

**COUNTRY AGRIL. EXTENSION PROFILE (C-AEP)****1.8.2024**

NAME OF THE COUNTRY \_\_\_\_\_

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Sr. No.	PROFILE/PARAMETER	RESPONSE IN BRIEF
<b>I.</b>	<b><u>I- BASIC DETAILS OF FARMING</u></b>	<ul style="list-style-type: none"> <li>• Arable land: 664,000 acres (7 %)</li> <li>• Cultivate area: 500,000 acres</li> <li>• Mainly subsistence farming: rice, maize, wheat.</li> <li>• 62% of the population engaged in agriculture.</li> <li>• Predominantly subsistence farming using traditional methods.</li> <li>• Concentrated in central, eastern and southern regions.</li> <li>• Terraced farming mostly</li> </ul>
1.1	Cultivated Area (Million Ha)	
1.2	Farming Population (million)	
<b>II.</b>	<b><u>AGRIULTUAL EXTENSION INVENTORY – SCHEMES &amp; PROGRAMMES</u></b>	<p><b>Federal Scheme:</b></p> <ul style="list-style-type: none"> <li>• Focus on self-sufficiency, rural livelihoods, and sustainability.</li> <li>• Emphasis on organic farming; goal to become 100% organic by 2035.</li> <li>• Subsidies for organic and agriculture inputs, agricultural credit, research, and development by the research and extension centers.</li> </ul> <p><b>District Scheme:</b></p> <ul style="list-style-type: none"> <li>• Introduction of new varieties of crops which are suitable depending on the climate.</li> <li>• Focus on infrastructure building such as, building irrigation channel, roads, storage facility.</li> <li>• Farmers training on modern techniques, organic farming and pest management.</li> <li>• subsidies for organic and agriculture inputs,</li> </ul> <p><b>Extension Scheme:</b></p> <ul style="list-style-type: none"> <li>• Agricultural Extension Centers provide technical support and training to the farmers.</li> <li>• Promote best practices and address challenges like pests and climate change.</li> </ul> <p>One of the most noble initiative scheme is: the million fruit tree.</p>
2.1	Brief details of Extension Schemes and Programmes	
	- Federal Schemes	
	- Provincial Schemes	
	- Other Extension Schemes	

2.2	<p><b><u>OTHER SECTOR SPECIFIC EXTENSION PROGRAMMES/SCHEMES</u></b></p> <ul style="list-style-type: none"> <li>- Crops Sector</li> <li>- Horticulture Sector</li> <li>- Animal Husbandry and Dairying Sector</li> <li>- Fisheries</li> <li>- Other Farm Enterprises (Mushroom, Beekeeping, Sericulture, etc.)</li> <li>- Farm Credit</li> <li>- Agricultural Marketing</li> <li>- Agricultural Infrastructure (Post-harvest processing and management)</li> <li>- Agricultural Mechanization</li> </ul>	<p><b>Crop and horticulture Sector schemes:</b></p> <ul style="list-style-type: none"> <li>• Training and Capacity Building on farming techniques and best practices.</li> <li>• Introduction and distribution of High-Yielding Crop and climate – resilient crop varieties.</li> <li>• Subsidies for Agricultural Inputs</li> <li>• Irrigation Support and providing guidance on efficient water management and irrigation techniques. Eg: drip and smart irrigation</li> <li>• Training on post-harvest handling, storage, and processing of crops.</li> <li>• Pest and Disease Surveillance</li> <li>• Organic Farming Promotion</li> <li>• Facilitating access to local and regional markets for crop produce and Support in forming farmer cooperatives and marketing groups.</li> </ul> <p><b>Animal Husbandry and Dairy Sector</b></p> <ul style="list-style-type: none"> <li>• Training on animal husbandry practices, including breeding, feeding, and health management.</li> <li>• Workshops on dairy farming techniques to improve milk production and quality.</li> <li>• Programs for crossbreeding and genetic improvement of livestock for higher productivity.</li> <li>• Providing free Veterinary Services</li> <li>• Dairy Cooperative Development</li> <li>• Financial Support and Credit Access</li> <li>• Free Artificial Insemination service to improve livestock breeds</li> <li>• Extension Services and Technical Support on livestock nutrition, housing, and waste management.</li> <li>• Facilitation of market access for dairy products, including milk, cheese, and butter. And also, branding and marketing.</li> <li>• Training on improved milking techniques and hygiene practices.</li> </ul> <p><b>Fisheries</b></p> <ul style="list-style-type: none"> <li>• Promote aquaculture with technical support, fingerlings, and feed.</li> <li>• Focus on water quality, disease management, production techniques.</li> </ul> <p><b>Mushroom, Beekeeping, and Sericulture:</b></p> <ul style="list-style-type: none"> <li>• Training on cultivation, disease management, marketing.</li> <li>• Focus on oyster, shiitake mushrooms and honey production</li> </ul> <p><b>Farm Credit:</b></p> <ul style="list-style-type: none"> <li>• Subsidized loans and credit facilities from the rural banking institute for inputs and machinery.</li> <li>• Subsidy 80:20 cost sharing.</li> <li>• Extension services assist in accessing and managing credit.</li> </ul>
