International Journal of Environmental Sciences
ISSN: 2229-7359
Vol. 11 No. 18s,2025
https://theaspd.com/index.php

Sociopolitical And Economic Perspectives Of The Integration Of Agricultural Research, Extension And Education At Local Government Of Nepal

M. Jaishi[1*], G.P. Sharma[2], P.B. Nepali[3], S. Pandey[4] D. Gauchan[5], H. Neupane[5], K. P. Timsina[6]
[1,5]Tribhuvan University, Nepal
[2,4]Ministry of Agriculture and Livestock Development, Nepal
[3]Kathmandu, University, Nepal
[6]Nepal Agricultural Research Council
Corresponding author: mahesh.jaishi@gmail.com

Abstract
The essence of agricultural research, extension and education (AREE) linkage and integration lies in the interrelation between the three levels of social reality: Socio, political and economic reality. The linkage and integration of AREE at the local government level in Nepal have become increasingly crucial and evident after enactment of Local Government Operation Act 2017. This study explores two research questions: a) What are the underlying issues that most significantly affect the linkage and integration of agricultural research, extension, and education (AREE) at the local government level? b) How can these issues be addressed through the effective management of political economy perspectives within local governments? The methodology used is combination of participant observation, review of literatures, key informant interview and consultation with service providers at local, provincial and federal levels. The paper presents an attempt to apply a socio-political economy approach to objectively study integration phenomena. Three subsystem connection with farmers via multi-stakeholder's community platform is a powerful approach to strengthen the agriculture innovation system. This connection encourages a more favorable environment for responding to demand and supply dynamics through both formal and informal networks. Federal, provincial and local government must have linked having three distinct are of lead: Organization and policy, structures and resources and, service delivery. The paper concludes that better integration mechanisms are needed between the municipality and AREE activities of the ward level- the lowest unit within the federal structure to address the demands and needs of the rural communities.
Keywords: *Agricultural education, Extension, Linkage and integration, Research*

1. INTRODUCTION

About 45 years back (Venieris, and Gupta, 1983) envisioned sociopolitical and economy as societal science to study the association among individual and society; society and market; and market and the state using a varied set of tools and approaches drawn mostly from political discipline, economics and sociology. In recent centuries growing importance of socio-political economic reasons in shaping the development of the country have been observed. The political changes impact many areas of economy which can in turn impact the policies of public service delivery (TAF, 2017). A careful review of political economy and stakeholders' perspectives is essential to identify opportunities for reform. A political economy approach helps in understanding the dynamics of the policy reform process. The interests, power, capacity, and resources of stakeholders can significantly influence the impact of the policy reforms.

In Nepal, integration of agricultural research, extension, and education (AREE) remains a challenging process with numerous obstacles and opportunities. After federalization, agricultural governance is the common responsibility to all three levels of government. Federal government is responsible for development of national agricultural policies, laws, standards, regulations. Likewise, international relationship, agricultural trade, crop, food, and livestock quarantine and food safety are major responsibilities also domains of federal government. Broadly "agriculture and livestock development" is included in the area of responsibility of provincial government. Similarly, agricultural research, innovation, study and education are placed under concurrent

powers of both federal and provincial governments. Agricultural extension, outreach, is mentioned in the sole jurisdiction of the local governments. Regulation and management of local market for agricultural-products its management and animal health including veterinary services are placed under the local government.

The political economic literatures (Byiers, 2015; Hatlebakk, 2017, TAF, 2017), stated that the political economy approach explores how political and economic processes interact within society, focusing on how power and resources are distributed among groups, individuals and sectors, and how these relationships evolve over time. However, in this literature we also add another domain of society; social context in the study. The sociopolitical and economy of the country highly influences the policies, resource distribution, and development outcomes. Sociopolitical and economy is a complex system that combines social, political and economic factors. Sociopolitical economy is not commonly used terminology. It is true that, none of society exist stand-alone without economy or power and policy. So, sociopolitical and economy is the subsequent results produced by the interaction of the societal, political and economic aspects in the society. It includes the study of how these factors interact and influence human activities. sociopolitical and economy perspective helps to understand how economic systems, policies, and institutions are influenced at different level by underlying political structures, power relations, and social dynamics.

We therefore, used this perspective to examine how local governments, AREE stakeholders, farmers and other shape outcome for improved information flow, linkage and coordination for better agriculture service delivery and program development at the local level. In this context, this study explores:

1. What are the underlying issues that most significantly affect the linkage and integration of agricultural research, extension, and education (AREE) at the local government level?
2. How can these issues be addressed through the effective management of political economy perspectives within local governments?

2. METHODOLOGY

Methodology employed to capture this complex relationship combines four approaches of data collection: a) participant observation within local government settings, b) review of existing literature, c) key informant interviews, and d) open consultations with subject matter experts. In constructing the socio-political and economic analysis framework, we have drawn heavily from five key areas of literatures.

1. Sociopolitical-Understanding the broader social, political landscape are at play to determine the social political structures.
2. Economic-Looking how economic characteristics of the society, the land, market structure, labor force determines the agriculture and innovation.
3. Policy implementation-Focusing on how linkage and integration policies and documents are put into practice at the local level to operate agriculture service delivery.
4. Policy coherence-Examining how institutional structures align policies and documents support each other.
5. Policy commitment-Looking at the degree of good and service support to service delivery structures for the citizens of local government are expecting.

Institutional linkage and integration in community level are often complex processes with seemingly intractable organizational, psycho-personnel and enabling policy obstacles and drivers. Sociopolitical economy perspective helps to understand how social, cultural, political and economic systems, policies, and institutions are influenced at different level to stimulate or impede the social phenomena under study. We therefore, used these perspectives to examine how local governments, AREE stakeholders, farmers, producers and others shape outcome for improved information flow, linkage and coordination for better agriculture service delivery and program development at the local level.

This study used five lenses framework to examine the socio-political economy of Nepal for integration AREE at local government. Similar framework was developed by Byiers et al. (2015) and is more relevant because it

allows for a broad and nuanced analysis of the dynamics at play, going beyond traditional approaches (Pavlov, 2018). This analysis sheds light on why some reforms succeeds while others falter, as it uncovers the deeper forces at play. Together, with this framework (Figure 1), we tried to connect the similar framework developed by Byiers et al. (2015) using five comprehensive lenses. The framework is structured around five critical lenses:

1. Structural and foundational factors: These include historical, geographical, and demographic conditions that shape the broader environment.
2. Formal and informal institutions: This lens examines both official regulations and informal norms that influence decision-making and behavior.
3. Actors, agencies, and incentives: It focuses on stakeholders' roles, motivations, and the power dynamics among them.
4. Sectoral governance characteristics: This considers governance within specific sectors and how it impacts integration efforts.
5. External factors: These are influences outside the system, such as international economic trends or external aid.

We highlight the importance of context-specific situation (A), (B), (C), together influences to the linkage and integration factors (D). Further, (A), (B), (C) lead the overall AREE linkage and integration through ASD (E). This framework must be understood from systemic ASD reforms perspective and it align with the realities of the local political and economic landscape. This combined methodology ensures a comprehensive analysis, providing valuable insights into how integration practices can be improved and sustained at the local government level.

