



POLICY BRIEF

GREEN WASTE MANAGEMENT AND CLIMATE-SMART TECHNOLOGIES FOR DISSEMINATION IN BHUTAN'S DZONGKHAHS – OPPORTUNITIES FOR EMPLOYMENT AND BUSINESS DEVELOPMENT IN SERVICE DELIVERY



EU Technical Assistance Complementary Support Project – Bhutan



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POLICY MESSAGE

This Policy Brief is based on an assessment carried out in 2020-21 titled “Study on Opportunities for Green and Climate-Smart Technologies Employment and Business Development in Bhutan,” which generated three study Reports. In this set of Reports, Part A examines **Green Waste Management** (GWM) technologies, while Part B focuses on **Climate-Smart Technologies** (CSTs). The overall third Final Report for A2.7 summarizes the findings and provides policy directions, while discussing the joint implications of the two studies.

This Policy Brief examines one set of seven **prioritized Green Waste Technologies, plus one set of six Climate-Smart Technologies**. Here we highlight *the Green Waste and Climate-Smart Technologies (G&CSTs) Business Opportunities available that can generate employment through new green waste and climate-smart enterprises dedicated to the installation, operations, sales, and servicing of these technological innovations.*

These G&CSTs will generate an array of services and products that can strongly contribute to local, sustainable development, especially through promoting technologies that fit within the overall approach of establishing Climate-Resilient Mountain Villages.

Potential business concepts are profiled in the two Annexes (Part A and Part B) that comprise the complete Study. The three Study Reports also include business plans which indicate that many of the profiled GWM and CSTs **can now be recommended for implementation in the field.**

This Policy Brief, and the two complete parallel studies, should directly support both the programming of the Department for Local Government (DLG) and that of MoAF. MoAF and DLG must work closely to **implement a national plan to promote Green Waste/Climate-Smart Businesses**. Both organizations should work in parallel to execute a dissemination plan for G&CSTs directed at the private sector across Bhutan under the guidance of the RNR Vision 2040 Task Force. Therefore, the Study proposes that a **‘Green Businesses, RNR Waste Recycling, Circular Economy and Climate-Smart Technologies Industrial Investment Plan’** should be formulated to guide long-term planning, and considered for inclusion in the 13th FYP.

The **Dzongkhags’ Administrations** should be encouraged to use this information to establish economic or environment-focused grants channeled through their Local Economic Development (LED) plans. These would support businesses by preparing individual feasibility studies and SME business plans and providing structured support to interested entrepreneurs. The outcomes of these studies will be helpful for MoAF and DLG in the **capacity-building of entrepreneurs** of all types, including youth groups, SMEs, women’s groups, Dzongkhag planners, private-sector businesses, state-owned enterprises, and cooperatives.

An **Action Plan Framework** included in the **Overall Report for the A2.7 Study** has been developed to identify crucial recommendations and a series of required activities. To take this forward, it would be appropriate to make the DLG and the MoAF Policy and Planning Division jointly responsible for implementing the Dzongkhag-level Green Waste and Climate-smart Technology Action Plans. This support should be delivered directly in conjunction with the 20 Dzongkhag administrations and should be designed to support employment creation.

KEY PROBLEMS

Much of Bhutan in the early 2020s remains a farm-based society, with approximately 60% of the population being engaged in agricultural practices. Despite the significant concern of climate change, the farm sector still features **substantial growth potential** but faces two significant challenges: (1) **increasing food demand** and (2) **climate change trends and impacts**. There is little doubt that **the potential for productivity increases is becoming constrained in a range of agricultural sub-sectors**. Bhutan's **diverse variety of agro-ecological zones** within a small area and its location on the periphery of the Tibetan Plateau create a context favorable to a **unique set of climate change impacts**. **Agriculture in Bhutan is primarily rain-fed**, and irrigation (where possible) is principally dependent on rain-fed springs. The sensitivity of Bhutan's farming communities to such factors means that the changing climate patterns can significantly alter crop yields and production.

There are 27,000 licensed businesses across Bhutan, many of which produce by-products or waste. The rapid urbanization and commercialization of Bhutan's agriculture, livestock and forestry sectors have resulted in more waste and more **significant volumes of recyclable by-products**.

