



POLICY BRIEF

ASSESSMENT OF INVESTMENTS IN AGRO-PROCESSING INDUSTRIES IN BHUTAN – ENHANCING EMPLOYMENT, SUBSTITUTING IMPORTS, AND ENCOURAGING PRIVATE-SECTOR PARTICIPATION

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POLICY MESSAGE

The agro-processing portion of several key agricultural value chains has been assessed through a series of studies, carried out by DAMC and MOAF over the 2019-2021 period. These studies have identified products with agro-processing potential in Bhutan. A pre-feasibility analysis was conducted for ten of these, followed by a Feasibility Study and a Business Plan for five selected products. The EU-TACS project supported the Assessment to identify economically viable agro-processing industries in Bhutan's renewable natural resources sector, potentially being financially-viable within the local and national economy.

Figure 1: Roses being marketed



The Assessment noted that **at the downstream end of commodity value chains, agro-processing industries could be developed for Bhutan to provide employment**, especially for unemployed youth who are not attracted to farm work, but who might – after training and support for Youth Investor Groups, become interested in participating in agro-enterprise development.

Agro-processing industries can provide **focused markets** for primary production, which small-scale farmers can supply. Another benefit of agro-processing industries is their potential to meet the needs of markets, restaurant businesses, and supermarkets across Bhutan by delivering **locally-produced and Bhutan-branded processed food products**.

To further benefit a thriving agro-industrial sector, RGoB stakeholders across Ministries must **develop an Agri-Business Investment Policy and Strategy** to *foster new agro-processor venture companies focused upon high-quality Bhutan-made processed foods*. This sector could also support the post-Covid recovery of the tourism sector.

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Some of the main challenges for agro-processing industrial development in Bhutan are:

Box 1: CHALLENGES FACING BHUTAN'S AGRO-PROCESSING INDUSTRIAL DEVELOPMENT

1. The **domestic production** of many crops is relatively limited, and many commodities are insufficient to meet national demand. Farms are often small, inaccessible, and scattered across remote terrain. Improved inputs such as seeds, fertilizers, farm machinery, and skilled labor are scarce, and, as a result, a substantial proportion of farming systems are rudimentary.

These factors lead to the farmer being **trapped in a dynamic of low production input levels and correspondingly low yields, poor farm sales, and limited household income**. The situation is exacerbated by inadequate on-farm storage facilities, which means that crop surpluses are usually sold just after harvest, when prices are low.

The primary constraint on the commercialization of crop production is the **inability of small farmers to access input and output markets** due to low production volume, poor roads, the absence of processing industries, and poorly-functioning markets.

Rural extension support systems are not functioning as they should, and the method of using commodity agents to purchase crops from farmers has numerous limitations. Even areas with basic marketing amenities still suffer from a **severe lack of storage facilities**, poor linkages with processing and production chains, and poor market orientation, all of which lead to **high post-harvest losses**.

Future **value chain assessments** should indicate the most **effective business models** that allow smallholder farmers to access high-value agricultural value chains by connecting them to structured markets. The markets developed to serve agro-industry must offer reasonable prices for agricultural produce, access to appropriate farm machinery and labor under commercially-viable systems such as **contract farming and out-growing networks**. **Farmers now need market information about windows of opportunity that link them forwards to specific agro-industries**.

2. **Significant external, Government, and private sector investments** are needed to **increase the scale of the agro-industrial development sector**. Support provided via DAMC and MoAF to several of the proposed small and medium-sized enterprises would result in significant import substitution within the entire industry. These industries have a much greater employment potential than that offered by the traditional micro-scale cottage industries.
3. A significant challenge is to **identify individuals or groups of Bhutanese entrepreneurs** who are willing to take the risk of investing in particular agro-enterprises. **Agro-enterprise development and commercialization** are increasing only slowly, despite the significant opportunities for high-value products. Entrepreneurs will need support to develop their **management skills**, especially as few individuals or companies in Bhutan have relevant skills in managing medium-

sized factory-based enterprises. Government and other stakeholders in the agro-industrial sector should provide these investors with **access to agribusiness knowledge, innovation, and business planning skills** through **agribusiness investment hubs**.