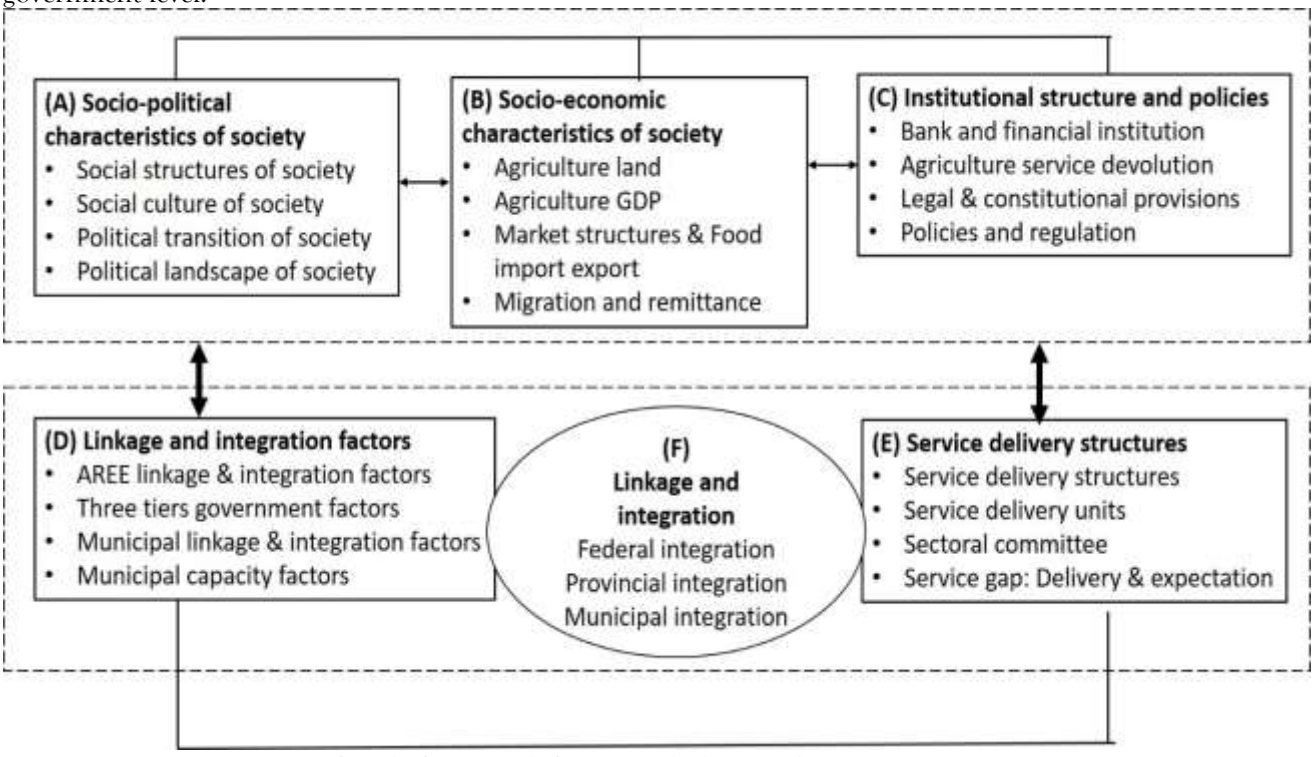

Figure 1: Five components of study framework for AREE linkage and integration

AREE linkage and integration is perceived from ASD perspectives by the clients and stakeholders depends on size and direction of gaps which in turn depends on natures of gaps (F) associated with (A), (B), (C), (D) and E as shown in the Figure 1. It is important to note that the gaps on the equation E= (A)+(B)+(C)+(D)+(E) can be favorable and unfavorable for the ASD perspectives. The magnitudes and direction of each gap will have on impact on linkage and integration.

3. RESULTS AND DISCUSSION

3.1 Social political characteristics and the cultures of Nepali society

In the following, we analyze how structures of society, society culture, politically transitional context and political landscape constituted the Nepali society.

3.1.1 Structures of society

Nepal's society traditionally is semi-feudal, characterized by clearly defined social hierarchies and stratification. Nepal is a meeting point of two major races: the Indo-Aryans or Caucasoid and the Tibeto-Burmans or Mongoloids; and home to 142 ethnic communities (CBS, 2021), with multi-dimensional cultural heritage. The Mongoloid groups reside generally in the north-east Nepal. Two major groups Sherpas and Tamangs fit in to this racial stock. The Indo-Aryans, the second largest race, are primarily found in western Nepal. The center region of Nepal is home to a mix of both of these races. Here, the Newars, Rais, Limbus, Gurungs, and Magars are some of the most well-known ethnic groups. There are two main ethnolinguistic groups in Nepali society: the Madhesias and the Parbatias, sometimes called the hill people or Gorkhalis. The Parbatias from Nepal's hilly highlands, where their culture evolved by fusing Hinduism from India with Tibetan Buddhism from Tibet. Conversely, the Madhesias originate from the plains and have been shaped by the cultures of Uttar Pradesh and Bihar, two Indian states. The language, culture, and dress of these two groups are different.

Nepal is a patriarchal society where men typically work outside the home, while women have traditionally been responsible for domestic duties. The caste system remains deeply ingrained in daily life, influencing a person's occupation and social hierarchy which, in turn, defines the self-worth of a person. Social relationships are often shaped by caste, ethnicity, and connections within the community, with caste rules governing these dynamics. Other factors such as gender, age, and wealth, also play a significant role in shaping how people are treated. Most families follow a patrilineal descent system, which controls decisions related to marriage, inheritance, and rituals. Members of a clan often trace their lineage back to a typically unknown common ancestor.

3.1.2 Cultures of society

In the book Fatalism and Development, Bista (1991) had examined the cultural and societal obstacles to Nepal's progress. He observed that many people in Nepal tend to adopt a fatalistic outlook, taking both success and problems to divine will or spiritual forces. He has conceptualized 'Bahunism' (Brahmanism) as a psycho-political force shaped by the Nepalese interpretation of the Indian Vedic tradition. Deeply rooted fatalistic beliefs and the caste system continue to exert a significant influence on governance, education, foreign aid, politics, and administration, posing challenges to Nepal's development. In Nepali culture, misfortunes are often perceived, as a consequences of an individual's past actions, fostering a strong sense of stoicism and patience in difficult situations. This perspective reinforces the notion that hardships are an inherent part of life, potentially stemming from one's own past behavior (Sharma, 1983). Therefore, a comprehensive, macro-level approach is required to address the complex and diverse nature of Nepali society that can act as a guiding framework for its development (Upadhya, 2015).

3.1.3 Political transitional of Nepali society

Upadhya (2015) also discussed how transitions in Nepal have led to significant changes, particularly in the shift toward democracy. Nepal's political and economic history since 1950 can be broken down into four important phases:

1. Feudal agricultural governance (pre- 1950): Characterized by a landlord-based agrarian system, where feudal elites-controlled land and agricultural production. Farmers had limited rights, and the economy was primarily subsistence-based.
2. Development interventions (1950-1990): Marked by the introduction of planned development, international aid, and modernization efforts in agriculture. The government and donors initiated rural development programs, but agricultural productivity remained low due to policy inefficiencies and centralized governance.

3. Economic liberalization and governance (1990-2006): Following the restoration of democracy, Nepal embraced market-oriented reforms, privatization, and foreign investments. However, political instability and the Maoist insurgency (1996-2006) disrupted economic progress and rural livelihoods.
4. Republic and decentralized agricultural governance (Post 2006): The transition to a federal democratic republic in 2008 led to the decentralization of agricultural policies, empowering local governments to oversee rural development and agricultural initiatives. However, challenges remain in effective policy implementation and resource distribution.

3.1.4 Political landscape

Upadhya (2015) further explains that Nepal's socio-political landscape remains deeply rooted in rural, power-focused dynamics, where the question of who holds power is of utmost importance. Political parties are the dominant forces in Nepalese society, and their influence extends throughout various sectors including civil society and education to the judiciary, business, and government. The connections between political figures, business leaders, high-ranking government officials, and unions are strong and interconnected. A unique feature of Nepal's political scene is the presence of an agricultural professional society, shaped by specific ideological beliefs. This society influences various sectors, particularly research, education, and agricultural extension, where appointments and positions are often determined by these ideological beliefs.

Nepal's political instability has had a significant impact on its socio-economic development, contributing to its status as one among the least developed nation in the world (Thapa, 2024). However, Nepal has made substantive progress in reducing the multi-dimensional poverty index 30.1 to 17.4 percent in five years' time (NPC, 2021). Nepal's political instability has also led to national trend of wakening justice system is thriving in Nepali Society. According to Transparency International's annual flagship publication, the Corruption Perceptions Index 2023, revealed that Nepal improved little, moving up two spots in the global rankings. Nepal came in at number 110 in 2022 after coming in at number 117 in 2021. For the eleventh consecutive year, the worldwide CPI average stays at 43, with over two-thirds of nations scoring below 50. This suggests that corruption is a major issue in Nepali society (Kathmandu post, 2024).

