

COUNTRY AGRIL. EXTENSION PROFILE (C-AEP): NEPAL

Name of the Country: **Nepal**

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Sr. No.	PROFILE/PARAMETER	RESPONSE IN BRIEF												
I.	<u>I- BASIC DETAILS OF FARMING</u>													
1.1	Cultivated Area	2.2 million hectares												
1.2	Farming Population	Approximately 19.5 million												
		<table> <tr> <th>Holding Type</th><th>Cultivated Land Area</th><th>Description</th></tr> <tr> <td>Small Holding</td><td>Less than 0.5 hectares</td><td>Majority of subsistence farmers. Limited mechanization and market access.</td></tr> <tr> <td>Medium Holding</td><td>0.5 to less than 2.0 hectares</td><td>Semi-commercial farms. Mix of household consumption and market-oriented farming.</td></tr> <tr> <td>Large Holding</td><td>2.0 hectares and above</td><td>Commercial scale farms. Greater access to resources, mechanization, and inputs. Relatively rare in Nepal due to fragmented land distribution. More common in the Terai region compared to hills and mountains.</td></tr> </table>	Holding Type	Cultivated Land Area	Description	Small Holding	Less than 0.5 hectares	Majority of subsistence farmers. Limited mechanization and market access.	Medium Holding	0.5 to less than 2.0 hectares	Semi-commercial farms. Mix of household consumption and market-oriented farming.	Large Holding	2.0 hectares and above	Commercial scale farms. Greater access to resources, mechanization, and inputs. Relatively rare in Nepal due to fragmented land distribution. More common in the Terai region compared to hills and mountains.
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		<p>Source: National Sample Census of Agriculture (NSCA) 2021/22, District Summary (by Province) of NSCA 2022, The Status of Smallholder Farmers in Nepal's Agricultural Development Strategy (2015–2035)</p> <p>Additional Notes:</p> <ul style="list-style-type: none"> • Land Fragmentation: Due to inheritance practices, landholdings are increasingly subdivided, leading to smaller average farm sizes. • Regional Variations: <ul style="list-style-type: none"> ○ Terai (Plains): Larger average holdings due to more arable land. ○ Hills & Mountains: Mostly small and fragmented plots due to difficult terrain. • Government Policies: Efforts like land consolidation and subsidies aim to improve productivity, especially 												

		for smallholders.
II.	<p><u>AGRIULTUAL EXTENSION INVENTORY – SCHEMES & PROGRAMMES</u></p> <p>Overview and Importance of Extension</p>	<p>Agricultural extension services are critical in enhancing agricultural productivity, improving rural livelihoods, and promoting sustainable agricultural practices. These services bridge the gap between research institutions and farmers, delivering knowledge, technology, and advice to address farming challenges. Extension services aim to improve farmers' skills and knowledge, thus increasing their efficiency and productivity.</p> <p>The role of extension services in agriculture cannot be underestimated as they assist with increasing farm output, enhancing rural households' welfare and farming systems' sustainability. These services assist in the transfer of information, technologies and solutions from research bodies to farmers. The services of extension are meant to increase the skill and knowledge of farmers in order to enhance their efficiency and productivity. The importance of Agricultural Extension are summarized below:</p> <ul style="list-style-type: none"> • Knowledge Dissemination: Farmers are guaranteed access to the most recent agricultural research, methods, and technologies thanks to extension programs. Farmers benefit from this knowledge transfer by adopting better farming techniques, which raises yields, produces higher-quality goods, and boosts revenue. • Improved Agricultural Practices: Extension is essential in educating farmers about crop rotation, soil management, insect control, water conservation, and better agricultural practices. This information supports sustainable farming operations and lessens environmental harm. • Farmer Empowerment: By giving farmers the resources they need to make wise decisions, extension services empower them. This results in increased productivity, better resource use, and better farm management. • Food Security: By assisting farmers in increasing food production and crop diversification, extension services play a crucial role in enhancing food security. This is especially crucial in light of issues like population increase and climate change. • Economic Development: Good extension services increase agricultural productivity and revenue creation, which supports economic growth. In rural communities, where agriculture is the primary source of income, this is especially important. • Climate Change Adaptation: Since agricultural systems around the world are being impacted by climate change, extension services are essential for spreading knowledge on climate-resilient methods and tools. Farmers receive training on how to reduce climate-related hazards and adjust to shifting weather patterns.

	<p>Country Case Studies</p> <p>Nepal</p>	<ul style="list-style-type: none"> • Inclusive Development: In order to guarantee that underprivileged and marginalized populations, such as women and smallholder farmers, have access to agricultural information, extension services are crucial. Extension contributes to inclusive agricultural development by tackling socioeconomic and gender inequalities. • Market Linkages and Value Chain Development: Farmers can reach larger markets and boost their profitability by using extension services, which give them information on value chain development, product quality standards, and market trends. <p>History of Extension system</p> <p>Since the 1950s, agricultural extension in Nepal has seen major changes. Agriculture was mostly subsistence-based prior to 1950, with little technological development and little farmer awareness. Early attempts to develop agriculture included the founding of technical schools, research farms, veterinary clinics/hospital, and nurseries. Beginning with the First Five-Year Plan, which concentrated on agricultural research, technology development, and the creation of agricultural extension services to spread new farming methods, the government began implementing formal development plans after 1950. Extension services increased along with rural infrastructure upgrades and extension worker training programs. The approach eventually transformed Nepal's agricultural sector by including community-based services, ICT tools, climate-smart agriculture, and social fairness.</p> <p>Historical Background of the Department of Agriculture</p> <ul style="list-style-type: none"> • 1942: Agriculture Office was established as an institutional effort. • 1952: Department of Agriculture was established. • 1966: Restructuring of Department of Agriculture and establishment of five Departments: Department of Agriculture Extension Department of Fishery Department of Horticulture Department of Livestock Health Department of Agricultural Education and Research • 1972: Lack of effective coordination among the departments again led to the creation of the Department of Agriculture. • 1972: The need and sensitivity of agricultural markets gave rise to the establishment of the Department of Agricultural Market Services. • 1979: In view of effective program implementation of agriculture and livestock sectors two separate departments; one for agriculture and another for livestock were established Department of Agriculture
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		<p>and Department of Livestock Services.</p> <ul style="list-style-type: none"> • 1990: Establishment of Department of Horticulture. • 1992: under one umbrella policy all the five Departments - Horticulture; Crop and Fishery; Food, Agriculture and Market Services; Livestock Health and Food Research Laboratory were brought into one department called the Department of Agricultural Development. Under this department one Director General and seven Directors were posted. • 1995: Under the new restructuring program three departments came into existence; viz - Department of Agriculture, Department of Livestock Services, and Central Food Research Laboratory. • 2000: To enhance the effectiveness of services and supports to the Department of Agriculture, Technical Divisions at the center were reorganized into nine Program Directorates. • 2004: Program Directorates were reorganized and established 12 Program Directorates and National Programs under the Department of Agriculture. • 2018: Agricultural extension function unbundled into three tiers of government-federal, provincial and local. <p>Organizational and Operational Structure of Extension System in Nepal</p> <p>Agriculture Extension System in Nepal operates through three tiers of government; Central, Provincial and Local Levels. Its main goal is to spread agricultural methods, technologies, and knowledge to farmers in order to increase production and promote sustainable development.</p> <p>i. Federal Level: The main responsibilities of central level are:</p> <ul style="list-style-type: none"> ➤ Policies, laws, regulation, quality control related to agriculture ➤ National policy, Standardization of Agro-biodiversity conservation and bio-technology ➤ Contact and co-ordination among bilateral and multilateral institutions ➤ National statistics, study, research and resource conservation, development and dissemination ➤ Development, regulation and standardization of internationally accredited laboratories ➤ International trade facilitation and regulation ➤ Co-ordination for supply of imported fertilizers ➤ International conventions related to agriculture ➤ Inter-Provincial development and promotion of Agro-industrialisation. ➤ National Food security, Food rights and Food sovereignty ➤ Medicine and pesticides ➤
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		<p>implement yet.</p> <ul style="list-style-type: none"> • Gender and Disadvantaged Group Inclusion: While efforts are made to include disadvantaged groups, gender issues and access to services remain a challenge. • Lack of technical co-ordination among three tiers of government: due to lack of formal co-ordination mechanism three-tiers of government has not been able to converge at a point on agricultural extension services. <p>C. Website and Resources related to Extension system</p> <ul style="list-style-type: none"> • Ministry of Agriculture and Livestock Development (MoALD): www.moald.gov.np • Nepal Agricultural Research Council (NARC): www.narc.gov.np • Agriculture and Forestry University (AFU): https://www.afu.edu.np/ • Center for Environmental and Agricultural Policy Research, Extension and Development (CEAPRED): https://www.ceapred.org.np/ • Food and Agriculture Organization (FAO): https://www.fao.org/Nepal • Department of Agriculture: www.doanepal.gov.np • Agriculture Information and Training center: www.aitc.gov.np, toll free number: 16600195000
2.1	<p>Brief details of Extension Schemes and Programmes</p> <p>- Federal Schemes</p>	<p>At the federal level, Nepal has various programs aimed at promoting agricultural productivity, sustainable farming practices, and food security. Some key federal schemes include:</p> <ul style="list-style-type: none"> • Prime Minister Agriculture Modernization Project (PMAMP): A flagship program aimed at modernizing and commercializing agriculture through the establishment of pocket areas, blocks, zones, and super zones for different crops. It provides technical and financial support to farmers and agribusinesses. • Kisan Credit Card Scheme: Provides credit access to farmers for purchasing agricultural inputs like seeds, fertilizers, equipment at subsidized interest rates. • Agricultural Development Strategy (ADS) Implementation: ADS is a 20-year strategy (2015-2035) that focuses on transforming Nepal's agriculture sector into a modern, sustainable, competitive, and resilient sector by promoting productivity, commercialization, and competitiveness. • Farmers' Registration Scheme: Started 3 years ago, more than half (2 million) of the farm households has been registered in a digital system • Central Level Grant and Subsidy: Government subsidies and grants are provided to farmers to reduce production costs and improve their income. This can include subsidies on fertilizers,

<p>- Provincial Schemes</p>	<p>seeds, and other inputs, as well as grants for technology adoption and infrastructure development.</p> <ul style="list-style-type: none"> • Seed Distribution Scheme: This program focuses on providing farmers with high-quality seeds, especially improved varieties, to increase crop yields and productivity. • Chemical Fertilizer Distribution Scheme: The government provides subsidies on chemical fertilizers to encourage their use and boost crop production. This scheme aims to make fertilizers more affordable for farmers, helping them to increase their yields. • Soft Agri Loan Program: This program offers farmers access to financial resources at concessional interest rates, enabling them to invest in agricultural inputs, technology, and infrastructure. It helps farmers overcome financial constraints and take advantage of opportunities for growth. <p>Nepal's provincial governments also implement agricultural schemes to address the unique needs and priorities of their regions. Some examples include:</p> <ul style="list-style-type: none"> • Provincial Agriculture Development Programs: Various provinces have their own agricultural development programs focusing on enhancing the productivity of local crops, promoting organic farming, providing subsidies for agricultural inputs, and building local capacities for sustainable farming practices. • Provincial-level Grants and Subsidies: Provinces provide financial assistance for purchasing agricultural tools and machinery, irrigation facilities, high-yield seed varieties, and fertilizers to encourage farmers to adopt modern agricultural practices. • Horticulture Promotion Programs: Initiatives aimed at promoting fruit and vegetable cultivation through training, infrastructure support, and market linkages to improve farmers' income. • Livestock Promotion Program: Aims to enhance livestock productivity, value addition, and climate resilience in Nepal. • Soft Loan Program: This program offers farmers access to financial resources at concessional interest rates, enabling them to invest in agricultural inputs, technology, and infrastructure. It helps farmers overcome financial constraints and take advantage of opportunities for growth.
<p>- Other Extension Schemes</p>	<p>Apart from federal and provincial schemes, there are other programs run by international organizations, NGOs, and development partners focusing on agricultural extension in Nepal:</p> <ul style="list-style-type: none"> • Nepal Agriculture Extension Project (NAEP):

		<p>Implemented with the support of USAID, this project aims to increase agricultural productivity and income by improving extension services, promoting modern farming practices, and strengthening farmer organizations.</p> <ul style="list-style-type: none"> • Sustainable Soil Management Programme (SSMP): A collaboration between the Government of Nepal and the Swiss Agency for Development and Cooperation (SDC), focusing on sustainable soil management practices to improve crop yields and protect natural resources. • Farmer Field Schools (FFS): A participatory approach where farmers learn about integrated pest management (IPM), soil health, crop management, and climate-smart practices through hands-on training in their own fields. • Nepal Seed and Fertilizer Project (NSAF): Supported by the International Fertilizer Development Center (IFDC) and USAID, NSAF aims to enhance farmers' access to quality seeds, improve fertilizer use efficiency, and promote climate-smart agricultural practices. • Public-Private Partnership for Agro-based Value Chains: Encourages partnerships between local cooperatives, private companies, and government bodies to enhance market access, value addition, and agribusiness development. • Centre for Environment and Agricultural Policy Research, Extension and Development (CEAPRED): CEAPRED works on inclusive and sustainable rural and agricultural growth, focusing on poverty alleviation and livelihood improvement in Nepal. In the GRAPE project, they collaborate with ICIMOD and universities to demonstrate climate-resilient agriculture practices and train farmers on these technologies. • Food and Agriculture Organization (FAO): FAO plays a key role in addressing food security and agriculture challenges in Nepal, collaborating with other UN agencies like WFP and UNDP. • Pocket Package Program: This approach focuses on specific areas (pockets) for agricultural production, using a bottom-up approach to introduce demand-driven technologies. • Small Farmers Development Programme (SFDP): This government-led program focuses on organizing small farmers into groups to provide them with development services and address poverty. • Tuki System: This locally developed agricultural extension system was adopted in two hilly districts of Nepal and focused on integrated hill development.
2.2	<u>OTHER SECTOR SPECIFIC</u>	<p>The Crops Sector in Nepal focuses on enhancing the productivity and sustainability of staple and cash crops. Key programs and schemes include:</p>