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2.3	<p><b><u>EXTENSION NETWORK – IN PUBLIC SECTOR</u></b></p> <ul style="list-style-type: none"> <li>- Brief Extension Network/Formation in the sectors indicated</li> <li>- Inventory of Pubic Extension Services Providers at the Federal/ Provincial and District/Block levels</li> </ul>	<p><b>Gewog ( Group of Village in the same district) Agriculture and Livestock Extension Centers:</b></p> <ul style="list-style-type: none"> <li>• Every Gewog has an agriculture and livestock extension office with a professional extension officer for both agriculture and livestock.</li> <li>• They offer hands-on training, demonstrations, and advisory services to local farmers.</li> <li>• Assist in the implementation of district-level agricultural programs.</li> <li>• Provide on-site assistance for pest control, crop management, livestock health, and dairy farming.</li> <li>• Serve as a primary point of contact for farmers seeking information or assistance.</li> <li>• Facilitate the distribution of seeds, fertilizers, and other inputs to farmers.</li> </ul> <p><b>Roles and Functions of Extension Offices:</b></p> <ul style="list-style-type: none"> <li>• Policy adoption and implementation in consultation with the government.</li> <li>• To provide technical training, capacity building, and extension services to farmers.</li> <li>• Address local agricultural challenges to the government and promote best practices.</li> <li>• Distribution of agricultural inputs, subsidies, and information to farmers.</li> <li>• Support the development of local agricultural infrastructure.</li> <li>• Monitoring and Evaluation of agricultural programs and report back to higher authorities or the government.</li> <li>• Community Engagement or collaborating between farmers,</li> </ul>

		local authorities and extension workers and encouraging the community to take part in the decision making and planning of both agriculture and livestock.
2.4	<b><u>EXTENSION NETWORK– IN PRIVATE SECTOR</u></b> <ul style="list-style-type: none"> <li>- Brief Extension Networks in the sectors indicated</li> <li>- Inventory of Private Extension Services Providers at the Federal/ Provincial and District/Block levels</li> </ul>	Extensions develop project proposals and link with different non-governmental organization and donor agencies to secure fund for those activities that can- not be met from the government regular funding.
2.5	<b><u>EXTENSION NETWORK OF CGIAR AND OTHER INTERNATIONAL INSTITUTIONS</u></b> <p>Their extension services in particular in various domains</p>	<p>The Bhutan Agriculture Extension Network involves collaboration with various international institutions, including the Consultative Group on International Agricultural Research (CGIAR). This network has been crucial in enhancing Bhutan's agricultural practices, particularly through the introduction of advanced research, innovative farming techniques, and sustainable agricultural practices.</p> <p>The extension offices in the gewogs are also closely associated with other international organization such as : FAO (Food and Agriculture Organization), ICIMOD (International Centre for Integrated Mountain Development), World Bank, JICA, IFAD, Carling and SAARC Agriculture Centre, etc.,</p>
2.6	<b><u>EXTENSION MANPOWER</u></b> <ul style="list-style-type: none"> <li>- Extension manpower at various levels – Public Sector</li> <li>- Extension manpower at various levels – Private Sector</li> <li>- Others</li> </ul>	<ul style="list-style-type: none"> <li>• Bhutan's agricultural extension services are organized at the gewog (village block) level.</li> <li>• Agriculture extension officers are stationed in gewogs to support local farmers.</li> <li>• Each gewog typically has at least one agriculture extension officer.</li> <li>• The number of officers per gewog can vary depending on the gewog's size, population, and agricultural activity.</li> <li>• Bhutan has around 205 gewogs in Bhutan.</li> <li>• There are approximately 350 to 400 agricultural extension officers across the country.</li> <li>• The exact number of officers may change based on staffing levels and policy changes by the Ministry of Agriculture and Forests in Bhutan</li> <li>• The extension officers work closely with both private and public sector without any bias.</li> </ul>