Now, Nepal's transectory towards federal structures through The Constitution of Nepal (2015) is the foundational article that emphasizes state's transformation (Adhikari, 2019). As an outcome of the 2007 People's Movement-II, the monarchy that had lasted for 240 years was put to an end and, subsequently, Nepal was officially declared a Federal Democratic Republic. In policy and paper, economic prosperity and human development have been assured and liberal legal regulation set accordingly. However, sociopolitical and economic transformation yet not been achieved. Federalism has become a key element of the new vision for Nepal.

3.2 Socio-economic characteristics of Nepalese society

Our focus her is in agriculture land, gross domestic products, market structures and labor force in agriculture. With its about 24 percent contribution to GDP, agriculture is the foremost livelihood for the mainstream people. Agriculture sectors is limited by low agriculture productivity, very small land holding 0.19 hectares per family, skewed and only one-third of the entire farming area is available to irrigation source. Further subsistence agriculture and food import is connected with poor market infrastructures and linkage.

3.2.1 Agriculture land, land holdings

Timilsina et al. (2019) emphasized that shifts in agricultural land use have caused many major socio-economic changes in Nepal. The study found reduction in fertile and accessible farmland, lower production, smaller land holdings, increasing fallows and abandoned farmlands and higher costs for farming inputs. It also noted shifts in food security, dependency on food import, rising land and housing prices, changes in jobs and income patterns, and the adoption of new farming methods like intensification and diversification. Census data shows that Nepal's total agricultural land holdings declined from 2.52 million hectares in FY 2011/12 to 2.22 million hectares in FY 2021/22 (NSO, 2023). Over time, the land has grown increasingly fragmented. There is no discernible pattern in the number of parcels; it fluctuates between censuses. The average number of parcels per holding dropped from 4.4 to 3.2 during 1981–1982, however the overall number of parcels

climbed from 9516.4 thousand to 12096.4 thousand between 2011–2012. Both the average number of parcels per holding and the overall number of parcels have, however, declined during the last ten years. There were 11,583.9 thousand parcels in total in 2021–2022, with an average of 2.8 parcels per holding. Additionally, according to the Census data, the average lot size dropped from 0.21 hectares in 2011–12 to 0.19 hectares in 2021–2022 (NSO, 2023).

Statistics on land use from 2010 to 2019 reveal that forests, croplands, and grasslands are the three main types of land use in Nepal. Among these, forests account for the largest portion of land cover, followed by croplands and grasslands. In 2019, forests covered 41.69% of the total land area, making them the dominant land type, while croplands and grasslands accounted for 24.21% and 13.27%, respectively.

Table 1: Primary land cover types statistics between 2000 and 2019 in Nepal

Land cover	2000 A.D.		2019 A.D.	
	Hectares	Percent	Hectare	Percent
Forest land	59,15,518	39.99	61,66,766	41.69
Crop land	38,91,500	26.31	35,81,047	24.21
Grassland	20,64,046	13.95	19,63,286	13.27

Source: FRTC, 2019

National report of national sample census of agriculture 2021/22 showed that both temporary and permanent crops have declined as a result of the properties' overall area shrinking by about 300,000 hectares. Temporary agricultural land has shrunk by 392,316 hectares (18.5%) during the last decade, while permanent crop land has shrunk by 23,093 hectares (13.7%). According to the 2021/22 census, the area of temporarily fallow land has nearly doubled, totaling over 60,000 hectares.

3.2.2 Agriculture and Nepali economy

The share of agriculture in GDP dropped over time and by 2023, agriculture contributed about 21.19% to Nepal's GDP, just over 55.36 percent of GDP came from service sector, while the manufacturing industry accounted for 12.05.9% (NPC, 2024). The majority of Nepali polulation lives in the rural area and epends on agricultue for their livelihood. A decade ago, about 75% of Nepal's population depended on agriculture for their livelihood, but by 2022, this had decreased to 66% (NPC, 2024). The shift from agriculture to services, such as real estate, was fueled by remittance-driven investments (NPC, 2024). This pattern is common in many developing South Asian countries, where the share of agriculture in GDP is shrinking while the service sector is expanding. In this regard, economist Walt Whitman Rostow (1960) highlighted that agriculture plays a key role in the early stages of economic growth and development, which he referred to as the "take-off stage" (Izuchukwu, 2011). Agriculture is still dominant sector in Nepali society, the remnants of feudalism and political dependencies continue to affect the country into the 21st century, contributing to ongoing socio-economic and political issues. Agriculture is being a culture of privilege and exclusion, which is sustained by a semi-feudal oppressive cycle in Nepali society.

Nepal has acknowledged the significant contribution of agriculture in national economy and has made it a priority in its plans and policies however there is a very low investment in agriculture sector (Table 2). Research, development and extension (RDE) of agriculture sector play a crucial role in achieving food security and improving the livelihoods of rural communities. According to a study by Perez and Rosegrant (2015), investing in agricultural RDE services can increase the annual growth in agricultural total factor productivity by 1.6 to 2 percent. However, MOALD has been receiving relatively less budget, its absorption capacity is good in terms of utilization of the budget through different agencies, boards, programs and projects. Nepal's agriculture sector has been stuck in the same position for years, largely because it hasn't received enough support from the government and other stakeholders. Shifts in rainfall and temperature pattern have reduced crop yields and production, which has led many workers to leave in search of better-paying jobs (Spotlight, 2024). The sector also lags behind in terms of modernization and commercialization due to limited investment in agriculture infrastructure such as road, irrigation, post-harvest structures and market (MoALD, 2023).

Table 2: Share of agriculture budget in national budget (FY 2015/16 to 2024/25)

Fiscal Year (A.D.)	Budget in agriculture sector (NRs. in billion)	Total budget (NRs. in billion)	Share of agriculture sector budget in total budget (%)
2015/16	26.68	819.46	3.26
2016/17	35.86	1048.92	3.42
2017/18	30.40	1278.99	2.38
2018/19	32.74	1315.16	2.49
2019/20	34.80	1532.96	2.27
2020/21	41.40	1474.64	2.81
2021/22	45.09	1647.57	2.74
2022/23	55.97	1793.83	3.12
2023/24	58.98	1751.31	3.37
2024/25	57.29	1860.30	3.08

Source: Yearly budget Plan, (MoF, 2024)

3.2.3 Market structures and food import-export

Market structures affect internal and external food trade in many ways including how country export and import foods and how consumers and producers are impacted. According to Adhikari et al. (2021), Nepal is currently in a paradoxical situation regarding food imports and exports. Although food imports began increasing in the early 1990s, food dependency has risen alarmingly over the past two decades. Today, a typical urban Nepali kitchen reflects globalization, featuring Vietnamese chilies, American soybeans, Chinese garlic, and Indian rice. Little cardamom comes from Guatemala, lentils from Tanzania, and vegetables are cooked in soybean oil sourced from as far as Paraguay. Vegetables, spices, and even staple foods like rice and pulses are often not grown locally. Despite this growing dependence on imported food, Nepal's economy is still officially classified as agrarian. This indicates a persistent imbalance in country's agricultural trade, where imports significantly exceed exports (Kumar, 2020).

Adhikari et al. (2021) argued that the growing trend of food imports has historical roots in a complex web of interrelated socioeconomic, cultural, and political factors that have not yet been thoroughly and methodically examined. Political instability, poor food policies, and broader socio-economic, political, and cultural shifts conditioned by free markets, youth migration, and consumerism are the main causes of it.