4. Capital investments by MoAF have often focused only **on-farm production** rather than on the entire value chain, with its **processing and value-addition activities**. Investment has been channeled through state-owned enterprises, rather than put forward by the private sector.
5. Given this background, stakeholders in the agro-industrial sector now require **innovative fiscal incentives**, such as subsidies, customs exemptions, excise tax incentives, industrial rebates, capital investment allowances, export allowances, and transport allowances. These must be designed to **increase investment in agro-processing industries** at both small and medium scales, increase their operational capacities, boost profit margins, and ease access to the system of incentives.
6. These **systems to provide finance should be established jointly by DAMC and MoAF, and be strongly linked to Bhutan's financial sector**. Information should be communicated to potentially interested individuals and enterprises on accessing that funding, to establish agro-processing industries. Customized financial products will be needed that directly support small- and medium-scale agro-industries' setting up.
7. **Value chain development support** should include **non-fiscal incentives**, such as easing the registration and licensing of businesses, providing business and export market information, creating linkages between local and foreign investors, facilitating joint ventures, providing business training courses, and facilitating connections with suppliers of appropriate factory machinery.

The **entire operationalization of Value Chain Development** must be promoted, including real VC processes like providing agricultural inputs, production, processing, product standards, packaging, and marketing.

8. A further challenge is to ensure that the limited market for processed products in Bhutan is offset by the **potential to export products** to neighboring countries through improved branding, e.g. *Organic Brand* and the *Made in Bhutan* brand. This should be addressed in further versions of agribusiness plans.

DRIVERS OF CHANGE FOR AGRO-PROCESSING INDUSTRIES

STRENGTHENED BUSINESS-ENABLING ENVIRONMENT. While the agri-business sector may become willing to make private investments and take on loans from financial institutions for the **production end of value chains**, there is a reluctance to take on **long-term loans for the primary agricultural development that would produce the inputs for the agro-processing facilities**. This risk aversion is due to the **perceived risks** of investing in farming communities.

Investors expressed concern about **potential weaknesses**, when assessing the capabilities of farmers to operate as out-growers, who would be contractually required to deliver farm products for sale reliably to a particular number, or to a single, dedicated agro-processing facility. Structures of prices that agro-industry should offer farmers would be, as far as possible, agreed beforehand.

The encouragement of potential entrepreneurs to become more involved in small and medium-scale agri-businesses will require a **strengthening of the enabling environment** with a focus on access to feasibility studies, agri-business planning, product branding, more significant sums of long-term capital, technical and managerial training, technical assistance, linkages to suppliers of manufacturing machinery, and a trained labor force. Action items include:

- **Training and capacity building of farmers out-grower group members** on business planning, according to market demand and other contractors' requirements.
- Strengthened **linkages between input suppliers and farmers with extension services**, especially private enterprises that might be contracted by the agro-industry enterprise, as their primary contact and communication mechanism, with their groups of supplier farmers.
- Build **linkages between agro-input retailers, farm machinery suppliers, and out-grower groups**.
- Facilitate farmers' groups and VC actors on capacity building in modern farming practices, including training in disease and pest management of out-grower group members.
- **Capacity building on post-harvest management** of the farmer group members through private sector enterprises (e.g., processors, exporters, supermarkets, large traders).
- Training in **packaging**, and linkages between agro-industries with packaging providers.
- Establishment of **processing factories**; linkages with supply chain actors for marketing.
- Capacity-building on **cold chain management** and linkages with refrigerated vehicle owners.