2.7	<p><b><u>EXTENSION INSTITUTIONS – PUBLIC SECTOR</u></b></p> <ul style="list-style-type: none"> <li>- 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</li> </ul>	<p>Bhutan has approximately 205 gewogs (village blocks), and each gewog typically has its own agriculture extension office. This means there are around 205 agriculture extension offices spread across the country, with one office usually serving each gewog. These offices are crucial for providing support and services to local farmers.</p> <p><b>Some of the important extension programs as shown below:</b></p> <ul style="list-style-type: none"> <li>• Crop Diversification Programs:</li> <li>• Organic Farming Initiatives:</li> <li>• Soil and Water Conservation Programs:</li> <li>• Livestock Development Programs:</li> <li>• Farm Mechanization Programs:</li> <li>• Agricultural Training and Capacity Building:</li> <li>• Horticulture Development Programs:</li> <li>• Pest and Disease Management:</li> <li>• Farmer Group Formation and Cooperatives:</li> <li>• Agricultural Research and Extension Linkage:</li> <li>• Climate-Smart Agriculture Programs:</li> <li>• Irrigation Development Programs:</li> <li>• Post-Harvest Management Programs:</li> <li>• Marketing and Market Access Programs:</li> </ul> <p>These programs are designed to enhance the overall agricultural sector in Bhutan, contributing to the nation's food security and rural development.</p>
2.8	<p><b><u>EXTENSION INSTITUTIONS – PRIVATE SECTOR</u></b></p> <ul style="list-style-type: none"> <li>- Extension Institutions / Organizations at the Federal /Provincial /District/ Block level/ field level</li> </ul>	<p>Extensions develop project proposals and link with different non-governmental organization and donor agencies to secure fund for those activities that can- not be met from the government regular funding.</p>
2.9	<p><b><u>NGOs IN AGRIL EXTNSION</u></b></p> <ul style="list-style-type: none"> <li>- Brief details of NGO efforts in extension at the Federal / Provincial levels</li> <li>- Brief details of NGO efforts in extension at the District/block/field levels</li> </ul>	<p>Several non-governmental organizations (NGOs) in Bhutan are involved in agriculture and livestock sectors, contributing to rural development, sustainable farming practices, and food security. Some of the key NGOs include</p> <p><b>Bhutan Foundation</b></p> <ul style="list-style-type: none"> <li>• Focuses on sustainable agriculture, environmental conservation, and rural livelihoods.</li> <li>• Supports projects that promote organic farming, community-based natural resource management, and</li> </ul>

		<p>capacity building for farmers.</p> <p><b>Royal Society for Protection of Nature (RSPN)</b></p> <ul style="list-style-type: none"> <li>• Primarily an environmental organization but also engages in sustainable agriculture and livestock management.</li> <li>• Works on projects that integrate agriculture with conservation efforts, such as sustainable land use and agroforestry.</li> </ul> <p><b>Tarayana Foundation</b></p> <ul style="list-style-type: none"> <li>• Aims to improve rural livelihoods through sustainable agriculture, income generation, and community development.</li> <li>• Implements programs on organic farming, vegetable gardening, and livestock rearing to support vulnerable communities.</li> </ul> <p><b>Loden Foundation</b></p> <ul style="list-style-type: none"> <li>• Promotes social entrepreneurship in agriculture, supporting farmers and Agripreneurs through funding, training, and mentorship.</li> <li>• Encourages innovative agricultural practices and value addition to agricultural products.</li> </ul> <p><b>Renew (Respect, Educate, Nurture, and Empower Women)</b></p> <ul style="list-style-type: none"> <li>• Although primarily focused on women's empowerment, RENEW also works on enhancing rural livelihoods through agriculture.</li> <li>• Provides training and resources for women to engage in organic farming and livestock rearing as income-generating activities.</li> </ul> <p><b>Horticulture association of Bhutan</b></p> <ul style="list-style-type: none"> <li>• It operates throughout the country by engaging farmer groups and cooperatives in the production, processing and marketing of horticultural produce, aiming at sustainable development of horticulture in Bhutan by raising productivity and total production for sale in the national and export market to increase income opportunities.</li> </ul> <p><b>BAOWE (Bhutan Association of Women Entrepreneurs)</b></p> <ul style="list-style-type: none"> <li>• It focuses on empowering women through entrepreneurship, with significant involvement in agriculture and livestock sectors.</li> </ul> <p>These NGOs work closely with local communities, government agencies, and international partners to promote sustainable agriculture, improve livestock management, and enhance rural livelihoods in Bhutan.</p>