		<ul style="list-style-type: none"> • National Dairy Development Board (NDDB) Initiatives: Promotes the development of the dairy sector by supporting milk processing units, cold storage facilities, and milk quality improvement. • Community-based Livestock Development Programs: Focus on improving local breeds and provide training on animal health, forage development, artificial insemination, and livestock management.
	<p>- Fisheries</p>	<p>The fisheries sector in Nepal has significant potential for income generation and nutritional improvement. Key programs include:</p> <ul style="list-style-type: none"> • Fisheries Development Program: Focuses on expanding aquaculture practices by providing fingerlings, feed, and technical training to farmers. The program promotes integrated fish farming with paddy fields and other crops. • Integrated Aquaculture Programs: Encourages sustainable practices by integrating fish farming with vegetable and fruit production and livestock rearing. • Cold-water Fisheries Promotion Program: Targets the high-altitude regions to promote cold-water fish species, including trout, through extension services and financial support. • Fish Hatchery Establishment and Management: Supports private and public hatcheries to increase the production of quality fish seeds.
	<p>- Other Enterprises (Mushroom, Beekeeping, Sericulture, etc.)</p>	<p>Farm</p> <p>Various other farm enterprises provide alternative income sources for farmers. Key programs include:</p> <ul style="list-style-type: none"> • Mushroom Farming Development Program: Provides training, starter kits, and financial support for mushroom production and value addition. • Beekeeping Promotion Program: Supports apiculture through training, provision of modern hives, and market access for honey and other bee products. • Sericulture Development Program: Promotes the cultivation of mulberry trees and silkworm rearing, focusing on capacity building and extension services. • Medicinal and Aromatic Plant (MAP) Programs: Promotes the cultivation of medicinal and aromatic plants with technical assistance, input supply, and market linkages.
	<p>- Farm Credit</p>	<p>Access to farm credit is essential for agricultural development in Nepal. Key schemes include:</p> <ul style="list-style-type: none"> • Agricultural Development Bank Limited (ADBL) Loans: Provides loans for crop cultivation, horticulture, animal husbandry, and farm mechanization at subsidized interest rates.

		<ul style="list-style-type: none"> • Cooperative and Microfinance Institutions: Offer small-scale farmers access to credit facilities for agricultural activities through cooperatives and microfinance models. • Youth Self-Employment Fund: Encourages youth engagement in agriculture by providing low-interest loans for agribusiness start-ups and farming activities. • Commercial Banks: They may offer loans for input financing, production, and post-harvest activities. • Development Banks: Play a crucial role in providing financial services to rural communities, including agricultural credit. • Microfinance Institutions: Microfinance institutions are specialized in providing small loans to low-income individuals and small businesses, including farmers, for various purposes like farming inputs, equipment, and infrastructure development. • Savings and Credit Co-operatives: Savings and credit co-operatives are community-based financial institutions that provide credit and savings facilities to their members, including farmers, often at lower interest rates. They can also offer agricultural credit programs and other financial services.
	- Agricultural Marketing	<p>Agricultural marketing is crucial to ensure farmers get fair prices for their products. Key programs include:</p> <ul style="list-style-type: none"> • Agricultural Market Infrastructure Development Program: Focuses on developing collection canters, cold storage facilities, and processing units to reduce post-harvest losses and improve market access. • Nepal Agricultural Market Information System (NAMIS): Provides real-time market information to farmers on prices, demand, and supply of agricultural products through digital platforms. • Cooperative Marketing Programs: Encourages the formation of cooperatives to enhance collective bargaining, reduce middlemen, and improve market linkages.
	- Agricultural Infrastructure (Post-harvest processing and management)	<p>Post-harvest management is crucial for minimizing losses and enhancing value addition. Key programs include:</p> <ul style="list-style-type: none"> • Post-Harvest Management and Value Addition Program: Supports the development of storage facilities, processing units, packaging, and grading canters to improve the value chain. • Community-Based Grain Banks: Established to ensure food security and reduce post-harvest losses, especially in remote areas. • Rural Infrastructure Development Programs: Focus on building rural roads, warehouses, and market centres to facilitate better connectivity and storage facilities.

	<ul style="list-style-type: none"> - Agricultural Mechanization 	<p>Mechanization is critical for improving productivity and reducing labor dependency. Key programs include:</p> <ul style="list-style-type: none"> • Mechanization Promotion Program: Provides subsidies for purchasing tractors, power tillers, threshers, and other agricultural machinery to promote mechanization. • Custom Hiring Centers (CHCs): Encourage the establishment of machinery rental centers that provide affordable access to equipment for small-scale farmers. • Subsidies on Small Farm Equipment: Provincial and local governments provide subsidies for small equipment like mini tillers, sprayers, and reapers to support smallholder farmers.
2.3	<p><u>EXTENSION NETWORK – IN PUBLIC SECTOR</u></p> <ul style="list-style-type: none"> - Brief Extension Network/Formation in the sectors indicated 	<p>Nepal's agricultural extension network in the public sector is structured across multiple levels, including federal, provincial, and district/Block levels. This network facilitates the dissemination of agricultural knowledge, technology, and services to farmers to improve agricultural productivity and livelihoods.</p> <p>Extension Network/Formation in Nepal</p> <p>The extension network in Nepal is designed to operate through multiple tiers, with clear roles and responsibilities for federal, provincial, and local governments. The network involves several key institutions and stakeholders:</p> <ul style="list-style-type: none"> • Federal Level: The Ministry of Agriculture and Livestock Development (MoALD) is the central agency responsible for formulating agricultural policies, strategies, and programs at the national level. The ministry oversees several departments, including the Department of Agriculture (DoA) and the Department of Livestock Services (DoLS), and Department of Food Technology and Quality Control (DFTQC) which are the main agencies for implementing agricultural extension services. • Provincial Level: With Nepal's federal restructuring, the provincial governments have been given the authority to develop their agricultural extension programs tailored to the specific needs of their provinces. Each province has its own Ministry of Agriculture, which manages extension services in collaboration with the federal government. • District/Local Level: At the district and local levels, District Agriculture Development Offices (DADOs)/Agriculture Knowledge Centers (AKCs) and Veterinary Hospital and Livestock Services Expert Center, Livestock Service Section (LSS), operate as the primary delivery points for extension services. These centers provide technical support, training, input supply, and other extension services to farmers.

	<p>- Inventory of Public Extension Services Providers at the Federal/ Provincial and District/Block levels</p>	<p>Inventory of Public Extension Service Providers at Federal, Provincial, and District/Block Levels Here's an overview of public extension service providers at different administrative levels in Nepal:</p> <p>Federal Level Extension Service Providers</p> <ul style="list-style-type: none"> • Ministry of Agriculture and Livestock Development (MoALD): The apex body responsible for agricultural policy formulation, coordination, and oversight of extension programs in Nepal. It works in coordination with other ministries, departments, and international partners. • Department of Agriculture (DoA): Responsible for implementing crop-related extension services. It manages various national programs, such as the Prime Minister Agriculture Modernization Project (PMAMP), National Seed Vision, and Crop Protection Programs. • Department of Livestock Services (DoLS): Focuses on livestock extension services, including breed improvement, animal health, fisheries development and dairy development. The department oversees national-level programs like the Nepal Livestock Sector Innovation Project (LSIP) and other animal husbandry initiatives. • Nepal Agricultural Research Council (NARC): Acts as the main agricultural research body that collaborates with the DoA and DoLS to develop and disseminate agricultural technologies through extension services. • Agriculture Information and Training Centre: Focus on providing information and training to improve agricultural practices and promote knowledge-based agriculture. <p>Provincial Level Extension Service Providers</p> <p>Each of Nepal's seven provinces has its own Ministry of Land Management, Agriculture, and Cooperatives (MoLMAC), responsible for planning and implementing agricultural extension programs at the provincial level. The key provincial-level extension service providers include:</p> <ul style="list-style-type: none"> • Provincial Agriculture and Livestock Development Directorate: Provides technical support and extension services to district-level Agriculture Development Offices/ Knowledge Centers (AKCs) and Veterinary Hospital and Livestock Service Center. These directorates implement programs tailored to the specific needs and agro-climatic conditions of each province. • Provincial Agriculture Development Programs: These programs focus on provincial priorities such as promoting high-value crops, horticulture, livestock development, and climate-smart agriculture. • Provincial Cooperatives and Farmers'
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2.4	<p><u>EXTENSION NETWORK– IN PRIVATE SECTOR</u></p> <p>- Brief Extension Networks in the sectors indicated</p>	<p>Nepal's private sector extension network involves diverse actors who provide services across various agricultural domains, such as crop cultivation, horticulture, livestock, fisheries, and more. The private extension network typically operates at the grassroots level and is demand-driven, focusing on value chains and market-oriented agriculture. It aims to fill the gaps left by public sector services, offering targeted and context-specific solutions.</p> <p>Key Components of the Private Extension Network:</p> <ul style="list-style-type: none"> • Agribusiness Companies: These include seed companies, agrochemical suppliers, fertilizer companies, and machinery dealers that provide inputs and technical guidance to farmers. Companies often deploy their own extension agents or field officers who offer training and demonstrations on using their products.

