Introduction:
The benefits of integrating disaster risk reduction (DRR) and climate change adaptation (CCA) have been emphasized in the literature for years now. Recently conceptual similarities and differences along with barriers and opportunities to integrate CCA and DRR have been discussed extensively. In 2011, when we started the Hariyo Ban Program (Green and Healthy Forest Program), we found linking these two approaches challenging in policy and practice. There was very little common understanding on the elements or a process for integration. However, as we worked at various levels we saw opportunities to promote integration. This case study presents our lessons in the first three and a half years of the program.

Hariyo Ban is a USAID-funded consortium of four core partner organizations – World Wildlife Fund (WWF), Cooperative for Assistance and Relief Everywhere (CARE), Federation of Community Forestry Users, Nepal (FECOFUN) and the National Trust for Nature Conservation (NTNC) – with WWF serving as the managing partner. The program is working with Government and civil society on reducing threats to biodiversity and adverse impacts of climate change on human and ecological communities. It works on three core, interwoven components: biodiversity conservation, sustainable landscapes, and climate change adaptation; with livelihoods, governance, and gender and social inclusion being important cross-cutting themes. It operates at various levels in two high-value biodiversity landscapes: Terai Arc Landscape (TAL) and Chitwan-Annapurna Landscape (CHAL), complemented by support to strengthen the enabling policy environment at national level.

2. While it is obvious that coordination and collaboration on CCA and DRR is a big step forward, it is important to understand who should lead, and at what level and to what extent coordination is required. These aspects have not been fully discussed yet. One reason for this is that collaboration to integrate DRR and CCA must involve communities, scientists, practitioners and policy makers, as well as DRR and CCA experts, all of whom have distinct and different cultures and draw on different types of information, knowledge and experience.

3. Despite these issues, DRR and CCA have similar aims and mutual benefits. One of the criteria in linking DRR and CCA is that communities, experts and policy makers must communicate and collaborate effectively to ensure a climate resilient development path, reducing climate-related losses through more widespread implementation of DRR measures linked with adaptation. Technical staff from the different sectors must be encouraged to see the synergies between DRR and CCA, and learn each other’s ‘language’ and culture.

4. Mainstreaming CCA and DRR into local development planning is effective for its sustainability and long term results across sectors and levels. In Nepal, integration is possible through the regular local development planning cycle.

Disclaimer: This case study is made possible by the generous support of the American people through the United States Agency for International Development (USAID). The contents are the responsibility of WWF Nepal and CARE Nepal and do not necessarily reflect the views of USAID or the United States Government.

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The CCA component in Hariyo Ban works to reduce vulnerability and promote climate adaptation, taking an integrated approach that promotes climate-resilient livelihoods; reduces disaster risk; strengthens capacity of local civil society and government institutions; builds ecosystem resilience; and promotes advocacy and social mobilization to address the underlying causes of vulnerability.

### Problem description:
Nepal is widely recognized as a country that is very vulnerable to natural disasters. Every year around a 1,000 people are killed by landslides and floods during the monsoon season. Earthquakes, glacial lake outbursts, avalanches, and cold and heat waves frequently impact lives, livelihoods and infrastructure. Nepal is the seventh most vulnerable country in the world for deaths related to floods, landslides and avalanches combined; eighth for flood-related deaths alone; eleventh in terms of vulnerability to earthquakes; and twenty-third in terms of total natural hazard-related deaths. There are fears about a possible major earthquake in the Kathmandu area which could leave more than 100,000 people dead and 300,000 injured. Nepal is also at risk from climate change impacts. Warming trends and increasing temperature extremes have been observed across all Asia regions over the past century. This is advancing more rapidly in the high Himalayas than in many other parts of the world, affecting both people and natural systems.