The ambition to foster the widespread adoption of G&CSTs in farming communities is affected by a range of value-chain, farm management and environmental factors that differ from one district to another across Bhutan's varied terrain. The main factors include:

Figure 1: Business development issues to be tackled in Green Waste and CST outreach

- **There are shortages of many value-chain inputs (e.g., crop & mushroom seeds, livestock feed, egg trays, etc.)**
- **Scarcity of labor**; most **agricultural operations are performed manually**.
- Irregular and insufficient availability of **irrigation systems and water supplies**, inefficient **irrigation methods**, and the need to encourage a shift to sprinkler systems and drip irrigation.
- **Limited, fragmented, and dispersed land holdings**. These issues cause difficulties for farmers in gaining access to much-needed **farm machinery**. They are also "push factors" for rural youth who no longer wish to be involved in farm work, which they tend to regard as drudgery.
- **Effective marketing** is a significant challenge due to a variety of trade restrictions and government regulations. **Costly and unreliable transport** causes difficulties both with the provision of inputs and the delivery of products to market. Without fully-functioning value chains, new products may require dedicated assistance with regard to marketing.
- **Environmental concerns**: e.g., **high levels of wildlife-related crop damage**; excess use of **fuel wood for cooking**.
- Ineffective **waste-management systems**, including failure to segregate recyclable and compostable waste types in smaller communities and larger urban settlements.
- **There are high investment costs** for G&CSTs, weak **business planning** capabilities, and **insufficient technical knowledge**. **There is a lack of access to concessional loans that could be made available by Bhutan's financial institutions for G&CST investments on a wide scale**.

The farmers vary in their decision-making abilities and capabilities concerning the adoption or alteration of the technologies they use for farming. However, the **farm labor shortage** and the lack of available **irrigation water** are the two most important issues. Farmers are also heavily affected by changes in **crop seasonality** and **crop damage** due to human/wildlife interactions, pests and diseases, and weather events, especially droughts.

Modernization has brought some challenges for Bhutan in terms of changing lifestyles, including **increased waste management problems** and the resulting need to make businesses “green” by encouraging them to reduce and recycle their waste. A “green company” will have forward-thinking policies that involve introducing **Circular Economy principles** aimed at recycling by-products and adopting waste management technologies or strategies.

A separate Policy Brief is dedicated to applying the principles of the circular economy in the livestock, agriculture and forestry sectors.

GREEN WASTE AND CLIMATE-SMART SOLUTIONS

CLIMATE-SMART TECHNOLOGIES

A long list of climate-smart technologies (CSTs) that could be considered for adoption in Bhutan was identified. These technologies aim to reduce greenhouse gas (GHG) emissions and are also designed to contribute to the adaptation to the impacts of climate change. The CSTs included in the long list have the overall purpose of **supporting food security through increased productivity, aiding the improved management of renewable natural resources, and enhancing the resilience of farming households and communities.**

The CST selection process was conducted via a literature review, surveys, workshops, and key informant interviews involving farmers, businesses, and officials in eight Dzongkhags. The **long-list** included efficient irrigation systems such as sprinkler irrigation, drip irrigation, and electric pumps, which could also be combined with polytunnels and green houses to enhance productivity. Other CSTs included mulching and the application of farmyard manure; integrated soil fertility management; integrated pest management; sustainable land management; the use of crop varieties tolerant of pests, diseases, and drought; ridge planting systems; the use of organic fertilizers; agro-forestry systems; the promotion of biogas technology; livestock cross-breeding; and the provision of high-quality feed to livestock.

The long list was then examined through **multi-criteria analysis** using “Triple Bottom-Line” Framework indicators. CBAs were applied to arrive at a **final list of six priority CSTs**. These are:

- **Hydroponics;**
- **Rainwater harvesting;**
- **Solar electric fencing;**
- **Solar cookers;**
- **Hydro-ram water pumps** for irrigation; and
- **Cold storage technologies.**

These are identified as the **CSTs that are most viable economically** and offer the most significant benefit to agricultural communities. The Assessment Study developed detailed **business plans, including a cost-benefit analysis (CBAs)** for each of the six CSTs selected for the final set. Each of these six CSTs has the potential for private-sector involvement by providing business support in the equipment and machinery, training, operation and maintenance (O&M) support, and turnkey set-up contracts.