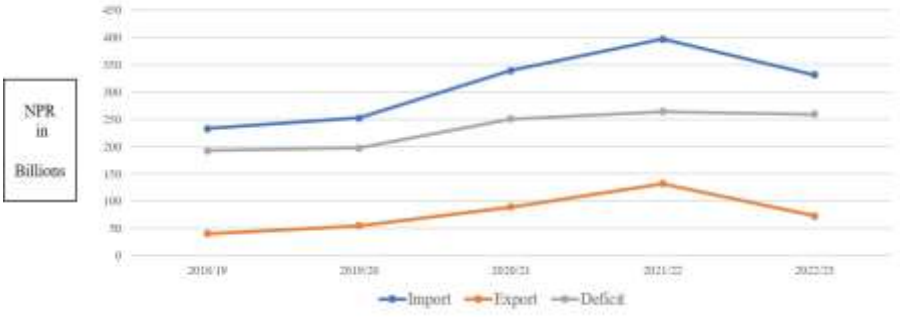

Figure 2: Trend of import and export of agricultural commodities (NPR Billion) 2018-2023
Source: Economic Survey (2022/23)

3.2.4 Migration remittance and agriculture

The preliminary results of the National Population Census 2021 reveal that 2.1 million Nepalis are living abroad, meaning one in three households has at least one family member absent from Nepal. While

remittance inflow has increased significantly, much of this income is spent on purchasing food, as buying food from the market has become cheaper than growing it on farms. This situation has further widened Nepal's trade deficit (Katuwal Chhetri et al., 2020). If the country could reduce agricultural imports, it could potentially save USD 2 billion annually. However, despite its historical identity as an agriculture-driven economy, the country is now heavily dependent on food imports to meet domestic demand—a concerning trend that continues to grow.

Both internal and external migration has played crucial role in shaping Nepal's socio-economic landscape. While internal migration is driven by urbanization, employment opportunities, and environmental factors, external migration is primarily labor-oriented, with remittances forming a significant part of Nepal's economy (IOM, 2019). It is estimated that 57% of households in the country depend on remittance income (NPC, 2024). Remittances contribute heavily to Nepal's economy, accounting for nearly 23% of GDP in 2022/23 (NPC, 2024) making it one of the most remittance-dependent countries in the world. A 2019 report by IOM found that 70% of people who used to work in farming changed to other types of jobs after migrating, with only 3% continuing in agriculture. This shift happens because people are looking for better living conditions and prefer jobs outside of traditional farming. As a result, agricultural production is going down, and farming practices are not becoming more modern or commercialized (Adhikari et al., 2023).

3.3 Institutional structures and policies

In the following, we analyze the four institutional structures directly connected with the agriculture governance and public agriculture service delivery. Bank and financial institutions, institutional structures, legal and constitutional provisions, and policies, act and regulations are constituents of institutional structures and policies.

3.3.1 Bank and financial institution access to the agriculture sector

The Central Bank of Nepal has mandated commercial banks to lend 14% of their total credit to agriculture sector by mid-July 2024. As of mid-June 2024, 13.2 percent of total credit i.e. Rs.582.49 billion has been disbursed to the agriculture sector (NRB, 2024/25). Similarly, development banks and financial institutions have extended 26% and 21.6% of their total credit respectively to agriculture, energy, micro, cottage, small and medium enterprises sector. The concessional loan under the interest subsidy program of the government has been disbursed to 48,142 commercial agriculture and livestock businesses. Even though banks are required to allocate 15% of their total loans to agriculture, they haven't met this target. At present, only 13.1% (Rs. 552.99 billion) of total loans from commercial banks are directed toward the agriculture sector. According to NRB (2024), as of mid-June 2024, 123,656 borrowers have received concessional loans under the GoN's interest subsidy scheme, with an outstanding balance of Rs. 134.76 billion. Of this concessional loan, 73 thousand 385 women entrepreneurs have received Rs. 40.92 billion, while 48 thousand 142 borrowers for specific commercial agriculture and animal enterprises have received Rs. 92.60 billion. As a result, agriculture lending jumped by 123% from 2020 to 2024, but agricultural output has increased by only 8.3% for the same year. This suggests that loans have not reached to the intended recipients. Data from the agricultural census shows that very few farming businesses rely on loans for their operations.

3.3.2 Institutional structures for public service at the local government in Nepal

Many local governments struggle to access agriculture technology developed by research organization and lack the capacity and resources for technology transfer. Additionally, there are no formal mechanisms for coordination and communication either horizontally or vertically, to facilitate technical discussions between research institutions, extension services, and farmer organizations. Despite these challenges, local governments recognize that the agricultural sector can significantly improve the rural economy by introducing new technologies, creating an enabling environment through the quality supply of inputs and agriculture infrastructure, and providing effective extension and advisory services to farmers. ADS has stated that establishment of Community Agriculture Extension Service Centers (CAESCs) can improve farmers' access to advisory services and tie between agriculture research and extension (MOAD, 2016).

The introduction of the Local Self-Governance Act (LSGA) in 1999 aimed to strengthen local bodies by giving them more powers, responsibilities, and resources to address the basic infrastructure needs of their communities. It also sought to involve civil society more in the functioning of local governments, focusing on transparency, accountability, and public participation. However, the implementation of the LSGA faced challenges due to a lack of local capacity, poor planning, and the onset of conflict. As a result, the LSGA became more of a set of unfulfilled expectations rather than a tool for empowering local governments.

Nepal's local governance faces two interconnected issues. First, despite 13 years of LSGA implementation, devolution of power and local capacity building has seen little progress. Similarly, Local Government Operation Act (2017) has been under implementation since 2017 based on federal structure. It is not fully implemented due to lack of clarity of concurrent powers that exist between three tiers of governments. This has hindered the benefits of democracy, such as improved public participation, accountability, and better government efficiency. Second, along with the devolution of powers over the years and the growing budgets for local bodies, has allowed local political actors to deploy relationships between the local government and citizens. This has led to opportunity for sectoral integration, political collusion, and to improve the agriculture service delivery (Jaishi et al. 2023).

Local governments, which are the closest administrative units to citizens in Nepal's federal system, now have more constitutional powers than before. The new municipalities, compared to the previous structure, have gained full responsibility for their management. The Constitution of Nepal has effectively transformed municipalities from mere local entities into local governments with complete authority. Various documents now guide the roles, responsibilities, and duties of these municipalities, providing clear directions for planning, budgeting, and resource management.

3.3.3 Legal and constitutional provisions

The restructuring of the agriculture sector in Nepal brought significant changes in agricultural governance under federal system (Bishwakarma, 2022, Jaishi, 2023,). The Constitution of Nepal (2015) provisioned the power and functional assignment related to agriculture through schedule 6, 8 and 9. Local governments are now the primary administrative bodies responsible for delivering public services to citizens under Nepal's federal system. Unlike the previous unitary system, the newly established municipalities have more constitutional authority. The Constitution of Nepal has essentially redefined municipalities, elevating them from simple local entities to full-fledged local governments with complete responsibility for their operations. Key documents now serve as the main guidelines for outlining the roles, responsibilities, and functions of these municipalities, offering clear instructions on how to plan, implement, and oversee their budgets, plans, and resources.

3.3.4 Policies and regulation

Federal government and National planning commission has formulated policy and Act related to devolution of agriculture (Table 3), however contextualized policy documents in many municipalities, the development of laws has been delayed due to the limited capacity of local political leaders to handle legal matters and the shortage of legal professionals within local governments. Passing provincial and local laws remains a challenge because of the insufficient skills and expertise of technical and professional staff at the sub-national level. The study by Bishwakarma, 2022 showed that the association between the higher number of polies and documents with higher priority of the sector. The municipal observation also proved that none of the policies documents related to linkage and integration in local government level.

