Approach paper on investment and logical framework

Conduct a climate change risk and vulnerability assessment of agro-ecological zones of Nepal and appraising climate change adaptation measures in agriculture

December 2017
## Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADB</td>
<td>Asian Development Bank</td>
</tr>
<tr>
<td>AF</td>
<td>Adaptation Fund</td>
</tr>
<tr>
<td>BFI</td>
<td>Bilateral Financial Institutions</td>
</tr>
<tr>
<td>CBS</td>
<td>Central Bureau of Statistics</td>
</tr>
<tr>
<td>CDKN</td>
<td>Climate and Development Knowledge Network</td>
</tr>
<tr>
<td>CTF</td>
<td>Clean Technology Fund</td>
</tr>
<tr>
<td>EbA</td>
<td>Eco-System Based Adaptation</td>
</tr>
<tr>
<td>FGD</td>
<td>Focus Group Discussion</td>
</tr>
<tr>
<td>GCF</td>
<td>Green Climate Fund</td>
</tr>
<tr>
<td>GEF</td>
<td>Global Environment Fund</td>
</tr>
<tr>
<td>GLOF</td>
<td>Glacial Lake Outburst Flow</td>
</tr>
<tr>
<td>GoN</td>
<td>Government of Nepal</td>
</tr>
<tr>
<td>KII</td>
<td>Key Informant Interview</td>
</tr>
<tr>
<td>LDCF</td>
<td>Least Developed Country’s Fund</td>
</tr>
<tr>
<td>MDGs</td>
<td>Millennium Development Goals</td>
</tr>
<tr>
<td>MFI</td>
<td>Multilateral Financial Institutions</td>
</tr>
<tr>
<td>MoF</td>
<td>Ministry of Finance</td>
</tr>
<tr>
<td>NAP</td>
<td>National Adaptation Plan</td>
</tr>
<tr>
<td>NDC</td>
<td>Nationally Determined Contributions</td>
</tr>
<tr>
<td>NPR</td>
<td>Nepalese Rupee</td>
</tr>
<tr>
<td>NAPA</td>
<td>National Adaptation Programme of Action</td>
</tr>
<tr>
<td>SDGs</td>
<td>Sustainable Development Goals</td>
</tr>
<tr>
<td>SAM</td>
<td>Sustainable Agriculture Management</td>
</tr>
<tr>
<td>SCF</td>
<td>Strategic Climate Fund</td>
</tr>
<tr>
<td>SCCF</td>
<td>Special Climate Change Fund</td>
</tr>
<tr>
<td>SFM</td>
<td>Sustainable Forest Management</td>
</tr>
<tr>
<td>SLM</td>
<td>Sustainable Livestock Management</td>
</tr>
<tr>
<td>SWM</td>
<td>Sustainable Water Management</td>
</tr>
<tr>
<td>UNDP</td>
<td>United Nations Development Programme</td>
</tr>
<tr>
<td>UNFCCC</td>
<td>United Nations Framework Convention on Climate Change</td>
</tr>
</tbody>
</table>
# Table of contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acronyms</td>
<td>2</td>
</tr>
<tr>
<td>List of Tables</td>
<td>4</td>
</tr>
<tr>
<td>List of Figures</td>
<td>4</td>
</tr>
<tr>
<td>Executive summary</td>
<td>5</td>
</tr>
<tr>
<td>1. Economic Profile of Nepal and Need for Climate Finance</td>
<td>6</td>
</tr>
<tr>
<td>1.1. Role of agriculture in Nepal’s economy</td>
<td>7</td>
</tr>
<tr>
<td>1.2. Development challenges faced by Nepal:</td>
<td>9</td>
</tr>
<tr>
<td>1.3. Need for climate actions in Nepal</td>
<td>9</td>
</tr>
<tr>
<td>1.4. Adaptation and Financing Climate Actions in Nepal</td>
<td>10</td>
</tr>
<tr>
<td>1.5. Landscape of climate finance in Nepal</td>
<td>11</td>
</tr>
<tr>
<td>1.6. Green Climate Fund’s suitability for the Nepalese context</td>
<td>12</td>
</tr>
<tr>
<td>2. Climate Change Risks and Adaptation Measures Identified in 3 pilot Districts</td>
<td>13</td>
</tr>
<tr>
<td>2.1. Climate Change Risks in 3 pilot districts</td>
<td>13</td>
</tr>
<tr>
<td>Mugu</td>
<td>13</td>
</tr>
<tr>
<td>Dailekh</td>
<td>13</td>
</tr>
<tr>
<td>Bardiya</td>
<td>14</td>
</tr>
<tr>
<td>2.2. Approach to identifying the adaptation measures</td>
<td>14</td>
</tr>
<tr>
<td>2.3. Adaptation/EbA options in 3 pilot districts</td>
<td>15</td>
</tr>
<tr>
<td>2.4. Sustainable Agriculture Management (SAM)</td>
<td>15</td>
</tr>
<tr>
<td>2.5. Sustainable Water Management (SWM)</td>
<td>15</td>
</tr>
<tr>
<td>2.6. Sustainable Livestock Management (SLM)</td>
<td>16</td>
</tr>
<tr>
<td>2.6.1. Fodder banks</td>
<td>16</td>
</tr>
<tr>
<td>2.6.2. Cattle shed management</td>
<td>16</td>
</tr>
<tr>
<td>2.7. Sustainable Forest Management (SFM)</td>
<td>16</td>
</tr>
<tr>
<td>2.7.1. Agroforestry</td>
<td>17</td>
</tr>
<tr>
<td>2.7.2. Measures to reduce forest fires</td>
<td>17</td>
</tr>
<tr>
<td>2.8. Prioritization of Adaptation Measures/EbAs</td>
<td>17</td>
</tr>
<tr>
<td>3. About Green Climate Fund</td>
<td>19</td>
</tr>
<tr>
<td>3.1. The six investment criteria of GCF</td>
<td>20</td>
</tr>
<tr>
<td>3.2. Theory of Change</td>
<td>21</td>
</tr>
<tr>
<td>3.3. Logical framework</td>
<td>21</td>
</tr>
<tr>
<td>4. GCF requirements</td>
<td>23</td>
</tr>
<tr>
<td>4.1. How the prioritised adaptation measures meet the GCF criteria?</td>
<td>25</td>
</tr>
</tbody>
</table>
4.2. Designing a strategic investment framework for financing climate actions
4.3. Objectives of a strategic investment framework for promoting ecosystem based adaptation
4.4. Dimensions and strategies of an effective investment framework for promoting ecosystem based adaptation

5. Conclusion
References

List of Tables
Table 1: Prioritized list of adaptation measures for the three districts ..................................................... 18
Table 2: Prioritization of adaptation measures based on CBA ................................................................. 18
Table 3: Distribution of Disbursements by GCF ....................................................................................... 19
Table 4: Components of GCF investment proposal .................................................................................. 23

List of Figures
Figure 1: GDP trend of Nepal at constant prices (source: CBS) ................................................................. 6
Figure 2: Contribution to GDP (source: Economic Survey 2016-17) ....................................................... 7
Figure 3: Agriculture Growth Rate (in percent) for last ten years (Source: Economic Survey) ............ 8
Figure 4: Composition of Agriculture GDP ............................................................................................. 8
Figure 5: Climate Finance Architecture in Nepal ..................................................................................... 11
Figure 6: Identifying the adaptation programmes for the districts ......................................................... 14
Figure 7: Logical framework for selecting Sustainable Agriculture Management as a strategy .......... 15
Figure 8: Logical framework for selecting Sustainable Water Management .......................................... 16
Figure 9: Logical framework for selecting Sustainable Forest Management ......................................... 17
Figure 10: Financial Instruments adopted by GCF .................................................................................. 19
Figure 11: GCF Investment Criteria and their definitions (source: GCF, 2014) .................................... 20
Figure 12: Logical Framework from Paradigm Shift to Components .................................................... 22
Figure 13: Approach to developing a logical framework .......................................................................... 22
Figure 14: Five step approach of developing investment plan for GCF ................................................. 23
Figure 15: Objectives of an effective Climate Investment Framework .................................................. 43
Figure 16: Landscape of climate finance ................................................................................................. 46
Executive summary

The Green Climate Fund (GCF) is a global fund established within the framework of the United Nations Framework Convention on Climate Change (UNFCCC) to assist developing countries in implementing adaptation and mitigation practices to counter the impacts of climate change. The objective of GCF is to "support projects, programmes, policies and other activities in developing country Parties using thematic funding windows"

The investment by GCF is based on the assessment of the six key criteria namely, 1) Impact potential, 2) Paradigm shift potential, 3) Sustainable development potential, 4) Responsiveness to recipient’s needs, 5) Promote country ownership and 6) Efficiency and effectiveness. The methodology used for calculating the indicators against each criterion and the corresponding values may be provided as a part of the funding proposals for individual adaptation and or mitigation measures. The project proponents may complement the quantitative indicators with the qualitative ones. However, not all indicators are applicable to all adaptation/mitigation activities and the funding proposals are to focus only on those relevant to the proposal, country context and the priorities of the GCF the project focusses upon.

With Government of Nepal (GoN) deciding on accessing funds from GCF (and other allied institutions) it is important that the Government embarks upon designing policies and institutions to increase its readiness to access such funds and maximize the benefits from utilization of such funds. The facilities from GCF are attached with specific objectives. Accordingly, the existing policies of GoN need be reformed or new policies need to be designed to address such specific objectives. This requires the Government to roll-out a comprehensive and effective investment framework with strategies aligned to the objectives of such funds.

This Strategic Investment Framework (SIF) has been developed to demonstrate different approaches (policy and institutional) that may be adopted to avail GCF and allied financing for adaptation measures identified and prioritised for the three pilot districts Mug, Dailek and Bardiya from three existing agro-ecological zones of Nepal namely Mountains, Hills and Terai.

Identification of adaptation measures was carried out in the previous steps based on scientific, GIS based spatial analysis of climate change risks and vulnerability in the pilot districts in line with the framework proposed in Nepal’s National Adaptation Plan (NAP) and as per the definition of climate change risk provided by the 5th Assessment Report of Intergovernmental Panel on Climate Change (IPCC-AR5). The identified adaptation measures were validated through field surveys in the three districts. Subsequently, the feasibility of the measures were assessed based on the environmental and social impacts, gender inclusivity, sustainability and scalability of the measures. While assessing the feasibility of the measures emphasis was put on the fact if the adaptation measures could be categorized as Eco-System Based Adaptation (EbA) i.e., if the adaptation measures are aligned to the livelihood and take into account the role of ecosystem services in reducing societal vulnerability, through multi-sectoral and multi-level approaches. Once the feasibility of measure were ascertained, a thorough cost-benefit analysis (CBA) was carried out on all identified measures for their prioritization.

This SIF is developed keeping in mind the outcomes of the CBA analysis and the short. Medium, long term returns of the identified and prioritised adaptation measures and based on consultations with policy makers, regulators at various Ministries, and discussions with financial intermediaries and civil service organizations. The SIF has multiple dimensions to it that may be considered by the project proponents. It broadly includes strategies for:

1) Bridging finance gap – using GCF to leverage other climate funds/other finances
2) Making interventions sustainable – exploring opportunities of a revenue projects
3) Ensuring private sector participation – creating business case for climate projects
4) Promoting an integrated approach – developing inter-departmental/ministerial coordination for multi-disciplinary approach to project development
1. Economic Profile of Nepal and Need for Climate Finance

Nepal is one of the least developed countries of the world. As per the preliminary result of the last Population Census 2011, among 26.4 million people of the country 82.9% people live in the rural areas. The country has a literacy rate of 48.6% of which 62.7% are males and 34.9% are females. (UNDP, 2017)

![Figure 1: GDP trend of Nepal at constant prices (source: CBS)](image)

It is a challenging task to reduce dependency on foreign employment by creating employment opportunities at home and reaping demographic dividend by developing human resources as per the National needs and demand. Nepal faces a challenging task of attaining economic prosperity by addressing plethora of economic issues, inter alia poverty, inequality, unemployment, weak infrastructure and domestic production, low domestic savings and investment, weak investment friendly environment, informal economic sector, low capital expenditure, high trade deficit, brain drain and remittance oriented economy. There is a pressing need for creating the foundation for the mobilization of resources as well as the availability, assurance and equitable distribution of the means and resources at the federal, provincial and local levels in line with new federal governance system. As per the new federal structure, investments on socio-economic infrastructure need to be guaranteed through proper distribution of means and resources. Nepal in the past has been adversely affected by failing to boost public expenditure on productive sectors moreover there has been huge surplus owing to inability of the Government to make timely capital expenditure. (Economic Survey, 2016-17)

As per the 14th plan of the National Planning Commission, Nepal has set the target of graduating to middle income Country by the year 2030 through high economic growth with employment oriented and equitable distribution system thereby ultimately creating the base for sustainable economic prosperity. It is a challenging task for the Government achieve the Sustainable Development Goals by ending poverty, inequality, unemployment and dependency through high, sustained and broad-based inclusive growth. The Government of Nepal, in collaboration with various development funding partners, is undertaking measures by implementing projects to increase coping capacity and resilience of the population and maximize gains from adaptation. While these projects are termed as climate change projects, they also have a potential for delivering economic and social gains. Together, some of such projects also aim at leveraging co-benefits in the form of mitigation potential embedded in the project design and implementation plan. Hence, many of
the climate projects are able to deliver economic, social and environmental gains and, thus, help Nepal to remain on the trajectory of sustainable development.¹

As Nepal is in the very last leg of the years-long political transition, with political stability & policy clarity and a federal Government structure with accountability across levels, the implementation of measures to address the economic as well as developmental challenges through innovative measures.