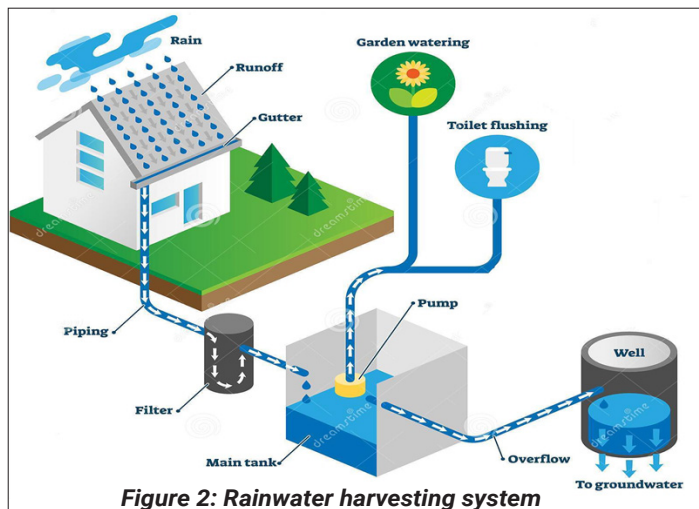


Figure 2: Rainwater harvesting system



Figure 3: Crops produced by hydroponics

GREEN WASTE TECHNOLOGIES

To identify the prioritized list of Green Waste Technologies, the second component of this Study concerning Green Waste recycling opportunities was conducted through surveys, consultation workshops and bilateral interviews with relevant agencies. Survey questionnaires collected information from farmers, businesses and officials across eight Dzongkhags, with support from DLG.

The collected information was used in conjunction with literature and policy document reviews to **identify a long-list of green waste technologies** for adoption in Bhutan. These technologies were then put through a multi-criteria analysis to shortlist the most suitable green waste management technologies involving private-sector businesses. The multi-criteria assessment for the green waste technologies used the same criteria as those used for prioritizing the CSTs.

A final set of seven green waste technologies was selected. The Report for Activity 2.7A provides complete business

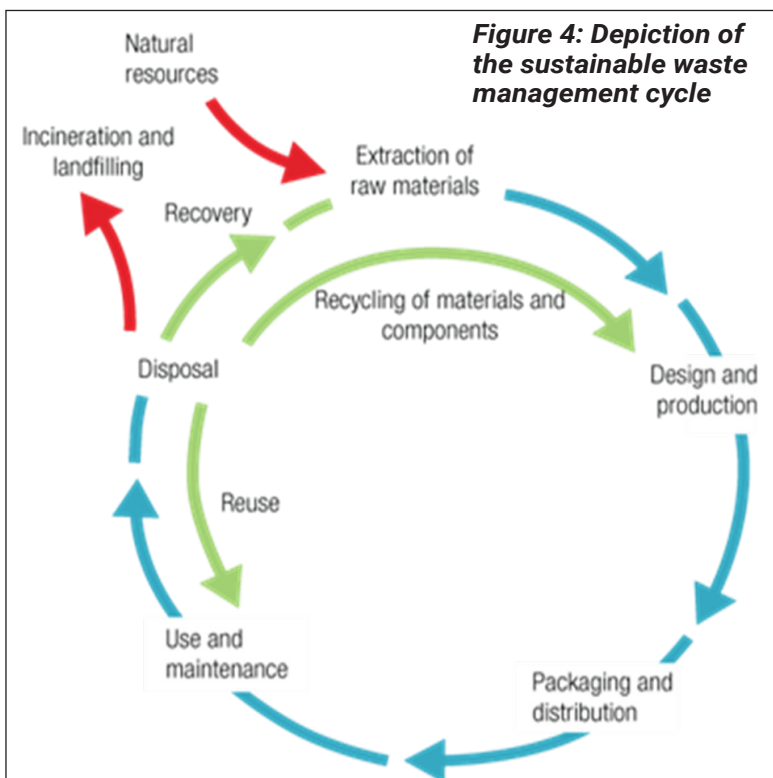


Figure 4: Depiction of the sustainable waste management cycle

plans that profile each technology, using cost/benefit analysis and the triple-bottom-line of economic, environmental and social equity indicators. For the green waste component of the Study, it was found that businesses engaged in:

- **Briquette production from wood waste** would be the most economically viable, as well as being of significant benefit to Bhutan's society and environment
- **Making organic bio-fertilizer from organic waste;**
- **Organic mushroom cultivation;**
- **Production of packaging materials and shopping bags from waste paper;**
- **Production of bio-degradable areca nut plates and cups;**
- **Production of pencils from waste paper;**
- **Manufacturing bitumen for road surfacing from plastic waste; and**

All seven of the listed proposed enterprises have significant potential to involve the private sector.

