold storage
11	Policy, law, and regulation relating to inland pasture land and barren land	Provincial policy, law, and regulation relating to grazing land and barren field	Management of local pasture and barren land
12	National food security, food rights and food sovereignty	Matters relating to provincial food security, food rights and food sovereignty	Construction and improvement of small irrigation
13	Livestock services and veterinary laboratories accreditation	Development and management of provincial laboratory relating to agriculture livestock and food	Management and regulation of slaughter house and cold storage

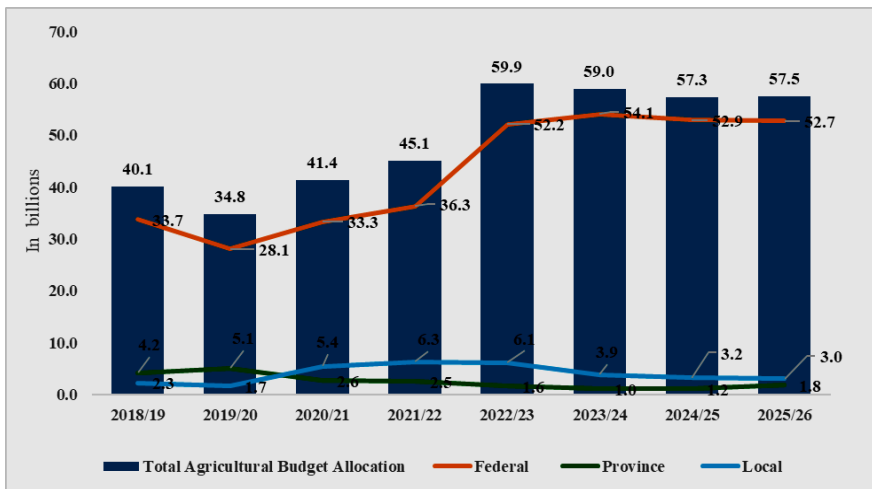
S.N.	Federal Level government Business Allocation Rules, 2017	Province Level government Business Allocation Rules, 2017	Local Government Operation Act, 2017
14	Coordination with bilateral/multilateral agricultural related organization. Development and management of international accreditation relating to agriculture and food	<ul style="list-style-type: none"> • Issues relating to agriculture extension, farmer training and capacity development and empowerment • Minimum support price for agricultural products • Matters relating to agriculture market and infrastructure development and operation 	<ul style="list-style-type: none"> • Management and regulation of agriculture and livestock market information system, market and HaatBazars, infrastructure construction, construction of small irrigation, trainings, technology expansion, technical support, supply of agriculture materials • Implementation and regulation of farmer capacity development implementation and regulation of development programs

Source: (Federalism Implementation and Administration Restructuring Coordination Committee, 2017: The Asia Foundation, 2019)

Intergovernmental fiscal dynamics in agriculture sector

Despite of federal structuring, the agricultural budget trend analysis has revealed a persistent dominance of federal government in terms of resource allocation from fiscal year 2018/19 to 2025/26. In FY 2018/19, out of a total agricultural budget of NPR 40.1 billion, the federal government has overwhelmingly absorbed 84 % of the total allocation, while provincial and local governments have received NPR 10.5% and 5.7%, respectively. A similar pattern has been observed in FY 2019/20 with slightly less allocation in federal level. At the provincial level, a slight increase in allocation, i.e., 4 %, has been observed as compared to the previous year; however, the local government allocation has been reduced to 4.9%. The federal government has consistently accounted for around 80% share even in FY 2020/21, leaving NPR 5.4 billion (13%) and NPR 2.6 billion (6.3%) for provincial and local levels, respectively(Figure 1).

Figure 1 : Trends in agricultural budget allocation across federal, provincial, and local Governments (FY 2018/19–2025/26)



Source: Compiled by author from Ministry of Finance Nepal (2018–2025), Budget Speeches and Red Books (Estimates of Expenditure)

A notable shift towards centralization of the budget has been seen from FY 2022/23 onward. In 2022/23, the federal government controlled over 87% of the total agricultural budget, while barely 13% of the total allocation had been delivered to provincial and local governments. This trend has further intensified in FY 2023/24, with the federal share peaking at 91.7%, with local government allocation shrinking to 1.7 %. Building on this, Timsina (2023) reported that less than two percent of the total budget in the agriculture sector was allocated at the local level and about 30% positions are vacant. The projected year of 2025/26 has consistently exceeded the share of federal government, with over 91% of the total allocations, while the provincial and local levels together received less than 10%.