1.1. Role of agriculture in Nepal’s economy

Agriculture is the mainstay of the economy accounting for one third of GDP. (Statistical Year book of Nepal, 2015). In the fiscal year 2016-17, the real GDP at basic prices is estimated to grow by 6.94 percent against its growth rate of 0.01 percent in the previous year. The economy that contracted due to the earthquake and disruption in border points is in the stage of recovery and expansion. However, Nepal has been witnessing a structural change in its economy. The contribution of agriculture and industry sectors to GDP is declining while that of the services sector is rising. Contribution of the agriculture sector to real GDP, which stood at 36.6 percent in fiscal year 2001-02, has dropped to 31.6 percent in FY 2015-16. The share of agricultural sector to GDP is estimated to be around 29.37 percent and is expected to grow by 5.29 percent in the current fiscal year i.e. FY 2016-17. (Economic Survey, 2016-17). The primary sector that had expanded by 4.7 percent in the fiscal year 2015-16 and is expected to grow by 2 percent in FY 2016-17. Likewise, the secondary sector grew by 7.2 percent in previous fiscal year is estimated to decrease by 7.5 percent in the current fiscal year 2016-17, and the service sector that recorded a growth of 4.4 percent last year is projected to grow by 11.6 percent in this fiscal year. The chart below presents the GDP trend for Nepal.

![GDP Trend Chart](image)

**Figure 2: Contribution to GDP (source: Economic Survey 2016-17)**

Despite the decline, agriculture sector has been providing employment to 65.7% of the population and accounting for over 50% of Nepal’s exports. Therefore, to address Nepal’s developmental challenges the issues associated with agriculture sector has to be addressed. Agriculture sector in Nepal has suffered due to low level of public and private investment and the impact of natural calamities like floods, landslides, drought etc. (Karki, 2015). The task of substituting imports of agro-products by increasing production and productivity of the agriculture sector also remains a key concern.

Agriculture Growth rate averaged 2.9% during the last decade. Both of these figures are above the population growth rate of 1.35% per annum, but with huge year-on-year variation, the range being 5.8% in FY 2007-08

---

¹ As a corollary, many standard development projects can have social and environmental (and/or adaptation, mitigation benefits) gains. It is important that during the appraisal of the project, such gains are captured in the analysis.
to 1% in FY 2006-07. This variation reflects high weather dependence and an underdeveloped sector. (Karki, 2015)

The challenge for Nepal is to achieve high and sustained economic growth by concentrating investment in one of the key growth sectors of Nepal i.e. agriculture & allied activities (including livestock) is further exacerbated by the impacts of climate change. Various studies have shown that Nepal, a low-income Himalayan country, is exposed to a multitude of climate risks, apart from the pressing need for fostering economic development (Chhetri, Chaudhary, Tiwari, & Yadaw, 2012), (The World Bank, 2011), (Nepal & Satdobato, 2009). Extreme events associated with erratic and increased intensity of rainfall – floods, landslides, etc.; steady increase in temperature and glacial meltdown are expected to have an adverse impact on the socio-economic fabric of Nepal. Various sectors of the economy, particularly, agriculture and the associated eco-systems services are being affected to a great extent.

The chart below presents the break-up of agriculture GDP in Nepal. It is evident that the cereal crops and livestock are constituents of the agri-GDP.

An important dimension of Agriculture has been development of livestock. Observation of livestock situation reveals prosperity in terms of cattle density. Livestock productivity however, has been low. Moreover, the
number of commercial farms of dairy cows and buffaloes, poultry and pigs has grown in recent period with growth in commercialization in the livestock sector. As identified by the MoAD, some of the key priorities of the agricultural sector of Nepal include:

- Increasing production and productivity of key agricultural crops
- Promoting agriculture commercialization and modernization for increased efficiency and farm income
- Addressing both food and nutrition security
- Local economic development through agribusiness cluster development
- Alleviating poverty through smallholder agriculture development

In addition to the above, another key aspect is weather patterns as agriculture activities are directly affected by the nature as it is not performed in a controlled environment. Excess rain is estimated to have caused damage to paddy, vegetables, maize, fish ponds, and fruits of 127,158 hectares of land area in FY 2016-17. In previous FY 2015-16, land area that suffered such damage totaled 60,520 hectares. (Economic Survey, 2016-17)

### 1.2. Development challenges faced by Nepal:

Based on the above assessment, the major developmental challenges faced by Nepal could be summarized as below:

- **The GDP growth of Nepal is highly volatile.** The GDP growth rate swung from 0% in 2016 to 6.9% in 2017 and is expected to reduce to 4.7% in 2018. Therefore, Nepal still lacks the macro-economic stability that is a necessary condition for economic growth, reduction in poverty and increase in employment opportunities.

- **The economy of Nepal is still predominantly an agricultural economy.** Over 60% of the population banks on a sector that contributes to only 30% of the GDP. The overdependence on agriculture has not only contributed to disguised unemployment and poverty but has also increased the vulnerability of the population to the impact of natural hazards.

- In addition to an overdependence on agriculture, the lack of a vibrant industrial sector has led to absence of significant employment opportunities for the youth in Nepal. Unemployment in Nepal has been on the rise in recent decades, which has been borne out by the figures from ILO. Lack of opportunities within Nepal has led to increasing migration of labour and loss of human capital from Nepal to the Middle Eastern countries and the west.

- Given its topography, **Nepal is extremely vulnerable to Natural Hazards** (both climate induced and otherwise). The severe floods of 2017, have pushed back the economic development achieved since the 2015 earthquake and also rendered millions homeless.

- Since its establishment as a Republic, Nepal has experienced political instability, which has prevented any major economic reforms from being undertaken.

### 1.3. Need for climate actions in Nepal

The effects of climate change impacts projected to occur in the future are likely to have impacts on different sectors and will further exacerbate the developmental challenges being faced by Nepal. The impact of climate change will be across critical sectors such as agriculture, biodiversity, water, health, livelihoods, etc. Some key impacts are:

- Decreasing agriculture yields and crop losses
- Loss of livelihoods due to vulnerability of agriculture to climate change
• Increase in socio-economic vulnerability and marginalization of poor – since most of the farmers are small and marginal farmers
• Increase in incidence of extreme events leading to loss of life and infrastructure
• Rapid increase in vector borne diseases

Therefore, climate change in Nepal will lead to an increase in frequency of droughts, floods, and landslides, changes in rainfall patterns, which will impact food, livelihood systems and the general way of living of local communities in Nepal. In a nutshell, people in Nepal will be increasingly more vulnerable in the future due to changing climate and will be impacted adversely.

The Economic Impact Assessment of climate change on key sectors in Nepal had the following findings about the projected impacts of climate change in Nepal (GoN, 2014):

• The estimated direct cost incurred in key sectors (agriculture, hydropower and water induced disasters) by Nepal because of losses due to climate variability and extreme events could be as high as 1.5-2% of the GDP. Additional indirect and macro-economic costs of these impacts could increase estimates by 25–100%. (GoN, 2014)

• Future climate change is likely to increase current impacts and lead to additional future costs: overall, the study concludes that the economic costs of climate change in Nepal for these three sectors could be equivalent to 2–3% of current GDP by 2050. (GoN, 2014)

• Adaptation can reduce these impacts, but requires an iterative approach. The additional investments required to build resilience in current/future plans in the agriculture, hydroelectricity and water induced disaster sectors, from 2014 to 2030, is estimated to be USD 2.4 bn. (GoN, 2014)

**Ecosystem based Adaptation:** In the context of all the developmental challenges faced by Nepal, its sensitive ecology and the lack of resources (monetary and otherwise), EbA is emerging as a viable option for Nepal to help deal with challenges being faced by local communities in managing the effects of climate change. Nepal’s national economy and peoples’ livelihoods are dependent on natural resources and ecosystem services. EbA approach is an attempt to address the problem of natural resources and ecosystem based services being affected by Climate Change. Given climate change can wreak havoc to ecosystems in Nepal, EbA is an attempt to strengthen the resilience of ecosystems in Nepal and reduce the vulnerabilities of local communities through ecosystem based adaptation approaches.

EbA as an approach encompasses:

1. Maintenance of connectivity among ecosystems
2. Supporting local communities and indigenous peoples
3. Maintaining and restoring ‘natural infrastructure’
4. Enhancing availability of natural resources as a source of food and other products
5. Protecting and restoring natural areas of significance including those relating to religion and local cultures.

EbA is especially pertinent in the context of Nepal because it doesn’t entail the application of capital intensive and high-tech external interventions. On the contrary, EbA involves the application of indigenous knowledge and local, yet appropriate, technologies, which are in harmony with the social and cultural mores, to help adapt communities to the effects of climate change.

**1.4. Adaptation and Financing Climate Actions in Nepal**

The planning, implementation and sustenance of adaptation actions is very costly. Further, the climate change adaptation cost estimates are increasing. As climate change becomes more severe than originally projected, estimated adaptation finance needs for developing countries are doubling or tripling every few years (WRI, 2015).
In the case of Nepal, the total estimated amount required by Nepal to build resilience in current/future plans in the agriculture, hydroelectricity and water induced disaster sectors, from 2014 to 2030, is estimated to be USD 2.4 bn (GoN, 2014). However, this amount cannot be provided by only the Government of Nepal. Nepal is a least developed mountainous and land-locked country with many pressing priorities such as developing and improving its economy. In addition, its development agenda is constrained given that it has limited resources, is affected by political instability and lacks macroeconomic stability. Its fiscal deficit has widened from 0.3% in 2016 to 5.2% in 2017 (ADB, 2017). Given these circumstances, Nepal will need support from external actors to finance its climate change adaptation measures.

Given the above context, if Nepal is to overcome the climate change challenge, access to the climate finance architecture (the system of specialized, public funds that help countries implement climate mitigation and adaptation projects and programs) is crucial. These funds play a critical role especially in adaptation activities - such as helping smallholder farmers cope with drought to restoring degraded forests - in least developed countries. These funds also enable the mobilization of even larger volumes of funding from the private sector and other sources.

1.5. Landscape of climate finance in Nepal

As governments focus on ways to most effectively finance the adaptation measures needed to reduce climate risks posed to their populations, a wide range of public and private finance actors are aiming to take advantage of this felt need of the Governments, and the numerous investment opportunities that follow.

![Climate Finance Architecture in Nepal](image_url)

The various sources of climate finance in the climate finance landscape can be broadly categorized into:

- **National Funds**: In the context of Nepal, the actors that are the source of funds that can be described as National Funds are

  1. The National Government
  2. The 7 Provincial Governments
  3. The Local Bodies/Municipal Governments
- **Bilateral Institutions**: Essentially, an institution representing a donor country is a bilateral institution. Depending on the donor, aid can be handled by an Embassy or equivalent, a national development agency, etc. Examples such as Embassies, UKAID, USAID, European Union, etc. are considered as bilateral institutions.

- **Multilateral Institutions**: Examples of multilateral institutions are the UN, World Bank, ADB, etc.

- **Dedicated Climate Funds**: As things stand now, a large number of national, regional and international climate funds remain in operation. Each fund was created as a response to certain gaps or needs that existed at a time. Some of the major global funds that are key sources of Climate Finance are:
  - Global Environment Facility (GEF)
  - Least Developed Countries Fund (LDCF)
  - Special Climate Change Fund (SCCF)
  - Adaptation Fund (AF)
  - Clean Technology Fund (CTF)
  - Strategic Climate Fund (SCF)
  - Green Climate Fund (GCF)

All the above Funds have their unique strengths and no one single fund meets the entire range of climate finance needs of the world. However, of all these funds, The Adaptation Fund and the Green Climate Fund channel funds directly to institutions in developing countries, while other funds work primarily through multilateral development banks and UN bodies. Further, the Least Developed Countries Fund and the Green Climate Fund place special emphasis on supporting less developed and more vulnerable countries.

- **International NGOs**: Examples of such private yet not for profit bodies are OXFAM, WWF, CARE, etc.

- **Private Foundations**: A donor that does not represent a government or multilateral organization and is created by an individual person or a group of persons to provide assistance to developing countries. Examples include the Rockefeller Foundation, Bill and Melinda Gates Foundation, etc.

The National Funds, Bilateral, Multilateral and Dedicated Climate Funds can all be clubbed under the broader category of **Public Finance**. The contribution of Public Finance in the total climate finance dropped from 40% in the 2013/2014 period to 34% in the 2015/2016 period, due to the increase of investments from private finance actors and relatively less finance flowing from national DFIs (Initiative, 2017).

### 1.6. Green Climate Fund’s suitability for the Nepalese context

Among all the potential sources of funds described, the GCF is a very promising source of valuable climate finance to fund Nepal’s adaptation programmes. Given, GCF’s mechanism of making its funds directly accessible to institutions within a Least Developed Country and its emphasis on supporting less developed and vulnerable countries, the GCF enjoys certain advantages over other Climate Funds as sources of finances for Nepal’s climate change adaptation measures. Direct access to climate finance also gives national institutions the confidence, trust and helps become self-reliant in the long run. Accessing and utilizing international financial resources by national institutions enhances effectiveness and helps tackle climate change sustainably. It is also to be noted that the investment areas of the GCF are in line with Nepal’s Climate Change Policy and National Adaptation Programme Action (NAPA) of Nepal.
2. Climate Change Risks and Adaptation Measures Identified in 3 pilot Districts

A set of adaptation options measures have been identified in earlier stages of this exercise based on in-depth vulnerability assessment (spatial analysis and field validation) in the 3 pilot districts of Nepal showcasing the three distinct agro-ecological zones of the Country i.e. Mugu (High Mountains), Dailekh (Middle mountains) and Bardiya (Terai). Subsequently, the feasibility of the adaptation measures are evaluated based on their environmental and social impacts, gender inclusiveness and their eligibility as per the criteria for EbA measures developed by the UNDP.