Services would be provided to businesses operating in the above-listed activity areas via equipment and machinery supplies, the training of purchasers, operation and maintenance support, and set-up contracts.

DRIVERS OF CHANGE

Stakeholder consultations regarding the menu of G&CSTs, which should be integrated with technical training on these G&CSTs, are vital to the development of farmer and business development capabilities. An essential issue is that **the prioritization of G&CSTs must be refined through bottom-up interactions between MoAF, farming community leaders, green waste entrepreneurs, businesses, and Dzongkhag and Gewog local administration staff.** There must also be full involvement of the private companies and other organizations leading G&CST development in Bhutan.

This Policy Brief proposes that a **detailed policy, technical, and investment response from DLG, in coordination with MoAF, is needed to promote a wide array of G&CSTs that specifically tackle field-level climate change impacts, and that focus on building entrepreneur capabilities to support the adoption of waste management technology.**

These consultations will provide recommendations for G&CST investment plans through a **"Green Waste and Climate-Smart Technology Industrial Investment Plan"** led by DLG that actively involves MoAF and the Dzongkhag administrations. **Significant development investments are needed to promote the widespread outreach and dissemination of G&CST innovations.** This investment plan would cover the period up to 2040 and extend across at least the following two 5-year plans. It would support research, outreach and financing for high-priority G&CSTs, plus green/circular waste-management options covering all the RNR sectors, namely agriculture, livestock, forestry, marketing, and farm infrastructure (including buildings, roads, irrigation, energy and mechanization).

The set of G&CSTs listed in this source Study and similar documents should be made available in various user-friendly formats to Bhutan's national, Ministers, head staff of MoAF's Departments, and political leaders in the Dzongkhags, NGOs, green waste leaders, and farming communities. This will **facilitate the push and pull factors essential for ensuring that Bhutan's**

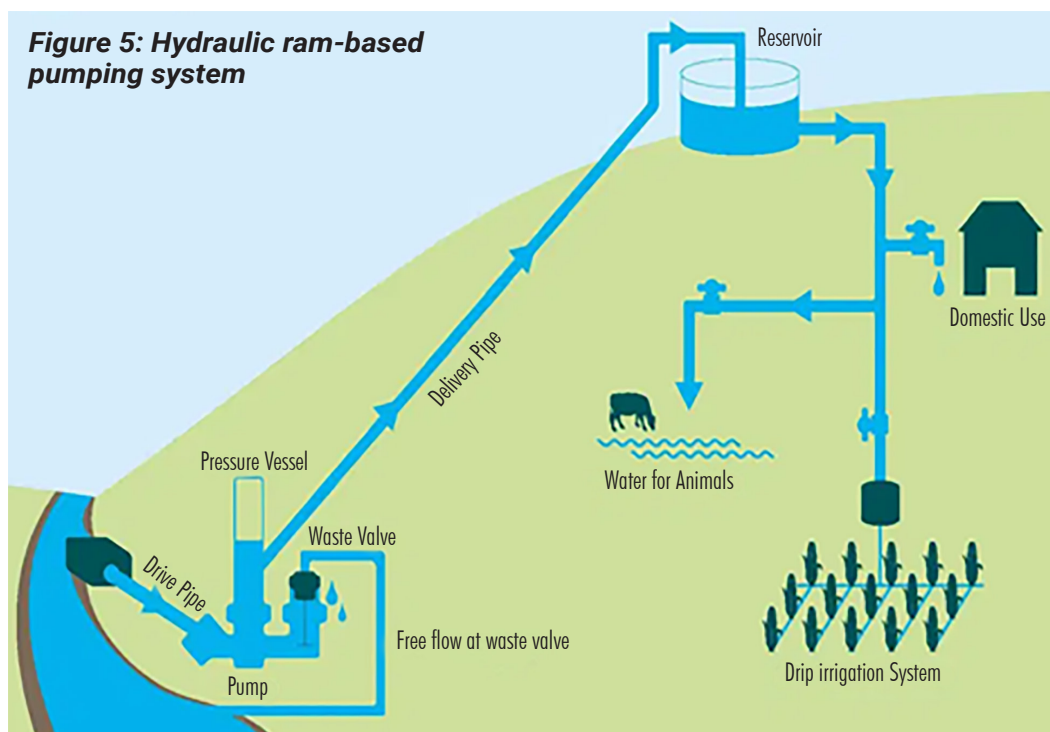
food systems rapidly incorporate various G&CSTs. This will collectively **enhance the levels of climate resilience of private businesses, farming households, and all vulnerable groups** within farming communities. The support provided to **Green Waste Recycling entrepreneurs** requires substantial investments to support the establishment of recycling facilities, especially for the seven types selected in Annex A2.7A of the A2.7 Overall Report.

