

Towards Agrifood Sector Transformation

Annual Report 2024–2025



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The European Union Technical Assistance for Agrifood System (EU-TAAS) Implemented by the Food and Agricultural Organization of the United Nations (FAO), Bhutan

Table of Contents

1. EXECUTIVE SUMMARY	3
2. INTRODUCTION	2
3. SECTORAL PERFORMANCE	3
3.1. Share of Agriculture in Gross Domestic Product (GDP)	3
3.2. Per capita GDP contribution.....	3
3.3. Sectoral growth rate.....	4
3.4. Agricultural Trade	4
3.5. Productivity	5
3.6. Employment	6
3.7. Public Investment in the sector	6
4. FINANCIAL OVERVIEW	7
5. KEY HIGHLIGHTS AND MAJOR ACHIEVEMENTS	8
5.1. Strategy documents.....	8
5.2. Bills submitted to the Parliament	8
5.3. The National Crop and Livestock Insurance Scheme	9
5.4. Cost Sharing Mechanism (CSM) 2025.....	9
5.5. National Pig and Poultry Farm Registration System.....	9
5.6. National Farmers Registration System.....	10
5.7. Engagement of Foreign Workers.....	10
5.8. Bilateral Memorandum of Understanding (MoU) Finalized.....	10
5.9. One Child One Egg (OCOE)	11
5.10. Bhutan Agri-Sustain Fund (BAF).....	11
6. 13TH PLAN FIRST YEAR IMPLEMENTATION OVERVIEW	12
6.1. Achievement of the Year-1 Outcome Indicators of the 13th Plan	12
• Increasing Agricultural GDP contribution to 34.6 billion	12
• Increasing Agricultural Export Value to Nu. 3.6 billion	12
6.2. PROJECT 1: PROMOTION OF LARGE-SCALE COMMERCIAL FARMING	13
6.3. PROJECT 2: BUILDING RESILIENCE OF SMALLHOLDER FARMERS	32

6.4.	PROJECT 3: PROMOTION OF HIGH-VALUE AGRICULTURAL PRODUCTS FOR EXPORT MARKETS.....	56
6.5.	PROJECT 4: ENHANCING ECOSYSTEM SERVICES FROM SUSTAINABLE AND RESILIENT BIODIVERSITY INITIATIVES	63
7.	PROJECT 5: IMPROVING THE BUSINESS ECOSYSTEM	69
8.	YEAR 1 PROGRESS OF THE 13TH PLAN (Table 22).....	71
9.	RESEARCH, INNOVATION, AND TECHNOLOGY TRANSFER.....	78
9.1.	Crop Research and Technology Development	78
9.2.	Livestock Research and Innovations	79
10.	CHALLENGES AND CONSTRAINTS	80
10.1.	Climate Change	80
10.2.	Production loss	80
10.3.	Misalignment in reporting timelines.....	81
11.	Way Forward.....	81

1. EXECUTIVE SUMMARY

The 2024–2025 financial year was a pivotal period for Ministry of Agriculture and Livestock, marking the first year of the 13th Five Year Plan. The ministry focused on transforming the country's agrifood sector through strategic initiatives, policy reforms, and modernizing services. Agriculture continued to be a cornerstone of Bhutan's economy, contributing Nu. 39.62 billion to the GDP and employing over 41.7 percent of the population. The sector's growth rate significantly improved to 3.73 percent in 2024, up from 1.37 percent the previous year, with exports generating Nu. 3.51 billion.

Key achievements included the launch of the One Child One Egg (OCOE) initiative, which distributed 2.4 million eggs to over 32,000 children, and the introduction of the Bhutan Agri-Sustain Fund (BAF), a financing framework aiming to raise USD 80 million for climate-smart farming. The ministry also advanced its digital transformation with the launch of the National Pig and Poultry Farm Registration System and the Farmer Registration System (FRS). Other important milestones include the implementation of Million Fruit Tree Plantation Program, Chirub farms, Irrigation and chain-link constructions covering 20 dzongkhags.

Significant policy reforms were made, including the submission of the Livestock Bill 2025 and the Cooperatives and Farmer Groups Bill 2025 to Parliament, and the approval of the National Crop and Livestock Insurance Scheme. On the international front, Bhutan strengthened bilateral ties with Mongolia and India to foster collaboration in livestock breeding and capacity building.

The ministry managed its capital budget of Nu. 1,442.36 million with a utilization rate of 83.6 percent. Despite these gains, the sector faced challenges such as natural disasters, including a hailstorm that damaged 2,294 acres of farmland, and disease outbreaks like Lumpy Skin Disease and African Swine Fever. Inconsistencies in data reporting also posed a challenge to accurate performance measurement.

Looking ahead, the ministry has a bold vision to accelerate commercialization, strengthen climate resilience, and modernize agrifood systems, with a goal of contributing Nu. 50 billion to the national economy by 2029.

2. INTRODUCTION

The fiscal year 2024–25 marked a significant milestone for the Ministry of Agriculture and Livestock (MoAL) as the first year of the 13th Five Year Plan (FYP). It was a year of focused implementation, with impactful initiatives launched to transform Bhutan’s agricultural sector. The Ministry undertook key interventions aimed at improving production, productivity, market connectivity, and export potential. This Annual Progress Report not only highlights major accomplishments and challenges encountered but also sets the course for future efforts aligned with the ambitious 13th FYP targets.

As a backbone of Bhutan’s economy, the agrifood sector plays a central role in ensuring food security, self-sufficiency, and rural livelihoods. It contributes 14.15% to GDP and employs 41.7% of the population. With the overarching goal of contributing Nu. 50 billion to the national economy by 2029, the Ministry recognizes the agrifood sector as pivotal to reducing rural-urban migration, enhancing income, and sustaining livelihoods. It remains vital in preserving Bhutan’s cultural identity while adapting to modern development demands.

The 13th FYP’s vision of transforming Bhutan into a high-income nation rests heavily on a sustainable and innovative agrifood system. The Ministry’s progress this year lays the foundation for this transformation, with the Annual Report serving as a tool for stocktaking, accountability, and learning. It will guide evidence-based planning and investment prioritization to ensure that future interventions are more effective and targeted. Overall, the agrifood sector continues to be central to Bhutan’s economic resilience, national pride, and long-term prosperity.

3. SECTORAL PERFORMANCE

3.1. Share of Agriculture in Gross Domestic Product (GDP)

The Gross Value Added (GVA) of the primary sector at current prices reached Nu 39,618.48 million in 2024, up from Nu 37,312.31 million in 2023, accounting for 14.15 percent of the national economy.

Excluding forestry and logging, the sector generated a GDP of Nu 33,167 million against the targeted Nu 34,861 million. In the first quarter of 2025, the agriculture sector alone contributed Nu 6,561.10 million contributing 10.83 percent to the GDP million. Considering that 83.7 percent of the total GDP value of the primary sector was contributed from the crop and livestock sector (average share of the previous year), the primary sector contributed Nu. 5491.64 million in the first quarter of 2025. The combined GDP from these sub-sectors for 2024 and Q1 2025 amounted to Nu 38,658.64 million exceeding the planned target of Nu. 34,861 million.

3.2. Per capita GDP contribution

Year	Total employed	GDP (Nu. M)	Per capita GDP (Nu. M)
2022	125,160	33,422.58	0.27
2023	139836	37,312.31	0.27
2024	154,512	39,618.48	0.26

Table 1: Per capita GDP contribution

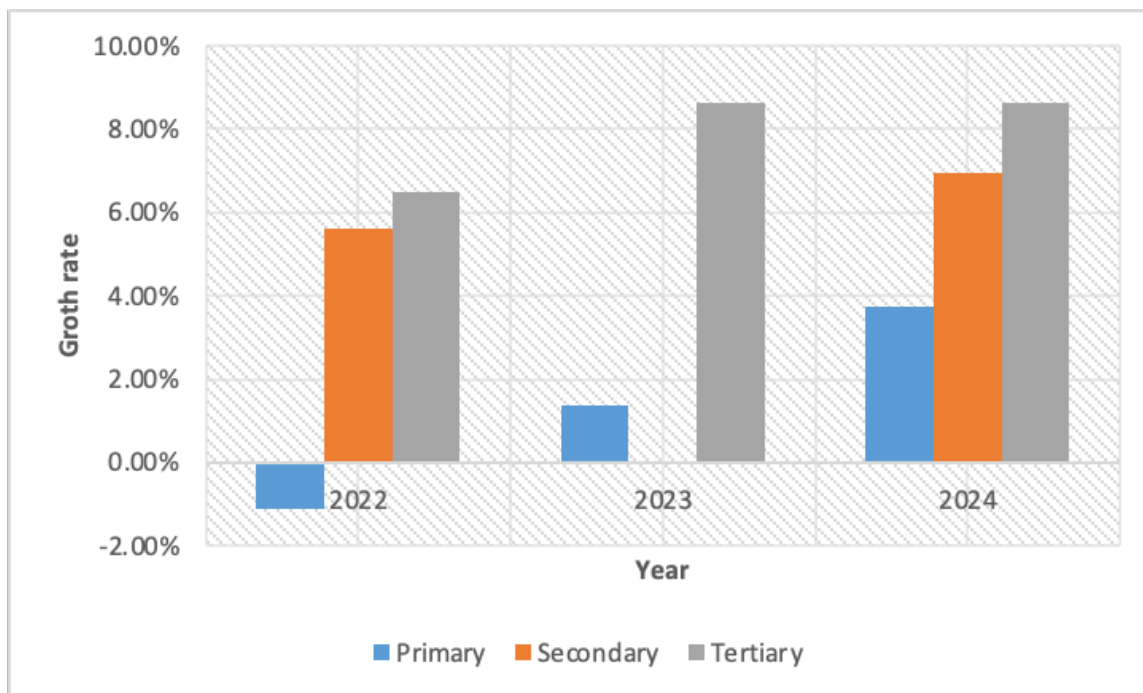
As per the Labor Force Survey Report of 2022 and 2024, the number of people employed in the agriculture sector ¹increased from 139,836 to 154,512. Simultaneously, GDP rose from Nu 37,312.31 million to Nu 39,618.48 million, reflecting overall economic growth, particularly in key sectors like agriculture and services.

However, per capita GDP declined slightly from Nu 0.27 million in 2023 to Nu 0.26 million in 2024. However, it may not represent an actual decrease in the per capita GDP as the actual number of people employed in the sector for the year 2023 has averaged from 2022 and 2024 in the absence of a numerical figure available in the labor force survey report of 2023. Additionally, since the majority of those employed in the agriculture sector are own-account and family workers, using per capita GDP as a measure may not accurately reflect their economic contribution.

¹ Agriculture sector includes forestry as per the NAS

3.3. Sectoral growth rate

In 2024, the primary sector registered a growth rate of 3.73 percent, marking a notable increase from 1.37 percent in 2023, an improvement of 2.36 percentage points. This growth was largely attributed to stronger performance across all three sub-sectors: crop production grew by 2.51 percent, livestock by 4.06 percent, and forestry and logging by 6.16 percent. The upward trend underscores agriculture's continued relevance in Bhutan's economy, both as a source of livelihood for rural communities and as a foundation for national food and nutrition security.



3.4. Agricultural Trade

In 2024, the sector exported agricultural commodities worth Nu. 3.51 billion against the plan target Nu. 3.6 billion marking 97.5 percent achievement against the plan target. This appreciable progress has been primarily driven by increase in both export volume and value, as well as with expansion of trade destinations beyond India and Bangladesh.

However, the sector continued to experience trade imbalance with import surpassing export in the last fiscal year. While Bhutan's agricultural exports reached Nu 3.51 billion in 2024, with a significant portion going to countries beyond India and Bangladesh, the import of agricultural commodities in the year 2024 recorded Nu. 11.8 billion witnessing the trade deficit of Nu. 8.29 billion. Rice continues to dominate imports at Nu. 2.9 billion. Other major imports include maize, soya bean, wheat flour and sugarcane. Exports of key commodities increased, compared to the previous year, with cardamom, oranges, potatoes, cordyceps, ginger, matsutake mushrooms, carrots, turnips, betel nuts, apples among others.

3.5. Productivity

The productivity for both labour and production productivity in Bhutan's agriculture sector witnessed a steady upward trend, reflecting gradual improvements in sectoral efficiency. Labour productivity measured against total cereal production by number of growers rose from 8.4 in 2023 to 9.2 in 2024.

Similarly, production productivity measured against total cereal production by acreage of harvested area increased from 14.7 in 2023 to 15.0 in 2024.

Particulars	2022	2023	2024
Labour productivity (MT/grower)	8.3	8.4	9.2
Production productivity (MT/acre)	14.6	14.7	15.0

Table 2: Crop Productivity

Between 2023 and 2024, Bhutan's dairy production continued to grow despite a slight decline in population from 93,115 to 92,094. Milk productivity per cattle rose from 660.97 kg in 2023 to 674.67 kg in 2024. Similarly, per cattle cheese and chugo productivity also recorded notable increases with cheese output growing from 35.08 kg to 39.59 kg and chugo from 1.99 kg to 2.96 kg.

The data indicates a strong performance in the dairy sector despite a declining rural population. The consistent rise in milk and dairy outputs highlights improvements in livestock management, processing, and possibly commercialization. This trend suggests enhanced rural incomes, growing value chains, and greater national self-reliance in dairy production. The sector is likely benefitting from targeted interventions such as breed improvement programs, milk cooperatives, and rural dairy infrastructure

Year	Population ²	Market Milk (KG) per animal per year
2022	137217	430.36
2023	93115	660.97
2024	92094	674.67

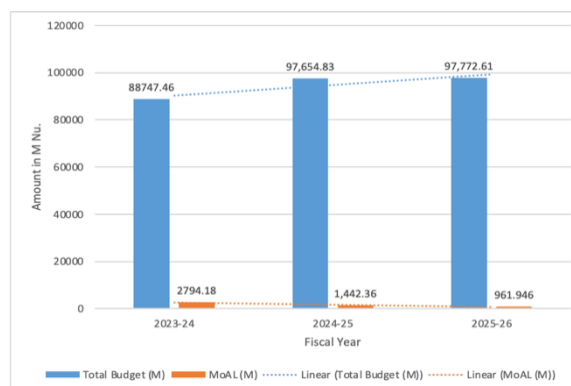
²Population includes all milch and dry animals across cattle breeds, buffaloes, yaks and zomo, regardless of whether they are indigenous, exotic or crossbred.

Table 3: Livestock Productivity

3.6. Employment

In 2024, agriculture remained a vital source of employment in Bhutan, engaging approximately 41.7 percent of the total employed population, according to the National Statistics Bureau's Labour Force Survey. The sector encompasses crop production, livestock rearing, and forestry activities, and continues to play a critical role in national food security and income generation, particularly for households in remote and highland communities.

Agriculture serves as a key livelihood source for women, with over 95 percent of economically active women involved in the sector. Their participation spans across all stages of agricultural production, from sowing and weeding to harvesting and processing. However, youth involvement in agriculture remains low due to growing preferences for employment in the service sector and opportunities in urban centers. Despite these challenges, agriculture remains a cornerstone of Bhutan's economy and social fabric, prompting continued government efforts to modernize the sector and attract young people through improved technologies, access to markets, and targeted support programs.



3.7. Public Investment in the sector

The agrifood sector continued to be one of the priority sectors for public investment in the 13th FYP. While the sectoral allocation share from the total national outlay has decreased from 1.48 percent in the fiscal year 2024-2025 to 0.98 percent in the fiscal year 2025-2026, the agriculture sector played a crucial role in achieving long-term goals related to the national food and nutrition security and economic growth.

4. FINANCIAL OVERVIEW

The Ministry of Agriculture and Livestock was approved with the budget of Nu. 1,442.36 million for the fiscal year 2024-25. The Department of Agriculture had been allocated the highest budget of Nu. 811.542 million. The Department of Agricultural Marketing and Cooperatives (DAMC) had received an approved allocation of Nu. 237.675 million, followed closely by the Department of Livestock, which had been allocated Nu. 222.809 million. The Secretariat had received the lowest budget allocation of Nu. 170.334 million.

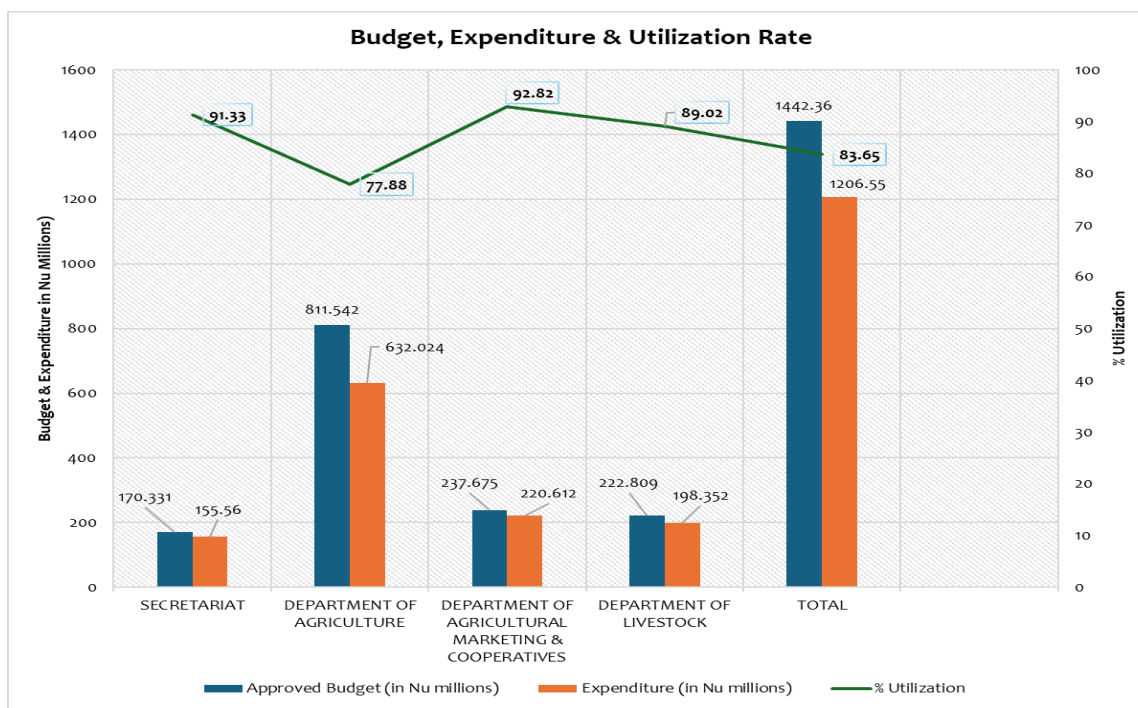


Table 4: Financial Progress

Financial Progress of FY 2024-25 (Capital Budget)				
Department	Approved	Release	Expenditure	% Utilization
Secretariat	170.331	158.746	155.560	91.33
DoA	811.542	592.901	632.024	77.88
DAMC	237.675	140.202	220.612	92.82s
DoL	222.809	200.686	198.352	89.02
Total	1442.36	1092.54	1206.55	83.65

As presented above, the total expenditure for the financial year was Nu. 1,206.55 million from the total approved budget of Nu. 1,442.36 million. The Department of Agriculture had spent Nu. 632.024 million, which was the highest in absolute terms among the four departments. DAMC had recorded an expenditure of Nu. 220.612 million, while the Department of Livestock had spent Nu. 198.582 million. The Secretariat had reported the lowest expenditure, amounting to Nu. 155.556 million.

The Ministry of Agriculture and Livestock had utilized about 83.6 percent of its total approved budget for FY 2024–25. DAMC had utilized approximately 92.8 percent of its allocated budget, followed closely by the Secretariat at around 91.3 percent. The Department of Livestock had recorded a utilization rate of about 89.1 percent. The Department of Agriculture, despite having the largest approved budget, had the lowest utilization rate at approximately 77.9 percent.

5. KEY HIGHLIGHTS AND MAJOR ACHIEVEMENTS

Guided by the overarching vision of the 13th Five Year Plan to enhance Food and Nutrition Security, MoAL aims to increase its GDP contribution from Nu. 31 billion in 2023 to Nu. 50 billion by 2029 and increase agricultural exports from Nu. 3 billion in 2023 to Nu. 6 billion by 2029. The strategic focus towards achieving these goals includes a shift from subsistence to commercial farming, achieving a certain level of self-sufficiency in the production of essential food commodities, and production and exports of high-value food commodities and strengthening the legal and policy environments for the sector.

5.1. Strategy documents

The 13th FYP document of the Agriculture and Livestock sector, with the theme “Transforming the Agrifood Sector for Economic Growth and Sustainable Development,” was launched in August 2024. The plan aspires to increase sectoral GDP to Nu. 50 billion and double the export value to Nu. 6 billion 2029.