Below a brief description of the climate change risks and vulnerabilities in the three pilot districts is presented based on the outcomes of the spatial analysis and field surveys.

2.1. Climate Change Risks in 3 pilot districts

Mugu

Detailed scientific analysis has been carried out during the course of this exercise have found that Mugu district is faced with challenges like proper irrigation, landslides and drought. Additionally degradation of forests is causing economic hardship for the population in this area – majority of which is dependent on forests for their livelihood, energy needs, etc. Rearing of livestock is an important economic activity in this area however due to extreme economic hardships the locals due not construct a proper cattle shed. Traditionally, the communities have depended on forests and grassland for fodder for animals. As forests and grassland degrade, the communities are facing scarcity of food for the livestock. The FGDs have revealed that due to this problem, the number of livestock is decreasing over the years. Thus, there is an adverse economic impact. Owing to the geographic remoteness and difficult weather conditions there is a limitation of locals that can be mobilized for skilled activities. Labour migration (men population moving out for seasonal employment in India) is another aspect observed in this district. Traditional customs and conservative practice prevent women members to participate actively in agriculture or other income generating activities.

Dailekh

Drought is a major problem in Dailekh district and food from farming sufficient only for 3-6 months only. Irrigation and availability of drinking water in some areas of the district are primary concerns. A decreasing trend in number of livestock owned by the farmers was also observed. The farming of non-timber forest products are in the verge of extinction primarily due to lack of access to a proper market for agri-produce. There have been instances of intentional forest fires occur every year in dry season.

The discussions held with various stakeholders suggest that the problem has escalated and unless actions are initiated, encroachment in and degradation of forests will reduce the forest and bio-diversity wealth of this area. Also, due to these problems, the productivity of forests is rapidly decreasing. Dependence on forests, however, does not decrease as there is not much scope for diversification of livelihoods for the people in this region. Degradation of forests is likely to increase the run-off along the slopes increasing the probability landslides and, in some cases, floods. Therefore, quick planned actions are required for not only
protecting forests but also turning forests into sources of revenue – from agro-forestry, timber logging and step-cultivation, together with tourism.

**Bardiya**

People are mostly dependent on agriculture for income. However, due to the issue of drought and floods are observed across different regions of the districts there has been a continuous decline in income generated through agricultural activities. Flood and drought situations have led to issues of food security due to the damage caused to crops. Farmers residing within the premises of the flood plain area are almost disadvantaged marginalized groups whose main source of income: the crops are being lost or damaged every year which is making them more poor. Also, productivity of the crops is decreasing due to the problem of sedimentation created by the flood.

The FGDs conducted in this region have confirmed that the irrigation facilities are under severe stress and consequently, the local community – mostly the poor and marginalized groups, face acute water stress, particularly during the dry seasons. Therefore, irrigation linked water conservation can be an effective adaptation strategy in such a situation.

### 2.2. Approach to identifying the adaptation measures

The figure below represents how the adaptation measures were proposed based on high climate change risks identified in the three pilot districts.

![Figure 6: Identifying the adaptation programmes for the districts](image-url)
2.3. Adaptation/EbA options in 3 pilot districts

Following the above approach, the adaptation measures identified for the pilot districts may be classified under the following headings:

1. Sustainable Agriculture Management
2. Sustainable Water Management
3. Sustainable Livestock Management
4. Sustainable Forest Management

2.4. Sustainable Agriculture Management (SAM)

As per the vulnerability assessment carried out for Bardiya and the focused Field Assessment & Stakeholder Consultations undertaken, the main climate induced hazards that the agriculture sector in Bardiya faces are increasing incidence of droughts, intense rainfall spells, hailstorms and extreme cold waves. The variation in high and low temperatures and the spills of intense rain and hailstorms can affect crop yields. In addition to dealing with climatic variations, there is also the challenge of growing off season crops needed to be grown in areas like Bardiya to ensure year round food supplies in a region. Tunnel farming can also be applied in Dailekh and Mugu to grow winter crops and also to protect crops from extreme weather events.

2.5. Sustainable Water Management (SWM)

The lower districts have been suffering from water shortage due to decrease/ erratic rainfall. The FGDs conducted in this region have confirmed that the situation is worsening as the springs and other natural sources of water are drying up. Consequently, the local community – mostly the poor and marginalized groups, face acute water stress, particularly during the dry seasons, as these natural systems are the only available potable water source in the region. To cope with the stress, the community then has to either decrease their water consumption or has to invest time and effort to ferry water from distant sources. Irrigation linked water conservation can be an effective adaptation strategy in such a situation.
2.6. Sustainable Livestock Management (SLM)

2.6.1. Fodder banks

Fodder banks and storage of dried fodder to provide a steady supply of fodder during droughts and floods: Practices such as storage of agricultural residues are expected to improve the efficiency of agricultural production. However, if the fodder is collected from the forest for storage, this might create additional pressure. Extensive fodder collection from the forests creates shortage of fodder for resident wild herbivores as well as degrades vegetation diversity in the forest.

2.6.2. Cattle shed management

The common material for construction of cattle sheds in rural areas of Nepal is wood and agricultural residues such as straw. No significant environmental concern is expected from such construction. However, caution must be observed to ensure that the cumulative pressure on forest for acquisition of wood/timber does not harm the local ecosystem.

2.7. Sustainable Forest Management (SFM)

Forest is a major natural resource of the country as 40 percent of the total land area of Nepal is covered under forest. It provides more than 50 percent of fodder to the livestock. Several industries in the country are based on forest products for their raw materials. Forestry, typically, has a long gestation period – it takes time for the trees to mature and be available for becoming sources of revenue for the communities (Kumar, 2002). Also, in the case of many species, trees live a life of 35 – 40 years and are available for realizing benefits from logging and carbon sequestration (Acharya, 2002). Hence, in the case of sustainable forestry, the life of the project may be considered to be long term i.e. 35 – 40 years. While some of the benefits of Sustainable Forest Management (SFM) start accruing over a short term, some benefits are delayed. But the benefits continue to accrue over a long time horizon.

Sustainable Forest Management has the dual advantage of safeguarding against forest degradation and deforestation while providing direct social & environmental benefits. On the social front, it provides

---

Figure 8: Logical framework for selecting Sustainable Water Management

<table>
<thead>
<tr>
<th>Issues</th>
<th>Interventions</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Water scarcity in dry seasons &lt;br&gt; • Topography of the region – need to travel long distance to fetch water &lt;br&gt; • Lack/ poor irrigation infrastructure - like canal etc. &lt;br&gt; • High intensity rainfall for short duration leading to flood and soil erosion &lt;br&gt; • Abandonment of agricultural land</td>
<td>Rainwater Harvesting</td>
<td>• Availability of water in dry seasons &lt;br&gt; • Increase in irrigated land area &lt;br&gt; • Groundwater recharge &lt;br&gt; • Saving of time and labor, especially for women, as they will not have to travel long distance to fetch water &lt;br&gt; • Reduced surface runoff of rainwater</td>
</tr>
<tr>
<td></td>
<td>Improvement in Gravity surface water irrigation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Promoting micro irrigation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Spring source management</td>
<td></td>
</tr>
</tbody>
</table>
ecosystem services by contributing to livelihoods and sources of revenue of the locals. On the environmental front, it acts as a carbon sink and contributes to biodiversity, water and soil conservation. Forests provide defensive mechanism during extreme weather events by preventing topsoil run-off and protecting people, animals and physical infrastructure.

2.7.1. Agroforestry

According to Bardiya District Forest Office, agro-forestry could be an income supplement for farmers in the district in the face of increasing risks posed to crops by flooding and droughts. Local species has to be promoted in the agro-forestry, otherwise encroachment or invasion by alien species might take place on one hand. Furthermore, mono-culture has to be discouraged for plantation to make the forests resilient to diseases.

2.7.2. Measures to reduce forest fires

Forest Management practices may prefer certain species to others. Ethno-botanically or commercially important species will enjoy an advantage over other species, thus resulting in reduction of biodiversity. Therefore local biodiversity should be understood and incorporated into the forest managements.

Sustainable Forest Management (SFM) can be a strategy to achieve the goals of increasing coping capacity of the population residing in Dailekh district by leveraging benefits of eco-system services of forests. Further, the promotion of sustainable forest management practices in the region has potential to generate a host of climate benefits including other developmental benefits.

2.8. Prioritization of Adaptation Measures/EbAs

Based on the cost benefit analysis carried out on the identified adaptation measures in the earlier stage of the assignment, the following features are observed which may be considered for prioritization of the options in the 3 districts:

- Sustainable agricultural management is the most beneficial option for all 3 districts in the long term
- Amongst the 3 districts sustainable agricultural management is the most beneficial option for Mugu
- Sustainable forestry and livestock management is the least beneficial option amongst the all options, between Dalilekh and Bardiya, it is more beneficial in Bardiya
- Sustainable water management is most beneficial in Mugu followed by Dailekh
### Table 1: Prioritized list of adaptation measures for the three districts

<table>
<thead>
<tr>
<th>District</th>
<th>Prioritised EbAs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mugu</td>
<td>Sustainable Agriculture Management, Sustainable Water Management</td>
</tr>
<tr>
<td>Dailekh</td>
<td>Sustainable Agriculture Management, Sustainable Water Management</td>
</tr>
<tr>
<td>Bardiya</td>
<td>Sustainable Agriculture Management, Sustainable Forest and Livestock Management</td>
</tr>
</tbody>
</table>

There is another way of prioritization that could be considered based on the Cost Benefit Analysis of the adaptation measures. For measures, where the return accruals from the intervention is desired at faster rate than the intervention with higher EIRR should be opted however, if the consideration is of recovering the initial investment than another option the intervention with relatively shorter break-even\(^2\) should be considered. The table below presents the prioritization on the scale of Very high to Medium or low.

### Table 2: Prioritization of adaptation measures based on CBA

<table>
<thead>
<tr>
<th>Suggested Measure</th>
<th>Break-even period</th>
<th>EIRR over project lifetime</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mugu</td>
<td>Dailekh</td>
</tr>
<tr>
<td>Sustainable forest management</td>
<td>-</td>
<td>Medium to low</td>
</tr>
<tr>
<td>Sustainable water management</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Sustainable agriculture management</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Sustainable livestock management</td>
<td>High</td>
<td>Medium to low</td>
</tr>
</tbody>
</table>

The rating scale for the identified adaptation measures is as follows:

1) **Break-even period:**
   - ‘Very high’ – break-even period of less than 5 years
   - ‘High’ - break-even period between 5 to 10 years
   - ‘Medium to low’ – break-even period more than 10 years

2) **Economic Internal Rate of Return @ 5% discount rate:**
   - ‘Very high’ – EIRR greater than 15%
   - ‘High’ - EIRR between 10-15%
   - ‘Medium to low’ – EIRR less than 10%

---

2 Break-even period is the time period at which present value benefits just exceeds the costs, both being discounted at economic opportunity cost of capital.

---

18
3. About Green Climate Fund

The Green Climate Fund (GCF) is a new global fund created by 194 parties at the 16th Conference of Parties (COP 16) at Cancun in 2010. This fund has been designated as an operating entity of the financial mechanism of the UNFCCC under article 11. The aim of GCF is to support the efforts of developing countries to act in response to the challenge of climate change. The fund is established within the framework of the UNFCCC to assist developing countries in financing interventions in the areas of adaptation and mitigation. The objective of the Green Climate Fund is stated as to "support projects, programmes, policies and other activities in developing country Parties using thematic funding windows".

Subsequent to the 2015 Paris Agreement, the GCF was given an important role in serving the agreement and supporting the goal of keeping climate change well below 2 degrees Celsius. GCF aims to catalyze a flow of climate finance to invest in low-emission and climate-resilient development, driving a paradigm shift in the global response to climate change.

The total expected fund size is USD 10.3 billion (based on commitment made by the parties). As of July, 2017, GCF has financed 43 projects benefitting 125 million people through increasing resilience. So far there has a balanced approach in terms of thematic areas, size of assistance and sectors covered.

Table 3: Distribution of Disbursements by GCF

<table>
<thead>
<tr>
<th></th>
<th>Disbursement by target</th>
<th>Mitigation: 41%</th>
<th>Adaptation: 27%</th>
<th>Cross-cutting: 32%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Disbursement by size of assistance</td>
<td>Micro: 12%</td>
<td>Small: 37%</td>
<td>Medium: 35%</td>
</tr>
<tr>
<td>2</td>
<td>Disbursement by sector</td>
<td>Public: 43%</td>
<td>Private: 53%</td>
<td>Public-Private: 4%</td>
</tr>
</tbody>
</table>

GCF embraces a host of generic instruments for financing mitigation and adaptation in the developing economies (GCF, 2013). A brief description of the instruments adopted by GCF is presented in Error! Reference source not found..
The options are deemed to be “flexible” and not mutually exclusive. Further the instruments “can evolve as the Fund grows” with the overall objective being de-risking investments, bundling small projects, attract private sector, develop public-private partnership and support innovation (GCF, 2017).