The selected **climate-smart technologies must be capable of reliably improving farmer and community-based resilience to climate-related shocks and trends.** They must also feature **healthy rates of return and short payback times.** To fund this transition, it is vital that **increased – and more effective – national, and donor funding** is made available for the support of viable business plans that will facilitate ambitious efforts to disseminate the G&CSTs, as part of the overall push to catalyze systemic changes in Bhutan's society and economy.

The **main drivers for change** that facilitate and promote the research and outreach connected with climate-smart and green business technologies include the following:

1. **Technological innovations** have already markedly affected the Bhutanese people's way of life, including by altering local socio cultural practices. They have enabled the development of a wide array of new opportunities in remote mountain areas. With the gradual **integration of various value chains into national and regional markets**, many Bhutanese farmers are shifting from subsistence farming toward market-based agricultural production. This transformation includes applying a range of climate-smart technologies and urgently-needed methods for improving **crop yields**.

The **benefits of the G&CSTs included in the two shortlists for GWM and CSTs** are clear, provided their weaknesses can be reduced. Various interested parties may take up some G&CSTs relatively quickly, while others may need government support in **cash, a more extensive work force, capacity-building, and policy development.** The **use of the private sector to deliver technologies, provide operation and maintenance support, and provide turnkey implementation services for farming households, remains weak.** However, in many locations, farmers are neither aware of these technologies nor in the position to apply them.



DLG and MoAF, together with other institutions of the RGoB, should take decisive action to **promote the range of available G&CSTs** while ensuring the **socio-economic sustainability of the new investments**. Some technologies, such as rural biogas digesters, have been successfully and widely implemented in Bhutan. New products may be challenging to sustain if the business is based on the domestic market alone, and they may also face competition from the international market. Exports of Bhutanese green products face such difficulties as trading regulations, international quality standards, and certification requirements.

A resulting high priority is to establish **reliable value-chain systems for each G&CST**. These must be organized so that the **operations and maintenance services needed to enable these technologies to continue to function effectively are made available from the private sector** to ensure their long-term productivity, reliability, and sustainability.

2. **A long-term National Investment Plan for G&CST outreach and adoption.** The **RNR Strategy 2040** establishes MoAF as the lead agency for implementing the Climate Response Program in the 12th FYP to promote green businesses, circular economies, and CSTs.
3. The DLG, acting in concert with MoAF and MoEA/MoF, will need to develop a clear **Financial Services Engagement Strategy** for the wide spread dissemination of G&CSTs. For this, MoAF must continue to engage with ICIMOD, Green Growth global facilities such as the Climate Fund or ADB's climate financing window, international mechanisms established under the UNFCCC, and any other institutions interested in investing in Resilient Mountain Villages. This strategy must establish how the Ministry and other agencies will increase their human resources and overcome internal bottle necks, so as to effectively manage support for further research, outreach, financing, and the sustainable operations and maintenance (O&M) of these technologies.
4. The proposed **Green Waste and Climate-Smart Technology Industrial Investment Plan** should be developed through **Consultation Workshops and training events with inputs from stakeholders** focusing on (1) green waste and (2) addressing CSTs. Among these stakeholders would be the Dzongkhag planning staff, who are responsible for planning G&CST investments in their particular region.