Table 3: Policy Act and regulation related to agriculture service delivery in Nepal

Policy Act regulation	Issued by
Local Government Operation Act, 2074	Federal government
Inter-Government Fiscal Management Act, 2075	Federal government
National Natural Resources and Fiscal Commission Act, 2074	Federal government
Province public service commission (Basis & standard determination) Act, 2075.	Federal government

Fiscal procedures and Accountability Related Act 2076	Federal government
Employees Adjustment Act, 2075	Federal government
Federal Government TTIM Act, 2077	Federal government
Provincial Public Service Commission Act, 2075	Federal government
Local level planning preparation guideline 2075	NPC
Standard for the classification and distribution of projects and programs under the responsibility of Federal, Province and Local level -2076	NPC
Subject Specific Committee (Operation) Procedure, 2078	MoFAGA
Internal control system preparation guideline 2078	MoFAGA
Rural/Urban Profile Preparation (First Amendment) Procedure, 2078	MoFAGA

3.4 Agriculture service delivery

3.4. 1 Agriculture service delivery structures and units

There are four different kinds of local government entities that have "stakes" in agricultural development: municipalities, rural municipalities, sub-metropolitan municipalities, and metropolises. The legal foundation for local government tasks, functions, and obligations connected to agriculture is provided by Sections 3 (12, 22) and 6 (24, 25, 26) of the Local Government Operation Act 2017 (LGOA 2017). The number of local-level agriculture service delivery units has almost doubled to 753 from 378 prior to Nepal (Jaishi et al., 2023).

Table 4: Distribution of service delivery units for agriculture at the local level.

Local government level	Koshi	Madhesh	Bagmati	Gandaki	Lumbini	Karnali	Sudur Paschim	Total
Metropolitan city	1	1	3	1	0	0	0	6
Sub-metropolitan city	2	3	1	0	4	0	1	11
Municipalities	46	73	41	26	32	25	33	276
Rural municipalities	88	59	74	58	73	54	54	460
Sub total	151	144	132	96	121	89	97	751

Source: Jaishi et al. 2023

3.4.2 Sectoral committees in the municipality

As per the regulation for the management of municipality administration, they can form various committees to facilitate the efficient flow of services in the municipality. The Ministry of Federal Affairs and General Administration (MoFGA) has provided the guideline for 'Thematic Committee Operation Procedures, 2022' and 'Local Economy Development Evaluation Procedures, 2022' to support the local government in promotion of local economy activities. The five thematic committees at the municipal units as follows (Figure 3): Infrastructures, good governance and institutional development, economic development, forest environment and disaster, and social development. Each of the thematic committee includes one thematic coordinator two executive embers and one related section chief.

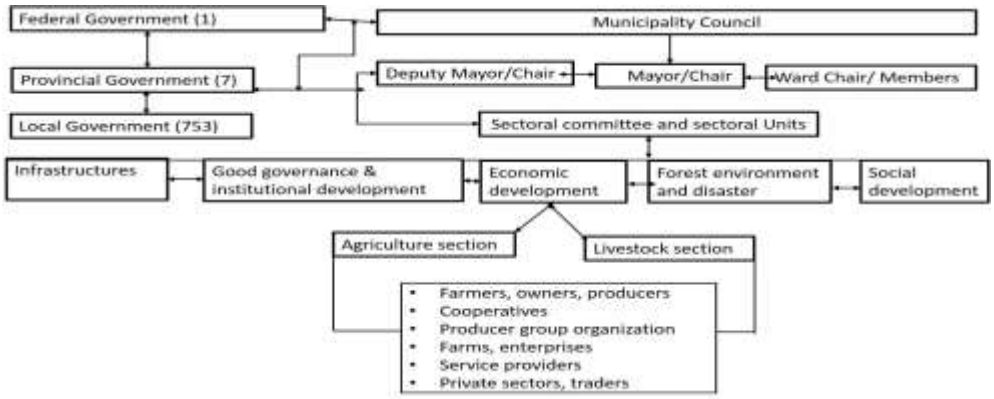

Figure 3: Thematic and sectoral committee at municipality for local development

Agricultural and livestock development related activities generally fall under the purview of the Economic Development Committee which is headed by the deputy mayor/ vice chair of the municipality. However, the capacity of the elected officials who hold the important positions in the municipality level committees have been generally found weak to undertake the responsibilities for project development, planning, budgeting, monitoring and to enter and contest the policy related matters. Similarly, the present structure of the committees is less effective for the coordination functions within the municipality and beyond e.g. with provincial authorities. Each of the thematic committee outline the reference point as baseline data and current circumstances of working area make estimation and forecast of sectoral resources, develop result framework, prepare periodic sectoral development schemes and program.

Mcloughlin (2014) asserts that the concept of public service is a fundamentally political endeavor that is closely linked to the structure of the state and the origins of social interaction. According to empirical research on how political actors behave when calculating political return, they frequently favor giving goods and services to particular social groups above pursuing inclusive, widely applicable, and effective service delivery. The implementation of those local policies and programs is greatly influenced by political players, local authority, interest, ideology, and attitudes.

3.4.3 Service gap model and service delivery at local level

In 1985, Parasurmann created a model for service quality based on the support of the service quality dimension. It evaluates the discrepancy between service delivery and service expectations between service providers and service seekers. There are five gaps in service quality assessment: knowledge, policy, delivery, communication, and consumer. The study, which was carried out in 2021 by Nirurala and Bhatt, examined the gaps in service innovation using the service quality framework of the service gaps model. It concluded that the current state of service delivery innovation in local government has not been fully fulfilled. This is also the cause of the low importance given to AREE's integration in order to establish high-quality service delivery by incorporating the opinions of extension specialists, university faculty, and researchers. Shahin (2010) discussed the relation between service quality gaps and service delivery in an organization. So municipal sectional managers must detect and eliminate them as early as possible in-service operation and implementation process. The message from the Shahin (2010) could be useful to analyze impacts of service quality gaps on strategy formation and implementation makes it increasingly important for municipal authorities and human resource planners to do the same. Socio-political framework can assist to find these gaps and rectify in case of municipal agriculture service delivery.

3.5 Institutional factors of linkage and integration

3.5.1 AREE institutional factors of linkage and integration

Despite the high potential of coordinated efforts in the agricultural innovation system, the AREE agencies were found to be working in isolation. Developing or employing current structural mechanisms to link and integrate agricultural research, technology transfer activities, teaching task may be an appropriate way of getting the expected output. Exploratory factor analysis shows that the main four factors of linkages and

integration: a) Personnel- psychological, b) internal organizational factors, c) enabling policy environment factor and d) external organizational factors) are equally important and influencing the AREE linkage and integration in different situation and context. These four factors condition for their effective linkage and integration therefore, their relationship showed fundamental but complex path.

3.5.2 Linkage among the three tiers of government

Agricultural governance in Nepal is divided among the three tiers of government, requiring both horizontal and vertical coordination. However, overlapping responsibilities and unclear boundaries between their roles have led to significant challenges. This lack of coordination among agricultural programs at sub-national levels often results in duplication of efforts, overlapping activities, and mismatches in local implementation. Part of the issue stems from the constitutional framework itself.

The Constitution of Nepal (2015) broadly outlines the agricultural responsibilities of the three tiers but leaves room for ambiguity. For instance, while "agricultural extension" is explicitly assigned to municipalities, "agricultural development"—a term that also encompasses extension work—is shared by provincial and federal governments. This overlapping jurisdiction creates confusion and inefficiency. The problem is worsened by the absence of clear mechanisms or channels for regular and timely information-sharing between the three tiers regarding their agricultural programs and activities. Without such systems, coordination remains weak, and opportunities for collaboration are missed.