These trends have clearly demonstrated that Nepal's public agricultural budget allocation is disproportionately concentrated at the federal level, resulting in constraints in implementing context-specific agricultural intervention in provincial and local tiers due to limited resource allocation. This asymmetrical fiscal allocation contradicts the principles of federalism, which primarily aim to strengthen and empower subnational governments for effective and efficient agricultural service delivery and context-specific local agricultural development and promotion. Additionally, report of the Parliamentary Special Committee on Federalism Implementation Study and Monitoring (2023), subnational governments remain heavily dependent on federal resources despite seeking autonomy, creating ambiguities in revenue and expenditure responsibilities and reflecting limited financial capacity, especially at the local level. The report also proposes that until federal and provincial governments set clear criteria and standards for selecting and implementing projects of national, provincial and inter-local importance minimum budget thresholds for agricultural and construction projects should be appropriately maintained at NPR 50 million for provinces and NPR 5 million for local levels via policy provision (Federal Parliament, National Assembly, 2023).

As impactful service delivery in agriculture is intrinsically community-based and demand-driven, it inherently requires capacitated local governments. However, limited institutional structures and human resources at the district and local levels have further exacerbated

constraints for reaching a massive population, thereby exemplifying implementation gaps (Babu & Sah, 2019). Without more equitable and predictable financial allocations, the potential of federalism to improve agricultural extension and enhance local agricultural governance remains significantly constrained.

Agriculture Extension at the Federal Level

After adopting federalism, Nepal's agricultural extension system has transformed into a multilayered and pluralistic framework with different reconfigured roles and responsibilities across federal, provincial, and local levels. At the federal level, the Ministry of Agriculture and Livestock Development (MoALD) serves as the apex institution, leading national agricultural governance. The ministry comprises of six divisions, three key departments (DoA, Department of Food Technology and Quality Control, Department of Livestock Services), three centers, five commissions/councils/committees, and manages nine major national programs. At the federal level, agricultural extension is also performed through commodity development centers and national priority projects such as Prime Minister Agriculture Modernization Project (PMAMP), Food and Nutrition Security Enhancement Project (FANSEP), Nepal Livestock Sector Innovation Project (NLSIP), Rural Enterprise and Economic Development (REED) Project, Agriculture Sector Development Programme (ASDP), and Nuts and Fruits in Hilly Areas (NAFHA) Project. The Ministry of Agriculture and Livestock Development (MoALD) serves as the principal authority for managing such national agricultural development projects (MoALD, 2022). The Prime Minister Agriculture Modernization Project (PMAMP) and has reorganized several institutions under its umbrella by merging directorates, redefining organograms, and clarifying roles. In order to operationalize the PMAMP project, MoALD has established 122 program implementation units (106 Zone and 16 Super Zone).

Likewise, Agricultural research is primarily mandated to the National Agriculture Research Council (NARC), while universities and vocational institutions, including Tribhuvan University, Agriculture and Forestry University, Purbanchal University, Far Western University, and

CTEVT all of which contribute to workforce development, academic research, and technical education in agriculture.

Province Level

Each provincial government in Nepal has established a ministry responsible for agricultural development, though the name and organizational structure of the ministry vary across provinces. Despite the differences in titles, all these ministries perform core agricultural functions at the provincial level. Provincial agricultural ministries have been operated through Directorates of Agriculture/ Livestock and Fisheries. Till now, a total of 51 Agriculture Knowledge Centers (AKCs), 16 Agriculture Development Offices (ADOs), 75 Veterinary Hospitals and Livestock Expert Centers (VHLECs), laboratories, and commodity farms are delivering context-specific extension services and supporting farmers and agribusinesses.

Local Level

The municipalities and rural municipalities with their agriculture and livestock development sections serve as frontline units for agricultural service delivery to communities. These sections perform the operational functions of agriculture and livestock development and provide direct services to farmers. Municipal Agriculture Development Committees, led by elected representatives, oversee planning, coordination, monitoring, and policy implementation at the local scale. Following federal restructuring, the number of Agriculture Service Centers has increased to 753 to cover all local government units (AESAN Network, 2022).

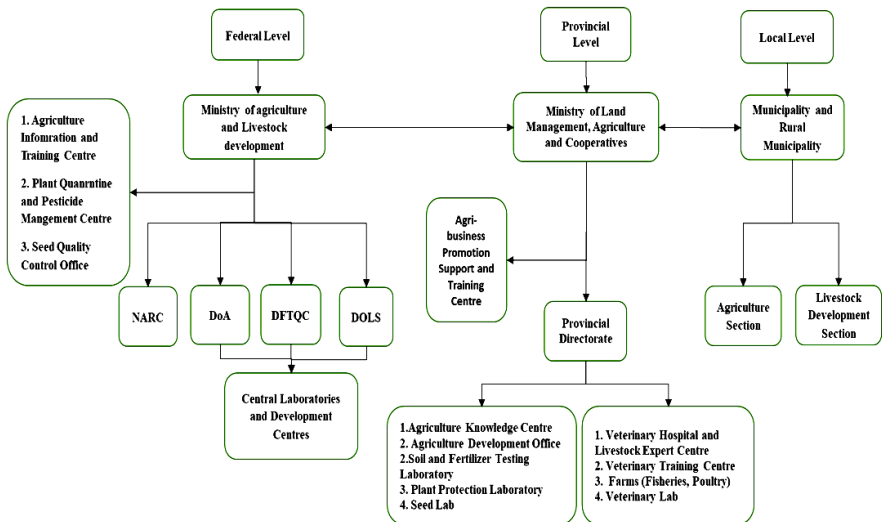
The overall structure signifies a functional integration across three tiers, where coordination, policy guidance, and technical support flow bidirectionally between federal, provincial, and local governments. Key concerns include weak coordination mechanisms, overlapping responsibilities, institutional capacity gaps, and unclear mandates, which sometimes lead to inefficiencies in service delivery.