Together with MoAF, the DLG and the other stakeholders must lead the development of all the **critical policy and institutional development interventions** required to support **the further use of the G&CST Study outcomes in decision-making undertaken by key agricultural planning organizations** and other stakeholders, especially the Dzongkhag Administrations. Local data, consultations, and further analysis must be applied to the G&CST-related needs and capabilities at the Dzongkhag and Gewog levels.

The discussions led by MoAF would establish **goals for the targeted numbers of G&CST technologies to be adopted in the Dzongkhags**. Dzongkhag-level targets for each G&CST should be determined, and finance made available. Then, an array of pilot and outreach technologies should be implemented across as many Dzongkhags as possible. These targets should be developed bottom-up, ratified by the Dzongkhags, and checked for feasibility by the DLG and MoAF.

5. A key driver of G&CST adoption will be the capacity-building provided by DLG and MoAF for G&CSTs through a range of outreach, consultation, local planning, and business development services. DLG will require an integrated series of training materials. DLG and MoAF should strengthen the technical capabilities of target groups such as **potential entrepreneurs**, including youth and women's groups; **existing entrepreneurs** who own SMEs and are keen to green their businesses; and **local government and RNR planners** in charge of the economic development plans of each tier of local government. From the menu of technologies listed

in this document, those green business and climate-smart technology models attractive to potential entrepreneurs, should be the subject of further support in preparing location-specific feasibility studies and SME business plans and generating buy-in among interested entrepreneurs.

6. **G&CST Guidance Manuals.** The A2.7 Study's Annexes (both for Part A and Part B) contains the baseline elements of a proposed G&CST guidance manual that would describe each G&CST in step-by-step detail. **These manuals will support the development of the capacities and skills** needed by farmers and other businesses for grasping the purpose of each G&CST, by explaining its features and costs/benefits and identifying in detail the O&M support it requires. **These manuals could be prepared by MoAF, following the order of G&CST priority** which was defined through the bottom-up assessments of demand generated by workshops. The diversity of **investment and start-up costs** must be presented in each manual. The dissemination of **G&CST Guidance Manuals** for the selected technologies would enable readers to understand how to implement each of the critical G&CSTs, step-by-step in a phased approach. DLG would disseminate these manuals, and they could become **significant drivers of change** for the adoption of G&CSTs.
7. **Bankable Propositions.** This information needs to be developed and then shared at the local level to enable communities to develop their responses and construct bankable propositions. These financing mechanisms should **allow farmers and entrepreneurs to access financial services more efficiently to follow upon their interest** in obtaining grants and loans appropriate to each type of G&CST being developed. The proposed guidance manuals could be developed through public-private contracts (or other collaborative methods) involving MoAF, DLG, and the private businesses leading the widespread dissemination of G&CSTs in Bhutan. Each guidance manual could be complemented by an **Online Training Curriculum on the Design and Management of the G&CST**, potentially including ADR centers. To enable local investment in G&CST outreach programs, mechanisms need to be established for improved local access to flexible finance that would allow G&CST-oriented private-sector firms, farmers, and entrepreneurs to access a range of existing national financial products and services. Potential entrepreneurs must be provided with **financial education** to facilitate smart borrowing.

Developing a Guidance Module on Business Planning for G&CST Establishment and Management is essential to make this possible. This would ensure that different green and CST business plans can be generated using a simple Green Waste and CST Business Plan Development Template that generates credible cash flow projections based on anticipated costs and benefits. This information would guide participants in constructing robust business plans for G&CST-related investments.

Figure 6: The importance of business plans

A **business plan is a financial action plan** utilized by a farmer or business owner that details the **inputs, outputs, and expected cash flow** during the first year of operation, sets out a road map for years 2 to 5, and provides the user with a tool for performance evaluation and business promotion. A **Guidance Module on G&CST Business Planning** should instruct **financial and book-keeping methods**, such as financial projections, balance sheets, and profit-and-loss calculations. A financial institution may derive information on the internal rate of return and cost/benefit ratios; these analyses are vital for investors considering G&CST businesses. The aim is to ensure that users of the **Guidance Module on Business Planning for G&CST Establishment and Management** are able (with some outside help) to develop a business plan that can be presented as a bankable project which is credible enough to open the door to grants, loans, and other finance.