	<p>- Inventory of Private Extension Services Providers at the Federal/ Provincial and District/Block levels</p>	<ul style="list-style-type: none"> • Agro-Vets and Input Suppliers: Local agro-vets and input suppliers play a crucial role in disseminating agricultural technologies and information. They offer advisory services on crop and livestock management, pest control, and input usage. • Cooperatives and Farmer Associations: Cooperatives and farmer associations provide extension services such as training, input supply, credit, and market access. They are effective in reaching smallholder farmers and promoting collective action for agricultural development. • Non-Governmental Organizations (NGOs): NGOs and development agencies implement agricultural extension programs focusing on sustainable practices, climate resilience, and farmer capacity building. They often work in partnership with local communities and government agencies to provide targeted extension services. • Private Consultants and Agribusiness Advisors: These include individuals or firms specializing in providing consultancy services to farmers, agribusinesses, and cooperatives. They offer advice on agricultural planning, marketing, financial management, and technology adoption. • Digital Extension Services and ICT Platforms: With the rise of digital agriculture, several private companies provide digital extension services through mobile apps, SMS platforms, call centers, and online portals. These services offer real-time information on weather, pest outbreaks, market prices, and agronomic practices. <p>Inventory of Private Extension Service Providers at Federal, Provincial, and District/Block Levels</p> <p>The private extension network operates across different administrative levels in Nepal. While the majority of private sector actors focus on district and local levels, some operate at national and provincial levels to ensure a wider reach.</p> <p>Federal Level Private Extension Service Providers</p> <ol style="list-style-type: none"> 1. Seed Companies (e.g., GATE Nepal, Gorkha Seeds, Laxmi Seeds): <ul style="list-style-type: none"> ○ Offer extension services related to the promotion of high-yielding and hybrid seeds. ○ Conduct training programs, demonstrations, and field days to educate farmers about the latest seed varieties, crop management practices, and input usage. 2. Agrochemical and Fertilizer Companies (e.g., Nepal Fertilizer Pvt. Ltd., Krishi Rasayan):
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		<ul style="list-style-type: none"> ○ Provide extension services through sales agents and technical staff who offer advisory services on the safe use of pesticides, fertilizers, and other agrochemicals. ○ Companies often collaborate with government extension agencies and farmer groups to reach remote areas. <p>3. Digital Agriculture Platforms (e.g., Krishi Guru, Smart Krishi, and Mero Kisan):</p> <ul style="list-style-type: none"> ○ Digital platforms offer a range of extension services, including weather forecasts, market price updates, pest and disease alerts, and crop advisory through mobile apps and web-based platforms. ○ Collaborate with telecom companies, agribusinesses, and financial institutions to provide bundled services, such as crop insurance and mobile banking. <p>Provincial Level Private Extension Service Providers</p> <p>1. Provincial Cooperatives and Farmer Associations:</p> <ul style="list-style-type: none"> ○ Operate at the provincial level, focusing on the delivery of extension services to their members. They provide technical training, credit facilities, and marketing support. ○ Promote organic farming, sustainable agricultural practices, and value chain development for high-value crops like fruits, vegetables, and spices. <p>2. NGOs and Development Agencies (e.g., CARE Nepal, LiBIRD, Helvetas Nepal, Heifer International):</p> <ul style="list-style-type: none"> ○ These organizations implement agricultural and rural development programs across various provinces. They focus on building the capacity of farmers, promoting climate-resilient agriculture, and enhancing food security. ○ Collaborate with local governments, cooperatives, and community-based organizations to deliver targeted extension services, including training, demonstrations, and farmer field schools. <p>3. Private Agribusiness Firms (e.g., Himalayan Bio Trade Pvt. Ltd., Organic World and Fair Future Pvt. Ltd.):</p> <ul style="list-style-type: none"> ○ Focus on organic and sustainable agriculture. They provide extension services to promote organic farming practices, certification, and market access. ○ Conduct workshops, exposure visits, and
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		<p>technical training to promote the adoption of organic inputs and environmentally friendly practices.</p> <p>District and Block Level Private Extension Service Providers</p> <ol style="list-style-type: none"> 1. Agro-Vets and Input Suppliers: <ul style="list-style-type: none"> Thousands of agro-vets and local input suppliers are present in every district and municipality. They are key sources of agricultural information and technology for farmers. Offer advisory services on seed selection, fertilizer use, pesticide application, animal health management, and other farm operations. 2. District-Level Cooperatives and Multipurpose Cooperatives: <ul style="list-style-type: none"> Provide a wide range of extension services at the community level, including input supply, savings and credit, training, and marketing support. Help in creating farmer groups and self-help groups that facilitate peer-to-peer learning and collective bargaining. 3. Local NGOs and Community-Based Organizations (CBOs): <ul style="list-style-type: none"> Operate at the district and block levels, focusing on specific communities or target groups. They provide training on sustainable agricultural practices, integrated pest management (IPM), and climate adaptation strategies. Support capacity-building initiatives, such as farmer field schools, demonstration plots, and women-focused agricultural programs. 4. Agricultural Input Dealers' Associations: <ul style="list-style-type: none"> These associations at the district level bring together agro-vets, seed suppliers, and fertilizer dealers to provide coordinated extension services and advocacy for improved agricultural policies and practices. 5. Private Veterinary Hospitals, Veterinary Clinics and Animal Health Service Providers: <ul style="list-style-type: none"> Focus on providing animal health and veterinary services, including vaccination, deworming, artificial insemination, and feed management. Conduct awareness campaigns on livestock health, breed improvement, and nutrition management.
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<p>2.5</p>	<p>EXTENSION NETWORK OF CGIAR AND OTHER INTERNATIONAL INSTITUTIONS</p> <p>Their extension services in particular in various domains</p>	<p>CGIAR is a global partnership that unites international organizations engaged in research for a food-secure future. Several CGIAR centers are active in Nepal, providing various types of extension services across different domains:</p> <ul style="list-style-type: none"> • International Rice Research Institute (IRRI): <ul style="list-style-type: none"> - Domain: Rice cultivation and management. - Extension Services: IRRI works with Nepalese farmers, government agencies, and research institutions to promote high-yielding, stress-tolerant rice varieties. It provides training on sustainable rice intensification (SRI) practices, integrated pest management (IPM), water management, and post-harvest processing. IRRI also supports digital tools and platforms for real-time decision-making and market information. • International Maize and Wheat Improvement Center (CIMMYT): <ul style="list-style-type: none"> - Domain: Maize and wheat cultivation. - Extension Services: CIMMYT's extension activities in Nepal focus on promoting climate-resilient and high-yielding maize and wheat varieties. The organization works on sustainable agricultural intensification, conservation agriculture, and integrated soil fertility management. CIMMYT collaborates with local partners to provide training, field demonstrations, and technical support to enhance productivity and reduce production risks. • International Food Policy Research Institute (IFPRI): <ul style="list-style-type: none"> - Domain: Agricultural policy and food security. - Extension Services: IFPRI provides evidence-based policy analysis and advocacy to strengthen agricultural extension systems in Nepal. It conducts studies on market access, nutrition, and rural development to inform policymakers and stakeholders about effective strategies for agricultural growth and poverty reduction. • International Center for Agricultural Research in the Dry Areas (ICARDA): <ul style="list-style-type: none"> - Domain: Dryland agriculture, water management, and climate change adaptation. - Extension Services: ICARDA focuses on dryland farming systems, promoting sustainable agricultural practices, and developing drought-resistant crop varieties. It provides training on integrated water resource management, soil conservation, and the efficient use of water in arid regions. ICARDA also works on building the capacities of extension workers
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		<p>and farmers to cope with climate variability.</p> <ul style="list-style-type: none"> • International Livestock Research Institute (ILRI): <ul style="list-style-type: none"> - Domain: Livestock development. - Extension Services: ILRI's work in Nepal centers on improving livestock productivity through better feed, health management, and breeding practices. It conducts training programs for farmers on modern livestock practices, zoonotic disease management, and value chain development for dairy, meat, and poultry. • International Potato Center (CIP): <ul style="list-style-type: none"> - Domain: Root and tuber crops, particularly potatoes and sweet potatoes. - Extension Services: CIP focuses on promoting disease-resistant and high-yielding potato varieties, as well as climate-resilient sweet potatoes. It provides technical support, training on good agricultural practices, pest management, and storage techniques to farmers and local extension agents. • World Agroforestry Centre (ICRAF): <ul style="list-style-type: none"> - Domain: Agroforestry and sustainable land management. - Extension Services: ICRAF promotes agroforestry systems and sustainable land management practices to improve soil fertility, increase biodiversity, and enhance rural livelihoods. The organization provides extension services through training on tree-based farming, nursery management, and integrated farming systems. <p>Other International Institutions Active in Nepal</p> <p>Several other international institutions and organizations are engaged in agricultural extension and development activities in Nepal. Some key players include:</p> <ul style="list-style-type: none"> • Food and Agriculture Organization (FAO): <ul style="list-style-type: none"> - Domain: Agriculture, food security, and sustainable development. - Extension Services: FAO supports Nepal in strengthening its agricultural extension systems by providing technical assistance, policy advice, and capacity-building programs. It focuses on climate-smart agriculture, food security, sustainable land management, and the promotion of value chains. FAO also helps in developing digital extension tools and participatory extension approaches. • International Fund for Agricultural Development (IFAD): <ul style="list-style-type: none"> - Domain: Rural poverty reduction and agricultural
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		<p>development.</p> <ul style="list-style-type: none"> - Extension Services: IFAD supports agricultural extension activities in Nepal through projects like the Agriculture Sector Development Program (ASDP) and other rural development initiatives. It focuses on smallholder farmer capacity building, promoting sustainable agricultural practices, and enhancing market linkages. IFAD emphasizes participatory approaches, where farmers are directly involved in the development and dissemination of agricultural technologies. • World Bank: <ul style="list-style-type: none"> - Domain: Agricultural development, climate resilience, and rural infrastructure. - Extension Services: The World Bank provides financial and technical support for improving Nepal's agricultural extension systems, infrastructure development, and capacity building. It promotes climate-smart agriculture, irrigation management, market access, and policy reforms. The World Bank's initiatives often involve digital extension platforms and e-extension services to enhance outreach. • United States Agency for International Development (USAID): <ul style="list-style-type: none"> - Domain: Food security, resilience, and agricultural development. - Extension Services: USAID, through its Feed the Future initiative and other programs, supports agricultural extension in Nepal by promoting high-value crop production, livestock management, and climate resilience. It provides training, demonstration plots, and support for digital tools and information dissemination platforms. USAID also works with local partners to strengthen the extension system's capacity to deliver timely and effective services. • Australian Centre for International Agricultural Research (ACIAR): <ul style="list-style-type: none"> - Domain: Agricultural research and development. - Extension Services: ACIAR supports collaborative research and extension activities in Nepal to improve agricultural productivity and sustainability. It focuses on capacity building, developing climate-resilient crops, and promoting integrated pest and nutrient management practices. • Helvetas Nepal: <ul style="list-style-type: none"> - Domain: Sustainable agriculture, food security, and rural development. - Extension Services: Helvetas works with local communities to promote sustainable farming practices, agroforestry, organic farming, and value
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		<p>chain development. It supports capacity-building programs for farmers and local extension agents, focusing on participatory extension methods and inclusive development approaches.</p> <ul style="list-style-type: none"> • Swiss Agency for Development and Cooperation (SDC): <ul style="list-style-type: none"> - Domain: Sustainable agriculture, rural development, and climate change adaptation. - Extension Services: SDC implements programs like the Sustainable Soil Management Programme (SSMP) and supports integrated water resource management, climate-smart agriculture, and capacity-building initiatives in Nepal. It focuses on soil conservation, agroforestry, and livelihood improvement through agricultural extension. • Japan International Cooperation Agency (JICA): Works in Nepal's agriculture sector to improve rural livelihoods, promote food security, and generate income for farmers.
2.6	<p><u>EXTENSION MANPOWER</u></p> <ul style="list-style-type: none"> - Extension manpower at various levels – Public Sector 	<p>Extension manpower refers to the human resources involved in delivering agricultural extension services. This includes staff in public and private sectors, as well as other relevant organizations. Here's a breakdown of the extension manpower at various levels in Nepal:</p> <p>1. Extension Manpower in the Public Sector</p> <p>Federal Level</p> <ul style="list-style-type: none"> • Ministry of Agriculture and Livestock Development (MoALD): <ul style="list-style-type: none"> ○ Staff: Includes senior officials, policy makers, program managers, and technical experts. ○ Roles: Policy formulation, program oversight, strategic planning, and coordination with provincial and district-level agencies. • Department of Agriculture (DoA) and Department of Livestock Services (DoLS): <ul style="list-style-type: none"> ○ Staff: Agricultural officers, livestock officers, researchers, and extension specialists. ○ Roles: Implementation of crop and livestock extension programs, technical support, research, and training. • Nepal Agricultural Research Council (NARC): <ul style="list-style-type: none"> ○ Staff: Researchers, agronomists, scientists, and extension specialists. ○ Roles: Research, technology development, and dissemination of agricultural innovations. <p>Provincial Level</p> <ul style="list-style-type: none"> • Ministries of Land Management, Agriculture,

	<p>- Extension manpower at various levels – Private Sector</p>	<p>and Cooperatives (MoLMAC):</p> <ul style="list-style-type: none"> ○ Staff: Provincial directors, senior officials, agricultural extension officers, and program coordinators. ○ Roles: Provincial planning, program implementation, and coordination with district-level services. <p>• Provincial Agriculture and Livestock Development Directorates:</p> <ul style="list-style-type: none"> ○ Staff: Agricultural extension officers, livestock extension officers, and technical staff. ○ Roles: Overseeing and supporting district-level extension services, providing technical guidance and training. <p>• Provincial Agricultural and Livestock Development Centers:</p> <ul style="list-style-type: none"> ○ Staff: Technical experts, trainers, and support staff. ○ Roles: Technical support, training, and implementation of provincial agricultural programs. <p>District and Block Levels</p> <ul style="list-style-type: none"> • Agriculture Knowledge Centers (AKCs): <ul style="list-style-type: none"> ○ Staff: District agricultural officers, field extension workers, and technical assistants. ○ Roles: Direct extension services, training, demonstrations, and technical advice to farmers. • Livestock Service Centers (LSCs): <ul style="list-style-type: none"> ○ Staff: Veterinary officers, animal health workers, and livestock extension officers. ○ Roles: Veterinary care, animal health management, and livestock productivity improvement. • Municipal Agriculture and Livestock Service Sections: <ul style="list-style-type: none"> ○ Staff: Local agricultural officers, livestock officers, and support staff. ○ Roles: Local-level extension services, input distribution, and farmer support. <p>Extension Manpower in the Private Sector</p> <p>Agribusiness Companies</p> <ul style="list-style-type: none"> • Staff: Agronomists, field officers, sales representatives, and technical support staff. • Roles: Providing technical support, training on input usage, conducting field demonstrations, and managing customer relations. <p>Agro-Vets and Input Suppliers</p> <ul style="list-style-type: none"> • Staff: Agro-vets, input dealers, and technical advisors. • Roles: Advising on input usage, providing veterinary services, and offering training on crop
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		and livestock management. Cooperatives and Farmer Associations <ul style="list-style-type: none">• Staff: Cooperative managers, field extension workers, and training facilitators.• Roles: Delivering extension services, organizing training programs, and supporting marketing and credit services. NGOs and Development Agencies <ul style="list-style-type: none">• Staff: Program managers, field coordinators, extension officers, and trainers.• Roles: Implementing agricultural development programs, providing training and capacity building, and supporting sustainable practices. Private Consultants and Agribusiness Advisors <ul style="list-style-type: none">• Staff: Agricultural consultants, agribusiness advisors, and extension specialists.• Roles: Providing consultancy services, offering technical advice, and supporting business development for farmers and agribusinesses. Digital Extension Services and ICT Platforms <ul style="list-style-type: none">• Staff: ICT specialists, content creators, and customer support staff.• Roles: Developing and managing digital platforms, providing online advisory services, and disseminating agricultural information via digital channels.															
- Others	3. Others Community-Based Organizations (CBOs) and Farmers' Groups <ul style="list-style-type: none">• Staff: Community mobilizers, extension volunteers, and group leaders.• Roles: Facilitating peer-to-peer learning, organizing community-based training, and supporting local agricultural activities. Academic and Research Institutions <ul style="list-style-type: none">• Staff: University professors, researchers, and extension experts.• Roles: Conducting research, developing new technologies, and providing training and extension services through academic programs. <table><tr><th>Level</th><th>Institution/ Office</th><th>Categor y</th><th>Estimated Number of Staff</th><th>Roles</th></tr><tr><td>Federal</td><td>Ministry of Agriculture and Livestock Development (MoALD)</td><td>Policy Makers & Experts</td><td>~50</td><td>Policy formulation, coordination, and oversight</td></tr><tr><td></td><td>Department of Agriculture (DoA) & DoLS</td><td>Senior Officers & Specialists</td><td>~400</td><td>National program management, extension support</td></tr></table>	Level	Institution/ Office	Categor y	Estimated Number of Staff	Roles	Federal	Ministry of Agriculture and Livestock Development (MoALD)	Policy Makers & Experts	~50	Policy formulation, coordination, and oversight		Department of Agriculture (DoA) & DoLS	Senior Officers & Specialists	~400	National program management, extension support	
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2.7	<p><u>EXTENSION INSTITUTIONS – PUBLIC SECTOR</u></p> <p>- Extension Institutions / Organizations at the Federal (e.g. DOE – India, MANAGE – India)/ Regional (e.g. EEI – India)Provincial (e.g. SAMETI – India, Directorate of Agriculture - India)/District (e.g. ATMA – India) /Block levels and their Extension Programmes/operations</p>	<p>1. Federal Level</p> <p>Ministry of Agriculture and Livestock Development (MoALD)</p> <ul style="list-style-type: none">• Role: The MoALD is the apex body responsible for agricultural policy formulation, strategic planning, and coordination of agricultural extension services.• Key Institutions Under MoALD:<ul style="list-style-type: none">○ Department of Agriculture (DoA): Implements crop-related extension programs and provides technical support in co-ordination with provincial and local governments.○ Department of Livestock Services (DoLS): Focuses on livestock extension services, including animal health and productivity programs.○ Nepal Agricultural Research Council (NARC): Conducts research and provides new technologies and innovations for extension services.○ National Agricultural Research and																																			