In order to guide the implementation of the 13th FYP and also to provide long term strategic guidance, the Agrifood Sector Strategy 2034 was launched on 13th March 2025. It sets the direction for agrifood sector development in the next decade, with the target of increasing the agricultural sector's contribution to the GDP to Nu. 100 billion and treble export value to Nu. 9 billion by 2034. This is along the long-term national vision of achieving the status of “developed nation” by 2034.

5.2. Bills submitted to the Parliament

The 35th Session of the Fourth Lhengye Zhungtshog held on November 28, 2024 approved the Livestock Bill of Bhutan 2025 and Cooperatives and Farmer Groups Bill

of Bhutan 2025 for onward submission to the Parliament. The 1st and 2nd reading of the bills by the NA was held on 26th May 2025. The 3rd reading of both the Bills is scheduled in the 2025 winter session of the Parliament.

The Ministry is also in the process of drafting the Agriculture Bill and currently the Agriculture Bill is at LIA (Legislative Impact Assessment) stage. In view of the directives from the Cabinet to review and rationalize the need for bills, the draft bill is kept on hold for now.

5.3. The National Crop and Livestock Insurance Scheme

To address loss of crop and livestock due to climate change, diseases, human wildlife conflict and other calamities, the proposal to establish “National Crop and Livestock Insurance Scheme” for paddy, maize, potato, orange, cattle, piggery, and poultry was approved by the 48th Lhengye Zhungtshog on 28th April 2025. The premium for the insurance will be 50:50 cost sharing between the government and the beneficiaries. In order to roll out the insurance scheme, Nu. 800 million has been secured to be funded through the Economic Stimulus Plan. The scheme is tentatively scheduled to be launched on 11th November 2025.

5.4. Cost Sharing Mechanism (CSM) 2025

In order to facilitate achievement of MoAL’s 13th Plan targets in terms of i) contribution to GDP, ii) agricultural exports, iii) agricultural production targets are achieved, the CSM 2021 was revised and approved by the Cabinet for implementation during the 54th Session of Fourth Lhengye Zhungtshog held on June 26, 2025. The revised CSM focuses on priority commodities to fast-track commercialization while onboarding small holders in the process, and applies sunset clauses for ownership and sustainability.

5.5. National Pig and Poultry Farm Registration System

The Department of Livestock is instituting the National Pig and Poultry Farm Registration System, a key digital transformation initiative under the Ministry. This system aims to enhance governance, service delivery, and data management by formalizing pig and poultry farming across Bhutan through a standardized digital platform. It will categorize farms, mandate basic requirements like biosecurity and animal welfare, and generate real-time data on livestock holdings and production. This data will be crucial for informed planning, disease surveillance, and policy formulation. The digital registration process will link a farm's eligibility for government services, such as subsidies and technical support, to its formal registration, thereby encouraging farmers to improve their operations. The system represents a significant step toward advancing digital livestock governance in Bhutan and reinforcing the ministry's commitment to national food and nutrition security. National Farmers Registration System

5.6. National Farmers Registration System

The Department of Agriculture has developed the Farmer Registration System (FRS), a flagship digital platform designed to serve as a "Single Source of Truth" for the agriculture sector. The system aims to resolve inconsistencies in agriculture data by creating a centralized, real-time, and spatially enabled database of all Bhutanese farmers. It captures comprehensive details on landholdings, crop production, irrigation facilities, and farm machinery. For the first time, Bhutanese farmers will be officially registered with this detailed information. The FRS is fully integrated with national databases like the National Land Commission and the Department of Civil Registration and Census and is aligned with the National Digital Identity (NDI) framework. Following a successful pilot in April 2025, the system has been rolled out nationwide, marking a historic step toward modern, data-driven agriculture. The roll out nationwide will conclude in September 2025. Moving forward, the Department of Agriculture will provide services based on the data captured in this system.

5.7. Engagement of Foreign Workers

To address farm worker shortages and enhance agricultural production, the 43rd and 47th Sessions of the Fourth Lhengye Zhungtsho held on February 27, 2025 and April 17, 2025 respectively, has approved the pilot implementation of foreign day-workers in the agricultural sector in Norbugang and Samtse Gewogs in Samtse, and Langchenphu Gewog in Samdrupjongkhar.

Following government approval, mass consultations were held in the pilot sites, receiving strong support from local farmers. The SoP for piloting was developed by the Ministry in collaboration with the Ministry of Industry, Commerce, and Employment (MoICE).

The Department of Agriculture has initiated the pilot engagement of foreign workers in Samtse Gewog in May 2025. 126 foreign workers were formally engaged by 13 farmers in Samtse, through a Foreign Worker Recruitment Agent. Numbers are expected to grow significantly during the paddy transplanting season (July). Recruitment is strictly regulated, done through licensed agents under MoICE, ensuring full compliance with health checks, insurance, and work permits. Depending on the success of the pilot phases, it would be considered for expansion into other Dzongkhags.

5.8. Bilateral Memorandum of Understanding (MoU) Finalized

A MoU between MoAL, RGOB, and the Ministry of Food, Agriculture and Light Industry, Government of Mongolia was signed during the State Visit of His Majesty the King to Mongolia from 8th-15th July 2025. The two governments will cooperate in exchange of germ plasm, capacity building, exchange of experts in yak, sheep, horse,

and rangeland development. As part of the MoU, Bhutan received germ plasm for yak, sheep, and horses and 10 mastiffs in July 2025.

Similarly, a MoU between MoAL and GoI's Ministry of Agriculture and Farmers Welfare on Technical Cooperation in the field of Agriculture, Livestock and Allied Sectors is finalized and is expected to be signed soon. The MoU will strengthen collaboration between the two countries in the agriculture, livestock and allied sectors.

The Ministry has also finalized the B2B agreement with BVFCL (Brahmaputra Valley Fertilizer Corporation Limited) for the import of fertilizer from BVFCL and ready to be signed. The main objective is to formalize the import of fertilizers.

5.9. One Child One Egg (OCOE)

Coinciding with the 45th Birth Anniversary of His Majesty The King, the One Child One Egg Initiative was formally rolled out from Zunglen Primary School under Drepong Gewog in Monggar Dzongkhag on 21st February 2025. The initiative covers 343 schools including 289 primary schools, 49 Extended Classrooms and 5 special educational institutes in the country benefitting around 32,000 students. As of June 2025, 2.4 million eggs were distributed worth Nu. 33.7 M. This flagship initiative was launched on 4th February 2025 by the Hon'ble Prime Minister of Bhutan and the Director-General Dr. Qu Dongyu of the Food and Agriculture Organization of the United Nations in Thimphu, Bhutan. The initiative is being implemented through the financial support of the Food and Agriculture Organization.

5.10. Bhutan Agri-Sustain Fund (BAF)

To ensure long-term resilience, the need for a sustainable funding mechanism is increasingly felt imperative to drive the urgent interventions and strategic investments in climate-resilient infrastructure, value chain development, and capacity building in order to revitalize the sector and strengthen Bhutan's position as a global leader in sustainable development. Having such funds will enable addressing pressing issues holistically and comprehensively as opposed to the current practices which are based on project-tied obligations.

Accordingly, Bhutan Agri-Sustain Fund (BAF), a transformative framework that integrates innovative financial tools to provide inclusive, equitable, and long-term support for the agri-food sector in Bhutan is proposed to be established in Bhutan of USD 80 million. It was launched on 4th February 2025 in Bhutan by the Hon'ble Prime Minister of Bhutan and FAO Director-General Dr. Qu Dongyu. The fund mobilization will be guided by a comprehensive Transformation Plan and Resource Mobilization Strategy which has been developed and guided by five strategic pillars:

- i. Climate-smart, efficient farming systems
- ii. Agro-biodiversity & ecosystem services
- iii. Climate advisory & disaster risk mitigation

- iv. Market access & resilient value chains
- v. Inclusive innovation & rural empowerment

6. 13TH PLAN FIRST YEAR IMPLEMENTATION OVERVIEW

The Annual Report for the Fiscal Year 2024–25 holds special significance as it captures some of the most important achievements made by the Ministry in the first year of the 13th Five Year Plan. It reflects the early momentum gained across various priority programs and interventions in the agrifood sector, setting a positive tone for the years ahead.

More than just a summary of accomplishments, the report serves as a critical first step in laying the groundwork toward realizing the ambitious goals envisioned in the 13th Plan. It documents how strategic initiatives are beginning to translate into measurable outcomes, marking the transition from planning to tangible implementation.

Given its importance, closely tracking the Ministry’s progress against the 13th Plan targets is essential. This allows for early identification of gaps and challenges, and offers an evidence-based pathway to design meaningful corrective actions and responsive mechanisms on an annual basis. Such alignment ensures that each year builds effectively toward the overall vision of the agrifood transformation.

6.1. Achievement of the Year-1 Outcome Indicators of the 13th Plan

- **Increasing Agricultural GDP contribution to 34.6 billion**

Excluding forestry and logging, the sector generated a GDP of Nu 33,167 million in 2024. In the first quarter of 2025, the agricultural sector alone contributed Nu 6,561.10 million contributing 10.83 percent to the GDP. Considering that 83.7 percent of the total GDP value of the primary sector was contributed from the crop and livestock sector (average share of the previous year), the primary sector contributed Nu. 5491.64 million in the first quarter of 2025. The combined GDP from these sub-sectors for 2024 and Q1 2025 amounted to Nu 38,658.64 million exceeding the planned target of Nu. 34,861 million.

- **Increasing Agricultural Export Value to Nu. 3.6 billion**

In 2024, the sector exported agricultural commodities worth Nu. 3.51 billion against the plan target of Nu. 3.6 billion. This marks 97.5 percent achievement against the plan target. This remarkable progress has been primarily driven by increase in both export volume and value, as well as with expansion of trade destinations beyond India and

Bangladesh. It also represents the impacts of the ministry's policy shift towards enabling the sector's market-led agriculture development.

6.2. PROJECT 1: PROMOTION OF LARGE-SCALE COMMERCIAL FARMING

Department of Agriculture

Activity 1: Promote innovative agriculture farms (2 Chirub farms)

In the fiscal year 2024-25, the Department of Agriculture has initiated the development of 2 Chirub farms at Pemathang spanning 60.15 acres and Samrang spanning 39.39 acres under Samdrupjongkhar Dzongkhag. These farms are designed to empower local Desuups and youth, offering them skills, income, and a pathway to sustainable farming. The Department leads the farm development and technical support, after which management will transition to Desuung HQ to engage local Desuups. The long-term goal is to enable them to independently operate the farms as self-sustaining, community-driven businesses. Some of the activities completed during this FY includes topographical survey, forest clearing, land development, farm boundary fencing, and orchard development (8 acres with mango, Seedless lime, macadamia and dragon fruits), and purchase of tools and equipment required in Chirub farms. The on-going activities include the construction of 15 mega polyhouses for essential vegetable production, procurement of farm machineries, irrigation and infrastructure development. The Agriculture Research and Development Centre-Wengkhar, National Soil Service Centre, Agriculture Machinery and Technology Centre under DoA were involved in the land development, orchard development and automation. The Farm Machinery Corporation Limited was engaged in the procurement of 15 mega polyhouses and installation.

Activity 2: Promote large-scale commercial farms (Open-Air Prisoner OAP farm)

Simultaneously, the first-of-its-kind, Yarjugang Open-Air Prisoners (OAP) Farm, is being established in collaboration with the Royal Bhutan Police, and The PEMA Secretariat. While the commercial farm development is taken up by the department, the Pema Secretariat is funding the reintegration facilities. A tripartite agreement was signed between the Royal Bhutan Police, the Ministry of Agriculture & Livestock and The PEMA Secretariat on the establishment and operation of Yurjugang OAP for prisoners' reintegration. The ARDC-Bajo and Dzongkhag Administration, Wangdue Phodrang are engaged in the farm development in around 278 acres of land. Other activities include construction of approach road, chainlink fencing (7 km), crop production in 10 acres, procurement of farm machinery & tools and construction of irrigation system (3.3 km). The overall budget for the establishment of OAP (2 years) is 184.8 million.

Department of Livestock

Activity 1: Construction (turnkey) of clean chicken processing plant with allied facilities (Dagana (Lhamoizingkha) & Samtse) and linking value chain actors (Nu. 110 million):

The establishment of commercial-scale livestock farms, including processing facilities, was planned to be implemented through a Public-Private Partnership (PPP) model. Under this approach, interested private entrepreneurs would receive technical support from the government to set up and operate such facilities in terms of technical backstopping in securing the capital budget from the Economic Stimulus Plan (ESP) of the Government. In the financial year 2024-2025, the Department of Livestock issued technical approval for the establishment of a large-scale chicken processing facility in Lhamoidzingkha, Dagana, under the name *Babesa Frozen Food and Livestock Farm*. The venture also incorporated provisions for rearing pig breeding stock to produce fattening piglets for supply to other farmers.

Supported under the ESP, the initiative received a financial package of **Nu. 9.000 million**. With this support, large-scale broiler and pig breeding farms were successfully established. To date, the facility has harvested and processed approximately **21,000 broiler birds**, marking a significant milestone in commercial poultry and piggy development in the region.

Additionally, as part of its technical services, the Department of Livestock supplied approximately **34 breeding piglets** to the farm during the same financial year. The Department also provided one batch of vaccines for the existing livestock and extended technical support through sensitization and advocacy on livestock husbandry and farm management practices.

However, considering the scale of operations, being one of the largest commercial livestock farms in the country, the farm continues to require further support to strengthen its infrastructure and sustain its operations effectively.

Department of Agricultural Marketing and Cooperatives

Activity 1: Consolidation and upgradation of farmer group and cooperatives to federation – dairy federation, poultry federation, cardamom federation

The Department has initiated efforts to revive the Poultry Federation, which was the first registered federation in the country, in collaboration with the Regional Office in Gelephu. This initiative aims to strengthen collective action, improve access to markets and inputs, and enhance the overall coordination and advocacy capacity of poultry cooperatives across the country. The revival process includes institutional assessment, engagement with existing member cooperatives, and support in restructuring governance and business operations.

In parallel, the Department has also undertaken groundwork to establish a Dairy Federation, with a specific focus on organizing dairy cooperatives in the western Dzongkhags. A list of existing livestock cooperatives has been compiled and assessed for their readiness and interest to form a Dairy Federation, which will help address common challenges related to milk marketing, cold chain logistics, value addition, and access to feed and veterinary services.

These efforts are part of a broader strategy to strengthen the cooperative movement in the livestock sector by facilitating vertically integrated and member-driven institutions that can sustain collective enterprise development.

Activity 2: Establishing and strengthening farmer groups including youth groups, and cooperatives for supplies to four Gyalsung academies (vegetables, fruits and livestock products), GMC and export markets (asparagus, broccoli, ginger, turmeric, cardamom, chili).

- Linking Farmer Groups and Cooperatives with GyalSung Academies.

To ensure consistent access to nutritious and high-quality agriculture and livestock products for the Gyalsung Academies, the Ministry, in collaboration with the Food Corporation of Bhutan Limited (FCBL) and the Bhutan Livestock Development Corporation Limited (BLDCL), has been entrusted with the responsibility of coordinating and facilitating the supply chain. Under this strategic framework:

FCBL plays a central role as the aggregator of agricultural produce, sourcing a diverse range of vegetables and fruits from across the country. Similarly, BLDCL is responsible for aggregating and delivering livestock products, including meat, dairy, and other livestock-based commodities.

A total of 216.8 metric tonnes (MT) of vegetables, 37.6 MT of fruits, 18.5 MT of pork, 39.9 MT of chicken, and 624,480 eggs have been supplied to the four Gyalsung Academies: Gyalpozhing, Khotakha, Jamtsholing, and Pemathang. Additionally, dairy products supplied include 1.28 MT of butter, 4.62 MT of cheese, and yogurt comprising 12963.94 liters to the Gyalsung Academies.

The linkage of Farmer Groups and Cooperatives to the Gyalsung Academies for agri-food supply has significantly benefited both the farmers and the Groups and Cooperatives in the four Gyalsung Dzongkhags. This coordinated supply system not only enhances food security and nutrition for the academies but also provides reliable market access and income opportunities for the farmers and producers.

Table 5: List of Farmers' Groups and Cooperatives Linked with Gyalsung Academies by Dzongkhag and Gewog

SN	Name of FGs/Coops	Dzongkhag	Gewog
1	Tsangkhari FG	Mongar	Drepong
2	Zungnen FG	Mongar	Drepong
3	Nyamrup Tshongdrel Detschen	Mongar	Drepong
4	Lhaptsa Puengu Detschen	Mongar	Drepong
5	Drepong Vegetable Group	Mongar	Drepong
6	Thridangbi Gonor Sonam detschen	Mongar	Saling
7	Yongkola Sonam Detschen	Mongar	Saling
8	Kalapang FG	Mongar	Saling
9	Gonor Sonam Chirup detschen	Mongar	Saling
10	Nangar Tshesay Detschen	Mongar	Tsamang
11	Yagang Chikthuen Nyamrup Detschen	Mongar	Mongar
12	Jamcholing Tshesey gathuenn Nyamrup	Mongar	Mongar
13	Phosorong Tshesey Lothuen Detschen	Mongar	Mongar
14	Phosorong Tshesey Detschen	Mongar	Mongar
15	Wangling Miser Soenam Detschen	Mongar	Mongar
16	Shubesa Sonam Yargay Detschen	Wangdue Phodrang	Bjena
17	Rada Puensum Vegetable Group	Wangdue Phodrang	Bjena
18	Khothangkha Sanam Tshongdrel Nyamlay	Wangdue Phodrang	Rubesa
19	Ruechidkha Tshoetsey Tshongdrel Detschen	Wangdue Phodrang	Rubesa
20	Chungyoen Ema Detschen	Wangdue Phodrang	Phangyuel
21	Pinsa Amsui Tshetshey Detschen	Wangdue Phodrang	Daga
22	Wogay Nyamley Detschen	Wangdue Phodrang	Daga
23	Thongshingang group	Samdrupjongkhar	Phuntsho thang gewog
24	Sangshingzor group	Samdrupjongkhar	-
25	Phuntsho thang group	Samdrupjongkhar	-
26	Pemathang group	Samdrupjongkhar	pemathang gewog
27	Yarphu group	Samdrupjongkhar	Wangphu gewog
28	Tshotsalu group	Samdrupjongkhar	Martshala gewog
29	Tsholingkhar group	Samdrupjongkhar	-
30	Dingshingzor group	Samdrupjongkhar	-
31	Rechanglu group	Samdrupjongkhar	Gomdar gewog.
32	Dechekhoryer group	Samdrupjongkhar	-
33	Brongshing group	Samdrupjongkhar	-

34	Morong group	Samdrupjongkhar	Orong gewog
35	Orong lower group	Samdrupjongkhar	-
36	Orong upper	Samdrupjongkhar	-
37	Lingarnang Vegetable Group	Samtse	Norgaygang
38	Tsajinsa Ka Community Farmers Group	Samtse	Pemaling
39	Dawathang Quinoa Production and Marketing Group	Samtse	Tendru
40	Kuchinthang Vegetable Production Group	Samtse	-
41	Targothang Vegetable Production Group	Samtse	-
42	Lumbey Sonam Detshen	Samtse	Dophuchen

- **Capacity Development (Post-Harvest Management Training)**



The Department, in collaboration with the Regional Office, National Post-Harvest Centre (NPHC), Dzongkhags, and Gewogs, conducted post-harvest management training across four Gyalsung Academy sites. The sessions were held in Samtse, Samdrup Jongkhar, Wangduephodrang, and Mongar, engaging a total of over 150 participants, including Gyalsung officials, chefs, mess-in-charges, farmers, cooperatives, and FCBL focal persons. The training was organized in response to monitoring findings that identified post-harvest losses as a major issue affecting profitability and efficiency in the agri-food supply chain for Gyalsung Academies.

The main objective was to strengthen participants' knowledge and practical skills in handling, storing, and transporting agricultural produce to reduce losses and improve market access. The training combined theory and hands-on sessions on harvesting methods, storage techniques, and quality assurance. Participants found the training highly relevant and committed to implementing the practices learned. Going forward, sustained investment in capacity building, post-harvest infrastructure, and market linkages will be essential to ensure a consistent and quality supply for the academies.