Business Plans need to account for the length of time required to generate returns on investments. These may be rather long, depending on the extent of the infrastructure, machinery, and other equipment requirements.

8. A key driver for the transitions in approach is the ongoing activities of those agencies involved in **green business development and the dissemination of G&CSTs** across Bhutan's regions. These are led by the Agriculture Research Development Centers (ARDCs), which are the regional hubs for RNR research and outreach. The ARDCs that have progressed furthest in developing robust plans for G&CSTs outreach should be further supported to deepen and widen their support for crucial agricultural value chains and the greening of local businesses.
9. Developmental **lessons must continue to be learned from previous internationally-funded projects and programs.** A continued significant driver for change is the engagement of a range of **international and bilateral technical/financial assistance agencies** that have drafted proposals for supporting Bhutan's adoption of G&CSTs. The proposed National Investment Plan would seek synergies with these programs and learn lessons from them.

IMPLICATIONS FOR POLICY AND INSTITUTIONS

The following implications have been identified for policy and the lead agencies:

POLICIES & LEGAL FRAMEWORKS

1. The **draft RNR Strategy 2040** establishes DLG as a key factor for actions at the Dzongkhag level. MoAF complements this as the agency for promoting green businesses and CSTs through climate-change response programs. As a key policy instrument, DLG and MoAF should prepare a proposed **Green and Climate-Smart Technology Industrial Investment Plan (G&CST-IIP)** designed to support research, outreach, and financing for high-priority CSTs and green waste-management options. **This Plan needs to be developed and proposed to the Gross National Happiness Committee as an input for the formulation of the 13th FYP.**

ORGANIZATIONAL STRUCTURES

2. **To implement the G&CST initiatives, improved coordination and cooperation between DLG, MoAF, NOF/MoEA, NGOs, international assistance partners, and the Dzongkhags** is needed. Several agencies are working on piloting G&CSTs, green businesses, agro-forestry systems, and organic farming; however, there is a lack of coordination stemming from a "silo mentality." The benefit of employment generation through various business opportunities requires the inclusion of the Ministry of Labour & Human Resources (MoLHR) at a central level, plus the offices of all Ministries in the regions involved.

3. MoAF, via the proposed G&CST-IIP, must create and maintain an active **G&CST business multi-agency stakeholder coordinating Framework** to facilitate private-sector involvement in up scaling innovative technologies. This multi-agency collaboration needs to develop policy frameworks, including strategies to provide direction, processes and procedures, monitoring, evaluation, and learning.

VISIONS, MANDATES & ROLES

4. **Visions, mandates, and roles** of a new multi-agency framework for enhancing the accessibility of G&CST services are required to promote G&CSTs. Given the lack of a **climate-smart technology business promotion and development process within MoAF**, this activity should be undertaken by the Policy and Planning Division. Many of the CSTs described in Part B of the Study will require **investment financing** and capacity-building to improve the agro-industrial processes of small businesses.

STRATEGIES & PROGRAMMING

5. With the support of the original consultant Study team, MoAF will need to **map out the geographical areas** of likely highest demand where the array of high-priority G&CST business development opportunities are likely to be found to be of interest in the Gewogs where a high potential exists for the adoption of G&CST technologies.

6. A significant gap that needs filling is developing a **planning process to identify potential G&CST businesses, assist entrepreneurs, and build employees' skills.** This will require collaboration involving MoAF, DLG, and the Dzongkhag administrations. The Dzongkhags should facilitate access to "Economy" and/or "Environment" grants to kick-start projects.

7. **The G&CST Manuals and all other types of guidance** should be accounted for in **Local Economic Development (LED)** Plans in those Dzongkhags where CSTs and green waste business strategies show potential. Existing businesses could be screened by Dzongkhags and DLG for their potential in terms of G&CST adoption and business planning capabilities to establish baselines for G&CST outreach programming.

PROCESSES, PROCEDURES & GUIDELINES

8. Processes, procedures, and guidelines are required to guide the implementation of G&CST projects. These can be developed with support from the international funding agencies involved via internal capacity, plus help from local or international experts. The lead Ministry responsible for local government should establish Guidelines to enable the G&CST businesses to meet the stipulated requirements for qualifying for the “Economy” and “Environment” grants to be installed at the Dzongkhag level.