		<p>Development Fund (NARDF): Supports agricultural research and development initiatives, contributing to the generation of new technologies that are disseminated through extension services.</p> <ul style="list-style-type: none"> ○ Plant Quarantine and Pesticides Management Center (PQPMC)/ National Plant Protection Organization (NPPO): Provides specialized training on Integrated Pest Management (IPM), pest surveillance, and safe pesticide use. Coordinates Farmer Field School (FFS) modules. ○ Department of Livestock Services (DoLS) – Central Livestock Promotion and Training Centre: Offers training in animal health, artificial insemination, disease management, and livestock entrepreneurship. ○ National Agriculture Education and Training Centre (NAETC), Bhaktapur: Under the MoALD, this is a central hub for training extension officers in both technical and extension communication skills. ○ Agriculture Information and Training Center (AITC): is a key government agency under Nepal's Ministry of Agriculture and Livestock Development: Offers training in animal health, artificial insemination, disease management and livestock entrepreneurship. ○ Council for Technical Education and Vocational Training (CTEVT), Bhaktapur: Under the Ministry of Education Science and Technology (MoEST), this is a central hub for training extension technicians in both technical and extension communication skills. <p>2. Provincial Level</p> <p>Ministries of Land Management, Agriculture, and Cooperatives (MoLMAC)</p> <ul style="list-style-type: none"> • Role: Each province has its own MoLMAC responsible for provincial-level agricultural planning and extension program implementation. • Key Institutions: <ul style="list-style-type: none"> ○ Provincial Agriculture and Livestock Development Directorates: Oversee the implementation of agricultural programs and coordinate with district-level institutions. <p>Provincial Agricultural and Livestock Development Centers</p> <ul style="list-style-type: none"> • Role: Provide technical support and coordinate with district-level extension services. They implement provincial agricultural programs and training initiatives.
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		<p>3. District Level</p> <p>Agriculture Development Offices (DADOs)/ Agriculture Knowledge Centers (AKCs)</p> <ul style="list-style-type: none"> • Role: AKCs are the main institutions providing agricultural extension services at the district level. They offer training, technical advice, and demonstrations to farmers. • Function: <ul style="list-style-type: none"> • Disseminate NARC-developed varieties, farming techniques, and IPM kits via on-farm trials and demonstration plots. • Facilitate season-long participatory learning on crop/livestock technologies. • Conduct location-specific training modules tailored to farmers' needs (climate-resilient crops, hybrid seeds, water use efficiency). • Coordinate with municipalities, NGOs, cooperatives, and private companies. • Prepare District Agriculture Development Plans aligned with provincial priorities. • Pilot use of SMS alerts, voice messages, and mobile apps in partnership with ICT firms. • Facilitate linkages with input suppliers and microfinance institutions for credit-access training. • Programs/Operations: <ul style="list-style-type: none"> ○ Training Programs: Conduct workshops and farmer field schools on crop management, pest control, and soil fertility. ○ Field Demonstrations: Organize field trials and demonstrations to showcase new technologies and practices. ○ Technical Support: Provide on-the-ground technical assistance and advice to farmers on various agricultural practices. <p>Veterinary Hospital and Livestock Service Expert Centers:</p> <ul style="list-style-type: none"> • Role: Provide veterinary services and support livestock management at the district level. • Programs/Operations: <ul style="list-style-type: none"> ○ Veterinary Care: Offer vaccination services, disease management, and artificial insemination. ○ Training and Extension: Provide training on livestock management practices, feed, and nutrition. <p>Municipal Agriculture and Livestock Service</p>
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		<p>Sections</p> <ul style="list-style-type: none"> • Role: Implement local-level agricultural and livestock extension services within municipalities and rural municipalities. • Programs/Operations: <ul style="list-style-type: none"> ○ Input Distribution: Facilitate the distribution of agricultural inputs such as seeds and fertilizers. ○ Training and Support: Offer technical support and training tailored to local agricultural needs. <p>4. University-Based Training Initiatives</p> <ul style="list-style-type: none"> • Agriculture and Forestry University (AFU), Chitwan: Operates a continuing education and outreach unit that provides training to farmers, cooperatives, and local governments. • Institute of Agriculture and Animal Science (IAAS), TU: Runs community-based extension and training projects, especially in western Nepal. • Far Western University, Faculty of Agriculture: Organizes demand-based training and workshops in collaboration with municipalities and NGOs.
2.8	<p><u>EXTENSION INSTITUTIONS – PRIVATE SECTOR</u> Extension Institutions / Organizations at the Federal /Provincial /District/ Block level/ field level</p>	<p>In Nepal, extension institutions operate at various administrative levels, including the federal, provincial, district, and field levels. Both government and private-sector institutions play key roles in agricultural extension services. Below is an overview of private-sector extension institutions in Nepal:</p> <p>1. Private Sector Extension Institutions These organizations provide advisory services, training, input supply, and market linkages to farmers.</p> <p>A. Agribusiness Companies</p> <ul style="list-style-type: none"> • Large agribusiness companies provide extension services alongside selling inputs. • Examples: <ul style="list-style-type: none"> ○ <i>Seed Companies</i> (GATE Nepal, NIMBUS, Nepal Seed and Fertilizer) ○ <i>Agrochemical Suppliers</i> (Gorakhnath Chemicals, Panchakanya Fertilizers) ○ <i>Feed and Livestock Input Suppliers</i> (Probiotech Industries, NutriFeeds Nepal) <p>B. Farmer Cooperatives and Producer Organizations</p> <ul style="list-style-type: none"> • Cooperatives support smallholder farmers with training, input supply, credit, and market access. • Examples: <ul style="list-style-type: none"> ○ National Federation of Farmers Groups Nepal (NFGF) ○ Dairy Development Cooperatives

		<ul style="list-style-type: none"> ○ Nepal Agriculture Cooperative Central Federation Ltd. (NACCFL) <p>C. Private Extension Service Providers</p> <ul style="list-style-type: none"> • Agripreneurs, independent consultants, and agritech firms offer advisory services. • Examples: <ul style="list-style-type: none"> ○ Smart Krishi App (digital advisory) ○ Krishi Udyog (private extension services) ○ Various veterinary clinics and agro-advisory services <p>D. Non-Governmental Organizations (NGOs) and INGOs</p> <ul style="list-style-type: none"> • Many NGOs facilitate extension services in partnership with local governments and donors. • Examples: <ul style="list-style-type: none"> ○ Heifer International Nepal ○ LI-BIRD (Local Initiatives for Biodiversity, Research, and Development) ○ iDE Nepal <p>E. Financial Institutions Supporting Extension</p> <ul style="list-style-type: none"> • Banks and microfinance institutions provide credit-linked advisory services. • Examples: <ul style="list-style-type: none"> ○ Agricultural Development Bank ○ Rural Microfinance Institutions (RMDC, Nirdhan Utthan Laghubitta)
2.9	<p><u>NGOs IN AGRIL EXTNSION</u></p> <p>- Brief details of NGO efforts in extension at the Federal / Provincial levels</p>	<p>NGOs in Agricultural Extension in Nepal</p> <p>Non-Governmental Organizations (NGOs) play a vital role in agricultural extension by providing technical support, training, capacity building, and market linkages. Their efforts complement government extension services, especially in remote and underserved areas.</p> <p>1. NGO Efforts at the Federal / Provincial Levels</p> <p>A. Policy Advocacy and Capacity Building</p> <ul style="list-style-type: none"> • NGOs engage in national and provincial-level policy dialogues to strengthen extension systems. • They conduct research, publish reports, and advocate for farmer-friendly policies. • Examples: <ul style="list-style-type: none"> ○ <i>LI-BIRD (Local Initiatives for Biodiversity, Research, and Development)</i> – Works on policy advocacy for agroecology and climate-resilient agriculture. ○ <i>CEAPRED (Center for Environmental and Agricultural Policy Research, Extension, and Development)</i> – Supports government programs with evidence-based research. <p>B. Large-Scale Program Implementation</p> <ul style="list-style-type: none"> • NGOs implement donor-funded agricultural extension projects in multiple provinces. • They work with local governments to enhance extension infrastructure.

	<ul style="list-style-type: none"> - Brief details of NGO efforts in extension at the District/block/field levels 	<ul style="list-style-type: none"> • Examples: <ul style="list-style-type: none"> ○ <i>Heifer International Nepal</i> – Works on livestock value chain development across multiple provinces. ○ <i>iDE Nepal</i> – Promotes market-led agricultural extension through its Commercial Pocket Approach in various provinces. ○ <i>Practical Action Nepal</i> – Focuses on climate-smart agriculture and digital extension tools. <p>2. NGO Efforts at the District / Block / Field Levels</p> <p>A. Farmer Training and Capacity Building</p> <ul style="list-style-type: none"> • NGOs conduct training sessions, demonstrations, and field schools to improve farming techniques. • Examples: <ul style="list-style-type: none"> ○ <i>LI-BIRD</i> – Conducts Farmer Field Schools (FFS) for seed production and biodiversity conservation. ○ <i>Heifer Nepal</i> – Provides training on dairy and livestock management through Self-Help Groups (SHGs). <p>B. Market Linkages and Value Chain Development</p> <ul style="list-style-type: none"> • NGOs help farmers connect with markets, input suppliers, and financial institutions. • Examples: <ul style="list-style-type: none"> ○ <i>iDE Nepal</i> – Implements small-scale irrigation projects and facilitates farmers' access to markets. ○ <i>NACCFL (Nepal Agriculture Cooperative Central Federation Ltd.)</i> – Supports cooperatives in marketing agricultural produce. <p>C. Climate-Smart and Sustainable Agriculture</p> <ul style="list-style-type: none"> • NGOs promote organic farming, agroforestry, and climate adaptation strategies. • Examples: <ul style="list-style-type: none"> ○ <i>Practical Action Nepal</i> – Implements climate-resilient farming models in districts prone to climate shocks. ○ <i>CEAPRED</i> – Encourages Integrated Pest Management (IPM) and bio-fertilizers at the local level.
2.10	<p><u>FARMER ORGANIZATIONS IN EXTENSION</u></p> <ul style="list-style-type: none"> - Brief details of Farmer Organization (SHGs, FIGs, CIGs, , Farmer Federations, Farmer 	<p>Farmer organizations play a crucial role in delivering agricultural extension services, ensuring access to inputs, training, credit, and markets. These organizations operate at different levels, from grassroots to national federations.</p> <p>1. Types of Farmer Organizations in Nepal</p> <p>A. Self-Help Groups (SHGs)</p>

	<p>- Successful models of Farmer empowerment through commodity/other aggregated groups</p>	<p>(NFGF) lobbying for subsidies and extension support.</p> <p>B. Provincial Level</p> <ul style="list-style-type: none"> • Implementation of large-scale agricultural programs with government and NGO partnerships. • Example: <i>Provincial Agriculture Ministries</i> coordinating with FPOs for training programs. <p>C. District Level</p> <ul style="list-style-type: none"> • Farmer groups and cooperatives work with local governments for training, market access, and credit services. • Example: <i>Dairy Cooperatives</i> collaborating with District Livestock Service Offices for breed improvement. <p>D. Field Level</p> <ul style="list-style-type: none"> • Direct farmer-to-farmer extension, knowledge-sharing, and technology adoption. • Example: <i>Krishi Gyan Kendra</i> (Agriculture Knowledge Centers) working with FIGs at the local level. <p>3. Successful Models of Farmer Empowerment</p> <p>A. Dairy Cooperatives Model</p> <ul style="list-style-type: none"> • Example: <i>Dairy Development Corporation (DDC) Cooperatives</i> • Outcome: Improved milk quality, steady income, and access to veterinary services. <p>B. Commercial Pocket Approach by iDE Nepal</p> <ul style="list-style-type: none"> • Groups of farmers linked to markets through FPOs. • Outcome: Increased incomes and access to improved inputs. <p>C. Vegetable Producer Cooperatives in Kavrepalanchok</p> <ul style="list-style-type: none"> • Supported by LI-BIRD and local municipalities. • Outcome: Collective marketing, contract farming, and better bargaining power <p>D. ABIC (Agri-business Incubation Centre) Run by PACT: ABICs provide services like business</p>
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		advisory, mentoring, incubation programs, and support for startups and SMEs in the agricultural sector. They help to enhance innovation, growth, and competitiveness of agribusinesses in Nepal.
2.11	<u>FARM COOPERATIVES</u> - Brief details of Farm Cooperatives at Federal / Provincial/ District/Village level	<p>Farm cooperatives play a crucial role in supporting smallholder farmers by providing access to agricultural inputs, financial services, training, and market linkages. They operate at different levels, from national federations to local village-based cooperatives.</p> <p>1. Farm Cooperatives at Different Administrative Levels</p> <p>A. Federal Level</p> <ul style="list-style-type: none"> National-level federations represent cooperatives and advocate for policies supporting farmers. Work with the Ministry of Agriculture and donor agencies for nationwide agricultural programs. Examples: <ul style="list-style-type: none"> <i>Nepal Agriculture Cooperative Central Federation Ltd. (NACCFL)</i> – The umbrella organization for agricultural cooperatives. <i>National Cooperative Federation of Nepal (NCFN)</i> – Supports policy development and large-scale cooperative projects. <p>B. Provincial Level</p> <ul style="list-style-type: none"> Provincial federations coordinate regional agricultural programs and provide cooperative training. Collaborate with provincial governments for subsidies and market linkages. Examples: <ul style="list-style-type: none"> <i>Provincial Cooperative Federations</i> (e.g., Gandaki Province Agricultural Cooperative Federation). <p>C. District Level</p> <ul style="list-style-type: none"> District-level cooperative unions provide localized training, credit facilities, and extension support. Examples: <ul style="list-style-type: none"> <i>District Dairy Cooperative Unions</i> – Facilitate milk collection, processing, and marketing. <i>District-Level Multipurpose Cooperatives</i> – Offer diverse agricultural services. <p>D. Village / Field Level</p>