Table 6: Groups and Cooperatives provided Post-harvest Training

Sl.No	Name of Farmers Group and Cooperatives	Location
1	Khotokha Sanam Tshongdrel Detshen	Wangdue phodrang
2	Ruechidkha Tshoetsey Tshongdrel Nyamley Detshen	Wangdue phodrang
3	Shubesa Sonam Yargay Detshen	Wangdue phodrang
4	Rada Puensum Vegetable Group	Wangdue phodrang
5	Sangshingzor Tshesey Detshen	Samdrup Jongkhar
6	Thongsigang vegetable group	Samdrup Jongkhar
7	Kuchin Vegetable Production group	Samtse
8	Lingarnang vegetable group	Samtse
9	Tsajinsa Ka Community FG	Samtse
10	Sombak vegetable group	Samtse
11	Namsealing vegetables group	Samtse
12	Targothang vegetable group	Samtse
13	Amtshu Tshongdel Detshen	Mongar
14	Zhunglen Tshensay Detshen	Mongar
15	Phosorong Tshoesay Lothuen Detshen	Mongar
16	Wangling Meser Sonam Detshen	Mongar
17	Paytsongbi vegetable production group	Mongar

- Provision of Value Addition Equipment to Strengthen the Agri-Food Supply Chain for Gyalsung Academies

To address equipment gaps identified through the Monitoring of Agri-Food Supplies to Gyalsung Academies, the Department assessed proposals from farmers, groups, cooperatives, and aggregators. A prioritized value addition equipment amounting to approximately Nu. 3 million was provided.

Subsequently, critical equipment such as electric stunners, generators, scalding machines, electric dryers, walk-in freezers, and ice-making machines were procured and distributed to 18 selected groups and entities actively supplying the Gyalsung Academies. The distribution followed a cost-sharing model, with 70 percent funded by the Department and 30 percent contributed by the beneficiaries to encourage ownership and sustainability.

SN	Beneficiary	Description of Item	Quantity (Nos.)	Total Cost (Nu.)	Cost-Sharing	
					70% by the RGoB (Nu.)	30% by propo- n- ent (Nu.)
1	Meat Aggregator (1) & Chicken Suppliers (2), Wangdue Phodrang	Bone Saw	2	135,000	94,500	40,500
2		Electric Stunner	2	260,000	182,000	78,000
3		Walk-in-Freezer	3	1,041,000	728,700	312,300
4		Silent Diesel Generator	2	774,700	542,290	232,410
5		Scalding Machine	2	270,000	189,000	81,000
6		Steel Table for processing	6	113,940	79,758	34,182
7		Heater for poultry	2	343,000	240,100	102,900
8		Water spray for piggery/poultry farming	3	43,500	30,450	13,050
9		Digital Weighing Scale	1	5,480	3,836	1,644
Total				2,986,620	2,090,634	895,986
10	FGs/Coops at Wangdue	Digital Weighing Scale	7	38,360	26,852	11,508
Total				38,360	26,852	11,508
11	AGN, Samtse	Electric Dryer	4	661,420	462,994	198,426
12		Double Door Commercial Display Fridge	2	194,000	135,800	58,200
13		Digital Weighing Scale	6	32,880	23,016	9,864
Total				888,300	621,810	266,490
14	Tsento Amso Tshongpa-Tshento Gewog, Paro	Deep Freezer	1	46,000	32,200	13,800
Total				46,000	32,200	13,800
15	Shari Dairy Group, Shari Gewog, Paro	Chaff Cutter	1	18,900	13,230	5,670
Total				18,900	13,230	5,670
16	Rainbow Trout Farm, Jangsa, Dopshari, Paro	Ice Making Machine	1	107,250	75,075	32,175
17		Blast Freezer	1	274,000	191,800	82,200
Total				381,250	266,875	114,375
18	Chicken Supplier, Samtse	Generator	3	220,522.50	154,365.75	66,156.75
Total				220,522.50	154,365.75	66,156.75
Grand Total				4,579,952.5	3,205,966.75	1,373,985.75

Table 7: List of equipments supported to the FGs/Coops/Aggregators involved in supply of agricultural commodities to the Gyalsung Academies

This intervention is expected to significantly enhance processing, preservation, and timely delivery capacity in the agri-food supply chain, contributing to improved food self-sufficiency and nutrition in the Academies.

Activity 3: Institutionalization of agrifood supplies to schools, institutions (Monastic and Education) and hospitals (Productive alliances, offtake agreements, essential post-harvest inputs, revision of the concept, identification of schools)

- School Linking Program

The School and Hospital Feeding Program continues to link institutions with Farmers' Groups and Cooperatives which have been decentralized to the *Dzongkhags*. It aims to substitute imports by supplying nutritious local produce to students, thereby supporting both improved nutrition and the local producers. The Department has linked a total of 65 Farmer's Groups and Cooperatives to 68 institutions across the country. These institutions include schools, hospitals, colleges, and dratshangs as shown in table 4.

Table 8: Number of Schools and Hospitals linked with FGs/Coops

Dzongkhag	Name of the FG/Coop linked	Name of the institutions linked. (Schools/Hospitals/Dratshangs)
Pema Gatshel	Bargonpa Rigzang Tshesey Detshen	Yelchen Central School
	Nanong Chiwog Meser Sanampay Tsesey Rango Rangdro Detshen	
	Tokarey Farmers Vegetable Group	
	Terphu Farmers Vegetable Group	Wongchilo Primary School
	Tshatsi Sanampay Nyamrub Detshen	Tshasti Primary School
	Tshatsi Sanam Thuendrel Detshen	
	Bartseri Momsey Detshen	Pemagatshel MSS
	Shali Momsey Gongphel Detshen	Shali PS
	Shumar Tshesey Detshen	Nangkor CS
	Gonpung Sonam yarphel Detshen	Yalang PS
	Khangma Momsey Detshen	Khangma PS

Dzongkhag	Name of the FG/Coop linked	Name of the institutions linked. (Schools/Hospitals/Dratshangs)
Samtse	Dramling Integrated Vegetable user Association group	Denchukha LSS
	Sebichang Farmer's Group	Dorokha LSS
	Dorokha Namley Detsen	Dorokha CS
	Lumbay Agriculture Group	Sengdhyen LSS
	Ganthok Vegetable Group	Gangthok PS
	Namgaycholing Farmer Group	Namgaycholing PS
	Lingarnang vegetable group	Thikha ECR
	Chilo FG	Khandothang PS
		Bukkey P.S
	Khamzaling Vegetable Group	Sang-Ngag Chhoeling LSS
	Depheling Vegetable Group	Depheling PS
	Tashithang Community farmer's group	Tashithang PS
	Tsajinsa Farmers Community Group	Phensum PS
	Norjangsa Vegetable Group	Taba Dramtoe LSS
	Dupidangra Farmer Group	Panbari MS
	Ugyentse Farmers Vegetable group	Ugyentse PS
	Kanchitar Vegetable Group	Yoeseltse MSS
Paro	Sanam Chirup Tshogpa,	Drukgyel HSS
	Tsento Amsu Nyamrup Omgi Detsen	
	AgriConnect Aggregator	Bitikha MSS
		Dawakha LSS
		Wanakha HSS

Dzongkhag	Name of the FG/Coop linked	Name of the institutions linked. (Schools/Hospitals/Dratshangs)
		Rashigang Primary School
Dagana	Kalizingkha Famer Group	Daga PS
		Daga CS
		Samey PS
Chhukha	Aggregator Network of Chhukha	Sangye Migyurling Monastery
		Gedu college of Business Studies
		Pelden Tashicholing Shedra
SamdrupJongkhar	Denchi vegetable group, Richanglu vegetable group & Brongshing vegetable group	Gomdar HSS
	Tsholingkhar Khorlo Datshen	Martsalla CS
	Morong Vegetable Group	Orong PS
	Bazor Vegetable Group	Bazor PS
	Sarjung Vegetable Group	Sarjung PS
	Sanam Yargay Datshen	Martsalla PS
	Denchi Vegetable Group	Khoyar PS
	Eastern Aggregators	Phuntshothang MSS
		Pemathang PS
		Drungkarling ERC
		Samrang ERC
		Khamedthang ERC
		Karmaling HSS
Tsirang	Salami Sonam Thenkey Detshen	Damphu Central School
	Majua Tshesey Thenkey Detshen	
	Ngojong Gongphel Detshen	

Dzongkhag	Name of the FG/Coop linked	Name of the institutions linked. (Schools/Hospitals/Dratshangs)
	Salami Sonam Thenkey Detshen	Kikhorthang Primary School
	Majua Tshesey Thenkey Detshen	
	Ngojong Gongphel Detshen	
	Yarab Sanam Detshen	Doonglagang Primary School
	Drongsep Yargay Detshen (Lower)	
	Drongsep Yargay Detshen Toed	Rangthaling Primary School
Zhemgang	Trashiphel Farmers Group	Zhemgang Central School
	Nobin livestock and Gomdar Poultry	
	Tashiphel Farmer Group	Zhemgang Primary School
	Panbang Youth Cooperative (PYC)	Sonamthang Higher Secondary School
	Milk Processing Unit (MPU)-Ex Police Cooperative	
	Langdurbi, Zachog Detshen	Langdurbi Primary School
	Tshanglajong Gonor Gongphel Namley Tshodey	Yebilaptsa Central School
	Gondarpa Layer Poultry Farm	Tingtibi Primary School
	Sangi Maya Tamang (Local Farmer)	
	Private Farmer	Shingkhar Primary School
	Nimshong Tsessey Detshen	Nimshong ECR
	Phulabi Famer Group/karzee Ngnotsel Detshen	Khomshar ps
	Novin Livestock Integrated Farm	Gomphu PS
	Farmer's group	Goling PS
	Pramjong Tshesey Detshen	Digala PS

Dzongkhag	Name of the FG/Coop linked	Name of the institutions linked. (Schools/Hospitals/Dratshangs)
	Thrisa corperative	Buli central school
	Panbang Youth Cooperative	Panbang Primary School
	Milk Processing Unit (MPU)-Ex Police Cooperative	
	Drukyul Sonam Detshen	
	Novin Livestock Integrated Farm	Kikhar Primary School
	Karchung Private Farm	

- Integration of Quinoa into Institutional Diets under the OCOP Project

The Department, in collaboration with the Department of Agriculture, introduced quinoa into the diets of Jigme Dorji Wangchuck National Referral Hospital (JDWNRH), Wangbama Central School, and Bartsham Central School under the One Country One Priority Product (OCOP) initiative of the Food and Agriculture Organization of the United Nations. With technical support from the National Post Harvest Center, quinoa-based recipes were developed and piloted.

A total of 8.1 MT of quinoa was supplied to the three institutions through FMCL during the pilot phase. Starting FY 2025–26, these institutions will procure quinoa independently. Although no farmer groups or cooperatives were engaged in the current supply chain, the initiative has shown promising results, particularly at JDWNRH. Approximately 78 percent of patients consumed quinoa, with 65 percent expressing satisfaction. Notably, diabetic patients reported improved glycemic control and stable energy levels. The hospital also reported a reduction of 2,000 kg of rice consumption over six months, with an expected annual reduction of 4,000 kg.



- ***Market Linkage Initiative at Sangye Migyurling Monastery, Phuntsholing, Chhukha***

A formal linkage between Sangye Migyurling Monastery and the Aggregator Network of Chhukha was established on 1st January 2025, with the first supply initiated on 16th January 2025. This collaboration is aimed to provide an assured and stable market for farmers, promote the consumption of locally produced agricultural and dairy products within the *Dratshang*, and reduce reliance on imported goods. The initiative directly benefits around 15 households from Phuentsholing and Logchina Gewogs under Chhukha Dzongkhag, as well as Jabana under Paro Dzongkhag. It also ensures that the *Dratshang* Lams and Lopens are served with fresh, organic, and natural farm produce sourced directly from these communities.

Activity 4: Support agrifood business through provision of value addition equipment, processing facilities, product development, packaging, logistics, and digitalization in strategic locations

In FY 2024–2025, a total of 16 agrifood enterprises were established or strengthened nationwide through coordinated efforts by DAMC. Support was provided under a 70:30 cost-sharing arrangement, with DAMC/RAMCO covering 70 percent of the cost for processing and value-addition equipment, and the remaining 30 percent contributed by the respective enterprises. These interventions aimed to foster enterprise growth, promote value addition, and strengthen agri-food supply chains.

SN	Beneficiary	Equipment	Quantit y (Nos)	Price (Nu)	Cost Sharing (Nu.)	
					70% or max. one million, whichever is less (By DAMC)	30% (By Beneficiary)
1	Sherab Dorji (Khemdro Dairy), Khemdro, Phobjikha, Wangduephodrang.	Ice Cream Harderner	1	607,500	425,250	182,250
		FT-IR Milk Analyzer	1	695,000	486,500	208,500
Total				1,302,500	911,750	390,750
2	Kinley Tenzin (Bhutan Biscuit and Gourmet), Bajo-Thango, Wangduephodrang.	64 trays electric rotary oven	1 Set	1,147,000	802,900	344,100
		Stainless steel dough sheeter with cutter	1 Set	229,709	160,796.3	68,912.7
Total				1,376,709	963,696.3	413,012.7
3	Thinley Namgay, Druk Metho, PT Complex, Hejo, Thimphu	Eyelet Punching Machine- Model 102-34 Komfort with Eyelets	1	235,562	164,893.40	70,668.60
		SS Tofu Processing Plant (Plant capacity 350 LPH)	1	950,000	665,000	285,000
Total				1,185,562	829,893.40	355,668.6
4	Janchuk Dorji, Jangchubshing Organic Farm,Tashigatshel, Bjabchhog, Chhukha Dzongkhag	10L Ultrasonic Extraction and Concentration Machine	1 Set	900,000	630,000	270,000
Total				900,000	630,000	270,000
5	Pema Lhadon (Shaoulee Food Products), Babesa near Thimphu South Police Station. Thimphu.	Wheat Flour Milling Plant	1	1,479,955	1,035,968.50	443,986.50
Adjustment made with last fiscal year's support to ensure that DAMC support does not exceed the maximum cap of Nu. 1,000,000/-					802,006	677,949
Total				1,479,955	802,006	677,949

6	Sonam Zangmo (NTT Fengsi Production), Stratup Centre, Changzamtok, Thimphu	Noodle making Machine (Glass Noodles) with Automatic Noodle Cutting Machine	1	1,095,789	767,052.30	328,736.70
		Pasta Making Machine	1	164,000.00	114,800.00	49,200.00
Total				1,259,789	881,852.30	377,936.7
7	Sonam Yuden (Soyalla), Stratup Centre, Changzamtok, Thimphu	Freeze Dryer/ lyophilizer	1	220,958.00	154,670.60	66,287.40
		Tofu Packaging Machine	1	320,845.00	224,591.50	96,253.50
		UHT Pasteurization Machine Complete Set	1	518,813.00	363,169.10	155,643.90
		Dehydrator/ Dryer for Residue	1	137,355.00	96,148.50	41,206.50
Total				1,197,971.00	838,579.70	359,391.30
8	Chimi Dem, Druna Ghu, Dawakha, Paro	Cookie molding machine	1	627,000.00	438,900.00	188,100.00
		Rotary Oven	1	709,000.00	496,300.00	212,700.00
Total				1,336,000.00	935,200.00	400,800.00
9	Sangay Tshering, Chairman, Tshaluna Dairy Cooperative, Tshaluna, Mewang, Thimphu.	Semi Auto Pet Blow Molding Machine with 1 (one free mold)	1 Set	489,000.00	342,300.00	146,700.00
		Air Compressor	1 No	98,000.00	68,600.00	29,400.00
		Chiller	1 No	108,000.00	75,600.00	32,400.00
		Mould (2000 ML)	1 Set	61,920.00	43,344.00	18,576.00
		Mould (500 ML)	1 Set	37,120.00	25,984.00	11,136.00
		Mould (250 ML)	1 Set	31,960.00	22,372.00	9,588.00

Total				826,000.00	578,200.00	247,800.00
10	Jeewan Baral (Mugwort Solution), Startup Center, Changzamtok, Thimphu	Herbs Chopping Machine/Shredder	1	188,500.00	131,950.00	56,550.00
		Herbs Washing Machine	1	338,000.00	236,600.00	101,400.00
		Vibro Sifter	1	130,500.00	91,350.00	39,150.00
		Stone Grinder	1	38,500.00	26,950.00	11,550.00
		Ultrasonic Sealing Machine	1	143,000.00	100,100.00	42,900.00
		Korean Dehydrator	2	241,000.00	168,700.00	72,300.00
		Commercial Induction (Three Zone)	1	138,000.00	96,600.00	41,400.00
		Rotary Sieving Machine	1	54,250.00	37,975.00	16,275.00
		Shrink Wrapping Machine	1	62,400.00	43,680.00	18,720.00
		Batch Coding Machine	1	14,500.00	10,150.00	4,350.00
Total				1,348,650.00	944,055.00	404,595.00
11	Tshering Penjor, Yogurt Enterprise. Talung, Bji, Haa	Batch Pasteurizer	1	134,000.00	93,800.00	40,200.00
		Yoghurt Incubation chamber	1	185,842.00	130,089.40	55,752.60
		Refrigerator	1	59,971.00	41,979.70	17,991.30
		Cup sealer	1	38,000.00	26,600.00	11,400.00
		Electric Food Dryer	1	49,050.00	34,335.00	14,715.00
Total				466,863.00	326,804.10	140,058.90
Grand Total				12,679,999.0	8,642,036.8	4,037,962.20

Table 9: List of Agribusiness supported with value-addition equipment

SN	Beneficiary	Equipment	Qty (Nos)	Unit Price (Nu)	Cost Sharing (Nu.)	
					70 % (RAMCO-Mongar)	30% (By Beneficiary)
1	Eastern Agriculture Marketing Coop Members	Digital Weighing balance (50 Kg)	20	5,499.00	76,980.00	32,994.00
2	Samsara Organic mushroom farm & Aggregators	Plastic crates (Foldable)	150	699.00	73,395.00	31,455.00
3	Samsara Organic mushroom farm & Aggregators	Sealing machine tube sealer OTS-1	2	2,149.00	3,008.60	1,289.00
4	Druk Arachis, Pea nut processing unit	Pea nut coating machine	1	133,750.00	93,625.00	40,125.00
5	Druk Arachis, Pea nut processing unit	Pea nut butter making machine	1	100,450.00	70,315.00	30,135.00
Total					317,323.60	135,998.00

Table 10: Value addition and equipment supported by CARLEP Project under Cost-Sharing Method

Activity 5: Improve and integrate existing digital platforms for enhanced marketing (commodity exchange, AMIS, e-commerce platform, digital database of FGs/Co-ops., etc.)

The Department has secured Technical Assistance (TA) to develop a comprehensive Digital Road Map for Agriculture in Bhutan. The specific digital platforms to be enhanced or developed will be identified through a detailed needs assessment, which will be carried out as part of the TA and is expected to be completed by December 2025.

Activity 6: Establishment of market infrastructures, main outlet for sale of products from all 20 dzongkhags; formation of aggregators, linking with potential processors, retailers, wholesalers, vendors; capacity building.

- **Babesa Wholesale Market.**

In response to the absence of a proper and organized market space for farmers and wholesalers, coupled with poor maintenance and waste management issues at the

temporary Babesa site, the Department collaborated with Thimphu Thromde to identify and implement necessary interventions.

Following consultations, the department has leased the Babesa site from Thimphu Thromde for a period of three years. The Department will undertake essential infrastructure upgrades to ensure better functionality and hygiene of the site. The priority development works included:

- Blacktopping of the market area
- Construction of a public toilet
- Installation of electrification and water supply facilities

The site developments will be completed and the wholesale area will be opened to the farmers from the 2nd of August, 2025.

- ***Establishment of Aggregation Centres to Enhance Agri-Food Supply Chain***

To strengthen the agri-food supply chain and address the need for efficient collection and distribution of agricultural produce, particularly for the Gyalsung Academies, the Department is supporting the establishment of Aggregation Centres in Wangduephodrang and Mongar Dzongkhags. These centres, funded through a deposit work arrangement with respective Dzongkhag Administrations (Nu. 1.5 million for Wangdue and Nu. 2.9 million for Mongar), will function as centralized hubs for consolidating, sorting, storing, and distributing both fresh and processed agricultural products. This initiative is expected to reduce post-harvest losses, enhance product quality, ensure timely deliveries, and strengthen coordination among producers, cooperatives, and institutional buyers.

The Mongar Aggregation Centre is nearing completion, with 90 percent of the construction work finalized, while the tendering process for the Khotokha Aggregation Centre in Wangduephodrang Dzongkhag is currently underway.

- ***Establishment of Potato Trade Facilitation Center in Gangtey, Wangdue Phodrang***

To address growing challenges in potato marketing and export, the Department of Agricultural Marketing and Cooperatives (DAMC), in collaboration with FCBL, established a Potato Trade Facilitation Center (PTFC) in Jangchey, Gangtey Gewog, Wangdue Phodrang. The total cost of Nu. 75.67 million facility is equipped with advanced grading, washing, drying, and packaging systems along with an online trading platform. The PTFC is the first of its kind in Bhutan and is expected to transform the potato value chain by improving quality, compliance with export standards, and easing access to international markets.