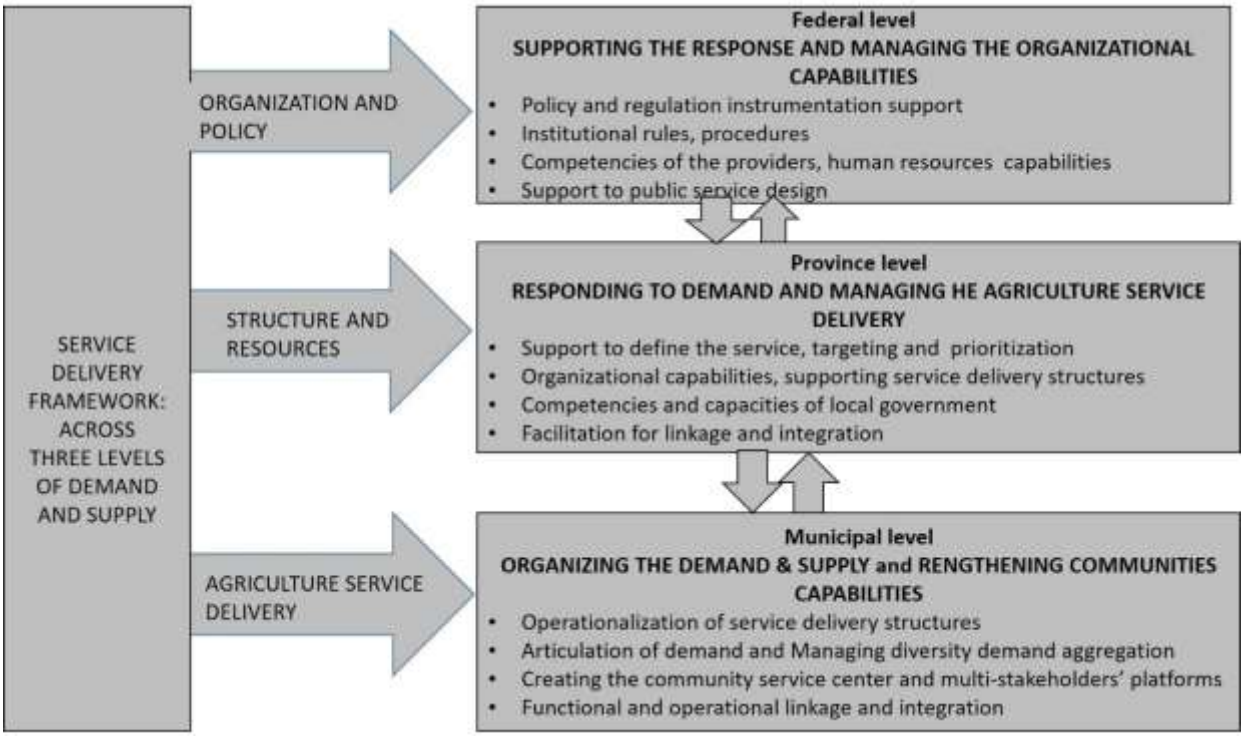

Figure 4: Agriculture service delivery across the three government of Nepal.

There is a growing consensus on the need for greater clarity in defining the specific roles of each tier of government. Equally important is fostering stronger linkages and cooperation among them to streamline efforts and ensure that agricultural programs are effectively implemented without redundancy or conflict. In recent years, the relationship between local governments, provincial government agencies and district-level agencies has weakened. Communication and networking have declined due to limited staffing at Agricultural Knowledge Centers (AKCs) and Veterinary Hospital and Livestock Expert Centers (VHLECs). Additionally, some provinces have reduced the number of AKCs, further straining these connections. The absence of formal communication systems between provincial and local governments has further hindered collaboration. To address these challenges, there is an urgent need to rebuild networks, establish clear communication

channels, and strengthen collaboration at all levels. This will help to create a more integrated and effective agricultural system, ultimately benefiting farmers and rural communities.

Thus, linkage issues disrupt the flow of technology and result in low adoption rates, longer time lags between new technology development and adoption, less efficient resource use, needless competition and duplication of effort, and higher costs for agricultural research and extension activities (Asraf, 2007). The link diminished the standing of extension work and led to a lack of expertise and a suitable perspective, which in turn caused a slow drop in organizational productivity. In each of the 77 districts, there are currently district-level agricultural development offices operating under various names and identities. Each local government has 753 sections dedicated to agriculture and livestock development. Extension is distinct from the fields of education and research. An independent research institution is the Nepal Agricultural Research Council. In a similar vein, university education includes agricultural education. The goals, mission, vision, and objectives of each of these three organizations are primarily focused on their regular, year-end targets and activities. Due to this division, there are now weak ties and little interaction between researchers and farmers. There is absolutely no extension research done. Without giving adequate consideration to market potential, agricultural development initiatives are goal-oriented and only focused on raising production. Additionally, extension agents at the local level are not technically equipped to assist farmers.

Explained in the figure Hagman (2002) and Blackmore et al. (2015) purposed an agriculture service delivery framework, having three fundamental elements of linkage among building a service system: a) organization and policy b) structure and resource c) agriculture service delivery. The service delivery framework's fundamental tenet is that service delivery must adhere to a supply and demand chain. In order for the supply and demand systems to be effective, they must work well together as well as independently. The demand side of rural services is made up of rural communities and their organizations, or the service recipients; the supply side, on the other hand, is more complicated and includes both the direct service providers and the service provider organizations and their institutional settings. The creation of a "service system" requires the efficient operation of all three elements. Federal government must engage to support strengthening of the organizational capacity, support for the enabling policy, whereas the provincial government must support to resources and service delivery structures. Then the local government with federal and provincial support they must concentrate to create and sustain the agriculture service delivery.

3.5.3 AREE linkage and integration at municipality level

According to Agbamu (2000) and Sadighi (2005), linkage refers to the communication and cooperative relationship formed between two or more organizations working toward shared goals in order to maintain regular touch and increase production. The goal of extension is to enhance the lives of farmers by providing non-formal university education to the rural sector or the surrounding community (Davis, 2009). While extension concentrates on users' acceptance and use of those technologies, research concentrates on the technical aspects of creating useful technologies (Agbamu, 2000; FAO, 2005). Agricultural knowledge systems are primarily supported by research, extension, education, and farmers, and their efficacy is dependent on their close relationships with one another. The current link between education, research, and extension is either very weak or ineffective. One reason for this is that the majority of staff members have participated in extracurricular or unrelated activities. According to Ashraf et al. (2007), a weak connection results in poor adoption rates, disruptions in the flow of technology, inefficient use of resources, and higher costs for agricultural research and extension initiatives.

Government of Nepal, Department of Agriculture has started the infusion of higher agriculture education (HAEI) into national REE framework recently in a national apex and coordinating entity. DOA forwarded four level of AREE networking committee, national, provincial, cluster and municipal level. However final guidelines and its operational impact yet to be visualized. When AREE institutions diagnose the significance of complementary or shared information, links are made easier. Nonetheless, LGOA (2017) made it clear that LGs are in charge of coordinating between federal and provincial entities. The following five duties that

LGs can have in advancing agricultural extension to improve service delivery were specifically mentioned in LGOA (2017).

a) Planning, standardization, implementation, monitoring, and control policies.
b) Human resource estimation, management, and implementation for agricultural extension
c) Preserving and expanding the transfer of agricultural technologies.
d) The diffusion and extension of agricultural knowledge.
e) Connecting and coordinating federal-provincial management and institutions.

A long-standing issue persists in the separation between research and extension activities, as well as between crop and livestock sectors. At both provincial and municipal levels, there has been little effort to align research and extension systems. For example, models like AKC and VHLSEC, which were developed at the district level, operate independently with minimal communication or cooperation. Agricultural and livestock services at the municipality level primarily revolve around providing inputs, materials, and technical advice to support the adoption and spread of new technologies. Municipalities assist farmers by offering services such as modern technologies, subsidies on production inputs and machinery, improved animal breeds and seeds, marketing support for agricultural and livestock products, skill-building training, and even transport incentives for agricultural goods. To share information about these services and innovations, municipalities rely on mass media channels like local FM radio and direct interactions between farmers and crop or livestock technicians. However, despite farmers' reliance on municipalities for timely access to essentials like seeds and fertilizers, these inputs are often delayed, creating frustration.

To better address the needs of rural communities, municipalities need stronger mechanisms for integration and collaboration with ward-level staff and activities. This gap in coordination—the foundation of the federal structure—hinders efforts to meet local demands effectively. Another solution is for municipalities to establish Community Agriculture Extension Centers (CAESCs). These centers follow the principle of "seeing is believing" and serve as platforms for knowledge exchange, collaboration, and innovation. CAESCs bring together local governments, community members, academic institutions, and civil society to share experiences and facilitate dialogues. Supported by development agencies, these centers are designed to operate with three core functions:

1. Demonstrating context-specific solutions and proven technologies.
2. Generating scientific evidence.
3. Scaling successful solutions to reach wider audiences.