Figure 2: Packaging of Buckwheat Flour



Box 2: KEY POLICY RECOMMENDATIONS AND RESPONSIBILITIES

1. **DAMC should support agri-business planning**, providing follow-up to feasibility studies and business plans, and create hubs for agri-business knowledge, innovation, and entrepreneurship. MoAF, DLG and DAMC, should jointly prepare; (1) An **Agri-Business Investment Policy and Strategy** (2) **Sector Strategy Papers with Action Plans for sectors, and to direct resources towards specifically-targeted agri-business companies.**
2. There is a clear opportunity to strengthen the **Enterprise Development Coordination Center** as a hub for entrepreneurs, working as an **Agribusiness Facilitation Unit** offering a one-stop service for the agri-entrepreneurs and supporting establishing relationships with relevant stakeholders and value chain agents for specific projects under development. This should include establishing and strengthening an **ICT-based Agribusiness Knowledge Call Center.**
3. **PPD at MoAF should support inter-agency coordination** for agri-business development and the facilitation of RNR investment. This will require highly skilled MoAF and DAMC staff to collaborate to generate individual and highly detailed value chain and business feasibility studies for each model, in concrete cases with specific investors or groups as lead agents.
4. Entrepreneurs and their associates should be provided trade advice on and marketing appraisal and support, for local Dhangzhag level markets, national markets, and potential trade with India, Nepal, and potentially with Bangladesh. This will require staff in a relevant Unit such as PPD in MoAF or dedicated team at DAMC, to deliver support services to entrepreneurs as they flesh out their business plans, consider both national and international markets, and move towards obtaining investment funds, as they enter into further phases of detailed agro-industry facility design.
5. **BDB and other banking and financial agencies** should develop support systems for loan management to entrepreneurs and supply them with **improved finance options.**
6. MoEA should lead the development of **new investment structures**, subsidy design, and the identification of external private finance.
7. **MoF should proactively support establishing unique regulatory systems** for agro-entrepreneurs, providing tax incentives, tax breaks, and tax exemptions for agro-industries, especially during their start-up phase.
8. On the subject of branding, opportunities for outreach to potential clients should be established through the participation of budding agro-processing entrepreneurs in international trade fairs, seminars, and workshops to consolidate and strengthen Brand Bhutan. At the same time, work will be needed to enhance certification bodies within Bhutan Organic, Global, GAP, HACCP, Phytosanitary/Sanitary Units in the relevant Ministries charged with regulatory tasks. This work will strengthen Bhutan's branding in the media internationally for market integration.
9. **MLHR** should increase the access to agro-industries of a suitably-trained **labor force**, plus providing **management training** for entrepreneurs and business owners.
10. **BCCI, DCSI, and Dzongkhag planners** should seek significant involvement of the private sector via existing businesses and investors and promote start-up enterprises.

11. A **diversity of private sectors suppliers** should be encouraged to play far more significant roles in terms of inputs supply. The private sector should be **systematically linked to groups of out-growers**, ensuring the provision of seeds and seedlings, agrochemicals, farming machinery, and other farm-level inputs. Outsourcing input suppliers' roles to SoEs and private sectors in a collaborative manner must encourage private investment, improved production, farm productivity, and employment generation.
12. **International donors and multinational corporations** (e.g., Mountain Hazelnut Venture) should be provided information from the EU-TACS study and encouraged to bring Bhutan into global value chains.

INVESTMENT POLICY AND TAX INCENTIVES:

Under Programme 2 for Value Chain and Enterprise Development at MoAF, a high priority has been assigned to "support and establish agro-based enterprises," for which 45 million Nu. have been allocated under DAMC. A further 46 million Nu. was assigned to the DOA at the Dzongkhag level for setting up agricultural and crop-based enterprises during the 12th Five-Year Plan. These investments should continue to be made during successive planning cycles, and within the planning frameworks of all concerned Ministries and Departments.

There is a need to develop an **Agri-Business Industrial Investment Policy and Strategy**, together with a set of related incentives – both tax-based and non-tax-based – to ensure that agro-processing becomes better established in Bhutan.

NEW PRODUCTS AND MARKETS:

The products selected for the feasibility study and business plan stage were: (i) a medium-scale potato crisp factory; (ii) a medium-scale mustard seed oil extraction factory; (iii) a medium-scale breakfast cereal factory; (iv) a medium-scale biscuit factory; and (v) a small-scale floriculture business, growing roses.

The **EU-TACS agro-industry assessment profiled via this Policy Brief** should be used as a driver for further analysis, programming, and investments. Note that the viability of each enterprise was determined by subtracting all costs and expenditures from all revenues to derive a cash flow. The cumulative cash flow on which the profitability indicators rely, was then found by discounting the net cash flow streams using a relevant contingency factor.