Following the establishment of PTFC in Gangtey, Wangdue Phodrang, a total of 1,180.05 MT of potatoes were auctioned online, generating a value of Nu. 34,194,133. The facility has directly benefited farmers from two Dzongkhags, Wangduephodrang and Trongsa particularly those from the gewogs of Gangtey, Phobjikha, Bjena, Dangchu, Sephu, and Tangsibji, by providing improved market access and streamlined trading services.

- ***Establishment of Integrated Cold Store in Zhemgang***

To improve market access, reduce post-harvest losses, and strengthen food security, the Ministry, in collaboration with FCBL, has established a new Integrated Cold Store (ICS) in Buelsa, Nangkor Gewog, Zhemgang. The facility was constructed at a cost of Nu. 47 million and features eight chambers with a total capacity of 180 MT for storing fruits, vegetables, dairy, and meat products.

The ICS addresses major gaps in the agricultural value chain, such as inadequate storage and seasonal supply fluctuations. The facility has been directly benefiting the Khengrig Namsum Cooperative, comprising 16 active members. To date, it has facilitated the storage of approximately 40 metric tonnes of turmeric and 500 to 600 kilograms of ginger, sourced from six gewogs of Bardo, Nangkor, Goshing, Phangkhar, Trong, and Ngangla enhancing post-harvest management and market readiness for local producers.

- ***Establishment of Potato Trade Facilitation Center at Gaytsa, Bumthang***

The Potato Trade Facilitation Centre (PTFC) at Gaytsa, Chhumig Gewog, Bumthang was established to enhance the efficiency and value of potato marketing. The centre is equipped with modern facilities including warehouses, grading, washing, drying, and packing machines, as well as an integrated online trading and auction system. The project, implemented by FCBL at a total investment of over Nu. 83.59 million is expected to significantly benefit farmers in Bumthang and surrounding potato-grower regions by improving post-harvest handling, market access, and overall income opportunities.

- ***Sale outlet for 20 Dzongkhags:***

As part of the initiative to promote local agricultural products and support farmers across the country, the Department has facilitated the establishment of stalls at KaJa Throm, Thimphu for all 20 Dzongkhags. These stalls provide a platform for farmers, groups, and agribusinesses to directly market their produce to urban consumers. For instance, a dedicated stall has been allocated to farmers from Pemagatshel to sell their farm products, offering them a stable market in the capital.

Additionally, a stall has been provided to the Mushroom Group, *Sanam Chi-Tshog Nyamlay Tshogpa* from Dogar, Paro Dzongkhag, recognizing their specialization in mushroom production. Another stall has been allocated to Bhutan Hydroponics, which showcases innovative and modern farming practices. To promote certified organic

products, an organic outlet was also inaugurated on 20th June 2025. This outlet is managed by Bio Bhutan, a company with expertise in organic production and export, enhancing consumer access to safe, organic, and locally-sourced products. These initiatives are aimed at strengthening market linkages, improving farmer incomes, and promoting Bhutanese produce through a centralized and accessible market space at KaJa Throm.

Activity 7: Establish Agrifood Economic Hub in Paro for high value export commodities

After a detailed assessment, it was determined that establishing an agrifood Eco Hub in Paro was unfeasible. Consequently, the department shifted its focus to Thimphu and successfully developed the concept and design for an Eco Hub.

This Eco Hub is envisioned as a central platform to promote sustainable agri-food marketing, a circular economy, and green innovation, all of which align with Bhutan's development priorities. The department is now collaborating with Thimphu Thromde to identify a suitable location for the facility.

6.3. PROJECT 2: BUILDING RESILIENCE OF SMALLHOLDER FARMERS

Department of Agriculture

Activity 1: Construction/renovation of irrigation channels

Irrigation water, being the most essential factor for crop production, the department continues to prioritize the development of irrigation infrastructure. The department in collaboration with the Irrigation Division of the DoID, MoIT, has focused on improving the quality of irrigation infrastructure by establishing sustainable and climate-resilient irrigation through durable intake weirs, piped main and distribution lines, and renewable energy-powered lift irrigation systems.



Trench laying of HDPE, Gayrikha scheme in Haa PemaGatshel



Side intake at Khangma Scheme in

Out of 24 schemes prioritized in the 13 FYP to be implemented centrally, five centrally funded schemes were implemented in this reporting period (Table 7). Two schemes; Gayrikha-Tsonglina (Haa) and Khangma (Pemagatshel) are completed.

Table 11. Information of the centrally executed irrigation schemes

Name of the scheme	Length (km)	Command area (acres)	No. of beneficiaries	Budget (Nu. in millions)	Fund source	Completion status
Gayrikha-Tsonglina, Haa	3	69	21	14.4	Gol	100%
Khangma, Pemagatshel	3.2	130	60	15.1	Gol	100%
Khameything, S/jongkhar	6	253.5	86	28.3	BFL	85%
Changwa-Rongchhu Scheme, Bumthang	6	75	98	38.2	Gol	65%
Changyul-Ritsa Lift irrigation, Punakha	3	500	255	29.9	Gol	15%
Total	21.2	1,027.50	520	125.8		

Additionally, Local Governments implemented 114 schemes, with 81 completed and 33 ongoing, covering 287.24 km, 11,530 acres, and benefitting 6,512 households. To ensure timely implementation next year, survey works for seven new schemes are already completed.

Activity 2: Installation of fencing

Around 19-43 percent of crop yield is lost to wild animals annually, which hinders the achievement of food production targets. Considering this significant loss of crop yield, the department has allocated Nu. 5.1 billion for chain link fencing in the 13th FYP, to mitigate crop depredation by wild animals.

The pilot phase, initiated in 2022–2023, implemented 19 schemes with a total investment of Nu. 154.4 million. In this reporting period, a total budget of Nu. 667.5 million (Nu. 637.5 million from the Gol-PTA and Nu. 30 million from FSAPP) was allocated for implementing 83 chain-link schemes (420 km) across 20 Dzongkhags. For the upcoming financial year, Nu. 862.5 million has been allocated for the execution of 116 additional schemes.

Table 12: Details of chain link fencing carried out in FY2024-2025

Dzongkhag	Actual Length in KM	No. of Chiwog Covered	No. of Schemes	Cultivated land Protected (acres)	Expenditure (Nu. M)
Bumthang	18	2	2	470	23.5
Chhukha	22	6	6	481	17.3
Dagana	14	3	3	444	8.8
Gasa	5	1	1	15	7.5
Haa	38	8	8	558	55
Lhuentse	11	2	2	325	16.3
Mongar	19	2	2	282	18.3
Paro	39	9	8	1065	49.8
Pema Gatshel	14	5	5	219	16.5
Punakha	30	5	5	465	49.5
Samdrup Jongkhar	22	8	6	777	28.6
Samtse	13	3	4	172	12.9
Sarpang	20	2	2	705	26.4
Thimphu	9	2	3	127	10
Trashigang	17	3	3	287	24.5
Trashiyangtse	41	11	8	887	57
Trongsa	14	3	3	281	20.3
Tsirang	23	6	2	1126	23.8
Wangdue Phodrang	28	5	4	608	33.7
Zhemgang	23	6	6	667	32.2
Grand Total	420	92	83	9959	531.9

Activity 3: Implement Million Fruit Tree Project (MFTP) to enhance the production of high-value fruits and nuts for food and nutrition security and income generation

The Fourth phase of Million Fruit Tree Project (MFTP) was launched on 21st February 2025 coinciding with the birth anniversary of His Majesty the King of Bhutan at Kidheykhar Sherda, Mongar Dzongkhag. A total target of 1.09 million high-value fruit seedlings (pecan nut: 33,650, walnut: 6779, apple: 8250, kiwi: 33,650, almond: 19,479, pear: 3441, persimmon: 1453, avocado: 178,902, mandarin: 297,464, macadamia nut: 86,135, lime: 80,631, mango: 24,400, agarwood: 41,162, coffee: 275,879 and bodhi tree: 596) covering over 19,765 beneficiaries were distributed and planted. The beneficiaries include farmers and institutions. In this phase, all 15 types of fruit seedlings were procured from 60 private and government nurseries within the country.

A total of about 980 desuups were engaged for the plantation. The overall estimated expenditure for this phase, encompassing both temperate and sub-tropical plantations, amounted to around Nu. 150 million. Of this, the temperate plantation alone accounted for an expenditure of approximately Nu. 20 million.

Activity 4: Enhance self-sufficiency of rice through irrigation, land development, mechanization, input subsidy, research, and production support services (25 percent to 30 percent SSR)

- Farm mechanization

The agricultural sector is increasingly challenged by labor shortages resulting from rural-to-urban migration and an aging farming population. To address this issue, the Department has prioritized farm mechanization as a key intervention under the 13th Five Year Plan. In the current fiscal year, a total of 3,067 acres has been brought under mechanized cultivation, benefiting 1,689 households

Table 13: Details of farm mechanization

Region	Household No	Area in Acre	No. of Days
Farm machinery			
RFMCL Bajo	631	935.01	1067.50
RFMCL Bumthang	179	142.15	262
RFMCL Khangma	5	844.01	112.68
RFMCL Paro	727	900.8	7855
RFMCL Samtenling	110	114.7	224.63

Total	1652	2936.67	9521.8
Heavy Vehicle & Machinery			
RFMCL Bajo	26	77.22	231
RFMCL Bumthang		44.8	332.11
RFMCL Paro	7	3	125.5
RFMCL Samtenling	4	5	191.75
Total	37	130.02	958.34
Grand total	1689	3066.7	10,402

- Input subsidy- fertilizers and pesticides

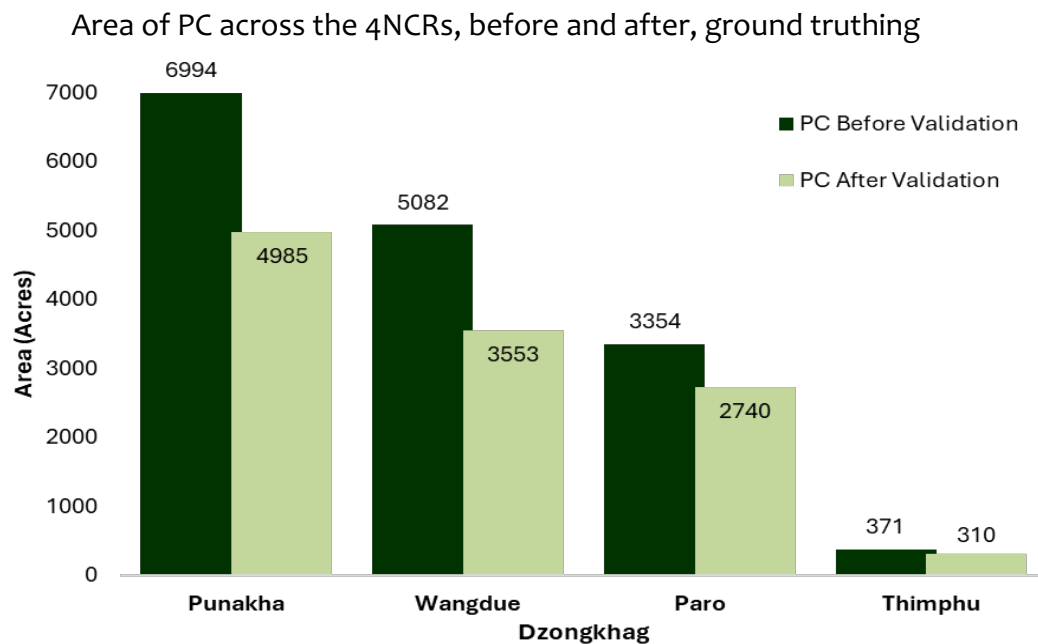
A total of 2,750.70 MT of Urea, SSP, Borax, NPK and MoP chemical fertilizers were supplied to the farming community to enhance agricultural production (Paddy, potato, vegetables). Despite challenges in managing such a large quantity in bulk, the timely and efficient distribution played a vital role in supporting farmers and boosting crop yields. The sustained supply ensured that nutrient requirements of crops were met, contributing significantly to increased productivity and food security. Through the sale of fertilizer, the NCS generated Nu. 133.33 million of income. In this FY, the government provided a support of Nu. 24 million which encompasses the 10 percent subsidy on sales commission and 10 percent on transportation.

Similarly, the government provided a Nu. 1.6 million (10 percent subsidy on sale commissions) on the supply of pesticides.

- Chhuzhing Optimization/Rationalization Exercise

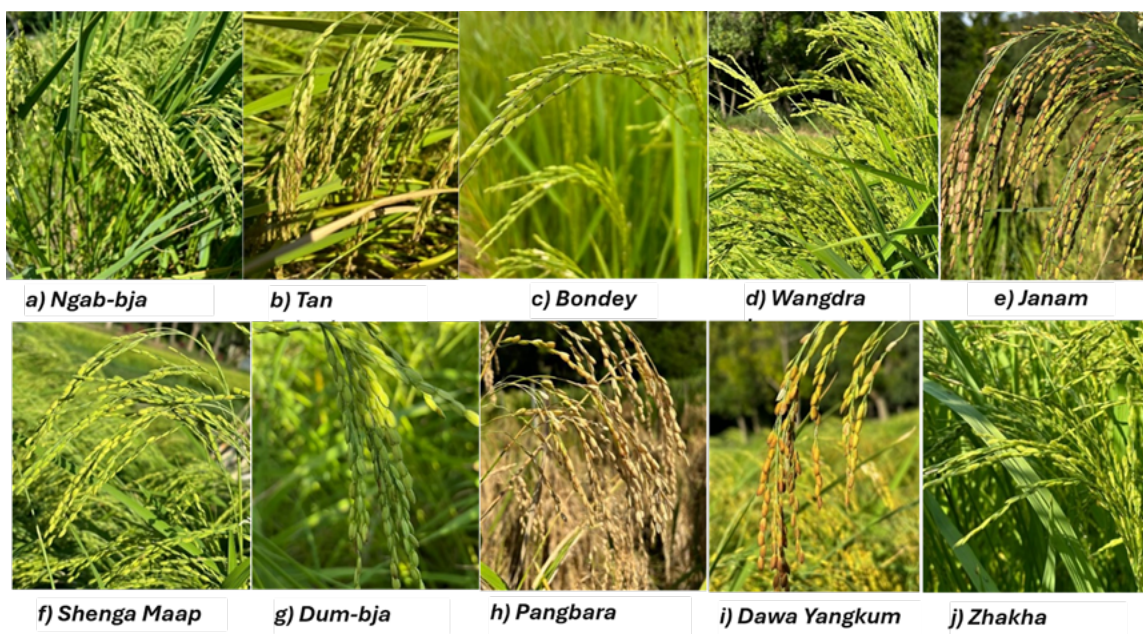
The Chhuzhing Optimization/Rationalization Exercise was conducted based on the Royal Command issued on June 21, 2024. A high-level Committee chaired by the Secretary of NLCS was formed. The DoA, in collaboration with the NLCS, the Department of Culture and Dzongkha Development, and the Department of Human Settlement carried out the Chhuzhing optimization/rationalization exercise across the four-capital region (Thimphu, Paro, Punakha, and Wangduephodrang). This was aimed to address growing concerns related to Chhuzhing use and conservation.

The core objective of this exercise is to Protect and promote the sustainable use of Chhuzhing (wetlands) for food security, allow conversion of unproductive wetlands for alternative uses in a controlled manner and reserve Bhutan's cultural landscape by creating construction-free buffer zones around heritage sites and settlements. Given the national importance of addressing Chhuzhing conversion issues, the four National Capital Region Dzongkhags (NCRD); Paro, Thimphu, Punakha, and Wangdue Phodrang were prioritized. Chhuzhing was classified into two categories: Protected Chhuzhing (PC) wetlands below 2500 masl with at least 10 acres of contiguous plots connected by five-meter buffers or man-made features like roads and irrigation channels and Regulated Chhuzhing (RC) for all others not meeting PC criteria.



- Research

Characterization of premium Traditional Rice varieties: Using the International Rice Research Institute (IRRI) Standard Rice Evaluation System, ten premium local rice varieties were studied to uncover their unique traits and potential for the future.



Rice breeding: A crossbreeding program was carried using 15 local landraces and 3 improved rice varieties for the first time. Out of 45 hybridization attempts, 6 crosses were successful. The primary objective was to improve grain yield and reduce plant height. The resulting F_1 hybrids from these successful crosses will undergo further evaluation in upcoming trials. These F_1 seeds will be used for advancement and selection of superior rice genotypes.

Other research includes the evaluation of Upland Paddy Varieties on the performance under both dryland and irrigated conditions, and monitoring of planthopper and leaf hopper in paddy.

Activity 5: Self-sufficiency of maize enhanced through research and production input supports

The DoA released a Hybrid maize variety four years ago. However, synchronization of parental lines restrained its reach to the farmers' field. To improve access to hybrid seeds, a community-based seed production group was established at Lamzang, Trashigang in 2024. The group successfully produced 320 kg of F_1 hybrid seeds from 0.33 acres of land. These high-yielding seeds were then promoted across 12 acres by 49 households to assess field performance and foster community-wide confidence in hybrid seed adoption. In the following years, the group will be formally registered and handed over to the National Seed Centre with certification from BFDA, to produce the hybrid seeds. Additionally, three high-yielding maize varieties namely Xellano Hishell, Xellano 900M Gold and DEKALB 9144 in collaboration with Reva Seeds were introduced and evaluated for their performance in a temperate climate and as a winter crop in a subtropical climate.

Activity 6: Self-sufficiency of wheat crop enhanced through improved seed and research

A total of 5 MT of durum wheat seeds was procured and distributed to farmers of Gatsetshogom gewog in Wangduephodrang, Barp gewog in Punakha and Geney gewog in Thimphu. The harvest from these areas was later procured by FMCL under the PGS system.

Research: MARPLE (Mobile And Real-time PLant disEase) Diagnostics, one of the first of its kind in the world, has been introduced for improved diagnosis of wheat rust disease pathotypes applying molecular tools with support from CIMMYT. The National Plant Protection Centre, DoA confirmed the presence of yellow and leaf rust diseases of wheat crop across Bhutan through “Sentinel Plots & National Surveillance”. Through the study, increasing incidence of Fusarium Head Blight (FHB) has also been observed which could be detrimental to any future commercial wheat production if not managed timely. Another important on-going research is the evaluation of India Durum Wheat Semolina which will be proposed for release in the up-coming Variety release Committee.

Capacity Building & Awareness: Over 200 extension staff and farmers received hands-on training in wheat disease identification, data collection, and sample handling, strengthening Bhutan's plant protection capacity.

Activity 7: Self-sufficiency of essential vegetable enhanced (Chili, onion, tomato, cauliflower, and beans) enhanced through protected cultivation and other production input services (41 percent to 62 percent)

The promotion of essential vegetable production is largely undertaken by the respective Dzongkhags. However, the department has also contributed to upscaling efforts through projects such as vegetable production and supply to Gyalsung academies, and the establishment of farms for open-air prisoners and Chirups. These initiatives are primarily focused on the production of essential vegetables. Protected cultivation is being promoted for crops such as chillies, beans, and tomatoes through the distribution of 332 greenhouse sets, 1,553 sets of drip and sprinkler irrigation systems, and 419 rolls of mulching plastic to farmers on a cost-sharing basis.

Breeding research on Chilli and Tomato: A local cherry tomato, though tolerant to open field conditions, produced small, unmarketable fruits. To improve its traits, a successful F1 cross with Yusi Lambenda was made at NCOA, with backcrossing planned for the coming year. Similarly, a chili breeding between Sha Ema and AVPP 1111 was initiated. The objective of the chili hybridization is to develop F1 chili with chili blight resistance, better yield performance and acceptable taste. F1 seeds extracted will be regrown to ensure segregation of characteristics. Desirable characteristics will be identified from the F2 lot for disease resistance.

Activity 8: Production of potatoes through the support of strategic production inputs, research, and development

A total of 93.9 MT improved potato seeds (Desiree, Yusi Maap, Yusi Maap-2, Khangma Kewa Kaap and Yusi Chip) was procured from the National Seed Centre and were distributed in 10 districts covering more than 90 acres. The expected production is estimated around 450 MT.

Table 14: Abstract of Improved potato intensification in Bhutan

Dzongkhag	Qty (MT)	Area (acre)
Tsirang	17	17
Samtse	10.4	10.4
Thimphu	19.81	19.81
Wangdue	0.05	0.05
Pemagatsel	6	6
Bumthang	9.95	9.95
Samdrupjongkhar	5.25	5.25
Dagana	11.5	11.5
Paro	4.8	4.8
Haa	8	8
Bumthang	1.15	1.15
Total	93.91	93.91

As part of a research outreach program, a total of 11.80 metric tons of improved potato varieties, including Yusi Maap (11.5 MT), Yusi Kaap (0.15 MT), and Khangma Kaap (0.15 MT) were distributed across eight districts: Trongsa, Zhemgang, Chhukha, Paro, Thimphu, Bumthang, Haa, and Trashigang, covering a total area of 11.80 acres. This season, the demonstrations were primarily carried out in new locations where these varieties had not been previously cultivated, including areas within chain-link fencing. A total of 0.9 MT seeds were also used for on-station seed production, trials and on-farm potato wart assessment in several dzongkhags such as Haa, Thimphu, Paro, Trongsa and Chhukha.