	<ul style="list-style-type: none"> - Efforts in delivery of extension services at the Federal / Provincial/ District/Field levels 	<ul style="list-style-type: none"> Grassroots cooperatives provide direct benefits to farmers, such as collective bargaining, input supply, and knowledge sharing. Examples: <ul style="list-style-type: none"> <i>Vegetable Cooperatives in Kavrepalanchok</i> – Improve market access for smallholder farmers. <i>Dairy Cooperatives in Chitwan</i> – Enhance milk production and quality control. <p>2. Efforts in Delivery of Extension Services</p> <p>A. Federal Level</p> <ul style="list-style-type: none"> Policy advocacy for cooperative-friendly laws and extension service funding. Partnerships with government and international organizations for technical assistance. Example: NACCFL works with ADB and the World Bank on rural enterprise development. <p>B. Provincial Level</p> <ul style="list-style-type: none"> Training programs for cooperative leaders on financial management, value chain development, and climate-smart agriculture. Example: <i>Gandaki Province Cooperative Federation</i> promotes agro-tourism-based cooperatives. <p>C. District Level</p> <ul style="list-style-type: none"> Conduct farmer training, provide credit facilities, and facilitate agro-input supply. Example: <i>Chitwan Dairy Cooperative Union</i> trains farmers on cattle breeding and fodder management. <p>D. Field Level</p> <ul style="list-style-type: none"> Farmer-to-farmer knowledge sharing, on-field demonstrations, and local market facilitation. Example: <i>Vegetable Cooperatives in Jhapa</i> help members adopt modern farming techniques.
III	<u>FARM RESEARCH SET UP & THEIR BACK UP TO EXTENSION</u>	<p>Agricultural research institutions in Nepal play a critical role in developing new technologies, improving farming practices, and supporting extension services. These institutions operate at different levels, including federal, provincial, and district levels, ensuring the dissemination of research-based knowledge to farmers.</p> <p>3.1. Federal Research Institutes and Their Extension</p>

3.1	<p>- Details of Federal Research Institutes and their extension operations</p>	<p>Operations</p> <p>At the national level, Nepal's agricultural research is primarily conducted by the Nepal Agricultural Research Council (NARC) under the Ministry of Agriculture and Livestock Development (MoALD).</p> <p>A. Key Federal Research Institutes under NARC:</p> <ol style="list-style-type: none"> 1. National Agricultural Research Institute (NARI) – Conducts research on crops, horticulture, and natural resource management. 2. National Animal Science Research Institute (NASRI) – Focuses on livestock breeding, nutrition, and disease management. 3. National Fisheries Research Center (NFRC) – Works on aquaculture and fisheries development. 4. National Horticulture Research Center (NHRC) – Develops improved varieties and management practices for fruits and vegetables. <p>B. Extension Support by NARC:</p> <ul style="list-style-type: none"> • Develops new crop varieties and livestock breeds for farmers. • Conducts field demonstrations, trials, and training sessions. • Collaborates with extension departments and private organizations to promote research findings. • Works with Krishi Gyan Kendra (Agricultural Knowledge Centers, formerly DADOs) for field-level extension activities.
3.2	<p>- Regional(e.g. ATARI-India) /District (e.g. KVK – India) level set up and their programmes</p>	<p>3.2. Provincial and District-Level Agricultural Research & Extension Setups</p> <p>A. Agricultural Research Stations (ARS)</p> <ul style="list-style-type: none"> • Operate under NARC in different agro-ecological regions. • Conduct location-specific research on crops, livestock, and climate adaptation. • Key PARS: <ul style="list-style-type: none"> ○ PARS Khajura (Terai region) – Focuses on rice, wheat, and maize research. ○ PARS Lumle (Mid-hills) – Specializes in horticulture and agroforestry. ○ PARS Pakhribas (Eastern hills) – Works on citrus and livestock breeding. <p>B. District-Level Agricultural Research and</p>

3.3	- Provincial Agricultural Universities/Institutes and the details of their extension operations	<p>Extension</p> <ul style="list-style-type: none"> • Krishi Gyan Kendra (KGK) (Agricultural Knowledge Centers) – Formerly District Agriculture Development Offices (DADOs), they coordinate research-extension linkages. • Veterinary Hospital and Livestock Service Centers– Provide veterinary services and animal husbandry training. <p>Programs at the District Level:</p> <ul style="list-style-type: none"> • On-farm trials and demonstrations. • Farmer training and field days. • Climate-smart agriculture promotion. • Soil health and Integrated Pest Management (IPM) training. <p>The Nepal's KGKs systems operate at the grassroots level and share goals of transferring technology and improving farmer capacity.</p> <p>3.3. Agricultural Universities & Institutes and Their Extension Operations</p> <p>With Nepal's federal structure, Provincial Agricultural Universities and Institutes are gaining importance in research and extension.</p> <p>A. Key Agricultural Universities & Institutes in Nepal</p> <ol style="list-style-type: none"> 1. Agriculture and Forestry University (AFU), Chitwan <ul style="list-style-type: none"> ○ Leads research in crop science, soil science, and agribusiness. ○ Operates on-campus farmer training programs. 2. Far Western University, Agriculture Faculty (Sudurpaschim Province) <ul style="list-style-type: none"> ○ Conducts research on climate-resilient farming practices. ○ Supports local extension officers in technology transfer. 3. Tribhuvan University, Institute of Agriculture and Animal Science (IAAS) <ul style="list-style-type: none"> ○ Works on animal husbandry, agronomy, and post-harvest technology. ○ Runs community outreach programs for rural farmers. 4. Madhesh Province Agricultural University (Proposed) <ul style="list-style-type: none"> ○ Expected to focus on commercial farming
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		<p>and agribusiness training.</p> <p>B. Extension Operations by Provincial Agricultural Universities:</p> <ul style="list-style-type: none"> • Conduct Farmer Field Schools (FFS) in collaboration with local governments. • Develop mobile apps and digital advisory services for farmers. • Organize training for extension officers and lead farmers. <p>To ensure two-way knowledge flow, district-level institutions like KGKs provide feedback to universities through regular meetings, field monitoring reports, and participatory review workshops. These feedback loops help universities fine-tune their research priorities and extension strategies. Universities often follow up by adapting curricula, organizing targeted training, or initiating field-based action research.</p>
3.4	- Linkages of Provincial Agricultural Universities to the extension programmes	<p>3.4. Linkages of Provincial Agricultural Universities to Extension Programmes</p> <p>A. Collaboration with Extension Services</p> <ul style="list-style-type: none"> • Universities work with Krishi Gyan Kendra (KGKs) for on-field trials. • Faculty members provide expert guidance to provincial extension officers. • Students and researchers engage in rural internships to support farmers. <p>B. Partnership with NGOs and Private Sectors</p> <ul style="list-style-type: none"> • Partner with iDE Nepal, LI-BIRD, and CEAPRED for market-led extension. • Provide research-based training materials for farmer cooperatives.
3.5	- HRD interventions operated by the Provincial Agricultural Universities	<p>3.5. HRD (Human Resource Development) Interventions by Provincial Agricultural Universities</p> <p>A. Training & Capacity Building</p> <ul style="list-style-type: none"> • Universities conduct short-term courses for extension officers and lead farmers. • Special training on organic farming, precision agriculture, and agripreneurship. • Collaborate with the government for Master Trainers (TOT) programs.

		<p>B. Digital & E-Learning Initiatives</p> <ul style="list-style-type: none"> • Development of farmer-friendly mobile applications for advisory services. • Online certification programs for rural youth in agribusiness. <p>C. Internship & Practical Learning for Students</p> <ul style="list-style-type: none"> • Internship programs with government and private extension agencies. • Research-based field projects with local cooperatives and agri-entrepreneurs.
<p>IV.</p> <p>4.1</p>	<p><u>EXTENSION MODELS IN OPERATION</u></p> <p><u>PUBLIC SECTOR</u></p> <p>- Details of Farm Extension Models, performance, constraints, etc.</p>	<p>Nepal's agricultural extension system is primarily led by the public sector, which delivers services through various models. These models aim to improve farmer productivity, enhance technology adoption, and support rural livelihoods. However, they face challenges related to funding, outreach, and sustainability.</p> <p>1. Key Farm Extension Models in Nepal</p> <p>A. Training and Visit (T&V) Model</p> <ul style="list-style-type: none"> • Introduced in Nepal during the 1980s with World Bank support. • Extension officers visit farmers on a scheduled basis, providing technical guidance. • Performance: <ul style="list-style-type: none"> ◦ Improved outreach and structured extension delivery. ◦ Increased farmer awareness of improved practices. • Constraints: <ul style="list-style-type: none"> ◦ Limited coverage due to inadequate staffing. ◦ Top-down approach with little farmer participation. <p>B. Farmer Field School (FFS) Model</p> <ul style="list-style-type: none"> • Focuses on participatory, hands-on learning in small farmer groups. • Used in Integrated Pest Management (IPM) and climate-smart agriculture projects. • Performance: <ul style="list-style-type: none"> ◦ Encourages farmer-to-farmer learning and problem-solving. ◦ Effective in pest management and sustainable farming. • Constraints: <ul style="list-style-type: none"> ◦ High operational costs.

		<ul style="list-style-type: none"> ○ Limited institutional support for scaling up. <p>C. Commodity Block Program (CBP) / Pocket Approach</p> <ul style="list-style-type: none"> • Implemented under the Prime Minister Agriculture Modernization Project (PMAMP). • Focuses on specific high-value crops (rice, maize, vegetables, dairy, etc.) in designated zones. • Performance: <ul style="list-style-type: none"> ○ Enhances productivity through cluster-based production. ○ Improves value chain integration. • Constraints: <ul style="list-style-type: none"> ○ Unequal benefits distribution among farmers. ○ Requires strong market linkages to be sustainable. <p>D. Cooperative-Based Extension Model</p> <ul style="list-style-type: none"> • Farm cooperatives provide inputs, credit, training, and market access to farmers. • Government collaborates with cooperatives for extension service delivery. • Performance: <ul style="list-style-type: none"> ○ Increases collective bargaining power. ○ Enhances access to finance and technology. • Constraints: <ul style="list-style-type: none"> ○ Weak governance and leadership in some cooperatives. ○ Limited technical expertise at the local level. <p>E. Local Government-Led Extension Model</p> <ul style="list-style-type: none"> • After federalization, municipalities and rural municipalities (Gaunpalikas) have been given extension responsibilities. • Operates through Agricultural Knowledge Centers (Krishi Gyan Kendra, KGK) at the district level. • Performance: <ul style="list-style-type: none"> ○ Brings extension services closer to farmers. ○ Local governments can prioritize region-specific needs. • Constraints: <ul style="list-style-type: none"> ○ Limited budget and technical manpower. ○ Lack of coordination with federal and provincial agencies.
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		<p>F. Integrated Rural Development Project: This approach focuses on integrated development, including agricultural extension.</p> <p>G. Farming System Research and Extension: This approach emphasizes linking research and extension activities.</p> <p>H. Community Agriculture Extension Service Center (CAESC): This model aims to improve agricultural extension services at the community level.</p> <p>I. Top Down Approaches: These involve extension agents delivering information and technologies from researchers to farmers.</p> <p>2. Performance and Constraints of Public Sector Extension Models</p> <table> <tr> <th>Model</th><th>Performance</th><th>Constraints</th></tr> <tr> <td>T&V Model</td><td>Structured approach, improved awareness</td><td>Limited manpower, lack of feedback loop</td></tr> <tr> <td>Farmer Field School (FFS)</td><td>Effective in IPM, participatory learning</td><td>Costly, small-scale impact</td></tr> <tr> <td>Commodity Block Program (CBP)</td><td>Cluster-based efficiency, value chain integration</td><td>Unequal benefits, weak market linkages</td></tr> <tr> <td>Cooperative-Based Model</td><td>Improves market access, collective support</td><td>Weak leadership, governance issues</td></tr> <tr> <td>Local Government-Led Model</td><td>Decentralized, region-specific interventions</td><td>Low funding, weak coordination</td></tr> <tr> <td>Integrated Rural Development Project</td><td>Focus on Technology Adoption, Strengthening Market Access, Promoting Sustainable Practices, Inclusive Development, Government Support and Policy Reform</td><td>Lack of Local Expertise and Capacity Unequal Access to Resources Limited Government Support and Inadequate Policies</td></tr> <tr> <td>Farming System Research and Extension</td><td>Weak Institutional Capacity, Inadequate Resources, Capacity Gaps, Poor Service Delivery, Lack of Coordination</td><td>Focuses on optimizing farming systems by integrating various components like</td></tr> </table>	Model	Performance	Constraints	T&V Model	Structured approach, improved awareness	Limited manpower, lack of feedback loop	Farmer Field School (FFS)	Effective in IPM, participatory learning	Costly, small-scale impact	Commodity Block Program (CBP)	Cluster-based efficiency, value chain integration	Unequal benefits, weak market linkages	Cooperative-Based Model	Improves market access, collective support	Weak leadership, governance issues	Local Government-Led Model	Decentralized, region-specific interventions	Low funding, weak coordination	Integrated Rural Development Project	Focus on Technology Adoption, Strengthening Market Access, Promoting Sustainable Practices, Inclusive Development, Government Support and Policy Reform	Lack of Local Expertise and Capacity Unequal Access to Resources Limited Government Support and Inadequate Policies	Farming System Research and Extension	Weak Institutional Capacity, Inadequate Resources, Capacity Gaps, Poor Service Delivery, Lack of Coordination	Focuses on optimizing farming systems by integrating various components like
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4.2	<p><u>PRIVATE SECTOR</u></p> <ul style="list-style-type: none"> - Details of Farm Extension Models, performance, constraints, etc. 	<p>The private sector plays a growing role in agricultural extension services in Nepal, complementing public sector efforts by offering market-driven solutions, technology dissemination, and farmer capacity building. Private extension models focus on improving input supply, training, and market linkages through innovative partnerships.</p> <p>1. Private Sector Extension Models in Nepal</p> <p>A. Agro-Input Dealer-Led Model</p> <ul style="list-style-type: none"> • Agricultural input companies provide advisory services to farmers along with seeds, fertilizers, pesticides, and machinery. • Example: Agro-vets (agro-input retailers) offer technical advice on crop management. • Performance: <ul style="list-style-type: none"> ○ Easily accessible to farmers. ○ Encourages adoption of improved inputs. • Constraints: <ul style="list-style-type: none"> ○ Biased towards input sales rather than holistic farming solutions. ○ Limited focus on sustainability and organic practices. <p>B. Contract Farming Model</p> <ul style="list-style-type: none"> • Agribusiness companies engage farmers in 									