### 3.1. The six investment criteria of GCF

Given the objective of GCF, the Board of GCF has decided on a set of six investment criteria in its investment framework. While submitting the proposal for investment, the project proponent is expected to demonstrate the alignment of the project with these six investment criteria. It details out possible indicators (or indicative assessment factors) that enables the project proponent to quantify the impact potential of the intervention. The project proponent is required to select the relevant criteria/indicators for the project as per the following:

- The activity-specific sub-criteria inform the approval process for project and programme allocation decisions and apply to both adaptation and mitigation actions.
- The indicators (indicative assessment factors) seek to provide clarity on how the sub-criteria can be assessed.

The methodology used for calculating the indicators and values should be provided and the project proponents can complement quantitative indicators with qualitative ones. However, not all indicators are applicable to all activities. Funding proposals are to focus only on those relevant to the proposal, country context and the priorities of the GCF the project focusses upon.
3.2. **Theory of Change**

Given the goals of sustainable development, the economies are striving to evolve a holistic growth and development trajectories. It is suggested that economies must try to achieve a ‘transformative change’ and not ‘incremental change’ since the challenges faced by the economies in the world are numerous, nested and intricate (Rip & Kemp, 1998). Also, since 2000, the countries, at the behest of the UN, had taken a pledge to cover the three essential pillars of development – economy, society and environment. This was first pronounced as Millennium Development Goals and, later, in 2015, the countries again came together to declare that Sustainable Development Goals (SDGs) so that most countries of the world are guided by a uniform objective of development. Nepal is also a signatory to MDGs and SDGs declared by the United Nations.

Given this perspective, it transpires that the economies need to intervene – through policies, programmes, technology deployment and other means so that radical changes are visible in the form of economic gains (increase in productivity, employment), social reforms (gender equity, increase in social capital) and environmental sustainability (reduction in GHG emissions, increased resilience). It also means that any project/programme to address economic growth and development must also address the social and environmental gains, and vice-versa. No longer, one can look at the three important pillars of sustainable development in an isolated manner. They have to be considered and addressed simultaneously. However, this is easier said than done. To foster transformative changes in development interventions many experts (Weiss, 1995) have proposed a framework for designing, implementing and monitoring interventions. The framework, popularly known as The Theory of Change, embraces the following:

![Figure 11: GCF Investment Criteria and their definitions (source: GCF, 2014)](image)
• All decisions to be data driven and information intensive as much as possible
• Outputs should be visible and outcomes must be measurable
• Compulsory stakeholder consultation at each step of programme implementation
• Government assumes an enabling role in bringing together all stakeholders/actors thinking and working in unison
• Learning is passed on to the society and the future generations

Theory of Change also suggests need for reforms and rethinking on institutional mechanisms in order to achieve the desired transformative changes.

### 3.3. Logical framework

The logical framework is one of the most common methods to articulate and clarify how a set of activities will achieve the desired outcomes and objectives of a project (or its ‘theory of change’). The logical framework represents a results map/results framework. It also captures the basic monitoring and evaluation requirements.

The project/programme’s logical framework is critical to determine the costs at the activity level required in the proposal template, the overall budget, and the timeline and key milestones. The logic of the model can then be verified by working from the baseline, up through the activities and onwards to the objective. The sequential process to develop the project description for the logical frame using is represented diagrammatically in the figure below.

---

**Figure 12: Logical Framework from Paradigm Shift to Components**

---

- **Input**
  - **Start of the intervention**
    - e.g. senior loans

- **Activity**
  - **Short term**
    - e.g. Financing of projects which increase the generation of RE, the efficient use of resources by MSMEs

- **Output**
  - **Short term**
    - e.g. Commercially viable EE & RE projects are identified, financed and implemented

- **Desired medium long term effects**
  - e.g. Lower energy intensity of buildings, cities, industries and appliances

- **Desired medium long term effects**
  - (15 years+)
  - e.g. Reduced emissions from buildings, cities, industries and appliances

- **Desired medium long term effects**
  - (15 years+)
  - e.g. Shift to a low-emission sustainable development pathway

---

22
Figure 13: Approach to developing a logical framework

1. Paradigm Shift

2. Desired future

Baseline (present situation)

What needs to be done today to connect the future to the present?

2.a Objectives (or Fund level impacts)

3. Outcomes

4. Outputs

5. Activities

6. Inputs

A shift to low-emission sustainable development pathways (mitigation) and/or
Increased climate-resilient sustainable development (adaptation)

What outcomes (e.g., infrastructures, policy, training etc.) need to be in place for the objective to be achieved?

What outputs (e.g., products and services) need to be in place for the outcomes to be achieved?

What activities need to be undertaken for the outcomes to produce the outputs?

What inputs need to be provided to undertake the activities?
4. GCF requirements

As discussed in earlier sections, in its effort to mobilize resources for climate actions, particularly, adaptation and meet sustainable development goals, the Government of Nepal is planning to access GCF funding. For this it needs to be equipped with the tools/ techniques acceptable to GCF and detailed funding proposals are required to be submitted for the identified adaptation measures as per the extant guidelines of GCF following the a five step approach as represented by the chart below.

Figure 14: Five step approach of developing investment plan for GCF

GCF funding proposal development the project proponent to address the following points in their funding proposal.

Table 4: Components of GCF investment proposal

<table>
<thead>
<tr>
<th>Section</th>
<th>Particulars</th>
<th>Detailed description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Project/ programme summary</td>
<td>• Project/ programme title</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Basic information like executive summary, contact point, project focus (adaptation/ mitigation/ cross cutting) project size &amp; lifespan</td>
</tr>
<tr>
<td></td>
<td>Financing cost/ information</td>
<td>• Description of financial elements of the Project / Programme - project financing information like co-finance, loans, GCF financing etc.</td>
</tr>
<tr>
<td>C</td>
<td>Detailed project/ programme description</td>
<td>• Political/ institutional information</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Policy &amp; institutional set-up</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Objectives w.r.t baselines</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Impact on climate change</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Barriers address by the project/ programme</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Project/ programme management structure</td>
</tr>
<tr>
<td>Section</td>
<td>Particulars</td>
<td>Detailed description</td>
</tr>
<tr>
<td>---------</td>
<td>------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>D</td>
<td>Rationale for GCF involvement</td>
<td>• Value added by GCF involvement&lt;br&gt;• Exit strategy</td>
</tr>
<tr>
<td>E</td>
<td>Expected performance against investment criteria</td>
<td>• Impact potential - Potential of the project/programme to contribute to the achievement of the Fund’s objectives and result areas&lt;br&gt;• Paradigm Shift Potential - degree to which the proposed activity can catalyze impact beyond a one-off project/programme investment&lt;br&gt;• Potential for knowledge and learning&lt;br&gt;• Environmental, social and economic co-benefits, including gender-sensitive development impact&lt;br&gt;• Country Ownership - beneficiary country ownership of, and capacity to implement, a funded project or programme</td>
</tr>
<tr>
<td>F</td>
<td>Appraisal summary</td>
<td>• Economic and Financial Analysis&lt;br&gt;• Technical evaluation&lt;br&gt;• Environmental, Social Assessment, including Gender Considerations&lt;br&gt;• Financial management and procurement</td>
</tr>
<tr>
<td>G</td>
<td>Risk assessment and management</td>
<td>• Risk Assessment Summary&lt;br&gt;• Risk Factors and Mitigation Measures</td>
</tr>
<tr>
<td>H</td>
<td>Results monitoring and reporting</td>
<td>• Paradigm Shift Objectives and Impacts at the Fund level&lt;br&gt;• Outcomes, Outputs, Activities and Inputs at Project/Programme level&lt;br&gt;• Arrangements for Monitoring, Reporting and Evaluation</td>
</tr>
<tr>
<td>I</td>
<td>Annexes</td>
<td>Supporting Documents for Funding Proposal, such as Feasibility Study, Environmental and Social Impact Assessment &amp; Management Plan, Gender Analysis and Action Plan, Timetable of project/programme implementation, Economic analysis etc.</td>
</tr>
</tbody>
</table>

This SIF strives to demonstrate the policy and institutional approaches that GoN may adopt with an objective to implement the identified adaptation measures and finance the measures through the GCF route. As illustrations of the approach this SIF presents case studies for Mugu, Bardiya and Dailekh in the following sub-section.
4.1. How the prioritised adaptation measures meet the GCF criteria? – case studies from 3 pilot districts

Initial investment framework: activity-specific sub-criteria and indicative assessment factors

The Accredited Entity will develop its funding proposal with due consideration of the investment criteria and the applicable and relevant activity-specific sub-criteria and indicative assessment factors. In the formulation of the proposal, the Accredited Entity is expected to respond to all six of the investment criteria but only the applicable and relevant sub-criteria and indicative assessment factors. Not all activity-specific sub-criteria and indicative assessment factors will be applicable or relevant for every proposal.

1. Sustainable Agriculture Management in Dailekh

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Definition</th>
<th>Coverage area</th>
<th>Activity-specific sub-criteria</th>
<th>Indicative assessment factors (including indicators)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact potential</td>
<td>Potential of the programme/project to contribute to the achievement of the Fund’s objectives and result areas</td>
<td>Adaptation impact</td>
<td>Contribution to increased climate-resilient sustainable development</td>
<td>• %age increase in per-capita income of the local community</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• The intervention will significantly improve adaptability of agriculture systems and dependent communities of Dailekh. It will not only reduce crops losses and incidences of reduced crop yields but will also make farming more cost effective, efficient and environment friendly.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Dailekh faces acute water scarcity problems which affects agriculture. SAM can help farmers steady crop yields while using lesser water per hectare.</td>
</tr>
<tr>
<td>Key figures:</td>
<td></td>
<td></td>
<td></td>
<td>• % reduction in migration in the region</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• % of farmland that is growing more than one crop</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• % of women participating in various projects being</td>
</tr>
<tr>
<td>Criteria</td>
<td>Definition</td>
<td>Coverage area</td>
<td>Activity-specific sub-criteria</td>
<td>Indicative assessment factors (including indicators)</td>
</tr>
<tr>
<td>----------</td>
<td>------------</td>
<td>---------------</td>
<td>--------------------------------</td>
<td>---------------------------------------------------</td>
</tr>
<tr>
<td>Mitigation impact</td>
<td>Contribution to the shift to low-emission sustainable development pathways</td>
<td>implemnted for climate change adaptation in agriculture</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Paradigm shift | Degree to which the proposed activity can catalyse impact beyond a one-off project or programme investment | Potential for knowledge and learning | Contribution to the creation or strengthening of knowledge, collective learning processes, or institutions | • Sustainable farming techniques such as integrated pest management systems help reduce agricultural greenhouse gases. By recycling organic matter and tightening internal nutrient cycles, GHG emissions are reduced.  
• The proposed activity will teach/train farmers in sustainable farming techniques. This will not only help farmers deal with extreme weather events and droughts but will also help improve yields. Improved yields will lead to better incomes in the long term.  
• Increase in ecosystem based services  
• Sustainable agriculture will help in water conservation in the region. Firstly, the groundwater levels in the area will improve. Secondly, the water will not be polluted by pesticides or chemicals that would otherwise be used in farming.  
Key figures: Sustainable farming techniques can reduce GHG emissions by 40-66%. |
<table>
<thead>
<tr>
<th>Criteria</th>
<th>Definition</th>
<th>Coverage area</th>
<th>Activity-specific sub-criteria</th>
<th>Indicative assessment factors (including indicators)</th>
</tr>
</thead>
</table>
| Contribution to the creation of an enabling environment | Sustainability of outcomes and results beyond completion of the intervention Market development & transformation | • Training of farmers and other capacity building activities will lead to long term and sustainable results.  
• Farmer incomes will be steadier and will not show fluctuations due to weather events. This will result in long term prosperity of communities. |
| Potential for scaling up and replication, and its overall contribution to global low-carbon development pathways being consistent with a temperature increase of less than 2 degrees Celsius (mitigation only) | Innovation  
Level of contributions to global low-carbon development pathways, consistent with a temperature increase of less than 2 degrees Celsius  
Potential for expanding the scale and impact of the proposed programme or project (scalability)  
Potential for exporting key structural elements of the proposed programme or project elsewhere within the same sector as well as to Sustainable Agriculture Management as a measure is highly replicable. The learnings from this project can be used for implementing similar projects in other regions of the country which are prone to floods, soil erosion and droughts. |
<table>
<thead>
<tr>
<th>Criteria</th>
<th>Definition</th>
<th>Coverage area</th>
<th>Activity-specific sub-criteria</th>
<th>Indicative assessment factors (including indicators)</th>
</tr>
</thead>
</table>
| **Sustainable development potential** | Wider benefits and priorities | Environmental co-benefits                                                   | Expected positive environmental impacts, including in other result areas of the Fund, and/or in line with the priorities set at the national, local or sectoral level, as appropriate | • Soil and moisture conservation  
• Biodiversity conservation (increase in flora and fauna)  
• Improvement in yields without affecting the local eco-systems  
• Increase in ground water recharge |
| **Social co-benefits**         | Expected positive social and health impacts, including in other result areas of the Fund, and/or in line with the priorities set at the national, local or sectoral levels, as appropriate | • There will be social co-benefits like reduction in morbidity and mortality, community cohesion, psycho-cultural improvements, etc. which are difficult to value. |
| **Economic co-benefits**       | Expected positive economic impacts, including in other result areas of the Fund, and/or in line with the priorities set at the national, local or sectoral level, as | • Revenue from:  
— Improved incomes through better yields and non-seasonal crops,  
— agro forestry  
— step cultivation |
<table>
<thead>
<tr>
<th>Criteria</th>
<th>Definition</th>
<th>Coverage area</th>
<th>Activity-specific sub-criteria</th>
<th>Indicative assessment factors (including indicators)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>appropriate</td>
<td>— livestock rearing</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• SAM will result in a) restoration of natural resources base such as ground water levels and soil fertility b) Improved adaptive capacity in terms of access to extension services and availability of risk mitigation agents such as crop insurance. c) Availability of income supplements and alternate employment.</td>
</tr>
<tr>
<td>Needs of the recipient</td>
<td>Vulnerability and financing needs of the beneficiary country and population</td>
<td>Vulnerability of the country (adaptation only)</td>
<td>Scale and intensity of exposure of people, and/or social or economic assets or capital, to risks derived from climate change</td>
<td>• Nepal being a Less Developed Country, a significant percentage of the population depend on agriculture; over 60% of the population depends on agriculture. Agriculture is increasingly getting vulnerable due to climate change. A community managed SAM could enable improve overall climate resilience of farmers; steady incomes, natural resource base restoration, gender participation, etc.</td>
</tr>
<tr>
<td>Country ownership</td>
<td>Beneficiary country ownership of, and capacity to implement, a funded project or programme (policies, climate strategies and institutions)</td>
<td>Existence of a national climate strategy</td>
<td>Objectives are in line with priorities in the country’s national climate strategy</td>
<td>The SAM is aligned with the National Adaptation Plan of Action to Climate Change of the Government of Nepal. The NAPA programme under the Ministry of Environment of Nepal has been a core of mainstreaming climate change awareness and programme/institutional development and capacity building in Nepal. Under the NAPA, the GoN has made adaptation commitments to address the needs of the vulnerable communities.</td>
</tr>
<tr>
<td>Criteria</td>
<td>Definition</td>
<td>Coverage area</td>
<td>Activity-specific sub-criteria</td>
<td>Indicative assessment factors (including indicators)</td>
</tr>
<tr>
<td>------------------------------</td>
<td>----------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Engagement with civil society organizations and other relevant stakeholders</td>
<td>Stakeholder consultations and engagement</td>
<td>During Focus Group Discussion with local people and district level stakeholder in Dailekh, the need assessment of forest resource management including from the perspective of gender was carried out and majority of them responded with the urgent need of intervention through sustainable agriculture management to maintain ecological services and improve the socio-economic position of women within communities.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Efficiency and effectiveness | Economic and, if appropriate, financial soundness of the programme/project | Cost-effectiveness and efficiency regarding financial and non-financial aspects | Financial adequacy and appropriateness of concessionality                                                                                         | Key figures:  
  - Benefits/ Cost ratio >1 (medium to long term)  
  - Cost of inputs (SAM)/cost of inputs(BAU)>1  
  - % increase in net incomes  