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2.10	<p><b><u>FARMER ORGANIZATIONS IN EXTENSION</u></b></p> <ul style="list-style-type: none"> <li>- Brief details of Farmer Organization (SHGs, FIGs, CIGs, , Farmer Federations, Farmer Producer Organizations, Farmer Producer Companies, CBOs, etc.)</li> <li>- Efforts in delivery of extension services at the Federal / Provincial/ District/Field levels</li> <li>- Successful models of Farmer empowerment through commodity/other aggregated groups</li> </ul>	<ul style="list-style-type: none"> <li>•</li> <li>• In Bhutan, farmers primarily form groups or cooperatives focused on crop production, marketing, and livestock sectors.</li> <li>• A group can be formed with a minimum of three farmers sharing a common interest.</li> <li>• Extension Officials at the district level recommend the formation of these groups.</li> <li>• The Department of Agricultural and Marketing Cooperatives (DAMC) evaluates and prescribes the necessary requirements.</li> <li>• After fulfilling the criteria and undergoing evaluation by DAMC, the group is registered and certified.</li> <li>• Executive members are identified to ensure the smooth functioning of the group.</li> <li>• The delivery of all kind of extension services at district/field level are done by the Extension officials placed at District and block level.</li> <li>• We have adopted focus village and lead farmer approach to empower the community beside the regular extension services. Farmers Group &amp; Cooperatives are linked with School/Institutions (linkage program) to supply farm produce to School/Institutions.</li> </ul>
2.11	<p><b><u>FARM COOPERATIVES</u></b></p> <ul style="list-style-type: none"> <li>- Brief details of Farm Cooperatives at Federal / Provincial/ District/Village level</li> <li>- Efforts in delivery of extension services at the Federal / Provincial/ District/Field levels</li> </ul>	<ul style="list-style-type: none"> <li>• In General, there are just 119 farm cooperatives in Bhutan involved in agriculture, horticulture, fishery, poultry and livestock.</li> <li>• The Royal Government of Bhutan promotes Farmers Groups and Cooperatives as key pillars for economic development, particularly at the Block and District levels.</li> <li>• Cooperatives are aimed at enhancing economic benefits, contributing to social capital development and strengthening the democratic process.</li> <li>• The legal framework for Cooperatives was established with the Cooperatives (Amendment) Act of Bhutan (CAB 2009).</li> <li>• The Ministry of Agriculture and Forests (MoAL) is responsible for implementing the Act, supported by the Department of Agricultural Marketing and Cooperatives (DAMC).</li> <li>• The Cooperative Development Division (CDD) handles the</li> </ul>

		<p>registration and development of Farmers Groups and Cooperatives.</p> <ul style="list-style-type: none"> <li>• CDD also facilitates international partnerships, promotes cooperatives through capacity-building programs, and strengthens them at the District and Block levels.</li> </ul>
<b>III</b>	<b><u>FARM RESEARCH SET UP &amp; THEIR BACK UP TO EXTENSION</u></b>	<ul style="list-style-type: none"> <li>• The Agriculture Research and Innovation Division support the Ministry of Agriculture &amp; Livestock by enhancing socio-economic well-being through strategic agriculture research.</li> <li>• It provides guidance, facilitates research implementation, and monitors key areas of agriculture development.</li> <li>• The Division operates regionally, coordinating research programs to generate agricultural technologies and leading the development of Five Year and Annual Plans.</li> <li>• It also serves as the secretariat for various committees and programs, including the Bhutanese Journal Agriculture Editorial Board, Varietal Releasing Committee, National Seed Board, Food Fortification Program, and Agro-met Advisory Services.</li> <li>• The College of Natural Resources (CNR) is the sole institution in Bhutan focused on agriculture, natural resources management, and rural development.</li> <li>• CNR is recognized for promoting Gross National Happiness (GNH) and sustainable development through education, research, and professional services.</li> <li>• CNR offers opportunities for Extension Officials to upgrade their qualifications through HRD interventions in agricultural programs.</li> </ul>
3.1	- Details of Federal Research Institutes and their extension operations	
3.2	- Regional(e.g. ATARI-India) /District (e.g. KVK – India) level set up and their programmes	
3.3	- Provincial Agricultural Universities/Institutes and the details of their extension operations	