		<p>contract farming by providing inputs, training, and market guarantees.</p> <ul style="list-style-type: none"> • Example: CEAPRED has facilitated contract farming in vegetable and spice production. • Performance: <ul style="list-style-type: none"> ○ Ensures market access and price stability. ○ Reduces risk for smallholder farmers. • Constraints: <ul style="list-style-type: none"> ○ Risk of exploitation if contracts are unfair. ○ Dependence on private firms for input supply and pricing. <p>C. Agri-Business Incubator Model</p> <ul style="list-style-type: none"> • Private organizations and donor-backed initiatives support agripreneurs and start-ups through incubation centers. • Example: Nepal Agribusiness Innovation Center (NABIC) supports agri-startups with funding, training, and mentorship. • Performance: <ul style="list-style-type: none"> ○ Encourages youth engagement in agribusiness. ○ Promotes innovation and commercialization. • Constraints: <ul style="list-style-type: none"> ○ Limited financial support for scaling up. ○ Regulatory barriers for start-ups. <p>D. ICT-Based Extension Model</p> <ul style="list-style-type: none"> • Private companies and NGOs develop mobile-based advisory services for farmers. • Example: Smart Krishi App provides weather updates, pest management tips, and market prices. • Performance: <ul style="list-style-type: none"> ○ Cost-effective and scalable. ○ Reaches remote farmers efficiently. • Constraints: <ul style="list-style-type: none"> ○ Low smartphone penetration in rural areas. ○ Limited digital literacy among older farmers. <p>E. Private Advisory and Consultancy Services</p> <ul style="list-style-type: none"> • Agribusiness firms and private consultants offer specialized training and farm management advice. • Example: iDE Nepal promotes commercial vegetable farming through advisory services. • Performance: <ul style="list-style-type: none"> ○ Provides expert-driven solutions for high-
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4.2.1	<p><u>Private Sector Extension Interventions /Programmes</u></p> <ul style="list-style-type: none"> - Brief details for agri extension programmes focused on <p>(i) Farm entrepreneurs,</p> <p>(ii) Start-ups,</p> <p>(iii)Partnerships and</p> <p>(iv) Promoted by the private sector at various levels</p>	<ul style="list-style-type: none"> value farming. <ul style="list-style-type: none"> Enhances productivity and profitability. • Constraints: <ul style="list-style-type: none"> Expensive for smallholder farmers. Limited reach beyond commercial farms. <p>2. Private Sector Extension Interventions/Programs</p> <p>(i) Programs for Farm Entrepreneurs</p> <ul style="list-style-type: none"> • Nepal Agribusiness Innovation Center (NABIC) – Supports agri-entrepreneurs through incubation and business development. • USAID’s Nepal Seed and Fertilizer Project (NSAF) – Trains seed entrepreneurs and promotes high-quality inputs. <p>(ii) Start-Up Support Programs</p> <ul style="list-style-type: none"> • Startup Nepal Agri-Fintech Challenge – Supports early-stage agri-tech companies. • World Bank’s Youth Agri-entrepreneurship Program – Provides grants for youth-led agribusiness ventures. <p>(iii) Public-Private Partnerships (PPPs)</p> <ul style="list-style-type: none"> • Prime Minister Agriculture Modernization Project (PMAMP) collaborates with private firms for input supply and mechanization. • Multi-Stakeholder Forestry Program (MSFP) links farmer groups with private forestry companies. <p>(iv) Private Sector Promoted Initiatives</p> <ul style="list-style-type: none"> • Golyan Agro (Private Company) – Develops integrated dairy and poultry farms with modern technology. • Himalayan Bio Trade (HBTL) – Supports medicinal plant value chains with farmer training. • Dabur Nepal – Engages farmers in contract farming of medicinal and aromatic plants. <p>(v) Nepal Farmers Advisory Council Pvt. Ltd - Nepal Farmers Advisory Council (NFAC) is multi-disciplinary consulting firm in Nepal, registered with the objectives of one stop solutions to agro-enterprises and advisory services to small, medium and large-scale enterprises. NFAC serves community/organization /institutions with vision to promote Agriculture Development, and Commercialization. “Inspire, motivate, encourage and</p>
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		<p>promote farmers to achieve sustainable goal and prosperity of the country”</p> <p>(vi) Muktinath Krishi Company Ltd (MKCL) - Muktinath Krishi Company Limited (an associate company of Muktinath Bikash Bank) is Nepal’s pioneer publicly listed agricultural company with an objective to establish an agricultural ecosystem through Institutional Value Chain management, to improve Nepal’s agricultural economy. MKCL aims to foster sustainable development in the agricultural economy.</p>
<p>V</p> <p>5.1</p>	<p><u>EXTENSION FOR FARM WOMEN AND FARM YOUTH</u></p> <p>- Brief details for agri extension programmes for farm women and farm youth funded by the Centre</p>	<p>Agricultural extension programs targeting farm women and farm youth in Nepal aim to enhance their participation in agriculture, improve livelihoods, and promote agri-entrepreneurship. These programs are funded by the federal government (Centre), provincial agencies, and development partners/NGOs.</p> <p>1. Agri Extension Programs for Farm Women and Farm Youth Funded by the Centre</p> <p>A. Women-Friendly Agriculture Program</p> <ul style="list-style-type: none"> • Launched by the Ministry of Agriculture and Livestock Development (MoALD). • Focuses on capacity building, credit access, and mechanization for women farmers. • Provides subsidies on women-friendly farm tools. • Impact: <ul style="list-style-type: none"> ○ Increased female participation in commercial farming (30% rise in women-led agri-enterprises). ○ Reduced labor burden through mechanization adoption (40% time savings in weeding/planting). • Constraints: <ul style="list-style-type: none"> ○ Limited outreach in remote hill/mountain regions. ○ Slow subsidy disbursement due to bureaucratic delays. <p>B. Youth Agri- entrepreneurship Program</p> <ul style="list-style-type: none"> • Led by PMAMP (Prime Minister Agriculture Modernization Project). • Supports youth-led agri-businesses through training, funding, and incubation. • Impact: <ul style="list-style-type: none"> ○ 5,000+ youth agri-entrepreneurs trained (25% running successful ventures). ○ Reduced urban migration in participating districts (e.g., Chitwan, Kavre). • Constraints:

5.2	<p>- Brief details for agri extension programmes for farm women and farm youth funded by the Provincial agencies</p>	<ul style="list-style-type: none"> ○ High dropout rates due to limited post-training support. ○ Gender disparity (only 20% female participation). <p>C. Small Farmer Development Program (SFDP)</p> <ul style="list-style-type: none"> • Run by Agricultural Development Bank (ADB/N). • Offers micro-credit, training, and cooperative support to farm women and youth. • Impact: <ul style="list-style-type: none"> ○ 40% of beneficiaries are women (improved household incomes). ○ Strengthened 200+ smallholder cooperatives. • Constraints: <ul style="list-style-type: none"> ○ Collateral requirements exclude landless farmers. ○ Limited financial literacy hampers loan utilization. <p>2. Agri Extension Programs for Farm Women and Farm Youth Funded by Provincial Agencies</p> <p>A. Provincial Agriculture and Livestock Development Programs</p> <ul style="list-style-type: none"> • Each province runs targeted agriculture training and subsidy programs. • Example: Bagmati and Gandaki Provinces provide grants for women and youth-led agribusinesses. • Impact: <ul style="list-style-type: none"> ○ 1,200+ ventures supported (e.g., Madhesh's women-led vegetable cooperatives). ○ Increased province-specific crop diversification (e.g., coffee in Gandaki). • Constraints: <ul style="list-style-type: none"> ○ Political influence in beneficiary selection. ○ Delayed fund release due to administrative bottlenecks. <p>B. Women Entrepreneurship Support Programs</p> <ul style="list-style-type: none"> • Some provinces provide direct grants and skill development for women farmers. • Example: Province 2 (Madhesh Province) supports women-led vegetable farming initiatives. • Impact: <ul style="list-style-type: none"> ○ 35% income increase among participating women. ○ Improved household nutrition via kitchen gardens.
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5.3	<p>- Brief details for agri extension programmes for farm women and farm youth funded by Other sources</p>	<ul style="list-style-type: none"> • Constraints: <ul style="list-style-type: none"> ○ Social barriers limit women's mobility for training. ○ Weak market access for surplus produce. <p>C. Youth Agro Start-Up Grants</p> <ul style="list-style-type: none"> • Some provinces provide seed funding for youth agribusiness ideas. • Example: Lumbini Province supports youth-run poultry, dairy, and cash crop farms. • Impact: <ul style="list-style-type: none"> ○ Reduces rural unemployment. ○ Encourages sustainable farming practices. <p>3. Agri Extension Programs for Farm Women and Farm Youth Funded by Other Sources</p> <p>A. USAID's Feed the Future Program</p> <ul style="list-style-type: none"> • Focuses on nutrition-sensitive agriculture for women. • Offers climate-smart farming training to rural youth. • Impact: <ul style="list-style-type: none"> ○ 50% yield increase in climate-vulnerable areas (e.g., Far-West Nepal). ○ Improved child nutrition in participant households. • Constraints: <ul style="list-style-type: none"> ○ Short project cycles limit sustainability. <p>B. Heifer International Nepal</p> <ul style="list-style-type: none"> • Supports women-led dairy cooperatives and livestock-based enterprises. • Provides training in financial literacy, value addition, and cooperative leadership. • Impact: <ul style="list-style-type: none"> ○ 60% income rise for women in dairy cooperatives. ○ Enhanced gender equity in decision-making. • Constraints: <ul style="list-style-type: none"> ○ High initial investment limits scalability. <p>C. IDE Nepal's Youth and Women Agripreneurship Program</p> <ul style="list-style-type: none"> • Trains rural youth and women in high-value farming (vegetables, spices, and medicinal
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		<p>plants).</p> <ul style="list-style-type: none">• Connects them to markets and financing options.• Impact:<ul style="list-style-type: none">○ Encourages value chain participation.○ Improves rural employment rates.• Constraints:<ul style="list-style-type: none">○ Price volatility affects profitability. <p>Summary: Performance and Constraints</p> <table><tr><th>Funding Source</th><th>Programs</th><th>Impact</th><th>Constraints</th></tr><tr><td>Federal Government (MoALD, PMAMP, ADB/N)</td><td>Women-Friendly Agri Program, Youth Agripreneurship, SFDP</td><td>Increased participation, credit access</td><td>Limited outreach, bureaucratic delays</td></tr><tr><td>Provincial Agencies</td><td>Provincial agribusiness grants, women/youth training programs</td><td>Region-specific support, targeted funding</td><td>Unequal allocation, dependency on politics</td></tr><tr><td>Other Sources (USAID, Heifer, IDE, NGOs)</td><td>Feed the Future, Dairy Cooperatives, High-Value Crops</td><td>Skills development, market linkages</td><td>Project-based, sustainability issues</td></tr></table>	Funding Source	Programs	Impact	Constraints	Federal Government (MoALD, PMAMP, ADB/N)	Women-Friendly Agri Program, Youth Agripreneurship, SFDP	Increased participation, credit access	Limited outreach, bureaucratic delays	Provincial Agencies	Provincial agribusiness grants, women/youth training programs	Region-specific support, targeted funding	Unequal allocation, dependency on politics	Other Sources (USAID, Heifer, IDE, NGOs)	Feed the Future, Dairy Cooperatives, High-Value Crops	Skills development, market linkages	Project-based, sustainability issues
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VI.	<p><u>MEDIA SUPPORT TO AGRI EXTENSION</u></p> <p>- Extent of use of print media, fairs and exhibitions, radio and television (public and private), community radio</p>	<p>The media plays a crucial role in agricultural extension in Nepal by disseminating knowledge, promoting best practices, and providing real-time market and weather information. Various platforms, including print media, radio, television, and digital tools, are used to reach farmers.</p> <p>1. Extent of Media Use in Agricultural Extension</p> <p>A. Print Media (Newspapers, Magazines, Pamphlets)</p> <ul style="list-style-type: none">• Newspapers: Agricultural news, research findings, and success stories are published in Gorkhapatra, Kantipur, Nagarik, and Annapurna Post.• Magazines: Dedicated agri-journals like Krishi Diary (MoALD), Krishak Monthly (NARC), and Nepal Krishi Patrika provide technical content.• Pamphlets & Brochures: Used by MoALD, NGOs, and cooperatives to share farming techniques, pest control methods, and policy updates.• Impact:<ul style="list-style-type: none">○ Useful for literate farmers and																