HUMAN RESOURCES & TRAINING

9. A key measure will be to **strengthen the capacity of the Department of Local Government** to promote piloted, viable technologies; to enable it to facilitate the access of community-based industries to training, financing and service delivery; and to engage with entrepreneurs and existing interested private businesses.

10. A **Human Resources development approach will be needed within MoAF and DLG** to ensure that its staff in the relevant units possess an appropriate mix of business support and technical skills relating to a wide range of equipment and an understanding of multiple value chains. The **Investment Facilitation Section** at PPD within MoAF needs to be strengthened, as this Unit could play a pivotal role in promoting G&CST businesses in the RNR sector.

11. Across DLG and MoAF, a **human resources gap analysis** will be required, together with a training needs assessment and a training plan. Staff in DLG and MoAF will need capacity strengthening to implement the various projects, and there will be a need to increase the number of key staff covering a wide range of disciplines at both central and local levels.

12. Outside MoAF and DLG, a Green Jobs Task Force should be established by establishing an open partnership within which businesses, ARDCs, state-owned enterprises, Universities/Technical Colleges, and other skills providers form a loose entity that synergizes the forces of its members to help promote green and G&CST jobs. Amongst the critical tasks of such as Task Force would be to design a National Curriculum that opens the doors for a diverse range of target trainee groups to be supported and encouraged to participate in implementing the projects. The staff must be increased to enable such support at the central and local levels.

MONITORING & EVALUATION

13. Once formulated by MoAF and DLG, the **Green and Climate-Smart Technology Industrial Investment Plan** will contain a logical framework or similar long-term Plan. This requires an M&E Unit to collect information on each indicator, analyze data, and report back to the institutions involved. **Activities supporting G&CSTs and the targets for establishing them should be included in the annual work plans of departments and Dzongkhags**, and they should also be reflected in Annual Performance Agreements.

14. **Once it has been strengthened with further human resources, the Investment Facilitation Section at PPD would be the viable entity responsible for the M&E of the Action Plan Framework described in the Research Study's Final Report.** The Action Plan Framework will set out recommendations and activities. Among them will be establishing M&E systems for the lead agencies involved; these will feed back data into MoAF's Annual Reporting.

COORDINATION, COLLABORATION & LINKAGES

15. A multi-agency coordinating Framework for **enhancing accessibility to G&CST services** needs to be developed for start-up private SMEs and existing adopter businesses, involving the Department of Local Government, MoAF's Policy and Planning Division, business development staff, and individual Dzongkhags.

16. This Framework will define **accessibility support linkages for entrepreneurs, who will be supported in the preparation of their business plans.** Accessibility support will focus on connections to (1) **finance** through Bhutanese financial institutions, the Bhutan Rural Development Bank, DHI Bizz hub, CSI Bank, the Loden Foundation, support from donors such as EU and green investment funds, and crowd-funding; (2) **equipment and machinery suppliers**, as well as training and skills providers; (3) **specialized technical assistance**; and (4) the **branding, commercial planning, and marketing** of products and services.

Figure 6: Roof rainwater harvesting system for 10 households in a women's group in Chubjekha village in Paro. BF Small Grants Program



Figure 7: Electric fence suitable for deterring deer. Source: Electric Fencing Impact Assessment Report 2021, National Plant Protection Centre, MoAF



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.

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. Since its inception in March 2019, the EU-TACS project has provided technical assistance focusing on rural development, climate change response, and local government plus fiscal decentralization. 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-related inputs, to provide stakeholders with direction for capacity-building, dialogue and policy change in key development themes and subject areas.

Policy Adviser:

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

Policy and Planning Division:

Ministry of Agriculture and Forests
Thimphu, Bhutan
Phone No. 00975-2-323745/323746
E-mail: ppders@moaf.gov.bt
Website: www.moaf.gov.bt

Technical Advisers:

Yeshe Dorji,
Norlha Engineering,
Thimphu, Bhutan

Key Stakeholder:

Department of Local
Government, MoHCA
Department of
Agriculture, MoAF
Department of
Livestock, MoAF
Department of Forest
and Park Services,
MoAF