3.4	- Linkages of Provincial Agricultural Universities to the extension programmes	
3.5	- HRD interventions operated by the Provincial Agricultural Universities	
<b>IV.</b>	<b><u>EXTENSION MODELS IN OPERATION</u></b>	
4.1	<b><u>PUBLIC SECTOR</u></b>	<p>Bhutan's farm and livestock extension model focuses on a community-based and participatory approach to enhance agricultural productivity and sustainability.</p> <p>The extension models have been successful and contributed to improved agricultural productivity, better livestock management, and increased farmer knowledge.</p> <p><b>Constraints:</b></p> <ul style="list-style-type: none"> <li>• <b>Resource Limitations:</b> Budget constraints and lack of infrastructure can hinder the effectiveness.</li> <li>• <b>Geographical Challenges:</b> Remote and mountainous regions pose logistical challenges for delivering extension services.</li> <li>• <b>Coordination Issues:</b> Fragmentation among government, private, and NGO services can lead to gaps and overlaps in service delivery.</li> <li>• <b>Sustainability:</b> Some models, particularly those reliant on external funding or specific individuals, may face challenges in long-term sustainability</li> </ul>
	- Details of Farm Extension Models, performance, constraints, etc.	



4.2	<b><u>PRIVATE SECTOR</u></b> <ul style="list-style-type: none"> <li>- Details of Farm Extension Models, performance, constraints, etc.</li> </ul>	<p>In Bhutan, approximately 90 percent of extension offices for agriculture and livestock are government-based. Most private firms seek assistance from these government extension offices. However, there are a few private sectors with their own extension offices. For example, Mountain Hazel Nut Ventures, an FDI company based in eastern Bhutan, operates its own private extension offices.</p>
4.2.1	<b><u>Private Sector Extension Interventions /Programmes</u></b> <ul style="list-style-type: none"> <li>- Brief details for agri extension programmes focused on <ul style="list-style-type: none"> <li>(i) Farm entrepreneurs,</li> <li>(ii) Start-ups,</li> <li>(iii) Partnerships and</li> <li>(iv) Promoted by the private sector at various levels</li> </ul> </li> </ul>	<p>Mountain Hazel Nut Ventures engages in contract farming with local farmers, providing them with hazel nut saplings free of charge, along with technical assistance and small funding. Once the nuts are ready for harvest, a team from the company collaborates with farmers for the harvesting process, and the farmers are compensated based on the harvest yield. The company maintains extension offices in various gewogs in the eastern region, where extension officers provide timely technical expertise to support farmers.</p>
V	<b><u>EXTENSION FOR FARM WOMEN AND FARM YOUTH</u></b>	
5.1	<ul style="list-style-type: none"> <li>- Brief details for agri extension programmes for farm women and farm youth funded by the Centre</li> </ul>	<ul style="list-style-type: none"> <li>• The government encourages unemployed youth to pursue farming by providing assistance such as soft loans and, in some cases, loans without collateral.</li> <li>• This initiative aims to empower youth in the agri-food business, which is often not seen as an entrepreneurial profession.</li> <li>• Women-led groups and progressive individuals are prioritized for participation in agricultural development ventures.</li> <li>• Participants receive both inputs and technical support to enhance their agricultural activities.</li> </ul>
5.2	<ul style="list-style-type: none"> <li>- Brief details for agri extension programmes for farm women and farm youth funded by the Provincial</li> </ul>	<ul style="list-style-type: none"> <li>• At District level the technical department extend support women and farm youth under extension programmes. Farm mechanization programmes also look for small farm equipment and machineries that can be handled by women and youth.</li> </ul>

5.3	<p>agencies</p> <ul style="list-style-type: none"> <li>- Brief details for agri extension programmes for farm women and farm youth funded by Other sources</li> </ul>	<ul style="list-style-type: none"> <li>• Apart from the government, there are other CSOs, NGOs and other international organization which fund women and farm youth in agriculture. The extension offices puts up the proposal to the funding organization and the organization would release the amount to the government to enable them to procure the required agriculture and livestock machines and tools.</li> </ul>