By adopting a bottom-up approach, local governments can foster greater local ownership while addressing integration and linkage issues in a way that is tailored to the specific context of each community. This approach allows for a more context-sensitive understanding of local challenges, ultimately strengthening integration practices and improving the outcomes of cooperation, coexistence, and collaboration at the community level. Such integrated, community-driven structures, municipalities can create a more effective system to address agricultural and livestock challenges, fostering better collaboration and long-term development at the local level.

3.5.4 Municipal capacity

Delpeuch and Paulton (2011) attributed that the state capacity is the functions of both resources and incentives. They highlighted two major categories of resources the state requires: Human and incentives. Employees are undoubtedly an organization's most valuable resource. The ability to think analytically is essential for developing agricultural policy. Thus, the number of employees holding Master's degree could serve as a gauge of capacity. However, staff coverage and numbers are crucial for service delivery. Therefore, the number of employees in agricultural ministries in relation to the agricultural labor force or sectoral GDP could serve as a measure of capacity. However, more human resources do not boost state capacity if they are the consequence of overstaffing brought on by politically motivated job creation or if employees lack the operating funds necessary to perform their jobs well. One of the biggest problems municipalities faces is a lack of manpower and resources to effectively manage their agricultural responsibilities. The discussion with

municipal stakeholders this municipal capacity both from resources and incentives measurement is making complex challenges from policy implementation and AREE integration.

The idea is to create local agriculture units, ideally with a team of four technicians for crops and at least five for livestock. However, most municipalities fall short of this setup. In reality, many agricultural departments operate with just one or two staff members. Staff are more important assets of any organization. For agriculture policy making and implementation analytical skills are vital.

The universal fact of failure of government in developing nations to provide service has been largely credited to the problems of weak capacity (Parasuraman, 1985). This may be by both numbers and capabilities. Looking at the broader picture, the system seems unbalanced. Most of the highly qualified staff; those in Class 2 or 3 positions; are concentrated at central or provincial levels, leaving local teams under-resourced. The focus is also heavily skewed toward crop-related work, while livestock often gets overlooked. On top of that, the skills and knowledge of the officers and technicians currently on the ground are generally weak. This limits their ability to plan and execute agricultural projects independently or to support and oversee initiatives from groups like farmer cooperatives or private businesses. Ultimately, this lack of capacity directly affects how well local agricultural plans are developed and implemented.

The concurrent powers of the local, provincial, and federal governments (Schedule 9) of the Constitution of Nepal (2015) explicitly explain that integration can occur at the multi-institutional and multi-government level to achieve better AREE needs, objectives, activities, outputs, outcomes, and impact. Nearly all municipal executives, however, believed that the municipal farm sectors are separated, especially from educational and research organizations.

4. CONCLUSION AND WAY FORWARD

In this article, it is argued and agreed that any development phenomena require sustained economic growth, socio political changes, flexibility in institutional structures and minimum service delivery structures. Having a diverse agro-ecological, ethnographic setting and a myriad of cultures, diverse socio-economic profile Nepali society always struggle for frequent changing political dimension. It was only after the 1950s that planned development began in Nepal implemented half dozens of development program. Agricultural extension activities suit to different extension strategies were implemented with more than dozens of approaches. There have been frequent changes in the extension approaches, methods and in organizational structure, until continued until 2015 when it was devolved into the local government. Poor ASD are outcome of ranges of issues: Weak AREE linkage and integration, organizational, structural, technical, human resource, financial, political, weakness withing the sectors.

Five lenses framework developed by Byiers et al. (2015) was used to examine the political economy of AREE integration. Socio political economy having six components framework was developed for analyzing AREE linkage and integration at local level. The decision-makers will be guided in determining the answers to these issues of linkage and integration by the framework and associated elements of agriculture service delivery. The AREE linkage and integration (LI) is the functions of five components; socio-political characteristics (SPC)+socio-economic characteristics (SEC) + institutional structures and policies (ISP) + linkage and integration factors (LIF) + and service delivery structures (SDS). It will assist them in working with the stakeholders to develop an intervention strategy. While it may be too early to declare that local governments have failed to link and integrate AREE effectively at the functional level, three keys 'way forward' are suggested at both the community and municipal levels.

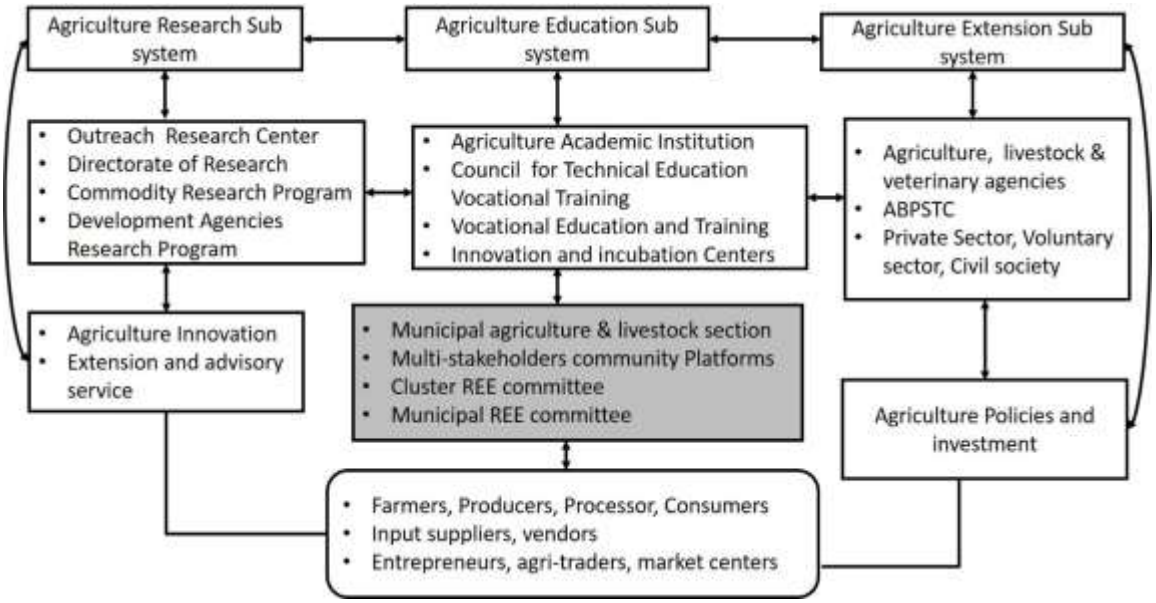

Figure 5: Three AREE subsystem, linkage and integration at local government

- First, to start, creating multi-stakeholder platforms at the community level can act as centers for agricultural innovation and research. Researchers, extension agents, academics, and farmers can work together and share knowledge through these platforms. Organizations like NARC may play a crucial role in establishing these connections by tying these structures to outreach programs, crop-specific research, regional research programs, and outreach research stations.
- Second, agricultural academic institutions, training and vocational institutions through innovation and incubation centers can incorporate their secondary level, undergraduate and graduate students into these platforms. Researchers and faculty members can help by carrying out research, organizing events, and assisting with community capacity-building initiatives. Initiatives like service-learning experience (SLE) can benefit both the teaching- & instruction institutions and community at the same time.
- Third, Strengthening of AREE subsystem integration build collaborative ecosystem of AIS where systematic agriculture investigation, knowledge building, and the extension services are all in harmony to successfully address farmers and community needs. REE issues can be resolved through cluster and municipal REE committee in regular basis.