Industry best practices Applications of best practices and degree of innovation  

SAM model is builds on the entrepreneurial spirit of the local community in partnership with other agencies to develop novel practices in agriculture management.  

Industry best practices Applications of best practices and degree of innovation  

SAM model is builds on the entrepreneurial spirit of the local community in partnership with other agencies to develop novel practices in agriculture management.
2. Sustainable Water Management at Mugu

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Definition</th>
<th>Coverage area</th>
<th>Activity-specific sub-criteria</th>
<th>Indicative assessment factors (including indicators)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Impact potential</strong></td>
<td>Potential of the programme/project to contribute to the achievement of the Fund’s objectives and result areas</td>
<td>Adaptation impact</td>
<td>Contribution to increased climate-resilient sustainable development</td>
<td>The locals pointed to the problem of increasing frequency of droughts in the region. Droughts are affecting agriculture in Mugu. As per the locals, crops grown locally such as beans, black lentils, maize, paddy, millet get destroyed due to severe droughts. The overall productivity of these crops is also reducing, To cope with this stress, the community then has to either decrease their water consumption or has to invest time and effort to ferry water from distant sources. In this context, sustainable water management (SWM) can bring about a transformation. SWM mechanisms such as water harvesting of rain water can ensure supply of water in drought periods. Further, SWM will also increase groundwater levels. Such measures help farmers deal with droughts in the long run.</td>
</tr>
<tr>
<td><strong>Paradigm shift potential</strong></td>
<td>Degree to which the proposed activity can catalyse impact beyond a one-off project or programme investment</td>
<td>Potential for scaling up and replication, and its overall contribution to global low-carbon development pathways being consistent with a temperature increase of less than 2 degrees Celsius (mitigation only)</td>
<td>Innovation Level of contributions to global low-carbon development pathways, consistent with a temperature increase of less than 2 degrees Celsius Potential for expanding the scale and impact of the proposed</td>
<td>• Methods such as micro irrigation, system crop intensification, climate resistant plant variants and other water harvesting and management techniques can increase yields even in the face erratic climate behavior. So such climate smart methods can indeed produce more yields per drop. Therefore, sustainable water management techniques can make agriculture and other community level activities more efficient, effective and sustainable.</td>
</tr>
<tr>
<td>Criteria</td>
<td>Definition</td>
<td>Coverage area</td>
<td>Activity-specific sub-criteria</td>
<td>Indicative assessment factors (including indicators)</td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>-------------------------------------</td>
<td>---------------</td>
<td>-------------------------------</td>
<td>--------------------------------------------------</td>
</tr>
</tbody>
</table>
| Sustainable development potential        | Wider benefits and priorities       | Environmental co-benefits | Expected positive environmental impacts, including in other result areas of the Fund, and/or in line with the priorities set at the national, local or sectoral level, as appropriate | • Water conservation  
Key figures:  
• Estimated 60% increase in productivity due to irrigation |
<p>|                                          |                                     |                |                               | • Avoidance of adverse health related impacts from water borne diseases - In the absence of readily available drinking water, the affected communities collect and store - often in unhygienic |</p>
<table>
<thead>
<tr>
<th>Criteria</th>
<th>Definition</th>
<th>Coverage area</th>
<th>Activity-specific sub-criteria</th>
<th>Indicative assessment factors (including indicators)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>of the Fund, and/or in line with the priorities set at the national, local or sectoral levels, as appropriate</td>
<td>conditions, water for future use. This practice leads to the incidence of various water borne diseases (jaundice, gastro-intestinal disorders, reflux disease, etc.). Approximately 45% of household suffer from such health impacts (ADB, 2012). There have been reports of increase in mosquito infestation, pests and diseases due to increasing temperature.</td>
</tr>
</tbody>
</table>
| Economic co-benefits | Expected positive economic impacts, including in other result areas of the Fund, and/or in line with the priorities set at the national, local or sectoral level, as appropriate | • Savings in costs incurred for purchasing water.  
• Savings in health costs due to water borne diseases.  
• Avoided loss of agricultural income due to time spent in collecting water. |
| Gender-sensitive development impact | Potential for reduced gender inequalities in climate change impacts and/or equal participation by gender groups in contributing to expected impact | • Women are extensively utilized as agricultural labour in Nepal. Women, sometimes, have to complete household work and join their male counterparts in fields as well. Watering the field has always been a challenge in Nepali hills and mountains. The major rivers lie relatively in lower elevation than the cultivated land. Operation of irrigation system, therefore, can reduce the drudgery work of fetching water for irrigation, and/or rely of rainfall for cultivation.  
• Improved access to water supply may release women from water-collection chores and might allow women to invest |
<table>
<thead>
<tr>
<th>Criteria</th>
<th>Definition</th>
<th>Coverage area</th>
<th>Activity-specific sub-criteria</th>
<th>Indicative assessment factors (including indicators)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Needs of the recipient</td>
<td>Vulnerability and financing needs of the beneficiary country and population</td>
<td>Vulnerability of the country (adaptation only)</td>
<td>outcomes</td>
<td>more time in income-generating activities, such as agricultural production. If women are farming their own plots and have access to irrigation technologies, then the productivity of female-managed plots may increase, and income from the increase in productivity may also grow. They can invest their income particularly for girls’ education. It will reduce the workload of women and contribute to drudgery reduction. Hygiene and sanitation practices may also improve due to greater water availability and lead to important health benefits.</td>
</tr>
<tr>
<td>Country ownership</td>
<td>Beneficiary country ownership of, and capacity to implement, a funded project or programme (policies, climate strategies and institutions)</td>
<td>Existence of a national climate strategy</td>
<td>Objectives are in line with priorities in the country’s national climate strategy Proposed activity is</td>
<td>Nepal being a Less Developed Country, a significant percentage of the population have limited access to potable water for cooking/ drinking purposes. Due to erratic rainfall, longer dry spell and over extraction, water sources are drying up and therefore vulnerable communities have to invest significant time and resource for ferrying water from far off sources therefore impacting their productive time. The SWM is aligned with the National Adaptation Plan of Action to Climate Change of the Government of Nepal. The NAPA programme under the Ministry of Environment of Nepal has been a core of mainstreaming climate change awareness and programme/ institutional development and capacity building in Nepal. Under the NAPA, the GoN has made adaptation commitments to address the needs of the vulnerable communities.</td>
</tr>
<tr>
<td>Criteria</td>
<td>Definition</td>
<td>Coverage area</td>
<td>Activity-specific sub-criteria</td>
<td>Indicative assessment factors (including indicators)</td>
</tr>
<tr>
<td>----------</td>
<td>------------</td>
<td>---------------</td>
<td>-------------------------------</td>
<td>--------------------------------------------------</td>
</tr>
</tbody>
</table>
| Efficiency and effectiveness | Economic and, if appropriate, financial soundness of the programme/project | Cost-effectiveness and efficiency regarding financial and non-financial aspects | Financial adequacy and appropriateness of concessionality | Key figures:  
- Benefit/ Cost ratio $>1$ (medium to long term) across all Sustainable Water Management interventions |