VI.	<p><b><u>MEDIA SUPPORT TO AGRI EXTENSION</u></b></p> <ul style="list-style-type: none"> <li>- Extent of use of print media, fairs and exhibitions, radio and television ( public and private), community radio</li> <li>- Efforts made in developing and delivering contents, treatment and impact assessment.</li> </ul>	<p>Media plays a crucial role in supporting agricultural extension offices by expanding their reach and enhancing their effectiveness. It disseminates important information on weather, market prices, and farming techniques, while also producing educational content such as radio and TV programs. Additionally, media raises awareness of new technologies and government schemes, aiding farmers in market access and decision-making. Interactive platforms engage the community and facilitate feedback, while media also supports advocacy and public education, helping evaluate extension programs.</p> <p>For example, the introduction of agricultural drones for spraying in Bhutan was covered by national TV, educating extension officers and farmers in various villages. Moreover, exhibitions organized by the Bhutan Chamber of Commerce have effectively showcased Bhutanese agricultural products in international markets.</p>
VII.	<p><b><u>ICT APPLICATION INNOVATIONS IN EXTENSION THROUGH PUBLIC AND PRIVATE SECTOR</u></b></p>	<p>In Bhutan, farmers have widespread access to the internet, and each gewog (block) is served by a local leader who acts as a key intermediary between the community and the government. This leader plays a crucial role in bridging the gap between villagers and government institutions.</p>
7.1	<ul style="list-style-type: none"> <li>- Major ICT Application initiatives in agriculture &amp; allied sector like Websites and Portals, Emails, Video Texts, You tube channels, Phone in Programme, Community Call Centres, Video Conferencing/ Webcasting, Mobile apps, etc.</li> </ul>	<p>Farmers in Bhutan extensively use mobile applications such as Facebook, WhatsApp, Messenger, and WeChat. These platforms facilitate the creation of group forums that include all community farmers, extension officers, district agriculture officers, district livestock officers, local leaders, and the head district administrator.</p>
7.2	<ul style="list-style-type: none"> <li>- Use of social media in extension (facebook, whatsApp, Instagram, Twitter, Pinterest, LinkedIn, etc.)</li> </ul>	<p>Important information is disseminated through these group forums via voice messages, and they are used for reporting on various issues such as pest infestations, livestock diseases, and other relevant agricultural concerns. Information and communication technology (ICT) has become a vital tool for disseminating information, coordinating activities, reporting issues, and sharing grievances. The use of these platforms enhances communication efficiency, fosters timely updates, and supports effective problem-solving within the agricultural sector.</p> <p><b>Important web links:</b></p>
7.3	<ul style="list-style-type: none"> <li>- List of important web links of Extension Service Providers</li> </ul>	<p>Ministry of Agriculture and livestock:  <a href="https://www.moal.gov.bt/">https://www.moal.gov.bt/</a>          Department of agricultural Marketing and cooperatives  <a href="https://damc.gov.bt/">https://damc.gov.bt/</a>          Department of Livestock  <a href="https://dol.gov.bt/">https://dol.gov.bt/</a>          Department of Agriculture  <a href="https://doa.gov.bt/">https://doa.gov.bt/</a></p>

	at different levels	
<b>XIII.</b>	<b><u>LISTING OF INNOVATIONS/SUCCESS STORIES AND SCOPE FOR CROSS LEARNING</u></b>	<p>The success of agricultural and livestock extension offices in Bhutan's villages can be assessed through improvements in productivity, adoption of modern practices, and overall community development.</p> <p><b>Modern Practices:</b></p> <ul style="list-style-type: none"> <li>• <b>Success:</b> Effective in introducing high-yield crops, organic farming, and efficient irrigation, leading to better yields.</li> <li>• <b>Challenges:</b> Limited resources and resistance to change in traditional practices.</li> </ul> <p><b>Livestock Management:</b></p> <ul style="list-style-type: none"> <li>• <b>Success:</b> Improved breeds, veterinary care, and feeding practices have boosted productivity.</li> <li>• <b>Challenges:</b> Disease outbreaks and limited veterinary infrastructure.</li> </ul> <p><b>Food Security:</b></p> <ul style="list-style-type: none"> <li>• <b>Success:</b> Promoted crop diversification, enhancing food security.</li> <li>• <b>Challenges:</b> Ongoing issues with climate change and market access.</li> </ul> <p><b>Capacity Building:</b></p> <ul style="list-style-type: none"> <li>• <b>Success:</b> Provided training and demonstrations to improve farmers' skills.</li> <li>• <b>Challenges:</b> Varying effectiveness based on literacy levels and resources.