Challenges in the agricultural extension service delivery

Agricultural extension services in Nepal have multifaceted governance challenges that constrain their effectiveness and

responsiveness. The key challenges exemplified are inadequate local funding, dependency on inconsistent central government grants, difficulties in recruiting and retaining staff locally, and limited technical capacity among extension workers (Babu & Sah, 2019; Bashaasha et al., 2011; Dhital, 2017). The weak coordination among different government tiers, coupled with overlapping roles and unclear mandates, has further exacerbated service delivery, leading to inefficiencies (Paudel & Waglé, 2019; Timsina et al., 2018). Despite of increased participation, experiences of other countries reveal that effective coordination among different government tiers is the main challenge in federalism (McNamara et al., 2011; Simpson et al., 2012; Tamang et al., 2020). Also, due to weak policy and implementation, the agriculture sector has been suffering poor outcomes (Chaudhary, 2018).

Figure 2 : Institutional structure of agricultural extension system in three tiers of government Nepal



Source: (Devkota & Thapa, 2019; Dahal et al., 2020; Kandel et al., 2025)

In the institutional level, Agriculture Knowledge Centers (AKCs) have been facing the problems due to unclear mandate and poor linkages with local governments, resulting in deteriorated service delivery following federalization (Dahal et al., 2020; Jaisi et al., 2018; Thapa et al., 2019). Moreover, the abolition of DADOs and DLSOs has fragmented extension services at the local level, with municipal agriculture units struggling to implement the vision of the Agriculture Development Strategy (ADS 2015–2035). The ADS (2015-2035) proposes the creation of the Community Agricultural Extension Service Center (CAESC) under the Decentralized Science, Technology, and Education Flagship Program (DESTEP) to improve the effectiveness of agricultural extension services by involving various stakeholders, including research, extension, and others. The proposed Community Agricultural Extension Service Centers (CAESCs) under the DESTEP program, intended to involve local communities, cooperatives, and farmer organizations for enhanced service delivery, remain largely unimplemented except in pilot districts (Dahal et al., 2020; GSRDC, 2018).

Furthermore, extension programs have become heavily subsidy-focused rather than knowledge-driven, and poor coordination among Nepal Agricultural Research Council (NARC), Ministry of Agriculture and Livestock Development (MoALD) has resulted in an imbalance among research, education, and extension institutions, thereby limiting the effectiveness of agricultural innovation and dissemination (Devkota et al., 2016; Parajuli, 2017). Moreover, discussions on strengthening the federal governance system indicate that provincial governments often fail to recognize locally prioritized programs selected through formal and legal processes, as no effective mechanism exists at the provincial level for such recognition. Additionally, few provinces show a growing tendency to include projects based on directives and instructions rather than local priorities (Federal Parliament, National Assembly, 2023).

These findings indicate that addressing institutional capacity gaps, clarifying roles, and improving coordination mechanisms are essential to strengthen agricultural extension services under Nepal's federal system.

Conclusion

The transition towards federal governance system has reshaped Nepal's agricultural extension system by configuring three tier government frameworks with devolving responsibilities to provincial and local level for effective and efficient service delivery to farming communities. However, this structural transformation has not resulted in substantial improvement in effective extension service delivery, thereby addressing local responsiveness. The study shows that overlapping jurisdictions, unclear institutional mandates coupled with weak coordination among different government tiers, collectively undermine efficient agricultural extension service delivery in post-federal Nepal. The governance challenges are further exacerbated with disproportionate resource allocation among government tiers, with an overwhelmingly large share of the government budget in federal level, resulting in limited fiscal space for sub-national government to design and implement locally contextualized programs.

Moreover, lack of competent human resources along with their retention challenges at the local level, persistent technical capacity gaps coupled with poor integration among research, education and extension institutions further complicated the process of innovation and technical knowledge transformation to farmers. Although federalism principally offers institutional opportunities for inclusive, accountable and demand-driven agricultural extension service delivery, findings indicate that the transformative potential of federalism remains largely unpracticed in post-federal Nepal. To address these problems, the state needs deliberate policy and institutional reform, equitable fiscal allocation among different government tiers and strong intergovernmental coordination set up, thereby leading participatory, knowledge-based, multi-actor extension model. Without such reform, the principle of federalism for the actual transformation of the agricultural system and rural development remains only aspirational rather than operational.

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