Climate hazards that are expected to increase in the future include more erratic rainfall, flash flooding, drought, forest fires, and landslides. Nepal is more vulnerable than many countries to climate change because of factors such as its rugged and fragile terrain; high poverty; and low adaptive capacity. DRR and CCA share common themes: reducing vulnerability of communities and ecosystems, and supporting sound development. If action is not taken to reduce disaster risk and climate change vulnerability now, climate impacts are likely to be greatly exacerbated in the future; and building resilience and adaptive capacity will become much more expensive or impossible if once certain “tipping points” are passed.

By the end of Haryo Ban’s third year, more than 400 community-level and 40 village development committee (VDC) -level adaptation plans had been prepared based on CARE’s Climate Vulnerability and Capacity Analysis tool and the Nepal government’s Local Adaptation Plan for Action (LAPA) guideline. All the community adaptation plans included disaster risk reduction measures. Landscape level vulnerability assessment was done in TAL and CHAL following WWF’s Flowing Forward methodology. Communities had started implementing many of the adaptation plans. Despite all these efforts, there were challenges, including whether to integrate disaster risk reduction (DRR) into climate change adaptation plans or vice versa; and how to mainstream CCA and DRR into local development planning in terms of process, tools and policies.

### Interventions that led to learning:
In order to integrate DRR and CCA, the following interventions were conducted:

- Supported trainings, workshops, tours and exchange visits on DRR and CCA for government officials, media persons, community members and civil society at community, district and national levels.
- Supported DRR and CCA integration workshops at community, VDC and districts levels. This encouraged discussion on the policy provisions for climate change adaptation and disaster management, in preparing integrated LAPA and Local Disaster Risk Management Plan (LDRMP).
- Established CCA and DRR resource center and supported integration of CCA and DRR in the school curriculum in a TAL district (Kailali).
- Supported climate-smarting disaster risk management (CSDRM) approach to tackle changing disaster risks including enhancing adaptive capacity, addressing exposure and vulnerability and their structural causes, and promoting environmentally responsible disaster management and development in a changing climate.
- Supported government district line agencies to incorporate climate change adaptation and disaster risk reduction in their annual development plans and encouraged them to provide support in implementation of community and VDC level DRR adaptation plans.
- Encouraged networking for resource leveraging, synergy and collaboration: unpacking the role of different stakeholders towards ensuring effective implementation of adaptation plans integrated with DRR (e.g. through National Network for Community Disaster Risk Management – NCDM).

### Successes and failures:
During the three and half years of project implementation, the following were achievements and failures:

#### Successes
- Local resource persons were successfully trained in CCA and DRR integration at community and district level
- Climate change adaptation integrated with disaster risk management through local disaster risk management committees as per LDRMP guideline, 2011 in selected VDCs
- Support provided to a District Disaster Management Committee (DDMC) to develop district-level DRR and CCA related planning documents, and their implementation
- Capacity of local stakeholders and communities strengthened so they are better prepared to tackle disasters and climate change adaptation impacts in an integrated way
- District and municipality officials are becoming committed to fund CCA and DRR activities. CCA and DRR integrated at community level through ward citizen forum, and presented in village or municipal council for endorsement

#### Failures
- Indigenous knowledge on CCA and DRR not adequately used
- Capacity in the Hariyo Ban Program (on climate smarting, and gender and social inclusion sensitivity) was not used as effectively as it could have been
- Effectiveness of adaptation measures at community and higher adaptation levels were not adequately measured

#### Lessons learned:
1. While there are many similarities between DRR and CCA, there are also differences that are quite distinct e.g. earthquake focused DRR is not climate related. The impacted communities have always not understood the differences well, and there has sometimes been confusion about where synergies start and end. The confusion has hindered communities doing adaptation from embracing DRR, and DRR communities from engaging in climate change policy at all levels. The differences between DRR and CCA approaches have acted as barriers to closer collaboration. The communities need to focus on a shared agenda of resilience building for both human and ecological communities, to overcome these problems.

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6 VDC is lowest administrative unit and covers 9 wards with several villages and settlements
7 Based on a stock-taking exercise on adaptation conducted during 22-24 February 2015 in Pokhara, Nepal