An organic potato production demonstration was conducted in Lul and Zamsa-Phasuma Organic Village to promote sustainable agriculture and meet rising demand for chemical-free produce. Six and five households from Lul and Zamsa-Phasuma, respectively, were selected and provided with 1 MT of Yusimap potato seeds, covering 1 acre. Farmers received training on organic techniques, including soil preparation, biological pest control, and compost application. The initiative aimed to enhance food security, improve soil health, and demonstrate the viability of organic potato farming. Results indicate strong potential for scaling sustainable practices, reinforcing NPP's commitment to eco-friendly agriculture and farmer capacity-building in Wangdue and Chhukha Dzongkhags.

Activity 9: Production of mushrooms by supporting private entrepreneurs with necessary equipment, skill development, research and development

In a major stride toward promoting mushroom cultivation and enhancing rural livelihoods, a total of 13200 bottles/bags of Shiitake mushroom spawn and 90700 bottles of oyster mushroom spawn (84000 from 13 private mushroom producer), 450 bottles of Ganoderma spawn and 1700 bottles/bags of Nameko spawn was supplied.



Research Outreach Programs:

1. Ganoderma mushroom cultivation was introduced in Gasa and Punakha Dzongkhag with support from Bhutan for Life (BFL) project. Local communities were trained in cultivation techniques, including inoculation, incubation, and bed log maintenance. The first fruiting occurred between September and November 2024, indicating promising results in farmer fields. With support from DAMC, Menjong Sorig Pharmaceuticals procured 37.6 kg of dried Ganoderma from 18 households across Punakha and Gasa dzongkhag amounting to Nu. 112,800.
2. With support from a FAO-funded TANDI project, Nameko mushroom (*Pholiota microspora*) cultivation was introduced in Tsirang, Chhukha, Paro.
3. Successfully cultured truffles and the culture is used to conduct trials on different pH levels to determine the best pH level for the particular truffle species

Capacity Building:

1. Over 250 youth, students, mushroom growers and farmers on cultivation of Shiitake mushroom, Oyster mushroom, Hericium, Enoki, Cordyceps Militaris, King Oyster, Button and Nameko mushroom. A total of 3 spawn production labs were established this year in Genekha, Haa, and Wangdue.
2. A three-month long training was conducted to 15 Desuups on cultivation of shiitake, oyster, nameko, ganoderma, needle and Hericium mushrooms
3. National Mushroom Festival 2024 held in Geney Gewog, Thimphu (15-16 August) and Ura, Bumthang (23–24 August) to sensitize on wild mushroom specimens, mushroom identification, mushroom poisoning

Activity 10: Generate and promote innovative agriculture technologies through R&D and support services, including CSA technologies

By the end of 13 FYP, the DoA has targeted to develop 50 new technologies (including crop varieties). In this reporting period, a total of 19 crop varieties demonstrated superior yield performance, enhanced resistance to pests and diseases, and growers' preferences, exceeding the annual target of 10 technologies.

SN	Commodity	Initial variety name	Proposed name	Yield	Altitude range (masl)
1	Mushroom	A11	Naki Shamu 1	0.67 kg/bag	Can be cultivated year-round and across different agro-ecological zone, if the optimum environment condition is met
2	Mushroom	Hungarian Oyster	Naki Shamu 2	0.62 kg/bag	
3	Mushroom	HOY	Naki Shamu 3	0.69 kg/bag	

4	Mushroom	Oyster Nepal	Naki Shamu 4	0.78 kg/bag	
5	Mushroom	PBN	Naki Shamu 5	0.71 kg/bag	
6	Sweet potato	Murasaki	Yusi Kewa Ngyam 1	13 MT/ac	1500-2100
7	Tomato	AVTO-1712	Yusi Lambenda 4	14-20 MT/ac	300-2600
8	Wine grape	Petit Manseng	Petit Manseng	2.2 kg/vine	600-2300
9	Wine grape	Chardonnay	Chardonnay	1.8 kg/vine	600-2300
10	Wine grape	Sauvignon Blanc	Sauvignon Blanc	3.7 kg/vine	600-2300
11	Wine grape	Malbec	Malbec	2.7 kg/vine	600-2300
12	Wine grape	Merlot	Merlot	2 kg/vine	600-2300
13	Wine grape	Cabernet Sauvignon	Cabernet Sauvignon	2.9 kg/vine	600-2300
14	Wine grape	Cabernet Franc	Cabernet Franc	2.9 kg/vine	600-2300
15	Wine grape	Pinot Noir	Pinot Noir	2.5 kg/vine	600-2300
16	Wine grape	Syrah	Syrah	1.7 kg/vine	600-2300
17	Passion fruit	Summer Queen	Summer Queen	16-19 kg/plant	350-1600
18	Black rice	Black rice	Bajo Ray Naap 1	1.8 to 2.6 MT/ac	650-1400

Table 15: List of crop varieties through R&D

Activity 11: Strengthen Agro-meteorology services and institute index-based crop insurance to enhance adaptation to climate change impacts

In a major step toward climate-resilient agriculture, the Department of Agriculture and National Centre for Hydrology and Meteorology successfully rolled out the Agromet Decision Support System (ADSS) to deliver timely weather and climate information to farmers. In the 13th FYP, the Department aims to provide weather-based crop advisory services weekly during the critical growth stages of the crops.

In FY 2024–25, over 140 Agromet Advisory Bulletins were issued, helping farmers make informed decisions. The program also trained 22 agriculture officers in advanced agrometeorology and engaged 540 stakeholders, including 264 farmers, through nationwide awareness programs. A key highlight was the development of five crop suitability maps to support better planning. Backed by the World Bank and Adaptation Fund, this marks a major milestone in strengthening Bhutan’s agricultural resilience against climate risks.

Activity 12: Production of Nutri-cereals (Quinoa & buckwheat) through the support of strategic production inputs, research and certification.

Recognizing quinoa’s high nutritional value, efforts to revive and boost its cultivation took off with support from FAO under the FVC project. As part of this initiative, a total of 7 MT of quinoa seeds were distributed across 14 dzongkhags, benefiting 4,348 farmers. During the FY 2024-25, Training of Trainers (ToTs) on quinoa production, management, and household-level utilization techniques, reaching 142 Agriculture Extension Officers (AEOs) across 16 Dzongkhags were conducted, procured and supply 10 milling machines and 35 power threshers to quinoa-growing farmers to improve post-harvest processing, conducted soil and pest and disease of quino, conducted research on poor germination of quinoa, high-yielding climate resilient varieties. A key milestone was the initiation of designing Bartsham Gewog (highest quinoa-producing area) as a Geographical Indication Environmental and Sustainability (GIES) site, aimed at enhancing the marketing and recognition of Bhutanese quinoa.

- Area brought under sustainable land development

Land development is crucial to crop cultivation. In 13 FYP the MoAL targets to bring 15,220 acres of land under sustainable land management/land development. In this reporting period, a total of 7,471.77 acres of agricultural land (both wetland and dryland) was brought under Sustainable Land Management (SLM)/Agriculture Land Development (ALD) interventions. These included bench terracing, terrace consolidation, orchard terracing, surface stone removal, orchard establishment, check dam construction, stone bunds construction and hedgerow establishment.

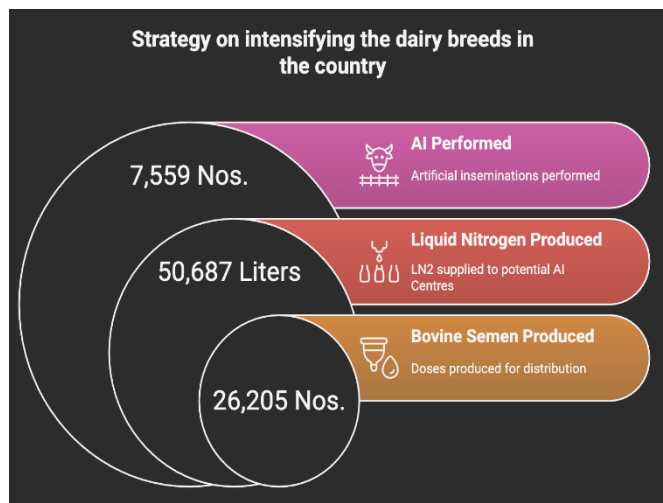
Table 16: SLM/ALD carried out during 2024-2025 FY

Sl. No.	ALD/SLM	Area (Acre)
1	Dry land terracing, terrace consolidation, orchard terracing & surface stone removal	1255.44
2	Fallow land reversion	113.79
A	Total area under ALD	1,369.23
3	Hedgerows establishment	718.8
4	Contour stone bund construction	222.27
5	Check dam construction	4,039.40
6	Orchard establishment & improvement	1,032.87
7	Landslide stabilization	38.8
8	Water source protection	0.4
B	Total area under SLM	6,102.54
	Total area brought under ALD & SLM	7,471.77

Department of Livestock

Activity 1: Intensify dairy breed improvement program for enhanced milk production to achieve 85 percent of the total milk consumption through domestic Production

Under the 13th FYP, the Department initiated the import of sex-sorted semen as part of the dairy breed intensification program, aiming to increase the production of female calves (heifers) for future milk production. The semen was strategically distributed to potential Artificial Insemination (AI) centers and the Community-based Heifer Breeding and Production Program (CHBBP) to maximize its impact on heifer production at the grassroots level. To support this effort, the Department also



prioritized the operation and maintenance of Liquid Nitrogen (LN₂) plants in Yusipang, Zhemgang, and Kanglung to ensure an uninterrupted supply of LN₂, which is critical for the preservation and transportation of semen used in AI services.

A total of 26,205 doses of bovine semen were produced and imported as of the reporting period, achieving 174.7 percent of the annual target of 15,000 doses. In addition, 50,687 liters of liquid nitrogen (LN₂) have been produced since July 2025, meeting 112.63 percent of the annual target of 45,000 liters. These achievements reflect significant progress in strengthening artificial insemination services and genetic improvement programs.

Produced 50,687 liters of Liquid Nitrogen (LN₂), of which 36,932 liters were distributed to Dzongkhags and government farms, supporting AI and semen bank operations. A total of 21,425 doses of pedigree-selected bovine semen were produced locally, with 4,565 doses distributed. Additionally, 17,153 doses of progeny-tested and genomic-selected semen were imported, including 12,153 sexed doses. AI skill development training was provided to 69 Community AI Technicians (CAITs), and refresher courses were conducted for 6 livestock staff.

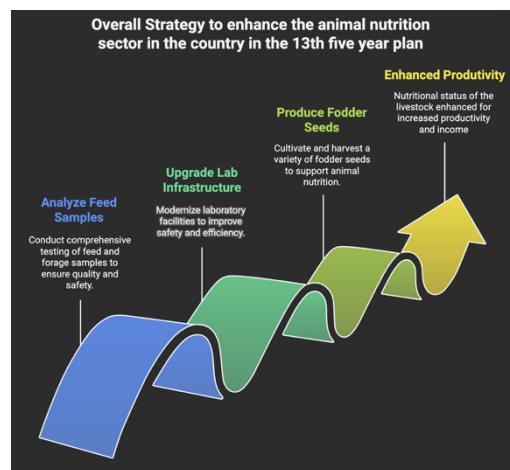
A total of 7,559 AI was performed nationwide, achieving a success rate of 42.8 percent. Use of sexed semen under Heifer Production Scheme (HPS) and Elite Heifer Breeders Scheme (EHBS) resulted in 88.9 percent female births. As a part of reproductive waste management interventions, treated 215 animals with ovarian disorders, achieving an 82.8 percent treatment response rate. Besides, EHBS was launched in Samdrup Jongkhar, Trongsa, and Wangduephodrang to support dairy development near Gyalsung Academy and BRECSA project sites. The initiative identified and registered 553 superior dairy animals across 67 villages in 9 gewogs, with awareness campaigns and NBIN tagging conducted to support breeding efforts.

Activity 2: Support resilient and climate smart dairy farming practices

Piloted Sistema.bio digesters in eastern Dzongkhags and conducted feasibility studies for biogas plants. Stakeholder consultations were held in all 20 Dzongkhags, and livestock staff were trained on reactor registration and bio-slurry management, promoting sustainable energy use in livestock farming.

Activity 3: Enhance animal nutrition services for enhanced productivity

Proper animal nutrition directly influences growth, reproduction, and milk/meat yield. Balanced feed improves feed conversion efficiency, reducing input costs and boosting farm profitability. Therefore, during the financial year 2024-25, analyzed 782 feed and forage samples, marking a significant increase in service outreach. The testing scope was expanded to include heavy metals, aflatoxins, and mineral profiling, enhancing support for food safety, animal nutrition, and regulatory compliance.



To enhance analytical capacity, installed advanced equipment, including a Near-Infrared (NIR) device and a Microwave Digester, significantly improving testing speed and precision. Laboratory infrastructure was upgraded through the partitioning of critical sections such as the Fume Hood and Atomic Absorption Spectrophotometer (AAS) areas. This modernization improved laboratory safety, minimized cross-contamination, and aligned operations with Good Laboratory Practices (GLP).

A total of 438 registered Community Fodder Seed Growers (CFSGs) across six Dzongkhags produced 91.93 metric tonnes of fodder seed during the FY 2024-25, generating an income of Nu. 5.64 million. The seed output included 57.80 MT of winter oats, 18 MT of fodder maize, 13.70 MT of temperate species, 1.6 MT of tall fescue, and 0.83 MT of subtropical species.

Activity 4: Enhance input support for increased egg and chicken production

As a part of its strategic intervention to enhance the table egg production and promote commercial poultry farming in the country, the Department of Livestock supplied a total of 291,340 numbers of layer day-old-chicks (DOCs) across 18 potential Dzongkhags during the financial year 2024-2025. The DOCs were supplied through three key Government hatcheries - National Poultry Development Centre (NPDC) in Sarpang, Regional Poultry Breeding Centre (RPBC) in Paro, and Regional Pig and Poultry Breeding Centre in Lingmithang-based on regional demand and production feasibility as shown in the table below.

Input Farm Name	Dzongkhag	Number of Layer Day-old-chicks supplied
NPDC Sarpang	Chhukha	2,600

<i>Input Farm Name</i>	<i>Dzongkhag</i>	<i>Number of Layer Day-old-chicks supplied</i>
	Dagana	5,250
	Punakha	600
	Samdrup Jongkhar	2,200
	Samtse	2,000
	Sarpang	51,165
	Tsirang	24,235
	Wangduephodrang	250
	Zhemgang	19,760
RPBC Paro	Chhukha	13,970
	Haa	1,000
	Paro	34,305
	Punakha	7,810
	Samtse	25,472
	Sarpang	12,305
	Thimphu	10,304
	Tsirang	4,805
	Wangduephodrang	5,323
RPPBC Lingmithang	Bumthang	851
	Lhuentse	7,189
	Mongar	16,091
	Pema Gatshel	13,213
	Samdrup Jongkhar	17,506
	Tashigang	10,875
	Trashiyangtse	2,261
Grand Total		291,340

Table 17: Total DOCs supplied



The NPDC in Sarpang supplied a total of 108,360 DOCs. The largest share was supplied within Sarpang Dzongkhag itself, counting 51,165 DOCs. Other beneficiaries included Tsirang with 24,235 DOCs, Zhemgang with 19,760 DOCs, Dagana with 5,250 DOCs, Samdrup Jongkhar with 2,200 DOCs, Chhukha with 2,600 DOCs, Samtse with 2,000 DOCs, Punakha with 600 DOCs, and Wangduephodrang with 250 DOCs.

The RPBC in Paro contributed 115,294 DOCs, the highest among the three centres. The largest recipients were Paro with 34,305 DOCs, Samtse with 25,472 DOCs, Chhukha with 13,970 DOCs, and Thimphu with 10,304 DOCs. Other Dzongkhags that received supplies from RPBC included Punakha (7,810 DOCs), Sarpang (12,305 DOCs), Wangduephodrang (5,323 DOCs), Tsirang (4,805 DOCs), and Haa (1,000 DOCs).

The RPPBC in Lingmithang supplied a total of 67,686 DOCs, primarily for eastern Dzongkhags. Mongar received 16,091 DOCs, followed by Samdrup Jongkhar with 17,506 DOCs, and Pema Gatshel with 13,213 DOCs. Additional supplies were made to Lhuentse (7,189 DOCs), Trashigang (10,875 DOCs), Trashiyangtse (2,261 DOCs), and Bumthang (851 DOCs).

Activity 5: Enhance input support for increased pork production

A new commercial piggery breeding farm was established in Wangduephodrang to increase piglet production, primarily to support national pork demand, including supply requirements for the Gyalsung Academies. This strategic investment aims to strengthen the pig breeding infrastructure and ensure a reliable and quality-assured supply of piglets for fattening.

Table 18: High-quality breeding piglets' supply

Input farm name	Dzongkhag	Growers	Weaners (Breeding)	Weaners (Fattening)	Young Boars	Total
NNPBC Yusipang	Chhukha		40	34	0	74
	Dagana		85	54	0	139
	Haa		0	5		5
	Mongar		0		2	2
	Paro		0	22		22

Input farm name	Dzongkhag	Growers	Weaners (Breeding)	Weaners (Fattening)	Young Boars	Total
NPiDC Gelephu	Punakha		4			4
	Samdrup Jongkhar		11			11
	Samtse	9	84		0	93
	Sarpang	3	45		0	48
	Thimphu		22	64	1	87
	Tsirang	0	30	26	3	59
	Wangduephodrang	0	69	38	0	107
	Zhemgang		15			15
	Dagana	0	84			84
	Sarpang	4	141	10	4	159
NPiDC Gelephu	Tsirang	0	99	3	0	102
	Wangduephodrang		6			6
	Zhemgang		6			6
RPPBC Lingmithang	Bumthang		21	36		57
	Mongar		58	14		72
	Pema Gatshel		30	234		264
	Samdrup Jongkhar		93	386		479
	Sarpang		30			30
	Tashigang		74	261		335
	Trashiyangtse		65	89		154
	Wangduephodrang		10			10
		16	1122	1276	10	2424

Between July 2024 and June 2025, the three government pig breeding centers, supplied a total of 2,424 live inputs such as weaner piglets, growers and young boars. The majority were weaner piglets (2,398), with a few growers (16) and young boars (10). The distribution strategy prioritized supplying parent stock weaners to private pig

breeders (PPBs) in major pig producing dzongkhags for commercial piglet production and supply to fattening farms.

Activity 6: Heighten farm biosecurity standards in all pig farms to protect resilience of the farms

In the first year of the 13th Five Year Plan (FYP), the Department of Livestock placed strong emphasis on strengthening farm biosecurity across the country's three pig nucleus farms. This initiative aimed to safeguard the genetic resources and maintain disease-free breeding environments, which are critical for sustaining pig productivity and supporting the broader piggery sector.

Alongside this, the Department continued promoting the Swine Artificial Insemination (AI) Program to enhance piglet production, ensuring timely and sufficient supply of improved piglets. Technical backstopping was also provided to Contract Pig Breeders (CPBs) to maintain a consistent and healthy pipeline of fattening piglets, contributing to the overall efficiency and biosecurity of the pig production system.

Activity 7: Enhance input support for fish production

For the fishery sector, the Department undertook key initiatives to strengthen and revitalize the country's aquaculture sector. Through the Cost Sharing Mechanism (CSM), warm water fish farming was revived among 20 farming households, enhancing livelihood opportunities and local fish production. To support these farmers, fingerlings were supplied at subsidized rates, making fish farming more accessible and economically viable.

The Department also prioritized the maintenance of essential water infrastructure at the National Development Center for Aquaculture (NDCA) in Gelephu and the Regional Centre for Aquaculture (RCA) in Phuntshothang, which are critical for consistent fingerling supply and overall aquaculture development.

To support the expansion of aquaculture, the Department conducted feasibility assessments for Chirup fishery farms in Samdrupjongkhar and Dagana to evaluate their technical and economic viability. Based on the findings, proposals were reviewed and technical clearance was provided to facilitate farmers' access to credit through financial institutions, which will enable them to invest and scale-up fish farming operations.