REFERENCES

1. Adhikari, J. and M K. Rai, C. Baral, and M. Subedi, 2023. Labour Migration from Nepal: Trends and Explanations. 2023. DOI: 10.1007/978-3-031-34194-6_5.
2. Adhikari, J. M. Shreshta and D. Paudel. 2021. Nepal's growing dependency on food imports: A threat to national sovereignty and ways forward.
3. Agbamu, J. U. 2000. Agricultural research-extension linkage systems: An international perspective. *Agricultural Research & Extension Network*, Network Paper No.106.
4. Ashraf, I., S. Muhammad and K. M. Chaudhry. 2007. Effect of decentralization on linkage among research, extension and farming community. Pak. J. Agri. Sci., 44(4): 660-663.
5. Bhandari, H.P. 2024. Cultural diversity and pluralism in Nepal: Emerging issues and search for new paradigms. Contribution to Nepali study, 31 (2): 293-340.
6. Bishwakarma, B.K. 2022. Federalization of Agriculture Sector: Issues and Challenges. Nepal Public Policy Review, Volume 2: 339-382.
7. Bista, D.B. 1991. Fatalism and development of Nepal: Nepal's struggle for modernization. Orient Longman Limited.
8. Blackmore, E., Vorley, B., Molenaar, J.W., Gorter, J., Heilbron, L., Simons, L., Dallinger, J. 2015. Service delivery: How to design an effective service sector to drive sustainability in smallholder dominated sectors. White Paper 3. Commissioned by IFC.

9. Byiers, B., Vanheukelom, Jan and Kingombe, C K.M. 2015. A five lenses framework for analyzing the political economy in regional integration. Discussion paper no 178. E C D P M – l i n k i n g p o l i c y a n d p r a c t i c e i n i n t e r n a t i o n a l c o o p e r a t i o n.
10. Delpeuch, C. and C. Poulton 2011. Can State Capacity for Agricultural Development be Compared Across Countries? Insights from Africa. Future Agricultures Consortium. Hughes David (Eds). Research paper 021.
11. FRTC, 2022. National Land Cover Monitoring System of Nepal. Forest Research and Training Centre (FRTC). Kathmandu, Nepal.
12. Hagmann, J. Ramaru J. & Connolly, M. 2002. Service delivery framework-understanding the development of service system as a systematic change and negotiation process within and across the three levels of demand and supply.
13. Hatlebakk, M. 2017. Nepal: A Political Economy Analysis. Norwegian Institute of International Affairs.
14. ICIMOD and GRAPE. 2024. Community learning center for climate resilient agriculture.
15. International Organization for Migration (IOM). 2019. Migration in Nepal, A country profile.
16. Izuchukwu, 2011. Analysis of the Contribution of Agricultural Sector on the Nigerian Economic Development. World Review of Business Research, 1(1):191-200.
17. Jaishi M. G.P. Sharma, P.B. Nepali, D. Gauchana, R.K. Shrestha, K. P Timsina, H. Neupane. 2023. Government Framework for Agriculture Service Delivery at the Local Level in Nepal. Nepal Public Policy Review, 3(1): 95-117.
18. Kathmandu Post, January, 2024. Nepal ranks 108th in Corruption Perceptions Index
19. Kumar, R. 2020. Nepal agro imports at all-time high. Nepali Times.
20. Mcloughlin, Claire 2014. 'The Politics of What Works in Service Delivery', in Sam Hickey, Kunal Sen, and Badru Bukenya (eds), *The Politics of Inclusive Development: Interrogating the Evidence* (Oxford, 2014; online edn, Oxford Academic, 22 Jan. 2015)
21. MoAD, 2016. Agriculture Development Strategy 2015-2035. Ministry of Agriculture Development. 2016.
22. MRSMP. 2018. Selected indicators of Nepalese agriculture and population. Market research and statistics management program, Agribusiness Promotion and Market Development Directorate, Department of Agriculture, Ministry of Agriculture and Livestock Development. Government of Nepal.
23. Nadeem, M. A., Liu, Z., Ali, H. S., Younis, A., Bilal, M., & Xu, Y. 2020. Innovation and Sustainable Development: Does Aid and Political Instability Impede Innovation? *Sage Open*, *10*(4).
24. National Planning Commission, 2024. Sixteenth 16th Plan. National Planning Commission, Shingha Durbar, Kathmandu, Nepal.
25. Neupane, P., Pokharel, T., Dhungana, H, Poudyal, T., Ghimire, IP., Gupta, A & Poudel A. 2018. Political Economy Analysis of Education Governance at Local Level in Nepal. Kathmandu: Nepal Administrative Staff College and The Asia Foundation.
26. Niroula. P, & Bhatt, S. P. 2021. Service Delivery Innovation in Local Level Governments: Commitments and Realities. Nepal Administrative Staff College, Jawlakhel, Laltipur.
27. NPC, 2021. Nepal multi-dimensional poverty index 2021: Analysis toward action. Central Bureau of Statistics (CBS), Nepal with Oxford Poverty and Human Development Initiative (OPHI) University of Oxford.
28. NPC, 2024. 16th Plan 2081/82-2085/86. National Planning Commission, Shingha Durbar, Kathmandu Nepal.
29. NRB. 2024. Monetary Policy for 2024/25. Nepal Rastra Bank, Central Office, Baluwatar.
30. NSO, 2024. Nepal living standard Survey 2022-23. NATIONAL STATISTICS OFFICE Office of the Prime Minister and Council of Ministers Government of Nepal.
31. NSO. 2021. National population and housing survey 2021. National Statistics Office. Thapathali, Kathmandu.
32. Parasuraman, A., Zeithaml, V. A., & Berry, L. L. 1985. A conceptual model of service quality and its implications for future research. Journal of Marketing, 49(4), 41-50.
33. Paudel P. July 2024. Why More And More Youths Are Leaving Agriculture? Rational Economic Sense or Something Else? The spotlight.
34. Pavlov, R.N. 2018. Political economy – a theoretical and methodological framework for identifying main trends in social entrepreneurship development. Economic and Social Changes: Facts, Trends, Forecast, 11(4): 235–251.DOI: 10.15838/esc.2018.4.58.15
35. Perez, N. D. and Rosegrant M. W. 2015. The Impact of Investment in Agricultural Research and Development and Agricultural Productivity. IFPRI Discussion Paper 01447. International Food Policy Research Institute (IFPRI).
36. Rondinelli D., A., James S. McCullough and Ronald W. Johnson. 1989. Development and Change Vol. 20 57-87, SAGE, London, Newbury Park and New Delhi.
37. Sadighi, H. 2005. Education, and extension linkages: An Analysis of institutions in developing countries. AIAEE proceedings of the 21st annual conference San Antonio, TX Research.
38. Sharma, P. R. 1983. Nepali culture and society: Historical perspectives. Contribution to Nepali study. CNAS, Tribhuvan University. Vol 10 (1&2):1-19
39. Stoop, W.A. 1988. NARS linkages in technology generation and technology transfer. *ISNAR Working Paper*, No. 11.

40. TAF, 2017. Political economy of local governance in Nepal. Special reference to health and education sector. The Asia Foundation, Bhatbhateni, Kathmandu
41. Thapa S.B. 2023. Facets of Political Instability in Nepal: Causes and Effects. J. Pol. Sci. Pub. Aff. 11:027.
42. Timilsina, R. H., G. P. Ojha, P.B. Nepali, and U.Tiwari. 2019. Agriculture land use in Nepal: prospects and impacts on food security. Journal of Agriculture and Forestry University, Vol. 3:1-9.
43. Upadhyay, P. 2015. Reforms and Changes in Nepal: Political-Sociological Perspectives on State Restructuring Process in the Post-Democratic Period. *Crossing the Border: International Journal of Interdisciplinary Studies*, *3*(1), 81–98
44. Venieris, Y. P., & Gupta, D. K. (1983). Sociopolitical and Economic Dimensions of Development: A Cross-Section Model. *Economic Development and Cultural Change*, *31*(4), 727–756. http://www.jstor.org/stable/1153405
45. World Bank. 1985. Strengthening agricultural research and extension: The World Bank experience. *World Bank Report,* No. 4684.
46. World Bank. 2008. The Political Economy of Policy Reform: Issues and Implications for Policy Dialogue and Development Operations. Social development department, Report No. 44288-GLB.
47. Zieminski, A and Friedman, D (2018). Sustainable Agriculture Research and Education (SARE), National Institute of Food and Agriculture (NIFA), U.S. Department of Agriculture under award number 2018-38640-28731.
48. Zuidema, L. 1988. Managing research-extension linkages. *ISNAR Staff Notes*