		<p> <ul style="list-style-type: none"> ○ policymakers. ○ Limited reach to remote areas with low literacy. </p> <p>B. Fairs & Exhibitions</p> <ul style="list-style-type: none"> • Organized by PMAMP, NARC, Commodity asocation, Raithane Bali, agro-industries, and NGOs to showcase innovations and market linkages. • Examples: National Agricultural Exhibition, Agro Tech Nepal, Local Haat Bazaars. • Impact: <ul style="list-style-type: none"> ○ Promotes farmer-to-market connections. ○ Encourages technology adoption (e.g., mechanization, improved seeds). <p>C. Radio and Television (Public & Private)</p> <ul style="list-style-type: none"> • Public Radio (Radio Nepal): Runs programs like Krishi Karyakram (Agriculture Program) providing expert advice. • Private FM Stations: Over 500 community radios (e.g., Radio Sagarmatha, Ujyalo FM) broadcast localized agricultural content. • Television Programs: <ul style="list-style-type: none"> ○ Nepal Television (NTV) airs Krishi Sanchar and farm-related talk shows. ○ AP1 TV, Kantipur TV, Hamro Kishan TV, TV Today and Himalaya TV feature agribusiness and market trends. • Impact: <ul style="list-style-type: none"> ○ High accessibility in rural areas. ○ Effective for illiterate and remote farmers. ○ Limited interactive engagement compared to digital platforms. <p>D. Community Radio (Local Agri Advisory Broadcasts)</p> <ul style="list-style-type: none"> • Over 100+ community radio stations broadcast region-specific agricultural programs. • Example: Radio Kisan Nepal focuses on smallholder farmers' needs. • Impact: <ul style="list-style-type: none"> ○ Provides weather updates, pest control tips, and market prices. ○ Strengthens two-way farmer interaction through call-in programs. <p>E. Digital & ICT/AI-Based Media</p>
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	<p>- Efforts made in developing and delivering contents, treatment and impact assessment.</p>	<ul style="list-style-type: none"> • Mobile SMS & IVR Services: Krishi Call Centers, Smart Krishi App, and Nepal Telecom's Agro Advisory SMS Service. • Social Media & YouTube: Agri-influencers, government agencies, and private firms use Facebook, TikTok, and YouTube to train farmers. • Impact: <ul style="list-style-type: none"> ○ Fastest-growing extension tool among youth and educated farmers. ○ Connectivity issues in remote areas. <p>2. Efforts in Content Development & Delivery</p> <p>A. Development of Agri-Content</p> <ul style="list-style-type: none"> • MoALD, NARC, and Universities develop extension materials. • Radio & TV collaborations with extension experts for interactive sessions. • NGOs & Private Companies create videos, articles, and mobile-friendly content. <p>B. Delivery Approaches</p> <ul style="list-style-type: none"> • Hybrid models (radio + SMS alerts + social media) for wider reach. • Localization of content (broadcasting in Maithili, Bhojpuri, Tharu, Tamang, and other languages). <p>E. Impact Assessment & Challenges</p> <table border="1"> <thead> <tr> <th>Media Type</th><th>Effectiveness</th><th>Challenges</th></tr> </thead> <tbody> <tr> <td>Print Media</td><td>Informative, archived knowledge</td><td>Low rural literacy, distribution issues</td></tr> <tr> <td>Fairs & Exhibitions</td><td>Hands-on learning, market linkages</td><td>Limited to major cities, seasonal</td></tr> <tr> <td>Radio & Community Radio</td><td>Wide reach, real-time advisory</td><td>One-way communication, funding issues</td></tr> <tr> <td>Television</td><td>Engaging, mass appeal</td><td>Production costs, access in remote areas</td></tr> <tr> <td>Digital & ICT/AI</td><td>Interactive, scalable, fast-growing</td><td>Internet access gaps, digital literacy, digital</td></tr> </tbody> </table>	Media Type	Effectiveness	Challenges	Print Media	Informative, archived knowledge	Low rural literacy, distribution issues	Fairs & Exhibitions	Hands-on learning, market linkages	Limited to major cities, seasonal	Radio & Community Radio	Wide reach, real-time advisory	One-way communication, funding issues	Television	Engaging, mass appeal	Production costs, access in remote areas	Digital & ICT/AI	Interactive, scalable, fast-growing	Internet access gaps, digital literacy, digital
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				divide
VII.	<p><u>ICT APPLICATION INNOVATIONS IN EXTENSION THROUGH PUBLIC AND PRIVATE SECTOR</u></p>	<p>The use of Information and Communication Technology (ICT) in agricultural extension is rapidly growing in Nepal, bridging the knowledge gap between farmers, researchers, and extension workers. Both the public and private sectors have introduced various digital tools to improve agricultural productivity and market access.</p>		
7.1	<p>- Major ICT Application initiatives in agriculture & allied sector like Websites and Portals, Emails, Video Texts, You tube channels, Phone in Programme, Community Call Centres, Video Conferencing/ Webcasting, Mobile apps, etc.</p>	<p>1. Major ICT Applications in Agriculture & Allied Sectors</p> <p>A. Websites and Portals</p> <ul style="list-style-type: none"> • MoALD (Ministry of Agriculture and Livestock Development): www.moald.gov.np – Provides policy updates, schemes, and advisory services. • Nepal Agricultural Research Council (NARC): www.narc.gov.np – Offers research publications, pest control techniques, and new seed varieties. • Prime Minister Agriculture Modernization Project (PMAMP): www.pmamp.gov.np – Shares cluster-based farming techniques and financial support programs. <p>B. Email and SMS Advisory Services</p> <ul style="list-style-type: none"> • Nepal Telecom's Agro SMS Alerts: Provides farmers with weather updates, pest warnings, and market prices. • Agriculture Call Centers/toll free services: Farmers can email or call for expert advice. <p>C. Video Texts & YouTube Channels</p> <ul style="list-style-type: none"> • Popular YouTube Channels for Farmers: <ul style="list-style-type: none"> ◦ Smart Krishi Nepal (Techniques on organic farming, pest control, and agribusiness). ◦ Agri Nepal (Success stories of progressive farmers and agripreneurs). ◦ Kisan Ko Kura (Livestock, poultry, and high-value crops guidance). <p>D. Phone-In Programs & Community Call Centers</p> <ul style="list-style-type: none"> • Krishi Karyakram (Agriculture Program) – Radio Nepal: Farmers call in for real-time expert guidance. • Community FM Stations: Over 500 local FM stations broadcast agriculture advisory. • Community Call Centers: Initiatives by MoALD 		

7.2	- Use of social media in extension (facebook, whatsApp, Instagram, Twitter, Pinterest, LinkedIn, etc.)	and NGOs provide toll-free farmer advisory services.														
		E. Video Conferencing & Webcasting														
		<ul style="list-style-type: none">• Virtual Training Sessions: Conducted by agriculture universities, NGOs, and private firms for extension officers and farmers.• Live Webinars: Hosted by NARC and MoALD on disease control, improved seeds, and climate-smart farming.														
		F. Mobile Apps for Farmers														
		App Name	Features	Provider	Smart Krishi	Weather, market prices, pest control tips	Private	Kisan Call Centre	Expert consultation via phone	MoALD	ICIMOD Geospatial Portal	Climate-smart agriculture advisory	ICIMOD	Agri Nepal App	Crop & livestock disease management	Private
		App Name	Features	Provider												
		Smart Krishi	Weather, market prices, pest control tips	Private												
		Kisan Call Centre	Expert consultation via phone	MoALD												
		ICIMOD Geospatial Portal	Climate-smart agriculture advisory	ICIMOD												
		Agri Nepal App	Crop & livestock disease management	Private												
2. Use of Social Media in Agricultural Extension																
Platform	Usage in Agriculture Extension	Facebook	Farmer groups, training sessions, government updates (e.g., Smart Krishi Nepal, Nepal Farmers Group)	WhatsApp	Agribusiness networking, farmer advisory groups, training alerts	Instagram	Promotion of organic farming, agripreneurship success stories	Twitter (X)	Policy discussions, agriculture news, research updates	Pinterest	Infographics on farming techniques, DIY organic fertilizers					
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7.3	<ul style="list-style-type: none">List of important web links of Extension Service Providers at different levels	<div>LinkedIn</div> <div>Professional networking for agronomists, extension experts, and agri-startups</div>																
<div>3. List of Important Web Links for Extension Service Providers</div> <table><thead><tr><th>Institution</th><th>Website</th></tr></thead><tbody><tr><td>Ministry of Agriculture and Livestock Development (MoALD)</td><td>www.moald.gov.np</td></tr><tr><td>Nepal Agricultural Research Council (NARC)</td><td>www.narc.gov.np</td></tr><tr><td>Prime Minister Agriculture Modernization Project (PMAMP)</td><td>www.pmamp.gov.np</td></tr><tr><td>Agricultural Development Bank (ADB/N)</td><td>www.adbl.gov.np</td></tr><tr><td>ICIMOD (Climate-Smart Agriculture)</td><td>www.icimod.org</td></tr><tr><td>Smart Krishi (Digital Agri-Advisory)</td><td>www.smartkrishi.com</td></tr></tbody></table>			Institution	Website	Ministry of Agriculture and Livestock Development (MoALD)	www.moald.gov.np	Nepal Agricultural Research Council (NARC)	www.narc.gov.np	Prime Minister Agriculture Modernization Project (PMAMP)	www.pmamp.gov.np	Agricultural Development Bank (ADB/N)	www.adbl.gov.np	ICIMOD (Climate-Smart Agriculture)	www.icimod.org	Smart Krishi (Digital Agri-Advisory)	www.smartkrishi.com		
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VIII.	<div><u>LISTING OF INNOVATIONS/SUCCESS STORIES AND SCOPE FOR CROSS LEARNING</u></div>	<div>Nepal has witnessed significant innovations in agricultural extension through various public, private, and NGO-led initiatives. These innovations have improved farmers' access to knowledge, technology, and markets. Below is a compilation of key innovations, success stories, and opportunities for cross-learning within Nepal and internationally.</div> <div>1. Listing of Extension Innovations across Sectors & Various Levels</div> <table><thead><tr><th>Innovation</th><th>Sector</th><th>Implementing Agency</th><th>Impact</th></tr></thead><tbody><tr><td>PMAMP (Prime Minister Agriculture Modernization Project)</td><td>Crop & Livestock</td><td>Government (MoALD)</td><td>Boosted commercial farming and mechanization</td></tr><tr><td>Kisan Call Centers</td><td>Agri-Advisory</td><td>MoALD & NARC</td><td>Provided instant expert guidance to farmers</td></tr><tr><td>Smart Krishi App</td><td>ICT & Digital Extension</td><td>Private</td><td>Increased mobile-based farmer learning & networking</td></tr></tbody></table>	Innovation	Sector	Implementing Agency	Impact	PMAMP (Prime Minister Agriculture Modernization Project)	Crop & Livestock	Government (MoALD)	Boosted commercial farming and mechanization	Kisan Call Centers	Agri-Advisory	MoALD & NARC	Provided instant expert guidance to farmers	Smart Krishi App	ICT & Digital Extension	Private	Increased mobile-based farmer learning & networking
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8.1	<ul style="list-style-type: none">Listing of extension innovations across sectors and various levels with perceptible impact.																	

8.2	- Listing of Success Stories across the sectors	Agri-Insurance & Weather Index-based Insurance	Risk Management	Government & Private Banks	Helped farmers mitigate climate risks
		Agricultural Cooperatives-led Market Linkages	Value Chain	Cooperative Networks	Strengthened farmer-to-market access
		Agri-Entrepreneurship Support (Startup Nepal, Youth Agri-Funds)	Youth & Startups	MoALD & Private Sector	Increased youth engagement in agribusiness
		Community Seed Banks	Seed Security	NGOs & Farmer Groups	Preserved local crop varieties & improved seed access
		Farmer Field Schools (FFS)	Capacity Building	FAO, NGOs	Enhanced farmer-to-farmer learning & technology adoption
		2. Listing of Success Stories across Sectors			
		Sector	Success Stories	Key Achievements	
		A. Public Sector-Led Success Stories			
			PMAMP's Superzone Model (Jhapa, Kailali, Bara)	Increased large-scale production of crops like rice, maize, and vegetables through mechanization.	
			Community Seed Banks (Kavre, Sindhupalchok, Jumla)	Successfully revived indigenous seed varieties and reduced dependency on imported seeds.	
	Climate-Smart Villages (Rukum, Bardia)	Implemented sustainable farming techniques like drip irrigation, biogas, and agroforestry.			