A total of 1,232,741 fingerlings were distributed across various Dzongkhags in Bhutan, achieving 136.97 percent of the annual target of 900,000 fingerlings. In June 2025 alone, 372,797 fingerlings were supplied to the Dzongkhags of Samdrup Jongkhar, Pemagatshel, Sarpang, Tsirang, Samtse, Dagana, Haa, Chukha, and Thimphu. Samtse

Dzongkhag received the highest number this month with 45,750 fingerlings, underscoring its growing focus on aquaculture development. In contrast, Thimphu Dzongkhag received the lowest, with just 40 fingerlings in June.

Activity 8: Enhance highland livestock productivity and rangeland management

To improve rangeland conditions and enhance highland livestock productivity, the Department implemented several strategic interventions in FY 2024–25. At the National Yak Farm in Haa, 1.5 acres of pasture were developed to address winter fodder shortages, involving land clearing, fencing, and seed sowing. In Gaytala, Dagala, reseeding activities supported by ICIMOD improved fodder availability and soil resilience for five yak-rearing households.

The Gid elimination program carried out through awareness campaigns, deworming, and surveillance in key highland gewogs, which reduced Gid prevalence to 3.5 percent. Complementing these efforts, conducted capacity-building programs for over 100 herders and technical staff, covering AI techniques, clean milk production, wool sorting, QGIS, and GHG emissions.

Activity 9: Ongoing Trial and Research for Development of High Value Livestock Products

To enhance highland livestock productivity and meat quality, hybridization trials involving Yak × Wagyu and Mongolian Yak × Local Yak crosses were being carried out in Dagala Gewog, Thimphu, aiming to combine the hardiness of Yaks with the superior meat quality of Wagyu. A total of 48 female Yaks were inseminated, resulting in 6 Wagyu hybrid calves and 4 Mongolian Yak hybrids. The project involved conception tracking, calving rate analysis, ear tagging, and monthly body measurements, supported by stakeholder consultations and SOP development for long-term monitoring. Challenges like predation and calving complications were addressed through improved herding practices and record-keeping.

In addition, carried out a research trial to evaluate seasonal effects and colony status on royal jelly production in *Apis mellifera* colonies by involving eight colonies maintained under uniform conditions at the NLRC apiary in Bumthang. The similar research will be replicated in warmer southern districts to assess regional variations and improve commercial viability. These insights are expected to inform the National Apiculture Program’s strategy for scaling up high-value honey products like royal jelly aligned with the 13th FYP.

Activity 10: Eliminate PPR, dog-mediated rabies and bovine brucellosis in Bhutan through application of strategies outlined in the National official control programme, and eventually applying for official recognition by WOA for PPR free, dog-mediated Rabies free and bovine brucellosis free status of Bhutan.

Animal health services are a critical foundation for sustainable livestock production and animal welfare, directly impacting productivity, food security, livelihoods, and public health. Healthy animals grow faster, reproduce efficiently, and provide consistent yields of milk, meat, and other animal products. Recognizing this, the Department prioritized comprehensive animal health interventions in the first year of the 13th FYP. In response, the department implemented targeted interventions, including the vaccination of 197,585 bovines against Lumpy Skin Disease (LSD), achieving 75.22 percent coverage. Foot and Mouth Disease (FMD) vaccination reached 77 percent coverage across 19 Dzongkhags, focusing on medium and high-risk areas identified through the national disease risk stratification framework. Surveillance in highland areas led to the collection of over 700 biological samples from yaks and dogs to monitor infectious diseases and antimicrobial resistance. The first round of nationwide Peste des Petits Ruminants (PPR) surveillance was completed across 13 Dzongkhags, with 1,423 samples collected to support Bhutan's goal of PPR freedom by 2028. Notably, no outbreaks of PPR have been reported in Bhutan since September 2020.

During this fiscal year, 3,716 samples were tested for bovine brucellosis, all returning negative results. A key regulatory measure mandates a negative Brucella test for all inter-Dzongkhag cattle movements to ensure traceability and prevent the spread of infection, supporting the bovine brucellosis elimination strategy.

The second phase of the Nationwide Accelerated Dog Population Management and Rabies Control Programme (NADPM & RCP 2.0), implemented in partnership with DeSuung, made significant strides toward rabies elimination through multi-stakeholder engagement, capacity building, field surveys, and strengthened cross-border coordination. In Gelephu Mindfulness City, a comprehensive pet census recorded 1,835 pet dogs and 3,660 pet cats, while a free-roaming dog survey counted 903 dogs with no puppies observed, highlighting the sustained impact of NADPM & RCP 1.0. Under Phase 2, a total of 763 pet dogs and 2,700 pet cats were vaccinated, and 395 pet dogs and 2,476 pet cats were sterilized. Additionally, 2,515 susceptible livestock were vaccinated in buffer zones within chiwogs along the Indian border. To support effective implementation, Animal Control Units were established at the Regional Veterinary Hospital & Epidemiology Centre in Gelephu and the Dzongkhag Veterinary Hospital in Sarpang, staffed by three trained Animal Welfare Attendants.

Cross-border collaboration with counterparts in India, facilitated by BIFA, led to the successful vaccination of 80 pet dogs and 484 free-roaming dogs across the border. Simultaneously, technical support was also provided to Dzongkhags and Thromdes to

sustain 100 percent sterilization coverage. Mass dog vaccination campaigns were also carried out in rabies high-risk border regions of Chhukha, Dagana, Pemagatshel, Samdrup Jongkhar, Samtse, Trashigang, Trashiyangtse, and Zhemgang to achieve at least 70 percent coverage in free-roaming dogs and 100 percent in owned dogs.

A total of 4,240 free-roaming dogs and 1,005 cats were vaccinated in these areas. To mark World Rabies Day on 28th September 2024, under the theme “Breaking Rabies Boundaries”, intensified advocacy and awareness campaigns were conducted in high-risk Dzongkhags in collaboration with the Department of Public Health (MoH). During the fiscal year, 2,356 newly owned pet dogs were registered and microchipped, with the highest numbers reported in Thimphu, Paro, Sarpang, and Chhukha. However, only 30 percent of these registered dogs were neutered, underscoring the continued need for strengthened advocacy on responsible pet ownership.

Despite concerted efforts to prevent and control livestock disease outbreaks, Bhutan recorded outbreaks of eight notifiable animal diseases during FY 2024–25.

These included African Swine Fever (ASF), Rabies, Black Quarter (BQ), Highly Pathogenic Avian Influenza (H5N1), Foot and Mouth Disease (FMD), Hemorrhagic Septicaemia (HS), Infectious Bursal Disease (IBD), and Avian Leucosis Complex (ALC). ASF was the most prevalent, with 16 outbreaks across nine Dzongkhags, followed by Rabies (8 outbreaks) and BQ (4 outbreaks). Sarpang Dzongkhag reported the highest number of ASF cases, while the highest number of Rabies outbreaks were reported from Samtse, Chhukha, Dagana, and Sarpang. Disease outbreaks are primarily driven by porous borders that allow uncontrolled transboundary movement of livestock and wildlife, illegal importation of animals and animal products, and gaps in biosecurity throughout the entire livestock value chain.

Activity 11: Strengthen laboratory diagnostic facilities and veterinary epidemiology services to enhance service efficiency and increase productivity

To strengthen laboratory diagnostic capacity and veterinary epidemiology services, the Department undertook several key initiatives during FY 2024–25. Disease surveillance was expanded to include animals from highland pastoral communities. A total of over 700 samples were collected and screened for priority diseases such as Brucellosis, bovine tuberculosis (bTB), bovine viral diarrhoea (BVD), infectious bovine rhinotracheitis (IBR), peste des petits ruminants (PPR), and antimicrobial resistance (AMR) in yaks and dogs. These efforts enhanced early disease detection, improved disease intelligence, and bolstered preparedness for emerging animal health threats.

Refurbishment activities at the Regional Livestock Development Centre Kanglung, Regional Veterinary Hospital and Epidemiology Centre Dewathang, and Satellite Veterinary Laboratory Nganglam were carried out to enhance diagnostic and field service capacities in the eastern region. These infrastructure upgrades are intended to

support timely disease diagnosis, surveillance, and response, in alignment with national animal health priorities.

Under the Pandemic Fund Project, the Department along with key One Health stakeholders prioritized zoonotic diseases using the One Health approach, and also implemented short-term training programs focusing on laboratory diagnostics for field laboratory technicians, alongside training on advanced techniques such as molecular diagnostics and next-generation sequencing to laboratory officers and technicians at national level.

Under the Pandemic Fund Project, the Department implemented short-term training programs focused on laboratory diagnostics for field technicians, as well as advanced training in molecular diagnostics and next-generation sequencing for laboratory officers and technicians at the national level. Additionally, in collaboration with key One Health stakeholders, the Department prioritized zoonotic diseases in the country using the One Health approach.

Activity 12: Strengthen clinical veterinary service delivery to enhance livestock productivity and ensure animal welfare

To enhance clinical veterinary service delivery and promote animal welfare, the Department implemented several strategic interventions during FY 2024–25. A hands-on training program on emergency and critical care was conducted for 65 officials, including veterinarians and veterinary paraprofessionals from veterinary hospitals across Bhutan, focusing on trauma management, poisoning, and system-specific emergencies in pets, livestock, and wildlife. This initiative, supported by GoI-PTA funding and the Royal Civil Service Commission, improved field-level diagnostic and response capabilities, particularly in rural areas. Additionally, under the Pandemic Fund Project, refresher training was conducted for 186 veterinary paraprofessionals from 14 Dzongkhags and central agencies, covering essential topics such as preventive and clinical medicine, biosecurity, surgical procedures, microbiology, animal welfare, and disease control strategies. Furthermore, 36 officials, including veterinarians and veterinary paraprofessionals from veterinary hospitals across Bhutan, were trained in Infection Prevention and Control (IPC) enhancing their ability to reduce disease transmission and improve safety in veterinary settings.

Activity 13: Strengthen veterinary services to optimize resource allocation and alleviate the financial burden on the government

As a strategy to optimize resource allocation and reduce the government's financial burden since all veterinary medicines are currently provided free of cost, discussions with the Medical Product Division (MPD) of the Bhutan Food and Drug Authority (BFDA) are ongoing to develop a Public-Private Partnership (PPP) model to train

interested private pharmacies in the proper storage, handling, and sale of veterinary medicines.

In addition, technical assistance has been secured from the EU-TAAS project to carry out a feasibility assessment and situational analysis on veterinary biological production. The objective is to generate return on investment (ROI) driven support and informed decision-making for sustainable and regulated local production.

Department of Agricultural Marketing and Cooperatives

Activity 1: Establish ‘Sanam Tshongkhang’ Farm Shops in viable gewogs

The first Farm Shop (FS) in Bhutan was established in May 2015, with a total of 174 shops eventually operated by the Food Corporation of Bhutan Ltd. (FCBL). However, by December 2021, FS operations had incurred a cumulative loss of Nu. 134.55 million, leading to their closure in July 2022. Over the past decade, ongoing reviews and consultations have helped refine the objectives of the FS initiative, with key insights informing new proposals for re-establishing FS under the 13th Five Year Plan. Initially, 98 Gewogs submitted requests for the establishment of farm shops. However, after preliminary consultations and assessments, this number was reduced to 81. Subsequent detailed evaluations carried out by the Regional Marketing Offices, EDMOs, and respective Gewogs taking into account feasibility, cost implications, and existing infrastructure, further narrowed the number to 72 Gewogs.

Based on comprehensive discussions with the assessment teams, the Department prioritized 43 Gewogs for the re-establishment of farm shops, with a particular focus on piloting in highland Gewogs such as Soe, Naro, Lingzhi, Laya, and Lunana.

For Gewogs that are operationally ready and require no additional investment, linkages have been facilitated with relevant agencies including the National Seed Centre, Kamra Feed, Food Corporation of Bhutan Limited (FCBL), and the Farm Machinery Corporation Limited (FMCL).

6.4. PROJECT 3: PROMOTION OF HIGH-VALUE AGRICULTURAL PRODUCTS FOR EXPORT MARKETS

Department of Agriculture

Activity 1: Production of high-value Asparagus & Broccoli through improved management practices

Organic production of broccoli and asparagus has been prioritized under the 13th FYP, given their strong export potential. During the Fiscal Year 2024–2025, production efforts were focused in six Dzongkhags: Thimphu, Tsirang, Chukha,

Wangduephodrang, Paro, and Haa. A total budget of Nu. 5.5 million was allocated for the program, comprising Nu. 3.5 million from the EU-funded project and Nu. 2 million from the Royal Government of Bhutan (RGoB).

Support such as supply of improved seeds, protected structures, and promotion of organic production technologies in Organic Broccoli Production were given. Similarly, for Organic Asparagus Production, supports focused on providing irrigation facilities for existing cultivators and supplying seedlings for new plantations. New asparagus plantations were successfully established in the Dzongkhags of Chukha, Paro, and Wangduephodrang, covering a total area of approximately 20 acres. These plantations are currently in the establishment phase, with full production expected to begin by 2026.

The NCOA-Yusipang facilitated the certification of organic production areas. A total of 176 farmers engaged in organic broccoli and asparagus cultivation were trained in an Internal Control System (ICS). As a result of these interventions, the production of both commodities improved in the targeted Dzongkhags, which are as detailed below:

Commodity	Dzongkhag	Area (Acres)	Production (MT)
Organic Broccoli	Chhukha	4	1.5
	Thimphu	6	2
	Tsirang	33	11
	Gasa	4.2	1.26
	Total	47.2	15.76
Organic Asparagus	Paro	12.8	5
	Thimphu	3	0.7
	Wangdue Phodrang	2	0.5
	Total	17.8	6.2

Table 19: Mushroom production

Activity 2: Establish mushroom enterprises by empowering mushroom entrepreneurs

As part of the 13th FYP, the National Mushroom Centre (NMC) has prioritized the promotion of commercial mushroom production by supporting private entrepreneurs with essential equipment, technical skills, and research and development (R&D) support. One of the key components of this initiative is the facilitation of shiitake mushroom spawn production through public-private collaboration. By enabling

private enterprises to take the lead in spawn production, NMC aims to enhance the availability of quality mushroom spawn in the country and boost overall mushroom cultivation. To support this initiative, NMC has procured an autoclave machine worth Nu. 2.35 with the allocated budget for the financial year 2024-2025. The autoclave, a critical piece of equipment for sterilizing the substrate used in spawn production, is currently in the process of being installed. This investment is intended to ensure that the private sector partner has access to the necessary equipment to maintain high standards of production and hygiene in the spawn-making process.

Following an open Expression of Interest (EoI) process, the responsibility for shiitake spawn production has been awarded to M/s Rewa Mushroom Enterprise, Navana, Naja Gewog, Paro Dzongkhag. Once the installation of the autoclave and the capacity development of the enterprise is complete, the formal handing and taking over of the spawn production activities will take place. This collaboration marks a significant step toward strengthening public-private partnerships in the agriculture sector, while also contributing to the long-term sustainability of mushroom cultivation in Bhutan.

Additionally, ARDC Wengkhar with fund support from CARLEP-IFAD has established five IoT-based smart mushroom production unit for the production of oyster mushroom in the eastern region (Table XXX). The unit measures 20 x 5 m and accommodates around 15,000 inoculated bags. The smart mushroom production unit will enable the grower to produce mushroom throughout the year by controlling the temperature and humidity conducive for the mushroom cultivation as failure to maintain optimal environmental conditions delays mycelium colonization and enables the growth of contaminating fungi.

Name of Farmer	Gender	Dzongkhag	Geog	Village
Karma Wangdi	M	Lhuntse	Khoma	Berpa
Kinzang Choden	F	Trashigang	Kanglung	Serthi
Rinzin Wangchuk	M	Trashigang	Lumang	Trashitse
Karma Wangmo	F	Mongar	Mongar	Wengkhar
Thinley Wangchuk	M	Trashigang	Kanglung	Kanglung

Table 20: IOT based mushroom cultivation

Department of Livestock

Activity 1: Enhance fish production

In an effort to promote high-value trout production, the department implemented a series of strategic interventions during FY 2024–2025. Over 5,000 breedable rainbow trout broodstock and successfully bred 431 selected females, yielding 601,245 fertilized eggs. Despite technical limitations, survivability rates improved compared to previous years. To meet rising demand, the department imported 200,000 eyed ova from Denmark, which were hatched and reared, with the first batch distributed to farms and the second batch scheduled for release in the following fiscal year. A total of 151,501 fingerlings were produced, of which 118,254 were sold and 33,247 distributed free under promotional and research programs.

The centre also produced 4.93 metric tons of table fish, generating Nu. 2.22 million in revenue, and facilitated the supply of high-quality trout feed imported from the Netherlands. Value addition was a major focus, with 43 bottles of red caviar and 100 packets of smoked trout produced for National Day celebrations. A new product line, rainbow trout fillet was introduced following hands-on training led by a culinary expert during the state visit of Their Majesties of Thailand.

Provided technical backstopping for six trout farms and feasibility studies in four Dzongkhags, identifying promising sites for future expansion. Besides, the department launched a growth performance study of rainbow trout on a private model farm, stocking 22,000 fingerlings.

Activity 2: Enhance honey production and marketing

To increase the production of high-value honey products, the Department initiated a sustainable Queen Bee Rearing and Colony Multiplication Scheme under the Queen's Project and the OGOP initiative. Three model approaches were piloted to improve access to productive colonies, with the goal of scaling up hive numbers by 5,000 units during the 13th FYP.

Provided technical backstopping in Jangcholing village, Samtse, reaching 22 beekeeping households. Despite initial challenges in colony establishment, the program achieved a 51.4 percent adoption rate and identified key areas for improvement. A 2.34 acres honeybee corridor was also developed within NLRC premises by planting nectar-rich species such as mustard, maize, sunflower, and plum, promoting pollinator health and enhancing honey yield potential.

Capacity building is vital for equipping beekeepers and livestock staff with the skills needed to improve beehive management, ensure honey quality, and uphold biosecurity standards. Accordingly, 119 participants (83 beekeepers and 36 livestock

staff) across seven Dzongkhags were trained in hive management, honey testing, and certification. Additionally, over 100 farmers, students, and technical staff participated in field attachments and exchange visits at NLRC, promoting hands-on learning and cross-Dzongkhag knowledge sharing.

Department of Agricultural Marketing and Cooperatives

Activity 1: Premium quality product development for high-end markets (Grand Challenge)

As part of the ongoing Geographical Indication (GI) initiative, the Ministry of Agriculture and Livestock (MoAL) and the Ministry of Industry, Commerce and Employment (MoICE), with technical support from FAO, have identified three pilot agricultural products for GI registration and promotion. These products are Zoetey (fermented yak cheese) from Merak and Sakteng, Buckwheat Flour from Dhur-Tandingang in Bumthang, and Honey from Bumthang. These were selected following a comprehensive nationwide consultation, prioritization exercise, and technical guidance from FAO's international GI expert, based on their unique qualities, traditional production methods, and strong link to geographical origin.

The GI System of Bhutan was formally launched on 10 June 2025 in Thimphu. This marks a significant milestone in Bhutan's efforts to protect and promote its unique agricultural products both nationally and internationally. The launch included the unveiling of the GI Rules and Regulations of Bhutan 2025, the National GI Logo, and the institutional framework comprising certification and control schemes, as well as producer support structures such as the formation of GI cooperatives. These systems collectively aim to ensure authenticity, traceability, and market distinction for Bhutanese GI products.

The three identified pilot GI products, Zoetey, Buckwheat (Gontho) Flour, and Honey are scheduled to be officially registered and promoted as certified GI products by September 2025. This registration will mark the beginning of their protection under the national GI system and will enable strategic promotion for both domestic and



international markets, thereby enhancing the value, marketability, and global recognition of these products.

Activity 2: New Market Exploration and Establishment

- Market Exploration to Dhaka, Bangladesh

A market exploration visit to Dhaka and Bangladesh, was conducted from 19th to 26th April 2025 with the objective of expanding Bhutan's agricultural export opportunities. The mission successfully established direct linkages with over 10 Bangladeshi importers and distributors, generating valuable insights into product-specific market demand, regulatory requirements, and consumer preferences. The visit reaffirmed the strong bilateral trade interest between Bhutan and Bangladesh, particularly through the existing Bhutan Outlet in Dhaka, which serves as a key channel for market access.

Key priorities identified during the visit include the need to enhance packaging and labeling standards, ensure organic certification, and comply with relevant market entry requirements to meet importers' expectations. Additionally, leveraging the Bangladesh Free Trade Agreement (FTA) to secure duty-free access remains a critical opportunity. To capitalize on these findings, the Department plans to implement time-bound export action plans focusing initially on prioritized products such as seed potato, turmeric (powder and dried), honey, ginger, areca nut, black pepper, and cardamom. These products were selected based on their current demand in Bangladesh, import trends, and Bhutan's production potential, aiming to strengthen Bhutan's presence in the Bangladeshi market.