</li> </ul> <p><b>Community Development:</b></p> <ul style="list-style-type: none"> <li>• <b>Success:</b> Supported farmer groups and cooperatives, leading to higher income and reduced poverty.</li> <li>• <b>Challenges:</b> Market access and infrastructure needs.</li> </ul> <p><b>Environmental Sustainability:</b></p> <ul style="list-style-type: none"> <li>• <b>Success:</b> Promoted sustainable practices like organic farming and soil conservation.</li> <li>• <b>Challenges:</b> Balancing production with conservation.</li> </ul> <p><b>Social Impact:</b></p> <ul style="list-style-type: none"> <li>• <b>Success:</b> Engaged communities in collective agricultural efforts.</li> <li>• <b>Challenges:</b> Ensuring equal participation.</li> </ul> <p><b>Collaboration:</b></p> <ul style="list-style-type: none"> <li>• <b>Success:</b> Effective partnerships with government and NGOs.</li> </ul>
<b>8.1</b>	- Listing of extension innovations across sectors and various levels with perceptible impact.	
<b>8.2</b>	- Listing of Success Stories across the sectors	
<b>8.3</b>	- Scope for cross learning on Extension innovations with other Provincial agencies	
<b>8.4</b>	- Scope for cross learning on Extension innovations with other Partner Countries	

		<ul style="list-style-type: none"> <li>• <b>Challenges:</b> Coordination and service delivery gaps.</li> </ul> <p><b>Overall:</b> Extension offices have positively impacted agricultural development and livelihoods but face challenges in resource availability, environmental factors, and capacity building. Ongoing efforts are needed to sustain these improvements.</p> <p><b>Success Stories in Bhutanese Agriculture:</b></p> <p><b>Organic Farming Transition:</b></p> <ul style="list-style-type: none"> <li>• Farmers in Paro and Punakha have transitioned to organic farming, producing high-quality rice, vegetables, and fruits, leading to improved soil health and new market opportunities.</li> </ul> <p><b>Cardamom Farming in Southern Bhutan:</b></p> <ul style="list-style-type: none"> <li>• Farmers, especially in Samtse and Dagana, have increased cardamom yield and quality through improved techniques, boosting exports to India and enhancing community income.</li> </ul> <p><b>Integrated Agriculture and Livestock Farming:</b></p> <ul style="list-style-type: none"> <li>• In Bumthang, integrated farming has led to higher crop yields, healthier livestock, improved food security, and reduced reliance on chemical inputs.</li> </ul> <p><b>High-Value Crop Diversification:</b></p> <ul style="list-style-type: none"> <li>• Farmers in Thimphu and central districts have increased income by diversifying into high-demand crops like asparagus and mushrooms, benefiting from local and export markets.</li> </ul> <p><b>Community-Based Dairy Farming:</b></p> <ul style="list-style-type: none"> <li>• Dairy cooperatives in Trashigang have improved milk production, market access, and income through better dairy management and processing training.</li> </ul> <p>These stories demonstrate the positive impact of agricultural innovation, government support, and community collaboration in Bhutan. The extension office and the extension officers are the key people for the success.</p>
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IX.	<p><b><u>LESSONS FOR FUTURE EXTENSION INTERVENTIONS AND COLLABORATIONS</u></b></p> <ul style="list-style-type: none"> <li>- Specific Areas identified for strengthening farm extension services through innovative pilots /scalable success stories.</li> <li>- Policy interventions</li> <li>- Innovative Programmes</li> <li>- Flexi Funding</li> <li>- Convergence of Extn Efforts</li> </ul>	<p>There is always a room to strengthen our Extension Services through exchange program with our regional partners sharing same goals of helping the rural communities by empowering them with skills and technologies. The ultimate goal of Extension intervention and collaboration underscores the convergence of Extension efforts.</p> <p>To draw significant coverage during the exchange program, it should be aligned with strategic areas as per the need of the hour rather than random interest.</p> <p>As the government gets involved with the public sector, it is also important that equal opportunity is given to the private sectors for in recent times, the private sector for in recent times, the private sector engagement in agriculture sector is significant in all aspect.</p> <p>The agricultural and livestock policies in Bhutan are commendable, as they primarily focus on improving the socio-economic status of farmers. While ad hoc policies can be introduced to address specific needs of farmers, they should not conflict with national interests.</p> <p>The extension offices organize programs and train farmers in using agricultural drones for spraying, smart irrigation techniques, constructing low-cost polyhouses with community resources, as well as food processing, packaging, and value addition.</p> <p>No Flexi funding in Bhutan</p> <p>In Bhutan, the convergence of extension efforts integrates various agricultural and livestock services to enhance efficiency and impact. To highlight how this approach is implemented:</p>