The financial value of each project was defined via indicators, including net present value (NPV) and the internal rate of return (IRR) of that business. The following fundamental values were calculated using data presented at pre-feasibility:

- (1) **Revenues:** derived from a given annual plant capacity and throughput, using a given, reasonable finished product price;
- (2) **Expenditures:** investment and associated start-up costs associated with purchasing all necessary equipment to establish the business;
- (3) **Annual fixed overheads and variable costs,** including staff, administration, marketing, and variable costs associated with physical throughput of raw materials; and transformation costs when producing sale-ready products.

A **sensitivity analysis** focusing on critical financial parameters was undertaken to examine the proposed enterprises' robustness and assess any changes in their financial viability (IRR or NPV) that might arise from any increases or decreases in the value of their revenues and expenditures. See the Annexes of that Report for detailed information on each agro-industry, and as well, see the full Assessment Report published on the MoAF website or available directly from PPD within the Ministry.

Each of the five agri-businesses selected has significant **potential for import substitution and employment generation**. The next stage is to find potential entrepreneurs for each business, assist them with preparing agri-business investment plans, and establish an enabling environment for accessing resources, which will lead to the actualization of each business plan in a sustainable trading environment. A ready market exists in Bhutan, with some potential for exporting, primarily if **Brand Bhutan** is used as the promotional vehicle.

For workable and sustainable agribusiness development, **up-to-date and robust financial data are required** to establish accurate capital, overhead, and production costs, along with product prices, so further updated assessments should be made, for each agro-industry type, using the methods described in the Final Report of this Assessment.

POLICY IMPLICATIONS AND SECTOR REFORMS

STRUCTURAL CHANGE:

Structural changes at MoAF were recommended in the Organizational Development Exercise (2019) due to the duplication of marketing and enterprise development efforts. These involved the Department of Marketing and Cooperatives and the various RNR technical departments, Bhutan Livestock Development Corporation Ltd., Food Corporation of Bhutan Ltd., Green Bhutan Corporation Ltd., Farm Machinery Corporation Ltd., Bhutan Chamber of Commerce and Industry, civil society organizations, private businesses, and entrepreneurs.

There is a substantial need to improve the efficiency and effectiveness of marketing, enterprise development, and related community organizations. **Agro-business development functions** should be encouraged within all the Technical Departments (DoA, DoL, DoFPS), especially within the Dzongkhag Administrations.