- Market Exploration to Nepal

A market exploration visit to Nepal was undertaken to assess the potential for expanding Bhutanese potato exports and to better understand trade dynamics with Nepalese importers. The assessment revealed that Bhutanese potatoes currently hold a 12 percent share of Nepal's total potato imports, but most of these are entering the market indirectly through Indian traders. Direct trade interest from Nepalese importers was found to be minimal due to several key factors, including their strong reliance on established Indian suppliers, preference for specific potato varieties such as Chip Sona and Lady Rosetta, logistical and risk-sharing concerns, and perceived inconsistencies in the quality of Bhutanese potatoes, as expressed by Nepalese traders.

To address these challenges and enhance Bhutan's export potential, the following way forward has been identified: improve the quality consistency of Bhutanese potatoes, explore the cultivation of the preferred varieties, and enhance packaging and grading standards to align with market expectations. Additionally, efforts will be made to address logistics and delivery timelines, and to submit a detailed business proposal to the Federation of Nepalese Chambers of Commerce and Industry (FNCCI). The

Department will also explore the feasibility of a preferential trade arrangement to help offset existing import duties and make Bhutanese potatoes more competitive in the Nepalese market.

- ***Mahidol University Outlet Discussion***

Discussions are ongoing for the Opening of Bhutan CSI Outlet at Mahidol University in Thailand with CSI Market, Bhutan. A list of 35 products has been submitted, and discussions with the Thai counterpart are ongoing regarding the process for obtaining the required documents.

- ***Opening of Bhutan Outlet at Siliguri, India***

Opening of Bhutan Outlet at Siliguri in collaboration with Association for Conservation and Tourism with Aggregator Network of Chhukha as the Aggregator from Bhutan is currently ongoing. It is expected to launch or open on 17 August, 2025.

- ***Ganoderma Mushroom Marketing Initiatives***

Ganoderma mushroom, known for its medicinal properties, was introduced in Bhutan through a collaboration between the Department of Agriculture and the National Mushroom Center, with successful cultivation adopted in Gasa, Punakha, and Chukha. To promote domestic marketing, the Department initiated consultations with entrepreneurs and growers. In 2025, a series of activities began with a stakeholder meeting involving government agencies, local representatives, and growers to discuss strategic marketing approaches. This was followed by field visits to Gasa and Punakha to better understand cultivation practices and challenges faced by farmers.



To ensure product quality and explore international markets, Ganoderma samples were sent to Avon Laboratory in India for testing, while additional samples were dispatched to Malaysia for certification and market evaluation. A Reshi-Cordyceps tincture was also tested in Hong Kong through collaboration with Pure Bhutan Enterprise. Local businesses like Mountain Coffee were encouraged to incorporate Ganoderma into their products to foster value addition. Strategic partnerships were established with Beaubelle Company and Menjong Sorig Pharmaceutical Corporation Limited (MSPCL), including a joint field mission to facilitate direct procurement from farmers. Further, promotional materials were developed through professional videography and photography, and preparations are

underway for an official product launch focusing on branding, marketing, and international positioning.

- **Opening of Bhutan Product Outlet in Guwahati, India**

Bhutan Product Outlet was opened at NEDFi Haat, Rupnagar, Guwahati on 23 June, 2025. It was opened mainly to expand market access for Bhutanese agricultural products, handicrafts, and textiles in India, and also to promote and strengthen bilateral trade and institutional partnerships between Bhutan and India. As of now 51 Bhutanese products including agri food items, handicrafts, and textiles are available in the outlet.



- **Asparagus Export Initiative to Hotel Taj Bengal, Kolkata, India**

The Department, in collaboration with the State Trading Corporation of Bhutan Limited (STCBL) and the Trade Attaché in Kolkata, facilitated the shipment of 7.12 kilograms of fresh asparagus from Paro to Hotel Taj Bengal, Kolkata on 20th April 2025. This initiative marked a trial export aimed at exploring premium hospitality market opportunities in the region.

Following this initial effort, STCBL dispatched an additional 20 kilograms of asparagus as the first formal consignment to the same hotel. Currently, STCBL is in the process of negotiating pricing terms with Taj Bengal, with the objective of establishing a sustainable and long-term market linkage for Bhutanese asparagus in the high-end hospitality sector of Kolkata, India.

6.5. PROJECT 4: ENHANCING ECOSYSTEM SERVICES FROM SUSTAINABLE AND RESILIENT BIODIVERSITY INITIATIVES

The National Biodiversity Center undertook several initiatives during the 2024–2025 financial year to achieve its objective of supporting the sustainable use of biological resources and enhancing biodiversity conservation. The activities and achievements fall under the following thematic areas:

Activity 1: Utilization of Native animal and Plant genetic resources through product diversification and valuation

- **Carry out genetic studies for pure-breed selection & Profiling of special values**

The breed inventory for priority species such as Nublang, Yubja, and Saphag, along with the development of a site matrix and survey questionnaire for pure-breed inventory was completed. In terms of value addition, preliminary Antimicrobial Resistance (AMR) testing has been conducted on Saphag meat under the nutraceutical analysis of Animal Genetic Resource (AnGR) products.

Antimicrobial resistance (AMR) testing in native livestock meat products was undertaken to assess the presence of resistant bacteria, which could pose risks to public health and food safety. The rationale for this testing stems from the need to ensure that meat from native livestock, often raised in traditional or less intensive systems, remains free from AMR bacteria, which can arise from antibiotic misuse in agriculture. The findings indicated no detectable AMR in the tested native animal meat products, suggesting that these products are safe from resistant bacterial contamination. This aligns with expectations for native livestock systems, which typically involve minimal antibiotic use, reducing the likelihood of AMR development. These results support the safety and quality of native livestock meat for consumption.

- **Establish nucleus and multiplier farms for the selected breeds**

To bolster conservation and breeding efficiency for unique native livestock breeds, targeted interventions were implemented at two conservation farms. Unproductive animals, identified based on low reproductive or genetic value (e.g., fertility, health, or genetic diversity), were selectively culled or relocated. This strategic selection optimizes resource allocation, enabling a focus on high-quality stock to enhance herd productivity and genetic resilience, which are essential for sustainable livestock management. Additionally, feasibility studies for establishing nucleus and multiplier farms for these breeds were completed, laying the groundwork for in-situ conservation in their natural habitats.

Multiplier farms will scale up breeding to supply improved stock to local farmers, thereby supporting food security and rural livelihoods. These studies evaluated critical factors, including land suitability, infrastructure requirements, and economic viability, ensuring the farms' long-term success. The establishment of these farms is scheduled for the 2025-2026 fiscal year, reflecting Bhutan's commitment to conserving its livestock biodiversity, countering the decline of local breeds due to exotic breed preferences and labor shortages, and promoting sustainable agricultural development. Currently there are 3 sites each for each identified breed, viz. Yubja, Saphag and Nublang.

- **Rehabilitation and promotion of Neglected and underutilized crop species**

In order to revitalize the production of the Neglected and Underutilized Crop Species (NUS), awareness programs, hands-on training on product development and value addition activities were undertaken in eight gewogs under four Dzongkhag:

Wangphu and Orong in Samdrup Jongkhar, Zamsa and Phasuma in Chukha, Dorokha and Tading in Samtse, and Yallang and Boomdeling in Tashiyangtse. In collaboration with ARDC Wengkhari, 145 farmers were skilled in the production of millet-based products such as cookies, noodles, flour, and spicy snacks. In addition, prototypes and packaging were also supported to increase shelf life and marketability.

Activity 2: Revenue Generation through Biodiversity Initiatives

- Bioprospecting Initiatives

Through the funding support of ICIMOD, initiatives to upscale Bhutan's biodiversity-based enterprises by refining nature-based products and formalizing benefit-sharing was carried out. Eight start-ups improved product branding and market positioning through USP testing. The Centre also introduced an ABS logo to certify ethical bioprospecting and fair benefit-sharing. In order to ensure equitable benefits for bioresource providers, Community-Based Natural Resource Management agreements were signed between the resource providers and enterprises. Bylaws and resource management plans were also developed with local input. Nine ABS products were launched, seven new and two revamped, such as Black turmeric capsules and Himalayan Shilajit. These efforts promote sustainable livelihoods, responsible resource use, and commercial partnerships aligned with Bhutan's biodiversity and ABS framework.

Table 21: List of ABS Products developed through the ABS framework

SN	Products	Start-ups	Beneficiary community group
1	<i>Rhododendron anthopogon</i> hand wash	Bio Bhutan Pvt Ltd	Jom Dagam Ngomen Tshogpa, Dagala Thimphu
2	Black Turmeric Capsule	MSPCL	Kuenthuen Phendey, Dungmin, Pemagatshel
3	Reishi-Cordyceps Tincture	Pure Bhutan	Goenshari zhelngosa ganoderma detshen, Goenshari, Punakha
4	Pine-Juniper Perfume	Kingdom Essence	Kaba Nagtshel menrig Rangzhin Detshen, Nubi, Trongsa
5	Mugwort Soak	The Mugwort Solution	Ruechhedkha Khempa Mengi Detshen
6	Himalayan Shilajit	Jinlab Agro Products	NA
7	<i>Rumex nepalensis</i> Herbal Tea	KDY Production	Tshaluna Shomda Ngomen Dulen Tshogpa, Mewang, Thimphu
8	Zhinor Massage Balm	Dzedokha Phacheng Detshen (Operator of the Zhinor facility)	Dzedokha Phacheng Detshen, Loggchina, Chukha
9	Zhinor Liniment Oil	Dzedokha Phacheng Detshen (Operator of the Zhinor facility)	Dzedokha Phacheng Detshen, Loggchina, Chukha



- **Bioprospecting research and exploration on potential medicinal and aromatic plants of Bhutan**

The Centre conducted biodiscovery research on Bhutan's medicinal and aromatic plants, analyzing plant species such as *Pangtse makhu* (*Symplocos paniculata*), *Rhododendron anthopogon*, *Phyllanthus emblica*, *Juniper recurva*, *Acorus calamus*, *Plukenetia volubilis* (mountain peanut) and *Cannabis sativa* using High Performance Liquid Chromatography (HPLC). The separated compounds are now being prepared for shipment for further structural elucidation.

- **Bioprospecting research collaboration with Chanel Beaute**

The *Swertia chirayita* (Jatig/Khalu) plant project in Lauri under Samdrup Jongkhar Dzongkhag, generates an annual revenue of Nu. 3 million, (1.5M to the community and 1.5M to the BABS fund) benefiting 53 farmers in the area. Additionally, Chanel PB allocated Nu. 4.81 million to support the implementation and sustainability of this initiative.

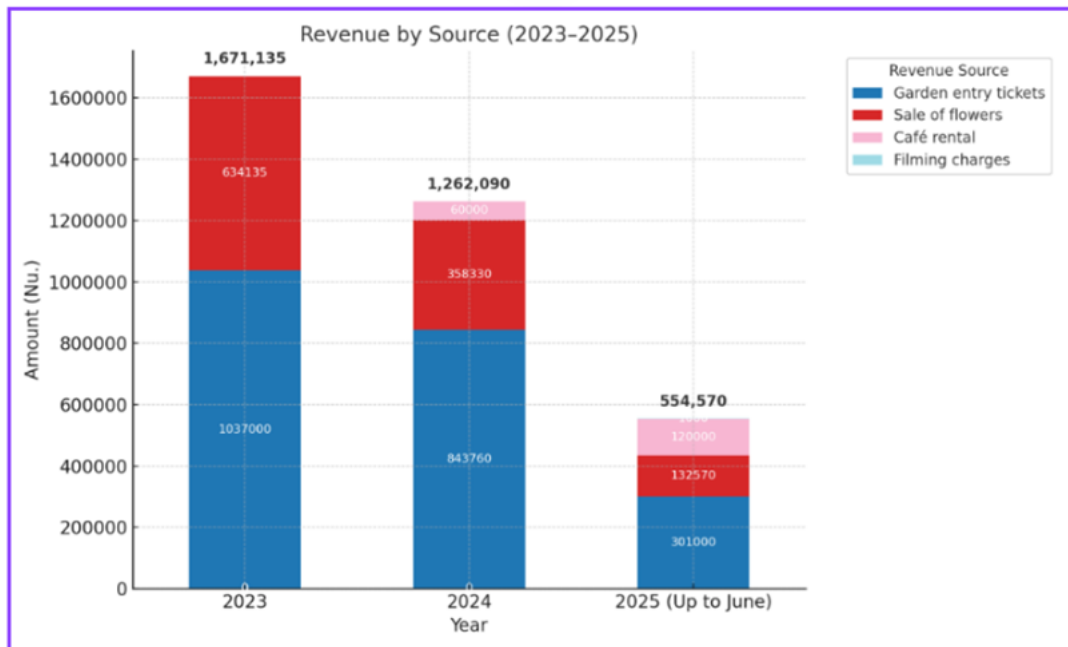
- **Commercialization of targeted native ornamental plants**

The Royal Botanical Garden, Serbithang, has been making considerable efforts in the conservation, research, and sustainable utilization of Bhutan's native orchids. A major achievement has been the successful micropropagation of *Chiloschista gelephuense*, a rare and endemic orchid species found only near the Gelephu Tshachu. Despite initial challenges, 31 healthy plantlets were successfully propagated through sterile lab conditions and are currently in the Garden's Orchidarium, marking a significant breakthrough in ex-situ orchid conservation.

Building on this success, the Garden has now expanded propagation trials to include other native orchids such as *Cymbidium hookerianum*, *Cymbidium erythraeum*, and the

critically endangered slipper orchid *Paphiopedilum fairrieanum*, *Paphiopedilum venustum*, and *Paphiopedilum insigne*. Currently, a total of 1,652 individual orchid plantlets in culture is maintained at the micro-propagation laboratory, contributing to species recovery, biodiversity conservation, education, and the potential for sustainable livelihood options linked to native orchid resources.

- **Re-organization and development of the Royal Botanical Garden to enhance revenue generation**



Revenue generated by the Royal Botanical Garden through different revenue sources

A total of Nu. 10.36 M was generated and deposited into government revenue through various sources such as garden entry fees (Nu. 7,20,760/-), plant sales (Nu. 1,32,570/-), café rental (Nu. 1,80,000/-), and filming charges (Nu. 3,000/-). The landscape development and beautification activities including the redevelopment of nature hiking trails and public amenities were carried out contributing to improved visitor experience and efficient garden operations.

Activity 3: Strengthening biorepository and ex-situ conservation facilities to prevent species extinction in the country

- **Chain link fencing of RBGS**

The Centre constructed the first phase of chain link fencing at the Royal Botanical Garden to address the issue of invasion by wild animals into the biodiversity resources in the garden and also to avoid intrusion by unauthorised private individuals. The

construction of the fencing was supported by the European Union with a total budget of Nu. 1.95 million.

- **Explore and collect germplasm of agriculture and horticulture crops, diversity, and build an accession in the national plant gene and animal bank**

The Plant Genetic Resources (PGR) Program has collected 150 accessions of agriculture and horticulture crops and they are kept in the genebank at the Centre for the conservation of native crop diversity.

- **Ex-situ conservation and sustainable utilisation of native animal genetic resources**

AnGR has targeted to achieve an accession number of 1750 for the fiscal year 2024-2025, but was not achieved due to delay in the procurement of LN2. The LN2 installation was completed only by the end of June 2025, hampering the ex-situ conservation.

- **Procurement and installation of a liquid nitrogen plant for the centre**

The procurement of the Liquid Nitrogen (LN2) plant was completed, establishing essential infrastructure for the long-term cryopreservation of animal genetic resources, such as semen and embryos. This advancement significantly enhances the country's capacity to conserve and manage its native animal genetic diversity, supporting future breeding, research, and conservation initiatives.

- **Enhance the resilience of native plant species through ex-situ conservation**

The activity to enhance the living repository and diversify native plant species collections for ex-situ conservation and research has been completed. A total of 150 accessions of living plants (104 accessions) and seed collections (46 accessions) were added to the Royal Botanical Garden. This significant addition strengthens the garden's role as a center for biodiversity conservation, research, and education, and contributes to the long-term preservation of Bhutan's native plant diversity.

- **Enhancing herbarium services through strengthening the herbarium repository to understand the impact of climate change**

The National Herbarium made significant strides in enriching its botanical collection by prioritizing under-represented species and regions such as Danashey, Haa, Chukha, and Sakteng. A total of 1,100 new specimens were collected and catalogued, with 92 species added that were previously absent from the herbarium. Additionally, the vegetation survey in Danashey contributed valuable specimens to the collection. Field activities were carried out with a budget of Nu. 0.88 million, of which 97 percent was

utilized. In pursuit of documenting 10 new national records or species, targeted botanical expeditions and taxonomic assessments were conducted in floristically rich, under-explored regions. These efforts led to preliminary discoveries, including a possible new Orchid species from Rimchu in Punakha. Notably, 19 species new to Bhutan were officially published as country records, and 2 species were described and published as new to science in the Korean Journal of Plant Taxonomy.

- **Bhutan Biodiversity Portal (BPP) Awareness Program**

The awareness programs were conducted in colleges such as the Royal Thimphu College, College of Natural Resources, and Sherubtse College, with the BPP seeing an increase of 2700 registered users exceeding the annual target of 2500 users.

7. PROJECT 5: IMPROVING THE BUSINESS ECOSYSTEM

Activity 1: Agriculture Bill of Bhutan

As part of the legislative and policy reform agenda, the Ministry worked on the Agriculture Bill of Bhutan and it was deliberated in the MoAL-GNH Committee. However, in line with the government's directives to rationalize new bills and policy proposals, the agriculture bill is kept on hold.

Activity 2: Livestock Bill of Bhutan (Amendment) and Cooperatives Act of Bhutan (Amendment)

The Livestock Bill of Bhutan (Amendment) and the Cooperatives Act of Bhutan (Amendment) were thoroughly reviewed by the Ministry and submitted to the Cabinet. Both were subsequently approved by the Cabinet for onward submission to the Parliament and were tabled in the 3rd Session of the 4th Parliament. Two readings have been completed, and the proposed amendments are scheduled for further deliberation in the 4th Session of the 4th Parliament.

Activity 3: Institute credit access facility

In enhancing financial access for farmers, the Ministry provided technical recommendations and policy inputs based on which the Ministry of Finance rolled out the Price Guarantee Scheme (PGS) for prioritized commodities. Additionally, under the Economic Stimulus Plan (ESP), a low-interest agricultural loan scheme was introduced to improve credit access for farmers and Agri-entrepreneurs.

Activity 4: Institute crop and livestock insurance scheme

The Ministry also worked rigorously toward instituting the National Crop and Livestock Insurance Scheme, which has now been formally approved by both the Cabinet and

the Parliament. The scheme is scheduled for implementation beginning in the Fiscal Year 2025–26 and is expected to provide critical risk protection for farmers nationwide for the prioritized commodities such as paddy, maize, orange, potato, cattle, piggery and poultry.

Activity 5: Develop National Biodiversity Strategies and Action Plans (NBSAP)

In the area of biodiversity, the National Biodiversity Strategies and Action Plan (NBSAP) V was finalized following comprehensive technical reviews and stakeholder consultations. The finalized NBSAP was submitted to the United Nations Convention on Biological Diversity (UNCBD) and officially published.

Activity 6: Monitor and evaluate plan, programs and projects

The monitoring and evaluation of plan programs and projects remains a continuous responsibility of the Policy and Planning Division. During the reporting period, the Division continued to monitor both financial and physical progress of the 13th Plan interventions to ensure alignment with targets and achievement of desired outcomes.

8. YEAR 1 PROGRESS OF THE 13TH PLAN (Table 22)

13th FYP Result Matrix (Year 1 Achievement of the 13th Plan)								
Outcome	Outcome Indicator	Unit	Baseline (2023)	Achievement for Y1 - FY 2024-25			Achievements under ideal situation	Justifications for under-achieved
				Year 1	Progress	Progress achievement in %		
GDP contribution of strategic sectors increased	Increased sector's contribution to annual GDP	Nu. in million	31,126	34,861	33,167.00	95.15	95.15	
	Increased value of agricultural commodity export	Nu. in million	3,000 (2022)	3,600	3,510	97.75	97.75	
Output	Output Indicators	Unit	Baseline (2023)	Year 1	Progress			
1. Agriculture Production Enhanced	Increase in paddy production	MT	40,804	45,000	41,537	92.00	98	Increase in paddy production is attributed investment in irrigation, promotion of high yielding rice varieties and chain link fencing. However, more than 2566 MT of paddy was lost to human wildlife conflict, climate change impacts and others.
	Increase in maize production	MT	25,118	27,102	27,636	100.00		
	Increase in quinoa production	MT	12.88	50	40.125	80.30	100	As per administrative data for 2024-25, quinoa production is about 63 MT, following the intensive promotion program that was initiated in June 2024
	Increase in chili production	MT	4,848	5,951.20	5,596.40	94.04	100	Like other crops, chilli production is vulnerable to the impacts of climate change, diseases and pests. Instances of infestation is reported annually across the country https://www.bbs.bt/192672/ , https://www.bbs.bt/229793/ . Similarly, hailstorms incident of 10th April, 2024 in Tsirang destroyed the crops and vegetables for the farmers in eight gewogs vegetables on 2,294 acres of land https://www.bbs.bt/202723/ . As per IALC Report 2025, about 612 MT of chilli were lost.
	Increase in tomato production	MT	206	435.35	379.45	87.16	100	Tomato also stands vulnerable to climate change, pest diseases and HWC. The hailstorms incident of 10th April, 2024 in Tsirang destroyed the crops and vegetables for the farmers in eight gewogs vegetables on 2,294 acres of land. As per the IALC 2025, more than 19.8 MT of tomato was lost.