### 3. Sustainable Livestock Management in Bardiya

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Definition</th>
<th>Coverage area</th>
<th>Activity-specific sub-criteria</th>
<th>Indicative assessment factors (including indicators)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact potential</td>
<td>Potential of the programme/project to contribute to the achievement of the Fund’s objectives and result areas</td>
<td>Adaptation impact</td>
<td>Contribution to increased climate-resilient sustainable development</td>
<td></td>
</tr>
</tbody>
</table>
- %age increase in per-capita income of the local community  
- The intervention will significantly improve adaptability of farmers, animal rearers and dependent communities of Bardiya.  
- Income from animal rearing is a very important supplement to the incomes of farmers, particularly in the case of small and marginal farmers. If incomes of farmers are to sustained and stabilized over a period of |
<table>
<thead>
<tr>
<th>Criteria</th>
<th>Definition</th>
<th>Coverage area</th>
<th>Activity-specific sub-criteria</th>
<th>Indicative assessment factors (including indicators)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>time in the face of climate change then activities such as revitalization of indigenous breeds, effective management of feed supplies, adoption of water conservation activities, etc. need to be taken up. A stabilization or improvement in farmer incomes could suggest the success of adaption strategies adapted in the livestock sector.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>Key figures:</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• % reduction in migration in the region</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• % of women participating in various projects being implemented for climate change adaptation in livestock management</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>Mitigation impact</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Contribution to the shift to low-emission sustainable development pathways</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Livestock is a significant contributor to GHG emissions. With improved shed management practices, such as manure management, GHG emissions can be cut. <strong>Key figures:</strong> Sustainable livestock management techniques can reduce GHG emissions by 30% (2013, FAO)</td>
</tr>
<tr>
<td>Criteria</td>
<td>Definition</td>
<td>Coverage area</td>
<td>Activity-specific sub-criteria</td>
<td>Indicative assessment factors (including indicators)</td>
</tr>
<tr>
<td>----------</td>
<td>------------</td>
<td>---------------</td>
<td>-------------------------------</td>
<td>--------------------------------------------------</td>
</tr>
</tbody>
</table>
| **Paradigm shift** | Degree to which the proposed activity can catalyse impact beyond a one-off project or programme investment | Potential for knowledge and learning | Contribution to the creation or strengthening of knowledge, collective learning processes, or institutions | • The proposed activity will teach/train farmers in sustainable livestock management techniques. Measures such as improved farm sheds and promotion of improved breeds will improve output per animal and will result in climate resilient livestock.  
• Increase in ecosystem based services  
• Sustainable livestock will result in improved income security for farmers |
| | | Contribution to the creation of an enabling environment | Sustainability of outcomes and results beyond completion of the intervention  
Market development & transformation | • Training of farmers and other capacity building activities will lead to long term and sustainable results.  
• Farmer incomes will be steadier and will not show fluctuations due to weather events. This will result in long term prosperity of communities. |
| | | Potential for scaling up and replication, and its overall contribution to global low-carbon development pathways being | Innovation  
Level of contributions to global low-carbon development pathways, consistent with a temperature increase of less than 2 degrees Celsius | Sustainable livestock Management as a measure is highly replicable. The learnings from this project can be used for implementing similar projects in other regions of the country to improve output of milk and other livestock produce. |
<table>
<thead>
<tr>
<th>Criteria</th>
<th>Definition</th>
<th>Coverage area</th>
<th>Activity-specific sub-criteria</th>
<th>Indicative assessment factors (including indicators)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>consistent with a temperature increase of less than 2 degrees Celsius (mitigation only)</td>
<td></td>
<td>Potential for expanding the scale and impact of the proposed programme or project (scalability)</td>
<td>Potential for exporting key structural elements of the proposed programme or project elsewhere within the same sector as well as to other sectors, regions or countries (replicability)</td>
</tr>
<tr>
<td><strong>Sustainable development potential</strong></td>
<td>Wider benefits and priorities</td>
<td>Environmental co-benefits</td>
<td>Expected positive environmental impacts, including in other result areas of the Fund, and/or in line with the priorities set at the national, local or sectoral level, as appropriate</td>
<td>• Reduced GHG emissions</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Healthier animals</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Reduced stress on surrounding environment as climate resilient breeds are sturdier and require less feed and water</td>
</tr>
<tr>
<td>Criteria</td>
<td>Definition</td>
<td>Coverage area</td>
<td>Activity-specific sub-criteria</td>
<td>Indicative assessment factors (including indicators)</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Social co-benefits</td>
<td>Expected positive social and health impacts, including in other result areas of the Fund, and/or in line with the priorities set at the national, local or sectoral levels, as appropriate</td>
<td>- There will be social co-benefits like reduction in morbidity and mortality, community cohesion, psycho-cultural improvements, etc. which are difficult to value.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economic co-benefits</td>
<td>Expected positive economic impacts, including in other result areas of the Fund, and/or in line with the priorities set at the national, local or sectoral level, as appropriate</td>
<td>- Revenue from:</td>
<td>- Improved incomes through improved through better milk and meat output</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Important income supplement in times of low crop yields/crop losses</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- livestock rearing</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- SLM will result in a) restoration of natural resources base such as ground water levels and soil conservation</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) Improved adaptive capacity in terms of access to extension services and availability of risk mitigation agents such as crop insurance. c) Availability of income supplements and alternate employment.</td>
<td></td>
</tr>
<tr>
<td>Criteria</td>
<td>Definition</td>
<td>Coverage area</td>
<td>Activity-specific sub-criteria</td>
<td>Indicative assessment factors (including indicators)</td>
</tr>
<tr>
<td>--------------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Needs of the recipient</strong></td>
<td>Vulnerability and financing needs of the beneficiary country and population</td>
<td>Vulnerability of the country (adaptation only)</td>
<td>Scale and intensity of exposure of people, and/or social or economic assets or capital, to risks derived from climate change</td>
<td>- Nepal being a Less Developed Country, a significant percentage of the population of depend on agriculture; over 60% of the population depends on agriculture. Agriculture is increasingly getting vulnerable due to climate change. A community managed SLM could enable improve overall climate resilience of farmers; steady incomes, natural resource base restoration, gender participation, etc.</td>
</tr>
<tr>
<td><strong>Country ownership</strong></td>
<td>Beneficiary country ownership of, and capacity to implement, a funded project or programme (policies, climate strategies and institutions)</td>
<td>Existence of a national climate strategy</td>
<td>Objectives are in line with priorities in the country's national climate strategy</td>
<td>The SLM is aligned with the National Adaptation Plan of Action to Climate Change of the Government of Nepal. The NAPA programme under the Ministry of Environment of Nepal has been a core of mainstreaming climate change awareness and programme/institutional development and capacity building in Nepal. Under the NAPA, the GoN has made adaptation commitments to address the needs of the vulnerable communities.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Proposed activity is designed in cognizance of other country policies</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Engagement with civil society organizations and other relevant stakeholders</td>
<td>Stakeholder consultations and engagement</td>
<td>During Focus Group Discussion with local people and district level stakeholder in Bardiya, the need assessment of forest resource management including from the perspective of gender was carried out and majority of them responded with the urgent need of intervention through sustainable agriculture management to maintain</td>
</tr>
<tr>
<td>Criteria</td>
<td>Definition</td>
<td>Coverage area</td>
<td>Activity-specific sub-criteria</td>
<td>Indicative assessment factors (including indicators)</td>
</tr>
<tr>
<td>----------</td>
<td>------------</td>
<td>---------------</td>
<td>--------------------------------</td>
<td>-----------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ecological services and improve the socio-economic position of women within communities.</td>
</tr>
</tbody>
</table>
| **Efficiency and effectiveness** | Economic and, if appropriate, financial soundness of the programme/project | Cost-effectiveness and efficiency regarding financial and non-financial aspects | Financial adequacy and appropriateness of concessionality | Key figures:  
- Benefits/ Cost ratio >1 (medium to long term)  
- Cost of inputs (SAM)/cost of inputs(BAU)>1  
- % increase in net incomes |
|          | Industry best practices | Application of best practices and degree of innovation | SLM model is builds on the entrepreneurial spirit of the local community in partnership with other agencies to develop novel practices in and livestock management. |
4.2. Designing a strategic investment framework for financing climate actions

Effective mainstreaming of adaptation strategies in developmental planning would require an integrated and systemic approach towards planning, implementation and continuation (of projects). Further, the exercise involves inclusion of and coordination between multiple actors (Ghosh & Ghosh, 2016). This can be achieved through addressing a mix of interrelated issues (Burton, Diringer, & Smith, 2006):

- Information on past and future climate trends based on a reliable database
- Capacity generation through response strategies like early warning systems, hazard and vulnerability mapping, etc.
- Financial resource generation for investment in response technologies, deployment of resource to vulnerable hotspots, database creation etc.
- Institutional arrangement for adoption, implementation and management of the adaptation service at all levels of governance- local, regional, national and sub-national.
- An integrated approach where all actors – individuals, communities, government organizations, non-government institutions are involved in identifying adaptation needs and capacity generation.

The emphasis on adaptation does not imply that mitigation efforts should be completely ignored by Nepal. Climate change being a global good, all the stakeholders are responsible for strategizing to abate the process and/or to lessen the impacts as it would benefit all. There are views that some low-carbon development options may be less costly in the long run (as it minimizes the loss and damage induced by climate change) and might be able to offer new economic opportunities for the country. Therefore, given this argument Nepal stands to gain from integration of mitigation-adaptation led development approach (CDKN, 2014). Nepal, thus, needs to be proactive in exploring different alternative opportunities that promote adaptation and mitigation while upholding various other sustainable development goals. An integrated portfolio of such opportunities is required to be mainstreamed in the policies, plans and programmes of the country.

With Government of Nepal deciding on accessing funds from GCF (and other allied institutions) it is important that the Government embarks upon designing policies, institutions etc. to increase its readiness to access such funds and maximize benefits from utilization of such funds. The facilities from GCF are attached with specific objectives and the policies of Government of Nepal must address meeting such objectives. This requires the Government to design and roll-out a comprehensive and effective investment framework with strategic aligned to objectives of such funds.

It is important to mention at this point that after years of political instability Nepal is undergoing changes in its governance structure, policies and political setup. Therefore, it may be the right opportune moment to start designing a strategic investment framework, in the context of the new and emerging political and governance landscape. This chapter discusses the broad objectives and dimensions of such a strategic framework. The content has been developed based on field surveys/studies conducted at Bardiya, Dailekh and Mugu, consultations with policy makers/ regulators in various ministries, discussions with financial intermediaries and civil service organizations. Since the exact mechanisms of functioning of the multi-level governance system in Nepal is yet to be finalized, adopted and published, this report does not make an attempt to address some of the specifics concerning working of the institutional actors. The proposed framework, therefore, may be taken as a general framework and may need slight modifications at the time of implementation, given the devolution of functions that the new governance structure and system provides.

4.3. Objectives of a strategic investment framework for promoting ecosystem based adaptation

Mainstreaming climate considerations in planned investments is a complex task. This is because climate actions – both mitigation and adaptation, involves consideration of diverse and multi-layered social and economic priorities, has to address geographical diversities between regions, involve multiple stakeholders
and effectively function within a tiered governance structure at the same time must also address the need for addressing pressing development challenges like poverty, illiteracy, migration, erosion of social capital, health, etc. Nepal being a less developed economy has its priorities, and, in no way, the framework for investment in climate actions may contradict such priorities. In other words, adequate attention needs to be accorded to bring a synergy between climate actions and overall economic and human development in Nepal.

In view of the above, the broad objectives of the framework are identified and have been shown in the figure below. The rationale of the objectives has been deliberated on subsequently. The objectives are expected to make the framework conform to GCF criteria, and criteria laid down by various development funding institutions, so as to be able to attract adequate financial resources and make the climate actions effective and efficient, while, simultaneously aligning policies to the SDGs.

![Diagram showing objectives of an effective Climate Investment Framework](image)

**Figure 15: Objectives of an effective Climate Investment Framework**

In the context of ecosystem based adaptation (EBA), the challenge increases. Agriculture, including livestock, an important component of (EBA), is essentially a local measure and needs to be customized given the scope, availability of local resources, existing techniques and practices, willingness to adapt among local farmers. A recent study, (Gurung, et al., 2016), has identified a host of important challenges in making agriculture climate smart in Nepal. Some of these challenges are:

- There is no specific blueprint for scaling up climate smart agriculture for Nepal. The strategies for making agricultural practices climate responsive and climate smart depends on nature of the farming systems (including bio-physical diversity, farm size); characteristics of landscape (geographic location/access, natural resources availability and flow); context specific other socio-economic-political drivers and spaces; attributes of farmers (knowledge, attitude and skills); farm needs; nature of technologies (knowledge intensive vs capital intensive); available social network and partnerships; conducive policy environment; and market infrastructure.

- Although the government policies are favorable for integrating climate smart agriculture in regular development plans and agriculture extension systems, there exists a big gap in terms of translating these policies into practices. There are only a few evidences where climate smart agriculture, techniques and practices have been integrated into plans and programmes implemented by government extension system.

- There are provisions in existing extension programmes which promotes climate smart agriculture along with techniques and practices. However, they are not targeted explicitly for responding to climate change. Weak capacity on assessing impacts of climate change assessment and adaptation
planning at all levels including public sector, civil society organizations and the private sector remains the key challenge.

- Mechanisms and measures for making agricultural techniques and practices climate smart are not well documented. Additionally, they are yet to be widely disseminated shared. Simultaneously, these are not adequately incorporated into extension guidelines and manuals.

- There exists an opportunity to attract private sector investment for promotion of climate smart agriculture, techniques and practices through adoption of business models. However, it requires strong commitment and investment from government to enhance the capacity of local service providers, and materials and inputs suppliers.

- Economically poor smallholder farmers cannot afford investment for expensive technologies concerning climate smart agriculture. Therefore, providing adequate subsidy and access to finance is crucial for increasing investment in climate smart agriculture.

- Climate smart agricultural technologies have not received adequate attention, as commercial banks are unwilling to lend loan to smallholder farmers.

Given this perspective, the broad pillars of a strategic investment framework for ecosystem based adaptation have been identified as the following.

a. **Leverage adequate finance**: In the South Asian context, it is estimated that the region requires approximately USD 74.00 billion annually until 2025 – to address both mitigation and adaptation issues. However, there are grave concerns about a possible finance gap – as only 20% to 30% of this requirement is available. (Cansa, 2013). Nepal, by itself, requires USD 2.4 billion (GoN, 2014) to undertake adaptation measures However, The internal resource generation in Nepal (other South Asian countries) investing in climate actions has been rather slow. Policies, instruments and politics are yet to be in place to ensure adequate internal resource generation for financial actions. Further, given the emerging federal governance structure in Nepal, the issues of jurisdiction, governance, and disbursement of funds are still debated upon and are pending finalization.

In this scenario the framework must try to address such issues, resolve conflicts and initiate institutions and mechanisms so that finances can flow from various actors – public, private and others to finance climate responsive and climate responsible interventions planned by the GoN. The framework must also address and spell out synergy between development agenda and climate agenda.

b. **Inclusivity of ‘all’ stakeholders**: Principles of equity and justice of a welfare state like Nepal demands that the benefits of climate actions should be delivered to all vulnerable stakeholders. This, inter alia, implies that technologies, practices and strategies for addressing mitigation and adaptation must be delivered to all concerned stakeholders at the right time and in the right magnitude. GCF stresses on this inclusivity aspect of climate investments. This, therefore, requires that the framework must ensure that there is a continuous stream of dialogue between the vulnerable stakeholders, policy makers and programme implementers for identifying the exact needs and promote the concept of inclusivity (UNDP, 2012).

c. **Facilitate decentralized planning systems**: Although climate change is a ‘global’ phenomenon, climate actions, particularly, those that target ecosystem based adaptation are inherently ‘local’ in terms of planning, design and implementation. Therefore, the investment framework should aim at promoting downscaling of policy & programme design, capacity generation and strategies for implementation to suit local needs, leverage local resources and benefit local people. Therefore, the framework should support a paradigm shift – evolving a bottom up planning approach from the erstwhile/ existing top-down process.

d. **Accord importance to multi-dimensional resilience**: Adaptation strategies, in particular, often have potential to generate benefits in multiple dimensions – economic, social and environmental
Similarly, the benefits from mitigation strategies may result in generating benefits that are just not confined environmental gains (in the form of reduced GHG emissions) but may have spillover benefits in the form increased job creation, rise in GDP, formation of social capital etc. Thus the framework should facilitate choice of a climate strategy mix after considering all dimensions of benefits. In other words, the framework should mainstream maximization of all types of benefits while planning for a climate action project.

e. **Address fragmented climate action landscape:** The network of actors in the climate action landscape of Nepal is highly fragmented – consisting of local micro-level actors, the affect, communities, local municipalities and other governance entities and also the macro level actors like the National Government, public and private actors, international donors, BFIs and MFIs, etc. The framework must layout a roadmap that facilitates integration and co-operative collaboration among actors. This would reduce conflicts in the network of actors and promote a regime of common but differentiated responsibility and actions.