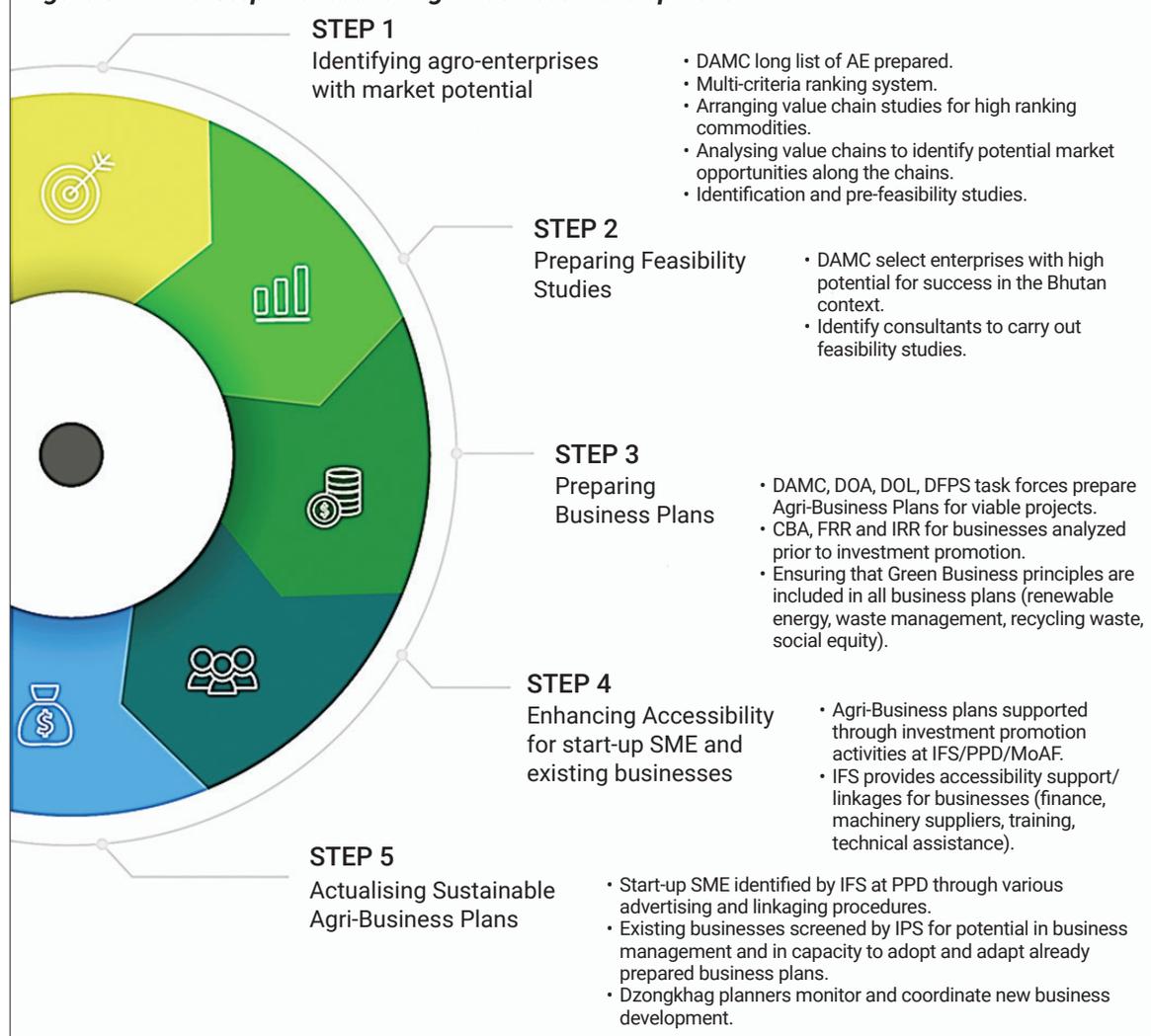
These factors and proposals mentioned in this document should be supported by constituting an **Agro-Processing Industry Working Group**.

This working group could include representatives from (i) Department of Agricultural Marketing and Cooperatives, (ii) the Department of Agriculture, (iii) the Department of Livestock, (iv) the Department of Forests and Park Services, (v) MoAF's Policy and Planning Division (Investment Facilitation Section), (v) Ministry of Economic Affairs (representatives of Regional Offices x5), and other co-opted members as required depending on agenda items in meetings.

The approach set out in Figure 3 below, was developed as part of a dialogue process between MoAF's Policy and Planning Division and the EU-TACS Project in early 2020. Support was provided to Steps 1-3 by the EU-TACS project.

Follow-up training on preparing agro-processing feasibility studies and business plans have been designed for planners at DAMC, DoA, DoL, DoFPS, and PPD. The Powerpoint slides and any other material should be re-packaged and kept available for training further groups of MoAF and other staff.

Figure 3: A Five-Step Process for Agri-business Development



VISIONS, MANDATES, AND ROLES

Promoting agro-processing industries in Bhutan will require developing concepts, mandates, and roles to be defined at intra-agency and inter-agency levels.

To create these, an **Agro-Processing Industry Working Group** is suggested to prepare an Inter-Ministerial Working Paper to define coordinated and correlated visions, mandates, and roles within each key agency. This would then lead to developing a document titled the **Agri-Business Investment Policy and Strategy**.