	Increase in onion production	MT	185	329	352.6	100.00	100	
	Increase in bean production	MT	1,533	1,787.90	1,785.05	99.84	99.8	
	Increase in cauliflower production	MT	1,063	1,342.40	1,096.00	81.60	87.1	The hailstorms incident of 10th April, 2024 in Tsirang destroyed the crops and vegetables for the farmers in eight gewogs vegetables on 2,294 acres of land https://www.bbs.bt/202723/ . According to the IALC 2025, some 74.5 MT of cauliflower were lost.
	Increase in organic asparagus production	MT	1.136	2	6.20	100.00		
	Increase in organic broccoli production	MT	14.2	15	15.76	100.00		
	Increase in fruit production	MT	41,744	73,862	44104	59.70		The hailstorms incident of 10th April, 2024 in Tsirang destroyed the crops and vegetables for the farmers in eight gewogs vegetables on 2,294 acres of land and 58,638 fruit trees amounting to a monetary loss of around Nu.55 M https://www.bbs.bt/202723/ . Additionally, there were mortalities from the MFTPs and delay in fruiting due to poor management. However, with sapling replacement and awareness on sapling management, the production is expected pace up in the upcoming years.
	Increase in mushroom production	MT	350	352	363	100.00		
	Increase in potato production	MT	37,749	37,820	37778	99.90	100	About 2957 MT of potato was lost to human wildlife conflict and climate change impacts. For instance, unseasonal frost in the last production season the potato plants of most households in major potato-growing districts across the country. In Bumthang, 190 acres of potato plants belonging to 222 households of all four Gewogs in the district have been damaged. Similarly, 282 households of Sephu, Gangtey, Phobji and Ruebisa Gewogs of Wangdue Phodrang also suffered damages.
	Input Indicators	Unit	Baseline (2023)	Year 1	Progress			0.0
	Number of climate smart irrigation schemes	Number	1,200	1,206	1,205	99.92	99.92	5 irrigation system executed centrally: 1. Khameything Irrigation Canal, Phuntshothang, Samdrupjongkhar- The work was delayed by one month due to severe flooding caused by continuous rainfall. The scheme has been completed by July. 2. Changwa Rongchu Integrated Irrigation Scheme, Choekhar, Bumthang- Planned as a spillover project. 3. Ritsa-Changyul Solar/Pump Irrigation, Guma, Punakha- The project was delayed due to design issues and is currently

								suspended because of the paddy cultivation season. Work is scheduled to resume in October 2025. 4. Khangma Integrated Irrigation Scheme, Yurung, Pemagatshel- Construction has been completed. 5. Gayrikha-Tsonglina Irrigation Channel, Sangbaykha, Haa- Construction has been completed. 45 schemes implemented by LG.
	Length of innovative fencing installed to mitigate crop loss due to wildlife depredation	Km	87	533.6	507.0	95.01	95.01	
	Number of commercial agriculture farms established	Number	0	2	3	100.00	100	3 initiated and will be completed by June 2026, 2 Chirub farms and OAP, as per the DRP submitted the farms to suppose to be completed by 2026.
	Area brought under sustainable land development	Acre	11,620	12,120	12,989	100.00	100	
	Area brought under farm mechanization	Acre	27,747	28,247	30,814	100.00	100	
	Total subsidy provided on transporation and commission on sale of fertilizers and Butachlor 5G weedicides	Nu. in million	NA	50	26			The Ministry of Finance has approved a budget of Nu. 25.6 million for the FY 2024–25 for 10% subsidy on commission and transportation for both fertilizers and Butachlor
	Number of protected cultivation structures established	Numbers	5,672	7,844	7,557	96.34	96.34	
	Number of weather-based crop advisory services generate and disseminate	Timeline	NA	Weekly during crop critical stage				Over 140 agromet advisory bulletin generated and disseminated through ADSS
	Number of technologies generated including CSA technologies	Number	119	129	137	100.00	100	
2. Livestock Production Enhanced	Output Indicators	Unit	Baseline (2023)	Year 1	Progress			
	Increase in milk production	MT	43,828	49,860	44,037	88.32	98.7	The total loss for milk production posed by the death of cattle accounted to 4399 MT with the death of 14077 cattle including yak in the reporting period. The actual achievement with inclusion of that loss accounts to 48436 which is 98.7% achievement.

	Increase in egg production	Million	86	115	98	85.22	100	According to the administrative data maintained with the department, the total egg production in the period 2024-25 is 115 million eggs. Thus, the desired target is 100% achieved.
	Increase in chicken production	MT	1,165	1,332	1,208	90.69	100	According to the administrative data maintained with the department, the total chicken production in the period 2024-25 is 1843 MT. Thus, the desired target is 100% achieved.
	Increase in pork production	MT	1,590	1,600	1,555	97.19	100	According to the administrative data maintained with the department, the total pork production in the period 2024-25 is 1963 MT. Thus, the desired target is 100% achieved.
	Increase in fish production	MT	43	75	57	76.00	76	According to the administrative data maintained with the department, the total fish production in the period 2024-25 is 81.7 MT. Thus, the desired target is 100% achieved.
	Obtain official recognition of freedom from PPR, dog-mediated rabies and bovine brucellosis in Bhutan	Timeline	NA					
	Input Indicators	Unit	Baseline (2023)	Year 1	Progress			
	Total number of bovine semen doses produced	Dose	17,487	19,590	21,425	100.00	100	
	Total quantity of liquid nitrogen produced and supplied to AI Centres	Liter	71,653	80,370	86,555	100.00	100	
	Acreage of improved pasture developed	Acre	25,565	26,500	25,988	98.07	98.07	
	Total number of layer DOCs produced and distributed	Number	533,495	588,370	293,014	49.80	49.8	
	Total number of piglets produced and distributed	Number	12,813	14,000	20,269	100.00	100	
	Total number of fingerlings produced and distributed	Number	1,654,527	1,971,622	1,232,741	62.52	65.52	
	Number of large-scale livestock farms established	Number	NA					
	Acreage of winter fodder production	Acre	2,017	2,500	1,581	63.23	63.23	
3. Marketing of agriculture and livestock commodities enhanced	Output Indicators	Unit	Baseline (2023)	Year 1	Progress			
	Number of Grand Challenge/ Premium Quality Product developed for export	Number	0	0	0			- Identified three agricultural products namely, zoetey, Buckwheat flour and Honey as pilot GI Products - The “National Geographical Indication (GI) System of Bhutan”, including GI Rules and Regulations of Bhutan 2025, National GI Logo, certification and control schemes, and

							producer support structures, was formally launched on 10 June, 2025 in Thimphu.
	Number of new export markets established	Number	2	0	0		The Department is exploring export opportunities in Malaysia and Dubai: - Ganoderma mushroom samples have been dispatched to Malaysia, with the product launch scheduled for 21st September 2025 coinciding with World Peace Day, - while efforts to export high-end commodities to Dubai are currently underway.
	Input Indicators	Unit	Baseline (2023)	Year 1	Progress		
	Number of Farmer Groups and Cooperatives strengthened through instituting effective and operational Internal Control System	Number	8	6	8	100.00	100
	Number of Agri-food economic hubs established	Number	0	0			The Department could not upgrade the existing dairy cooperatives to a federation, as most of them are already performing well in terms of business operations and market access. Therefore, for the upcoming financial year, the Department is planning to revive and establish a poultry federation.
	Number of Farmer Groups and Cooperatives consolidated and upgraded to Federations	Number	1	1	0		
	Number of Farmer Groups/ Cooperatives linked with Gyalsung Academies, GMC and export market	Number	0	10	56	100.00	100
	Number of linkages institutionalized between Farmers Group/Cooperatives and schools, institutions (Monastic and Education), and hospitals	Number	331	30	68	100.00	100
	Number of agrifood enterprises established or strengthened	Number	43	15	16	100.00	100

	Number of digital platform for enhanced agricultural marketing improved/ developed	Number	3	1	0			The Department initially submitted a proposal to the GovTech Agency to enhance the Agriculture Market Information System (AMIS) and the Registration and Information Management of Farmer Groups and Cooperatives. However, no response was received. Consequently, the Department explored alternative support and secured Technical Assistance (TA) from the World Bank through the National Information Society Agency (NIA) of the Republic of Korea. The TA will support a comprehensive diagnostic study for developing a Digital Roadmap for Agriculture in Bhutan. Based on the outcomes of this study, the Department will plan further upgrades or development of digital platforms to enhance agricultural marketing.
4. Biodiversity conservation, product development and bioprospecting strengthened	Output Indicator	Unit	Baseline (2023)	Year 1	Progress			
	Number of bioprospecting initiatives increased	Number	14					
	Number of new species discovered or new records for Bhutan	Number	0	10	29	100.00	100	
	Input Indicators	Unit	Baseline (2023)	Year 1	Progress			
	Number of value-added products developed (Quantity)	Number	0	0				
	Number of ABS products developed (Value)	Number	14	0				
	Number of key native ornamental plants propagated	Number	0	1,000	3000	100.00	100	
	Number of new registered users acquired for the Bhutan Biodiversity Portal with increased observations record	Number	2,400	100	2700	100.00	100	
	Number of germplasm accessions conserved	Number	77,562	3,300	1450	53.00	53	-The accession for Animal Genetic Resources (AnGR) could not be achieved due to the unavailability of liquid nitrogen (LN ₂) at the center. Initially, the installation of an LN ₂ plant was planned for early January 2025, and a tender was floated accordingly. However, due to price discrepancies, a retendering process was required. As a result, the plant was successfully installed only by the end of June 2025.

5. Business ecosystem improved	Output Indicator	Unit	Baseline (2023)	Year 1	Progress			
	Client satisfaction score increased on each business service (scale 1-5)	Score	4.1	4.2				
	Input Indicators	Unit	Baseline (2023)	Year 1	Progress			
	Number of additional services available online	Number	NA	1	2	100.00	100	Farm Registration System for Agriculture and Livestock
	Number of policies and legislations developed and revised	Number	NA	3	3	100.00	100	Cooperatives Bill, Livestock Bill and LIA for Agriculture Bill
	Timeline by which the credit access facilities is instituted	Timeline	NA			100.00	100	
	Timeline by which the national crop and livestock insurance scheme is introduced	Timeline	0			100.00	100	
OVERALL ACHIEVEMENT OF THE MINISTRY FOR YEAR-1 OF THE 13TH PLAN						92.23	94.50%	

9. RESEARCH, INNOVATION, AND TECHNOLOGY TRANSFER

9.1. Crop Research and Technology Development

- Bhutanese Journal of Agriculture (BJA)

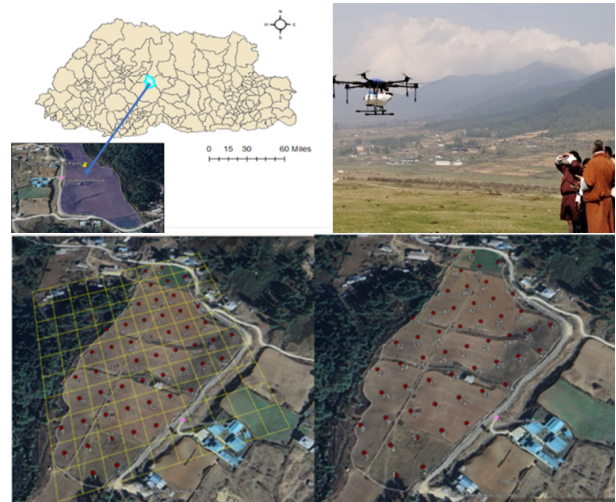
The Bhutanese Journal of Agriculture (BJA), ever since its launch in the year 2017 published 7 volumes. For the 8th volume, eight peer-reviewed research articles that address diverse challenges and advancements in Bhutan's agriculture sector were published online. These articles shed light on key challenges and innovations in Bhutanese agriculture. Rising maximum temperatures are linked to declining maize yields in eastern Bhutan, though agronomic practices also play a major role. Other research highlights improved chili shelf-life through better storage, adoption of rice varieties in Sarpang, and the impact of ICT in western Bhutan's extension services. Technological advances, like turmeric drying and IoT-based walnut grafting, point to the growing need for climate-smart practices and post-harvest innovations to boost productivity and resilience.

- Development of Bhutan Soil Information System (BhuSIS)

The National Soil Service Centre initiated the development of Bhutan Soil Information System (BhuSIS) with funding support from the AFACI project at Nu. 1.262 million to address the reliable soil data gap. The system will comprise of National Soil Database and Information Management System including an app for soil data collection in the field to enhance informed decision making related to agriculture and environment. **Research on drone application in agriculture**

An in-depth study was carried out on the use of drones for crop monitoring, pest and disease management, and precision spraying, focusing on global practices and their relevance to Bhutanese agricultural systems.

This study “Evaluating Soil Health in a Potato Field Using Multispectral Drone Imaging” was carried out by Agriculture Machinery and Technology Centre in collaboration with GovTech. Recognizing the importance of advancing agricultural technology, the team also prepared the first draft of the UAS (Unmanned Aircraft Systems) Guideline for Precision Agriculture, which is currently under expert review.



9.2. Livestock Research and Innovations

In order to carry out evidence-based livestock development, the department during FY 2024–25 institutionalized a rigorous framework for reviewing, endorsing, and disseminating livestock research. Out of 21 proposals reviewed, 20 were endorsed, and 11 peer-reviewed manuscripts were published in the Bhutan Journal of Animal Science (BJAS) volume 9, issue 1. These publications covered critical areas such as aquaculture performance trials, interspecies hybridization of Yak and Wagyu cattle, and impact assessments of subsidy programs in poultry and piggery.

Such research is encouraged because it enables data-driven decision-making, fosters innovation, and supports the development of scalable models for improving productivity and sustainability. For instance, the Yak × Wagyu hybridization trial, globally the first of its kind, aims to combine hardiness and marbling traits for high-altitude meat production, while the queen bee rearing scheme addresses colony shortages to meet honey production targets. These innovations are not only scientifically significant but also economically transformative, aligning with Bhutan’s broader goals of structural transformation and rural prosperity.

The research published in BJAS are as follow:

1. Dairy commercialization in mountain farming environment of Bumthang District: Prospects and challenges
2. Assessment of the nutritional composition of maize stover silage enriched with local distillate residue and its feasibility as winter fodder
3. Assessment of animal welfare, slaughter practices and food safety in Bhutan
4. Impact of preservation techniques and storage durations on nutritional quality of Rohu and Rainbow trout
5. Microbiological quality of raw milk in the western and west central regions of Bhutan
6. Grazing resources for yaks in Merak and Sakteng: Issues and challenges
7. Quantification of butter and cottage cheese from milk of different cattle breeds
8. A review of agribusiness in Bhutan: Challenges, opportunities and prospects
9. Surgical management of cranium bifidum with meningocele in a Jersey calf under resource-limited settings: A retrospective case report
10. Egg production metrics, profitability and management practices in layer farming in Sarpang District
11. Effect of monthly changes (May–September) on larvae acceptance rate and royal jelly production in *Apis mellifera* colonies in Bumthang

10. CHALLENGES AND CONSTRAINTS

10.1. Climate Change

The sector faced several challenges including the impacts of climate change. The hailstorms incident of 10th April, 2024 which destroyed the crops and vegetables for the farmers in eight gewogs of Tsirang Dzongkhag which reportedly damaged vegetables on 2,294 acres of land and 58,638 fruit trees amounting to a monetary loss of around Nu 55 M.

Similarly, in Phobjikha, Wangdue Phodrang, Bhutan, some farmers experienced potato crop damage due to an unseasonal frost in May 2024. Specifically, two households in Khyimdro-Nemphel chiwog of Phobji Gewog lost a significant portion of their ready-to-harvest potatoes due to a flash flood triggered by heavy rainfall. Additionally, frost damaged potato plants in other areas of Wangdue Phodrang and Bumthang, with some farmers losing up to 90 percent of their crop.

10.2. Production loss

A significant portion of agriculture production is lost annually to the impacts of climate change, human wildlife conflict and others. For instance, as per Integrated Agriculture and Livestock Census Report 2025, more than 2500 MT of paddy alone were lost to the reasons cited above. Similarly, more than 1000 MT of chilli were reported as production loss. For potato, the total production lost was reported to be more than 2900 MT.

Output Indicators	Baseline (2023)	Year 1 target	IALC 2025	Crop loss	Total (Harvested plus crop loss)
Increase in paddy production	40,804	45,000	41537	2566	44103
Increase in maize production	25,118	27,102	27635.86	6296.79	33932.65
Increase in quinoa production	13	50	40.12	6.35	46.47
Increase in wheat production	837	837	838.84	105	943.84
Increase in chilli production	4,848	5,951	5596	612	6208
Increase in tomato production	206	435	379.45	19.8	399.25
Increase in bean production	1,533	1,788	1785.05	138.36	1923.41
Increase in cauliflower production	1,063	1,342	1096.25	74.5	1170.75
Increase in potato production	37,749	37,820	37778	2957	40735

Livestock faced a series of disease outbreaks requiring immediate redressal measures including mandatory culling thereby impacting production targets. For instance, 14077 cattle including yak were lost due to issues such as wildlife depredation, disease outbreaks etc. Additionally, 164551 poultry birds and 2784 pigs were lost to wildlife depredation, disease outbreaks and others. The total loss for milk production posed by the death of cattle accounted to 4399 MT and the loss of 173.4 MT of pork from the death of pigs. The death of 164551 poultry birds has caused the loss of 13.7 million eggs in the financial year.

10.3. Misalignment in reporting timelines

At present, the National Statistics Bureau (NSB) is responsible for publishing official data on the agriculture and livestock sectors through its annual *Integrated Agriculture and Livestock Census*. While this data serves as a critical reference for policy planning and progress tracking, a significant challenge arises from the misalignment between the timeframes used for data collection by the NSB and the reporting requirements of the Ministry of Agriculture and Livestock.

Specifically, the NSB collects data based on the calendar year (January to December), whereas the Ministry conducts its monitoring, evaluation, and reporting based on the fiscal year (July to June). This discrepancy in reporting periods leads to inconsistencies and, more importantly, the risk of underreporting actual production achievements.

For instance, the production of key livestock commodities such as dairy products reach its peak during the summer months. When data is collected strictly for the calendar year, part of these seasonal peak falls outside the defined data collection period. As a result, the cumulative production recorded by the NSB for any given calendar year may not accurately reflect the real-time output captured during the Ministry's fiscal year, thereby leading to undervaluation of the sector's performance.

11. Way Forward

1. Given the significant quantity of crops and livestock loss to wildlife depredation, chain link fence construction and insurance schemes need to be expedited. Resource mobilization for the chain link, in particular, needs to be accorded priority with Nu. 3.6 billion yet to be secured.
2. Production targets for major commodities such as paddy, fruits and livestock commodities have not been achieved. Partly, it is attributed to the fact that the annual planning and budgeting is done without much reference to the annual plans of the Ministry. Therefore, the annual planning and budgeting will need to strictly adhere to the annual plan targets by strengthening intra-sectoral collaboration.

3. It was uncovered that there is weak linkage between the department headquarters with their sectors in the local government. It is felt imperative that platforms be established to enable coordination and collaboration between the ministry and sectors at the local government.
4. Additionally, with the Ministry currently in the process of developing registration systems for agriculture and livestock holdings, the transition to a more synchronized and dynamic data system is expected to bridge the existing gap in reporting timelines and improve data reliability for policy and planning purposes.
5. To address the issue of misalignment between data collection timelines by the National Statistics Bureau's (NSB) calendar year and the Ministry's fiscal year-based reporting framework, it is recommended to realign the reporting period to maintain consistency. Specifically, the frequency of data collection should be increased, ideally on a quarterly basis, similar to existing reports such as the Labour Force Survey. This would provide a more accurate reflection of seasonal production patterns and allow timely and correct reporting of sectoral achievements.

Formulation Team

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