8.3	- Scope for cross learning on Extension innovations with other Provincial agencies	Lamjung)	
		PACT project supported by World Bank	Supported mass-level agricultural commercialization, agri-business, incubation centers, and innovation in agriculture.
		B. Private Sector-Led Success Stories	
		Kisan Agro Farm (Chitwan)	A small farmer adopted hydroponics and precision farming, becoming a model entrepreneur.
		Agri-Tech Startups (Mero Agro, Krishi Guru, ICT4Ag Nepal)	Providing digital advisory, e-commerce, and smart farming solutions.
		Honey Production & Export (Dang, Mustang, Myagdi)	Successful branding and export of organic honey, benefiting thousands of beekeepers.
		C. NGO-Led Success Stories	
		Smallholder Farmer Market Linkages (CARE Nepal & Helvetas)	Supported farmer collectives in marketing high-value crops.
		Empowering Women Farmers (LI-BIRD, IFAD)	Trained thousands of women in dairy farming, seed production, and agribusiness.
		Sustainable Coffee Farming (Nuwakot, Ilam, Gulmi)	Increased Nepal's organic coffee production and export potential.
		3. Scope for Cross-Learning with Other Provincial Agencies	

8.4	- Scope for cross learning on Extension innovations with other Partner Countries	Cross-Learning Area	Leading Provinces	Best Practices	Potential Beneficiary Provinces
		Provincial Exchange Programs	Bagmati, Gandaki	Organic farming models	Sudurpashchim, Karnali (can share climate-resilient farming techniques in return)
		Strengthening Agri-Entrepreneur Networks	Province 1	Agri-startup initiatives & youth-led agribusiness models	All provinces (especially those with high youth unemployment)
		Scaling Digital & ICT-Based Extension	Lumbini, Madhesh	Use of community radio & SMS alerts for agricultural extension	Nationwide replication
		Cooperative-Based Extension Services	Gandaki, Lumbini	Well-established agriculture cooperatives	Sudurpashchim, Karnali (to strengthen cooperative farming)
		4. Scope for Cross-Learning with Partner Countries			
		Country	Best Practice		Learning Potential for Nepal
		India	Krishi Vigyan Kendras (KVKs)		Strengthening district-level extension systems
		Bangladesh	Farmer Field Schools (FFS)		Enhancing community-based knowledge sharing
		Thailand	Contract Farming & Agri-Cooperatives		Improving market linkages & agribusiness models
		Netherlands	Precision & Smart		Adoption of AI,

		<table border="1"> <tr> <td></td><td>Farming</td><td>IoT, and hydroponics</td></tr> <tr> <td>Kenya</td><td>Digital Agri-Advisory via S S & Apps</td><td>Expanding mobile extension for smallholder farmers</td></tr> </table> <p>Potential Areas for International Collaboration</p> <ul style="list-style-type: none"> • Technology Transfer in Smart Farming (AI, IoT, Precision Agri) from Netherlands & Israel. • Climate-Resilient Cropping techniques from Bangladesh & Kenya. • Strengthening Agri-Startup Ecosystem through partnerships with India & Thailand. • Digital Extension Platforms (e.g., Kenya's Digital Green Model) to improve ICT-based advisory. 		Farming	IoT, and hydroponics	Kenya	Digital Agri-Advisory via S S & Apps	Expanding mobile extension for smallholder farmers
	Farming	IoT, and hydroponics						
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IX.	<p><u>LESSONS FOR FUTURE EXTENSION INTERVENTIONS AND COLLABORATIONS</u></p> <p>- Specific Areas identified for strengthening farm extension services</p> <p>- Policy interventions</p>	<p>Nepal's agricultural extension system has made significant progress, but challenges remain in reaching smallholder farmers with the latest technologies, market linkages, and financial services. Future extension interventions must focus on policy improvements, innovative programs, flexible funding, private-sector engagement, ICT applications, and international collaborations to strengthen the system.</p> <p>1. Specific Areas Identified for Strengthening Farm Extension Services</p> <ul style="list-style-type: none"> • Decentralization of Extension Services – Strengthening provincial and district-level extension mechanisms. • Integration of Climate-Resilient Agriculture (CRA) – Promoting climate-smart technologies and agro-ecological practices. • Market-Oriented Advisory Services – Shifting from a production-focused approach to a market-driven extension model. • Digital & ICT-Based Extension – Expanding mobile apps, AI, machine learning, and digital platforms for real-time advisory. • Farmer-Led Extension – Strengthening Farmer Producer Organizations (FPOs), Farmer Field Schools (FFS), and cooperatives to deliver advisory services. <p>2. Policy Interventions</p> <ul style="list-style-type: none"> • Strengthening Public-Private Partnerships (PPPs) – Creating a PPP framework for private sector involvement in extension. 						

	<ul style="list-style-type: none"> • Incentives for Agri-Entrepreneurship – Policy support for youth-led startups and agri-businesses. • Integration of Extension in Provincial Agricultural Plans – Mandating extension-focused funding and strategies at the provincial level. • Data-Driven Policy Making – Establishing agricultural data centers for evidence-based decision-making. • Formalizing Digital Extension – Institutionalizing ICT-based advisory systems, including e-learning platforms and AI-powered chatbots. <p>3. Innovative Programmes</p> <ul style="list-style-type: none"> • Agri-Tech Incubation Centers – Supporting startups, AI-driven advisory, and agri-automation solutions. • Precision Farming Demonstration Centers – Promoting drones, IoT, and GIS-based agriculture. • Mobile-Based Farmer Advisory Systems – Scaling SMS alerts, IVR (Interactive Voice Response), and mobile apps. • Women & Youth-Led Agribusiness Support – Providing microfinance, training, and mentorship. • Urban & Peri-Urban Agriculture Extension – Promoting hydroponics, vertical farming, and rooftop farming. <p>4. Flexi Funding</p> <ul style="list-style-type: none"> • Outcome-Based Funding – Linking funding disbursements with measurable results. • Blended Finance Model – Combining government, donor, and private sector investments. • Farmer Credit Guarantee Schemes – Expanding access to finance for smallholder farmers. • Agriculture Innovation Challenge Funds – Financing pilot projects on AI, big data, and precision agriculture. • Decentralized Funding Mechanisms – Allocating funds to provincial and local governments for region-specific interventions. • Microfinance & Cooperative Support – Strengthening community-based financial institutions to extend credit access to smallholder farmers. <p>5. Convergence of Extension Efforts</p> <ul style="list-style-type: none"> • Integration of Government & Private Extension Services – Creating a unified platform to coordinate multiple extension actors. • Multi-Stakeholder Coordination – Enhancing collaboration among research institutes,
	<ul style="list-style-type: none"> - Innovative Programmes
	<ul style="list-style-type: none"> - Flexi Funding
	<ul style="list-style-type: none"> - Convergence of Extension Efforts

		<p>agribusinesses, and farmer groups.</p> <ul style="list-style-type: none"> • Sectoral Convergence – Aligning agricultural extension with nutrition, rural development, and environmental conservation programs. • Joint Training & Capacity Building – Organizing collaborative training programs for extension workers, researchers, and private-sector advisors. <p>6. New HRD Interventions</p> <ul style="list-style-type: none"> • Capacity Building for Extension Workers – Strengthening training in digital tools, climate-smart practices, and market advisory services. • Establishing National Extension Training Institutes – Developing specialized institutions for professional development. • Youth & Women Skill Development in Agribusiness – Introducing vocational training, internships, and leadership programs. • International Exposure & Learning Opportunities – Facilitating exchange programs and partnerships with global institutions. <p>7. PPPs in Extension</p> <ul style="list-style-type: none"> • Private-Led Extension Services – Encouraging agribusinesses to offer advisory services to contract farmers. • PPP-Driven Agri-Tech Solutions – Co-developing AI, GIS, and IoT applications for precision farming. • Corporate-Sponsored Farmer Training – Leveraging CSR (Corporate Social Responsibility) funds for farmer education. <p>8. Extension in Allied Areas</p> <ul style="list-style-type: none"> • Livestock & Fisheries Extension – Strengthening advisory services for dairy, poultry, and aquaculture. • Horticulture & Organic Farming – Promoting value-added production and export-oriented farming. • Post-Harvest & Agri-Processing Extension – Expanding support for storage, processing, and value chain development. <p>9. Extension through Private Sector</p> <ul style="list-style-type: none"> • Agri-Input Companies as Extension Agents – Encouraging input suppliers to train farmers on best practices. • Agri-Startups & Digital Advisory – Supporting mobile-based extension platforms, AI-powered crop diagnostics, and block chain traceability.
	- New HRD Interventions	
	- PPPs in Extension	
	- Extension in allied areas	
	- Extension through private sector	

	<ul style="list-style-type: none"> - Partnerships with CGIAR and other International Institutions institutes - Partnership with other countries 	<p>10. Partnerships with CGIAR & Other International Institutions</p> <ul style="list-style-type: none"> • Joint Research & Innovation – Engaging CGIAR, ICARDA, and IRRI in adaptive research for Nepal’s agro-climatic conditions. • Technical Assistance & Training – Facilitating expert consultations, farmer exchange programs, and pilot projects. <p>11. Partnership with other countries</p> <p>Knowledge Exchange and Technology Transfer</p> <ul style="list-style-type: none"> • Collaborations with countries such as India, Israel, and China have introduced modern irrigation techniques, greenhouse technologies, and integrated pest management to Nepal. • Recommendation: Institutionalize structured exchange programs for extension officers, lead farmers, and technicians to acquire adaptable practices and localized innovations. <p>Strengthening Regional Research and Innovation Platforms</p> <ul style="list-style-type: none"> • Engagement in SAARC, APSA, and ICIMOD-led initiatives has shown the value of regionally coordinated research, especially for hill and mountain agriculture. • Recommendation: Nepal should deepen partnerships with regional centers to co-create climate-resilient crop varieties and soil health technologies tailored to diverse agro-ecological zones. <p>Public-Private-Development Partnerships (PPDPs)</p> <ul style="list-style-type: none"> • Partnerships with international development agencies (e.g., USAID, JICA, IFAD) and private companies (e.g., agri-input suppliers, ICT firms) have helped pilot farmer advisory services and value-chain-based extension. • Recommendation: Scale successful PPDP models by integrating them into provincial and local government extension strategies, particularly for high-value agriculture and rural youth. <p>Leveraging Digital Extension Models</p> <ul style="list-style-type: none"> • Countries like India and Kenya provide replicable models of e-extension (e.g., digital kiosks, mobile-based advisory, AI-powered agritech platforms). • Recommendation: Co-develop digital extension platforms in partnership with regional tech
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		<p>institutions, ensuring inclusive design for women, ethnic minorities, and remote communities.</p> <p>South-South and Triangular Cooperation</p> <ul style="list-style-type: none"> • Experience-sharing with countries like Bangladesh, Sri Lanka, and Vietnam has supported institutional capacity-building, especially through training-of-trainers and curriculum harmonization. • Recommendation: Expand South-South partnerships under platforms like FAO, UNESCAP, and GIZ, focusing on livestock extension, cooperative development, and agroforestry. <p>Alignment with Global Frameworks</p> <ul style="list-style-type: none"> • Collaborations that align with the Sustainable Development Goals (SDGs) and UN Food Systems Roadmap attract higher levels of technical and financial support. <p>12. Strengthening ICT Applications in Extension Services</p> <ul style="list-style-type: none"> • AI-Driven Predictive Advisory – Developing machine-learning tools for early warning systems and precision recommendations. • Mobile-Based Extension Networks – Scaling WhatsApp groups, SMS alerts, and mobile advisory apps. • E-Learning & Farmer Knowledge Hubs – Establishing online training platforms for real-time knowledge sharing. <p>13. Application of Social Media in Extension Services</p> <ul style="list-style-type: none"> • YouTube & Facebook Live Demonstrations – Using video-based training for mass outreach. • Interactive WhatsApp & Telegram Groups – Facilitating real-time Q&A sessions with experts. • Farmer Knowledge Platforms – Encouraging peer-to-peer knowledge exchange. <p>14. Interventions through NGOs, Farmer Empowered Groups & Cooperatives</p> <ul style="list-style-type: none"> • Farmer-Led Training & Advisory – Expanding cooperative-based extension services. • Community-Led Knowledge Sharing – Strengthening Self-Help Groups (SHGs) and Farmer Field Schools (FFS).
	<ul style="list-style-type: none"> - Strengthening ICT applications in Extension services across the sectors and at various levels - Application of Social Media in Extension Services - Interventions through credible NGOs, Farmer Empowered Groups, Farm Cooperatives, etc. 	

	<p>- Funding possibilities</p> <p>(i)Current arrangements</p> <p>(ii)Future possibilities Capture and Integrate innovations listed</p>	<p>15. Funding Possibilities</p> <p>(i) Current Arrangements</p> <ul style="list-style-type: none"> • Government Allocations – Funding through federal and provincial agriculture departments. • Donor Support – Contributions from USAID, FAO, ADB, IFAD, WB, UNDP, JICA • Private Sector Investment – Agribusiness-led extension funding. <p>(ii) Future Possibilities</p> <ul style="list-style-type: none"> • Blended Financing for Extension – Combining public, private, and donor funding for sustainable impact. • Funding for Farmer Innovation – Establishing community-driven investment models. • Carbon Credits & Climate Financing – Leveraging green finance to support sustainable agriculture.
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