### 4.4. Dimensions and strategies of an effective investment framework for promoting ecosystem based adaptation

Although the strategic investment framework should primarily be designed to attract and utilize funds from GCF, it may also be utilized for attracting finances from various other sources – particularly those actors that constitute the landscape of climate finance. This would ensure that the adequacy of climate financing of ecosystem based adaptation in Nepal. The framework is required to address the need for exploring and leveraging synergies between various sources of funds and meeting the criteria and conditions of different funds. This sub-section has been designed keeping in view the investment criteria spelled out by GCF. However, required attention has been accorded to addressing broad challenges of climate financing and designing suitable strategies.

**Dimension 1 – Bridging finance gaps:** Very often, the investments required for effective climate interventions are large and cannot be fully supported by GCF. Therefore, the terms of GCF financing stipulate a need for co-financing and exploring additionality of financing. The issue of country ownership addressed through allocating adequate funds from national budget as a possible means of co-financing. Further, adequate emphasis on co-financing from various sources, often backed by sovereign guarantees not only bridges the finance gap but also pronounces the national government’s support and commitment to the proposed climate actions.

Given this perspective, it is imperative for GoN to explore sources of additional finance – from government budgets (national, sub-national and local) or otherwise, to bridge the finance gap, if any, for those climate interventions which are earmarked for funding through GCF facilities. The strategies that the investment framework must adopt and promote are the following:

- **Using funds from GCF to leverage other climate funds** - Literature on climate finance has described various actors as sources and intermediaries of climate finance across the world (CPI, 2015). The landscape for climate finance follows a structure that is globally identifiable in its composition – with built-in country-specific deviations in the relationship between various institutions. The summary of the landscape of climate finance is presented in the following diagram.
The actors in the landscape are not essentially mutually exclusive. There exists a complex inter-relation between them. Various instruments have also been mapped with each actor in the climate finance space.

The SIF must layout a mechanism so that a part of finances from Government Budget of Nepal find their way in climate investments as grants or subsidies as per the requirement of the GCF and other DFIs. This is one of the ways for co-financing of projects through Government’s own sources and upholding the issue of country ownership. This strategy necessitates that GoN institutionalizes a robust process of budget allocation – across all layers of Government, particularly, that of certain dedicated ministries and/or of some related line ministries who are responsible for projects concerning eco-system based adaptation in the vulnerable areas of Nepal. In the case studies of Bardiya, Dailekh and Mugu, it has been observed that sustainable forest management has synergies with various sectors like agriculture (agro-forestry), livestock (availability of fodder for grazing animals) and also industries (processing of forest products). Hence, the investment framework may attempt at pooling funds (through budgetary allocation) from all these concerned ministries. This would not only ensure adequacy of financing through budgetary allocations but also ensure ‘involvement’ of the concerned ministries – with specializations, for ensuring maximization of social, economic and environmental benefits.

Further, the GCF facility along with the budgetary allocation could be effectively used to leverage finances from other climate funds (Adaptation fund, GEF etc.) and/or various other BFIs (DFID, USAID, etc.) and MFIs (World Bank, ADB, etc.). As a complementary process, finances from Government and other sources can also be used to leverage GCF finance. However, GoN must accord adequate importance to preparing a detailed roadmap that will guide the process through modalities, particularly in view of the fact that the country is in the process of finalizing the financial powers and budgetary mechanisms in a federal and tiered structure of governance.

- **Blending of finances and instruments**: GCF and other financing institutions have multiple instruments for financing climate actions. Additionally, as discussed above, GCF and most other financing institutions emphasize on co-financing of projects. The principle of co-financing has been upheld so that the desired scale and scope of interventions are not compromised with for the want of finance. Further, the portfolio of instruments has been chosen so that the investments are de-risked and adequate leverage is ensured. Given the availability of multiple instruments and sources of climate finance, an important strategy that the investment framework should adopt is make GoN prepared for institutionalizing mechanism(s) to blend funds from multiple sources and blend instruments efficiently so as to: (a) reduce cost of funds; (b) attract private finances in desired scale; (c) reduce risk of projects; (d) ensure sustainability of projects, while, simultaneously, spelling out country-ownership and bridging finance gap, and avoid sub-optimal scale and scope of interventions.

The pooling in of finances can be internal or external in nature. Often funds with potential for enhancing climate actions do not rest in one place (Dinshaw, Dixit, & McGray, 2012). In the national context,
various line ministries and departments manage and implement various funds meant for allied activities. In Nepal, the newly evolving local governments may lack in knowledge and capacity to coordinate between ministries and departments, BFIs and MFIs failing in this crucial exercise of pooling of funds. Hence, the investment framework must promulgate a formal, legally mandated mechanism to coordinate, access, blend and deliver funds from multiple sources (Stienbach, et al., 2014), supported adequately by the national and provincial governments. While the Ministry of Finance, GoN, can act as a coordinating agency, it has to pay adequate attention to build awareness and capacity among different stakeholders at the sub-national levels for this crucial exercise. A firm plan needs to be in place. Capacity building should start immediately after the mechanisms have been identified and mainstreamed into the financing plans. For example, in the context of Sustainable Agriculture and Livestock Management in Bardiya and Dailekh, funds may be pooled from Agriculture, Livestock, Water Resources, etc. and also the relevant counterparts of the provincial and local governments for creating a common corpus for co-financing and attracting investments from climate funds. However, all these concerned stakeholders are to be brought under an umbrella mechanism that would facilitate pooling of funds and blending of instruments.

- **Ensuring certainty regarding investment requirements**: This strategy calls for a paradigm shift in the planning and budgeting process at all levels of governance. Climate considerations, so far, have been limited in the national plans. However, adaptation is a local agenda and need to be mainstreamed in the sub-national and, most importantly, local plans. Hence, strategies must be in place to mainstream climate actions in the national, sub-national and local plans and programmes. Detailed analysis concerning the investment requirement for various climate actions is required to be incorporated in such plans and budgets. While vulnerabilities are assessed for geographical entities with resolutions downscaled, the exercise of estimating investment requirements to cope with vulnerabilities must supplement the process (Cansa, 2013). This bottom-up approach can lead GoN to have a comprehensive plan for investment requirement for financing climate actions. Further, need assessment and prioritizing of projects merit immediate attention should effective use of funds be the objective (Stienbach, et al., 2014).

- **Capacity to access funds - trickle-down effect**: Internationally and nationally new funds are emerging for financing adaptation and mitigation. Also, the existing funds are evolving with new modalities of access. Although at the national scale the expertise for meeting eligibility criteria and accessing these funds exists, the same is, at best, trickling down to the sub-national and local levels (Huq & Rabbani, 2011), (Christensen, et al., 2012). Government of Nepal aims at increasing readiness among project developers at local level to prepare ‘bankable projects’ conforming to the rules and technicalities of various funds available for financing climate actions (Stienbach, et al., 2014). Given the objective of GCF to increase inclusivity, the exercise must not be restricted to the ‘public stakeholders’ but must also stretch to private entities.

**Dimension 2 – Making interventions sustainable**: GCF emphasizes that while planning for climate interventions sustainability of interventions over its life should be accorded due care. This implies that the financing plan for projects must adequately provide for recurring costs such as operation and maintenance, overheads, etc. and design a plan to cover such expenses. Else the interventions may become non-functional immediately after implementation. The planning horizon needs to be long-term so that the range of benefits – developmental, adaptive and mitigation are maximized. In the case of Bardiya (Sustainable Forest Management, Sustainable Agriculture Management, Sustainable Livestock Management), Mugu & Dailekh (Sustainable Agriculture Management and Sustainable Water Management), the economic analysis carried out as a part of the present assignment, due care has been accorded to this principle and long term costs have been accounted for. The investment framework requires to mainstreaming this principle among all stakeholders of climate actions so that the financing plans are detailed, long-term and holistic. This would make investment invest plans prepared for GCF (and other financing institutions) meet the criteria of a paradigm shift and sustainability. It would also minimize risks in investments, particularly, for the private actors.

The SIF, must therefore, spell out a mechanism of financial planning that would ensure the economic sustainability of such interventions. The plausible strategies adopted by the investment framework may be the following:
• **Encouraging revenue generation from interventions** – Most low-income developing economies, and, even, emerging economies are locked in to a paradigm that climate projects are non-revenue projects. This has not only rendered many climate interactions short-lived, but also has deterred many private actors from seriously looking at climate actions as projects that merit interventions. To unlock private investments in private investments, there has to be an emphasis on revenue generation from climate projects (Roy, Ghosh, Ghosh, & Dasgupta, 2013). Therefore, wherever possible, the SIF must encourage revenue generation from climate intervention projects. The revenue generated may be used for building a corpus to cover expenses during the life of the project. The SIF must accord importance to the provision of fiscal instruments, fees, charges, etc. to generate such revenue. The sharing of revenue between various tiers of the Government is guided by the provisions in the Constitution of Nepal and is being refined by the National Natural Resource and Fiscal Commission Bill. The seat of the pool may be at the national, sub-national or local level of governance, as decided by the GoN. However, the end-use of the pool of resources (whole or part) should be directed at ensuring sustainability of climate interventions. The SIF needs to recognize this issue and coordinate among stakeholders to evolve a robust mechanism in line with the extant provisions promulgated by GoN. This would increase the ‘bankability’ of investment proposals made to GCF.

In light of the above, it is recommended that the MoF embarks on preparing a long-term plan for this purpose and mainstreams such plan in the overall public finance architecture of Nepal.

• **Mainstreaming climate investments in local budgets and plans:** Climate actions are necessarily ‘local in nature’. While the national government is responsible for such actions, the role of sub-national and local governments cannot be denied. Climate considerations need to be mainstreamed into the budgets of all levels of government. The SIF must ensure that climate actions are incorporated in annual budgets and plans of national, sub-national and local governments. This would increase ownership of climate actions at all levels of government.

It is extremely important that SIF devises a mechanism so that most plans and programmes at the sub-national and local levels recognize adaptation and mitigation benefits not just as co-benefits but as explicit objectives. Only when this has been done, climate actions can be deemed to have been mainstreamed into the plans and programmes and national budget prepared accordingly.

• **Removing bottlenecks (of supply chain) and ensuring last mile delivery:** The strategic investment framework must also seek to promote measures that ensure delivery of technology/services to the beneficiaries. There needs to be adequate incentives for the actors in the supply chain so that the last mile delivery of products and services is ensured. The framework should spell out the conditions and measures to address this issue. This will ensure the sustainability of interventions, together with ensuring inclusivity and participation of stakeholders. Further the strategy can also aid to enhanced private sector participation as there may be adequate opportunity of ‘business’ in the measures adopted as a part of this strategy.

**Dimension 3 – Ensuring private sector participation:** The understanding of climate change by the actors in the private sector in the South Asia has been rather limited (Stienbach, et al., 2014), (Roy, Ghosh, Ghosh, & Dasgupta, 2013). The participation of private sector in climate actions, therefore, has been slow and, often, haltering. Apart from a section of large corporate entities most private sector actors have hesitated in participating actively in climate actions. The participation, if at all, has remained confined to mitigation actions – changing internal processes to reduce GHG emission, adopting energy efficiency practices, etc. Some private investments have also been channeled to installing solar and wind power facilities. Participation of private sector actors in adaptation actions and/or partnering the government in mitigation efforts at the grass root has been somewhat limited and unknown. This situation is more or less same in all the countries in South Asia, including Nepal.

Against this backdrop, as the GoN aims at garnering finances from the GCF, it has to take cognizance of the fact that GCF stresses heavily on the inclusion of the private sector in the climate actions. Not only GCF
emphasizes on the fact that the finances from GCF should not substitute or deter investments from the private sector but also stipulates that the deployment of finances from GCF should be used so prudently so as to stimulate private sector participation. This principle has been advocated by GCF given the need for unlocking private sector finances for financing adaptation-mitigation actions (Hamilton, 2009). Hence, it is an imperative for the GoN to incorporate principles in its strategic investment framework that can ensure participation of the private sector in terms of their investments and implementation efforts together with harnessing the technical expertise and professionalism of the private sector to carry the various interventions forward. The expertise of the private sectors brings on board an efficiency change paradigm that may be leverages to execute projects on-time, thus avoiding time and cost overruns, and, also ensure, sustainability of projects through their lives. Thus, the strategic investment framework needs to act as an enabler for including actors from the private sector in GoN’s effort to build a climate responsive development pathway. The private sector may be looked upon as partners to this effort.

For initiating and augmenting private sector participation in the climate actions by the GoN, the strategic investment framework needs to adopt a set of strategies. The general aims of these strategies are: (a) convincing the private sector about the need for their participation, (b) spell out, in clear and unambiguous terms the business opportunities that are ingrained in climate actions; (c) removing hurdles of private sector’s participation; (d) foster an investment grade policy regime so that the perception of risks in the actors from the private sector is partially, or, wholly alleviated. The discussions with the stakeholders in the Government, private sector forums and financial institutions, during the course of this assignment, point to some important strategies that the SIF may consider. These possible strategies are discussed below.

- **Articulate climate actions as ‘business opportunities’**: Private sector can be involved only when they are convinced that there exists an opportunity for doing business. Therefore, the SIF must strive to unearth and communicate, in clear and uncertain terms, the explicit business benefits that are in store for actors in the private sector when they participate in the climate actions proposed by the GoN. This can act as one of the enabling factors for harnessing willingness, finances and capacity of the private sector. This calls for GoN’s effort to identify various benefits accruing to the private sector. Such benefits can be financial or strategic. Financial benefits are return on investments, certain fiscal benefits, etc. On the other hand, strategic benefits may include increased market share, access to new technologies, enhancing markets for products or services, etc. The strategic benefits are merited by the private entrepreneurs as long term means to attain competitive advantage. It is equally important for the SIF to evolve a mechanism to develop market based instruments – both debt and equity to harness private capital in the climate action projects. Also, such a mechanism must ensure smooth take-off of join-sector projects and provide a roadmap to develop fiscal or other incentives that may be used by the private sectors as one of the instruments to maximize their returns on investments. For example, GoN may issue tax-free bonds with an appropriate yield-to-maturity, specifically designed for climate projects. Many private enterprises may such instruments as lucrative investment opportunities. Further, the GoN may provide tax-breaks and/or subsidies to private sectors for their equity investments in climate action projects.