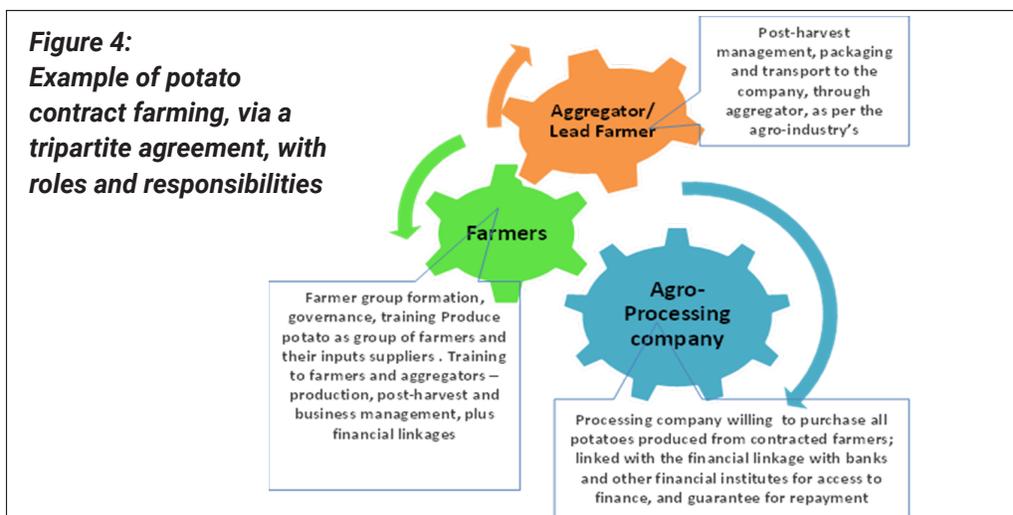
Intra- and inter-agency processes and procedures need to be developed at MoAF to cover all departments concerned. Intra-agency will cover all the relevant agencies under MoAF, such as DAMC, DoA, DoL, DoFPS, and BAFRA, with coordination by the Policy and Planning Division. Inter-agency processes will cover external agencies such as MoEA, MoF, BDB, BCCI, Dzongkhags, and BAIL, where coordination would be the responsibility of PPD through the Office of the Secretary at MoAF. The chart shows the indicator for developing a process at the intra-agency level (within MoAF).

PROCESSES AND PROCEDURES:

HUMAN RESOURCES & TRAINING:

The main institutional tasks and linkages are as follows:

- The **DAMC needs to strengthen its livestock and forestry agro-processing business development** to avoid its current over-concentration on agricultural commodities.
- Improved coordination with **MoAF departments, the private sector, and non-department agencies** is necessary. The same applies to Department staff at Dzongkhag level and at communications.



- **Cooperatives, farmer producer groups, contract farming groups, livestock producer groups, pasture user groups, community forestry groups, and NWF groups** must all be supported. These organizations must be provided with capacity-building support regarding agronomic techniques, the use of farm machinery, pest and disease control, marketing, value chain development, enterprise development for out-grower models, and community organization.
- The **Investment Facilitation Section at PPD** will need to be strengthened to support the MoAF with finding external funding sources, potential entrepreneurs, Public-Private Partnership (PPP) opportunities, accessing decentralized government business funding from economic grants available in all Dzongkhags, and linkages to business training opportunities for entrepreneurs.
- The **Dzongkhag Economic Development Officer** will coordinate with Technical Departments for marketing infrastructure and establishing community organizations.
- The **private communications sector, and ICTD at MoAF**, should capitalize on the usage of mobile phones, the Internet, computing devices, and social media, and establish **specific methods for messaging that are matched to particular groups of farmers**, who have the potential to become out-growers for a new agro-industry being established in their area. These messages would **supply farmers with information on the new opportunities to sell their products** to a particular agro-industrial enterprise.
- ICT-based communications would need to be followed by **Out-Grower Group Establishment Meetings** between agro-industry entrepreneurs, interested farmers, Dzongkhag-staff, and staff of relevant Ministries. These would provide **consultation opportunities for farmers to discuss their needs**, for them to become capable and reliable producers of the inputs needed by the targeted agro-industry.