		<p><b>Coordination Among Government Agencies:</b></p> <ul style="list-style-type: none"> <li>Coordinating between the Ministry of Agriculture, Department of Agriculture, Department of Livestock and the extension offices in various gewogs ensuring support to each other.</li> </ul> <p><b>Public-Private Partnerships (PPPs):</b></p> <ul style="list-style-type: none"> <li>Private companies collaborate with government services to provide integrated support, as seen with Mountain Hazel Nut Ventures partnering for contract farming.</li> </ul> <p><b>Community-Based Extension Models:</b></p> <ul style="list-style-type: none"> <li>Local leaders and community organizations bridge gaps between government services and farmers, using digital platforms like WhatsApp and Facebook for communication and coordination.</li> </ul> <p><b>Integration of ICT in Extension Services:</b></p> <ul style="list-style-type: none"> <li>Mobile apps and online forums disseminate information on pest management, market prices, and best practices, enhancing communication and service integration.</li> </ul> <p><b>Multi-Stakeholder Platforms:</b></p> <ul style="list-style-type: none"> <li>Multiple stakeholders, including NGOs and private sector partners, collaborate on agricultural programs, ensuring a comprehensive approach.</li> </ul> <p><b>Integrated Training and Support:</b></p> <ul style="list-style-type: none"> <li>Training programs cover both crop and livestock management, and resource centers offer a range of services, including technical advice and agricultural inputs.</li> </ul> <p><b>Monitoring and Evaluation:</b></p> <ul style="list-style-type: none"> <li>Systems track the effectiveness of extension services, with feedback used to continually improve service delivery.</li> </ul> <p>It is evident that every extension office across the country has at least one extension officer. However, when an extension officer is unavailable, having a substitute in the office would be beneficial. Therefore, having two extension officers in each office would improve service continuity.</p> <p>PPP -Private companies collaborate with government services to provide integrated support, as seen with Mountain Hazel Nut Ventures partnering for contract farming. The extension offices play a pivotal role identifying farmers and space.</p>
	<p>- New HRD Interventions</p> <p>- PPPs in Extension</p>	

	<ul style="list-style-type: none"> <li>- Extension in allied areas</li> <li>- Extension through private sector</li> <li>- Partnerships with CGIAR and other International Institutions institutes</li> <li>- Partnership with other countries</li> <li>- Strengthening ICT applications in Extension services across the sectors and at various levels</li> <li>- Application of Social Media in Extension Services</li> <li>- Interventions through credible NGOs, Farmer Empowered Groups, Farm Cooperatives, etc.</li> <li>- Funding possibilities</li> </ul> <p>(i)Current arrangements</p> <p>(ii)Future possibilities Capture and Integrate innovations listed</p>	<p>The extension offices in the gewogs are proactive and provide support services across various fields related to agriculture, including livestock management, aquaculture, agroforestry, and rural development.</p> <p>The Ministry of Agriculture invites experts from renowned institutes in Japan, India, and Israel. These agricultural specialists visit village extension offices to train both extension officers and local farmers.</p> <p>Partnerships with countries such as India, Bangladesh, Thailand, Japan, and Singapore enhance the extension services.</p> <p>Information and Communication Technology (ICT) plays a crucial role, with extension officers using social media platforms to disseminate information related to agriculture and livestock.</p> <p>Disseminate all information concerning agriculture and live stock</p> <p>Numerous credible NGOs, farm cooperatives, and other organizations assist farmers in Bhutan through the extension offices.</p> <p>Despite limited funding, farmers are effectively managing with the available resources and adopting progressive farming practices.</p>
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