- **Facilitating access to finance by private sector**: In the context of South Asia, including Nepal, it is seen that in many cases although private enterprises, particularly, SMEs may have novel technologies and services that can be integrated into climate actions, the main deterrent is financial constraints faced by the private firms (Ghosh & Ghosh, 2016), (Ghosh & Roy, 2011). Access to adequate finance is a major constraint. However, if adaptation actions are to be broad-based and the full impact of the mitigation efforts realized, it is extremely important that policies of the Government(s) focus on this crucial hurdle and include both large corporates and SMEs in the span of planning.

The financial constraints of the private enterprises in Nepal stems from a number of factors. Some of the important factors are:
a) Private enterprises, particularly, micro, small and medium enterprises are unsure if banks and financial institutions will finance their novel ideas and plans for climate actions.

b) Even if some banks are ready to finance, it is very difficult, at most times, to comply with formalities associated with accessing loans from banks. The transaction cost for the firm escalates and erodes their motivation and anticipated profitability.

c) Most banks stipulate a debt-to-equity ratio, particularly, for term financing. It is difficult for the small enterprises to bring in the desired equity in the form of margin contribution.

d) Most banks in Nepal are still locked-in into a practice of collateral-based lending practice. While this minimizes the risks for banks (as the probability of loss given default reduces considerably, the loan becomes directly proportional to the amount of collateral security that an enterprise can offer. It is an important hurdle for the private enterprises to access debt-finance from banks.

e) In many instances, with the perceived risks in novel and new projects being high the interest rate charged by the banks is considerably high because of the risk premium. This worsens the interest coverage and debt service coverage ratios of a proposed project and deters flow of debt finance to the projects by SMEs.

Therefore, an important strategy that the strategic investment framework should adopt is to create an enabling environment that eases the access to debt finance for small and medium enterprises. One way of achieving this is by providing low cost loanable funds to designated banks and financial institutions for on-lending. The back-to-back financing arrangement may stipulate caps on interest rate/ collateral requirements/ margin (equity) requirements/tenor for advances made by the banks and financial institutions out of such funds. The back-to-back financing arrangement also reduces the cost of funds for banks and hence decreases the base rate on which the risk premium is added. Thus, the overall cost of capital for the private enterprises for investments made in climate action projects.

However, such a plan will entail the authorities designing the strategic investment framework take the Central Bank of Nepal on board as the strategy entails certain reforms in the banking sector. The impacts may also extent to calculation of risk adjusted capital for banks and other prudential norms, extant to the banking sector.

- **Introducing subsidies for climate projects**: Availability of subsidies is expected to stimulate interest among private sectors to explore business opportunities in climate interventions. The subsidies may be in the form capital subsidies and interest subsidies. The Government of Nepal has already experienced, with success, in the case of Revival Fund, how business can be stimulated and regenerated with the help of such subsidies. Needless to mention, such subsidies reduce the cost of the project and promises higher returns on investments for participants from private sector. The presence of such subsidies, with certain stipulations, can also induce private enterprises to remain involved and dedicated to the climate action projects for a considerable period and carry forward the projects. This is expected to maximize the benefits from the interventions.

The strategic framework needs to address this crucial issue. Together with deciding on the types of subsidies, the framework must also accord importance to deciding upon rates and modes of disbursement of subsidies. It is imperative that the subsidies are routed through the banks and financial institutions who have lent to the private sector enterprises so that, on one hand the leakage risks are reduced and on the other, the perceived risks by banks concerning the uncertainty of cash flows (available for repayment of debt and servicing of interest) is partially hedged. However, as before, the strategy necessitates that the authorities deciding on the framework consult banks and financial institutions and also, the Central Bank of Nepal. It would also have to consult the industry associations of Nepal.
• **According status of ‘productive sector’ to climate intervention projects:** In its reconstruction effort, post the earthquake in 2015, the GoN had accorded ‘productive’ status to certain designated industries/sectors and had encouraged investments in these sectors while using the resources of the Revival Fund. Banks and financial institutions were provided a target of soft lending to the enterprises in the productive sector. Borrowing from this experience, with regard to climate interventions, selected industrial activities, directed towards climate actions and/or having synergy with various climate actions may be accorded the status of productive sector. Advances made by banks and non-banking financial institutions to these climate sensitive sectors/industries may be accorded the status of priority sector lending – with targets set and penalties (on default) spelt out. This is expected to motivate banks to lend to these sectors at concessional terms. Such a strategy may be regarded as an integral component of the strategic climate investment framework.

For designing this strategy effectively, the authorities entrusted with preparation of the investment framework have to consult various other institutions – different ministries, local governments, forum of industries, banks and financial institutions, and, last but not the least, the Rashtriya Bank of Nepal.

• **Initiate a process of setting up credit guarantee trust:** Credit risk in climate projects is multi-dimensional. First, the gestation period for such projects can be high. Secondly, returns may start accruing after a considerable delay. And, finally there exists a set of risks in the form of failure of technology, non-acceptance of solutions by user groups, etc. In presence of such risks, financing institutions, particularly lenders may perceive more than acceptable risks in such intervention projects. This impedes flow of adequate debt funds to private sector enterprises desirous of implementing climate intervention projects. Simultaneously, the debt may come with a high cost and hard covenants. Also, there is a possibility of non-willful default by the borrower because of the reasons cited above. Therefore, the investment framework must, by its design, try to partially hedge the risk faced by banks and other lending institutions.

One possible mechanism is initiating a credit guarantee trust that underwrites the debt (upto a certain limit) for non-willful defaults. The trust may be dedicated to climate intervention projects and may be created out of a corpus formed by contribution by the Government, consortium of banks and other lending institutions. The trust may provide credit guarantee (for non-willful defaults) to the lenders. The premium may be borne by the borrower.

The strategic investment framework have to dwell on the exact modalities of creating SPV, managing corpus and assessing extent of loans that may be underwritten and losses compensated for. But, a proper mechanism put in place, can ease the flow of credit to the climate related interventions – both mitigation and adaptation. However, the measure require, apart from creating a new institution, reforms in credit policy by Central Bank of Nepal and therefore, the SIF requires to work in close co-ordination with the Central Bank.

• **Mainstreaming climate considerations in project appraisal by lenders:** One important aspect that can make the economic policies of Nepal climate responsive is to integrate climate considerations during the project appraisal by lenders. This calls for a paradigm shift in the traditional lending practices and project appraisal techniques. Climate benefits (and sometimes, costs) are externalities and are hardly considered at the time of project appraisal. The investment framework must focus on the need for training and capacity building among banks and other lending institutions so that such external benefits and costs are internalized at the time of appraisal of certain specific projects. There are extant guidelines for this - (ADB, 2017), (ADB, 1997), (The World Bank, 1998) and banks and financial institutions need to learn the techniques. There must be adequate emphasis on this. This may help in reducing perception of risks, understand the impacts of the project better and increase flow of debt finance to the climate interventions project.

• **Including village level ‘cooperatives’ in the planning and implementation process:** In Nepal, local cooperatives have proven to be an effective and efficient conduits of flow of agricultural
credit and also monitoring end-uses of funds. With the help of such cooperatives, the Sana Kisan Bikas Bank Limited (SKBBL) has, and is, delivering agricultural credit to the farmers quite effectively – with delinquency rate of not more than 1%. Further, SKBBL has also ventured in forming producers' cooperatives in districts like Jhapa to leverage the potential of tea industry and link farmers to markets and hedge risks arising out of price fluctuations of crops. It has been learnt that the agricultural insurance companies are also exploring the cooperatives as opportunities for broad-basing agri-insurance products. Given the success of the village level cooperatives, it is imperative for GoN to formulate plans to include cooperatives in the planning, financing and monitoring of local adaptation actions. The exact mechanisms need to be worked out.

**Dimension 4 – Promoting an integrated approach:** Climate change actions are inter-disciplinary and cross-sectoral in nature, even one intervention can have benefits spilling over to different sectors and that too, over a long time frame. The results chain is integrated in nature. The examples presented in the case of Bardiya, Dailekh and Mugu point to the integrated nature of benefits. In Bardiya, the intervention in the form of sustainable forest management generates benefits across sectors – livelihood, properties and infrastructure, agriculture, water resources, etc. apart from promoting biodiversity and harnessing mitigation benefits. On a closer understanding of the sustainable water management intervention in Dailekh and Mugu, the spilling over of benefits across sectors is evident. Hence, from climate interventions, multiple sectors benefit.

Recognizing this, promoting an integrated approach to project ideation, planning, implementation, monitoring and evaluation is a mandatory aspect that the SIF must embrace. The SIF is required to promote integrated and inter-disciplinary thinking among ministries and layers of Government. The strategies it may consider for adoption are:

- **Integrated project planning:** It is understood during the discussions with the stakeholders that that the National Designated Authority (NDA), in the case of Nepal, the MoF, will float request for proposal from various stakeholders. Since, the integrated approach must start from the very stage of ideating the intervention, the SIF needs to promote mechanisms to promote concepts jointly prepared by a set of Ministries, Departments, layers of Government and private sector.

  However, this will require inter-ministerial coordination and coordination between different cross-sections of stakeholders – public and private. Further efforts are required for exploring the mechanisms to strengthen the coordination process.

- **Integrated project financing:** As has been discussed earlier, resources may be pooled across Ministries, Department and levels of Government to arrange for co-financing. It is recommended that rather than making the process external, resulting in conflicts, financing plans from pooled funds should be encouraged by the NDA. This will also increase the ownership of projects by various entities. The strategic investment framework may dwell on this issue deeply to explore the mechanisms that can provide a roadmap to pooled financing of climate intervention projects. Certain reforms in the budgeting process may be anticipated.

- **Integrated approach to M&E:** Given the benefits (and costs) of climate intervention projects are cross-sectoral, the SIF must put in place a mechanism for ensuring integrated and coordinated approach to monitoring and evaluation. This would ensure that all necessary expertise are available on board for monitoring impacts in a holistic approach and shortfalls identified. The strategic investment framework has to put in place the provisions long with institutional arrangements upholding the principle of integrated M&E.

- **Foster an integrated and investment grade policy regime:** The discussions above suggest that various policy reforms may be needed to design an effective investment framework for climate actions using funds from GCF and other entities. The inter-disciplinary nature of policy reforms has to be respected. Therefore, from the onset, the SIF must try to bring on board policy makers from various disciplines so that the intended reforms can be achieved. The goal of the investment framework is to
reduce policy uncertainties, conflict between policies and promote an investment-grade policy regime that would induce and encourage investments in the climate interactions by actors from both public and private spaces. While GCF may provide the initial impetus, the mechanism will facilitate Nepal leveraging funds from different sources in the short to long term. The strategic investment framework can prove to be a strategic asset of Nepal in the course of its sustainable development and meeting the common but differentiated responsibilities in the context of climate change.
5. Conclusion

This document on Strategic Investment Framework has been prepared after identifying the required climate interventions in vulnerable districts Bardiya, Dailekh and Mugu. A brief description about the vulnerability assessment has been provided in this document. Subsequently, the investments have been identified and a cost-benefit analysis has been carried out for the interventions identified for the three districts. A brief note on the same has been presented in this document. However, given the investment requirement, an important question for the policy-makers is how to generate sufficient funds – not just for meeting the CAPEX requirements but also for revenue expenditures during the entire life of interventions? This is challenging. The challenge increases as the GoN plans to avail assistance from the GCF – since GCF has certain investment criteria and GoN must conform to the same. This calls for a Strategic Investment Framework for investments in climate actions – using GCF and other funds.

From the strategies recommended as focus areas of the investment framework a number of key points emerge. These are of interest to the policymakers and the salient observations are as follows:

- A sound financing plan needs to be in place – for each project and all projects. The plan must uphold the principle of co-financing and country-ownership. The measure requires intense coordination among funds, their nature of disbursement and devising an effective way of blending finances from various sources.

- Private sector can no longer be a fringe entity. The policies and strategies must ensure that there is sufficient private sector participation. As a matter of fact, all efforts must be directed, in the medium to long run, to unlock the private capital for financing climate actions.

- There is need exploring mechanisms to identify the most efficient ways in which finances can flow from various sectors. The mechanism ought to include all actors in the financial space. With each actor having competing interests and priorities, the framework need to make all economic entities happy with their rational interests satisfied.

- There is a need for policy reforms at various levels of governance and regulation. The reforms should be inclusive – in a way that takes on board all the stakeholders. The framework, if properly designed, can bring forth an investment grade policy regime in Nepal, not just in the context of climate change but in different spheres of development actions.

- Certain institutional reforms are also warranted to facilitate the financing objectives. While old institutions need to be strengthened in terms of capacity and capabilities, some new institutions may be required to ensure a seamless functioning of the climate and development financing system.

These systemic transformations are easier said than realized. It is an iterative process and a time consuming process. Therefore, GoN needs to start the process immediately – carrying out a proper understanding of the AS-IS situation; envisioning a TO-BE situation and then finding out the steps and processes required to bridge the gap. The task is arduous, though not difficult.
References

(n.d.).