POLICIES, STRATEGIES AND PROGRAMMING:

The World Bank (WB) has carried out a study titled “*Increasing Agribusiness Growth in Bhutan*” (2016). The largest agribusiness firm in Bhutan is foreign-owned, namely Mountain Hazelnut Ventures (MHV). Almost all remaining businesses are under domestic ownership and are micro or small in scale. **Investment policies suggested by WB concentrate on foreign direct investment (FDI).**

They include: (i) FDI promotion to offer local producers an access route to global value chains, (ii) FDI’s provision of a platform for technology and knowledge transfer, (iii) improvements to the process for registering a property for FDI, and (iv) speeding up the process for transferring property titles to FDI businesses.

An **Agribusiness Investment Policy for Bhutan** is needed to address questions such as the size and type of businesses to be developed, the balance between domestic and foreign investment, the types of incentive to be provided to potential entrepreneurs, the balance between production businesses and processing businesses, and the structural reforms needed in Bhutan to achieve an accelerated agribusiness investment program. Following on from the policy, strategies, and programs for the period up to 2040 will need to be designed.

MONITORING AND EVALUATION:

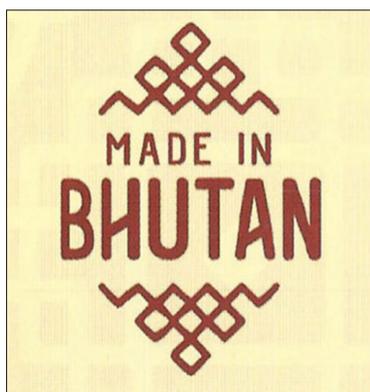
To monitor the processes, procedures, and plans for developing agro-processing businesses in Bhutan through DAMC, concerned departments at MoAF, and external stakeholders (MoEA, banking sector, private entrepreneurs), the PPD will be responsible for establishing an M&E Section, capable of supporting the preparation of M&E Frameworks, and M&E Plans (for five-year plans, and annual planning frameworks) for implementation by DAMC, other Ministries, to be supervised by the proposed **Agro-Processing Industry Working Group.**

Figure 5: Mountain Hazelnut Venture Out-grower Farmers



COORDINATION, COLLABORATION AND LINKAGES:

For **linkages to the international market and to attract international finance**, capacities will need to be strengthened between the **Department of Trade at the Ministry of Economic Affairs, and embassies, consulates, and missions under the Ministry of Foreign Affairs.**



For linkages within the domestic market, MoEA, BCCI, BDB, Dzongkhags, and MoAF Technical Departments will need strengthening to avoid “silo thinking” by different agencies, resulting in overlapping uncoordinated business development activities.

Policy Briefs

Policy Briefs provide highlights on development issues in the renewable natural resources sector in Bhutan. The Policy Briefs provide information on topics such as governance, livelihoods, natural resources and sustainability in an accessible way for decision makers and donors.

Many of the Policy Briefs are based on evidence-based statistics available at the Ministry of Agriculture and Forests together with Research Studies carried out by the Policy and Planning Division at MoAF, and are often a synthesis of study reports prepared by international experts on behalf of donor agencies assisting the MoAF in Bhutan.

Policy and Planning Division: MoAF, Thimphu, Bhutan

Policy Adviser:

David Billing, RNR
Adviser, EU-TACS
Project, Policy and
Planning Division, MoAF
Thimphu, Bhutan

Key Stakeholders:

Department of Agricultural Marketing
and Cooperatives (DAMC) MoAF,
Thimphu, Bhutan

Technical Advisers:

Dr. Stephen Atkins,
Agricultural Economist
EU-TACS Project

The **EU Technical Assistance Complementary Support Project (EU-TACS)** has the aim of contributing to the sound implementation of the EU-Bhutan bilateral development cooperation strategy. Starting in March 2019, since then, the EU-TACS project has provided technical assistance that has been focussed on Rural Development and Climate Change Response, and upon Local Government and Fiscal Decentralisation. EU-TACS has also supported the implementation of two EU Sector Reform Budget Support Contracts for the MoAF and the DLG. The assistance has included consulting services, studies, and communication aspects to provide stakeholders with direction for capacity-building, dialogue, and policy change in several key development themes and subject areas.