Overview. The CCC, together with its partners, is implementing the Exit Strategy and Sustainability Plan (ESSP) of Project ReBUILD, Phase 1. The ESSP is a 1-year initiative (2017) that seeks to institutionalize the gains during the project’s almost (4) years of implementation (2012-2016) — wherein it has benefitted five (5) pilot localities of (2) provinces in Regions II and VI. LGU partners include the Provincial government of Cagayan Valley, the Municipality of Iguig, and Tuguegarao City for Region II; and the Provincial government of Iloilo, the municipalities of Zaragoza, Dumangas, and Passi City for Region VI.

In earlier years, Project ReBUILD has continuously assisted its pilot sites in the generation and acquisition of critical climate, exposure, and hazard information. Specifically, together with its academic partners, the Cagayan State University (CSU) and the University of the Philippines – Visayas (UPV), it has assisted in providing geo-referenced exposure data; while the University of the Philippines – Diliman (UPD) assisted in the development of a flood model. This was made possible through the collaboration efforts of key agencies that have supported the project in the provinces: DOST-PAGASA, OCD, DILG, DENR-RCBO, NEDA, HLURB, DPWH, PCW, among other equally important agencies, CSOs, and NGOs. Increase in competencies have allowed multiplier effects, such as: (i) Municipality of Iguig taking a lead role in building capacity for neighboring municipalities like Enrile; (ii) academic partners now being tapped by other regions in the conduct of Climate and Disaster Risk Assessments (CDRA); (iii) Provincial and Regional Agencies incorporating learnings from Project ReBUILD in their capacity building activities.

Logic Framework: Pushing forward the Duterte Administration National Agenda. The ESSP of Project ReBUILD attempts to address the gap as identified in the Philippine Development Plan (PDP) 2017–2022, wherein losses and damages are being sustained by the various sector due to natural hazards and climate change. The thrust of the Duterte Administration is for a nationwide roll out of climate vulnerability and risk assessment. The ESSP aims to contribute to achieve the target of completing provision of climate risk information to all localities nationwide to help them do anticipatory planning and anticipatory investment programming. It puts in place sustainability measures to ensure that the benefits derived from the Project ReBUILD take root and flourish by taking a life of its own; meanwhile furthering key items of the new policy set in the Duterte Administration’s Philippine Development Plan (PDP) 2017–2022, particularly Chapters 5, 7, 12, 14, 19, and 20.

Towards this end, it adopts the banner-call: ‘Science should be put to work to safeguard the well-being and continuous growth and development of Filipino communities amidst the uncertainties of climate change.’ The project adopts a ‘learning-by-doing’ approach, by closely working together with its partners in identifying all the necessary steps to transition from a climate-vulnerable locality, into one that is climate-smart (See

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1 The pilot localities along Cagayan River Basin (CRB) and Jalaur River Basin (JRB) were identified based on their exceptional vulnerability to weather-induced hazards.

2 These are: Chapter 5 Ensuring People-Centered, Clean, and Efficient Governance; Chapter 7 Promoting Philippine Culture and Values; Chapter 12 Building Safe and Secure Communities; Chapter 14 Vigorously Advancing Science, Technology and Innovation; Chapter 19 Accelerating Infrastructure Development; Chapter 20 Ensuring Ecological Integrity, Clean and Healthy Environment.
The interventions introduced are very mindful on whether they can be appropriately absorbed and implemented by the LGUs.

**Figure 1.** The interventions introduced are very mindful on whether they can be appropriately absorbed and implemented by the LGUs.

2. Status of Implementation

The project puts great value in information from the grassroots level. Through its learnings including feedback from core partners and collaborators in the pilot localities, the project has drafted a proposed ‘process framework’ (See Figure 2) that is continuously being updated and improved during the course of project implementation.

**Figure 2.** Proposed process framework defining the steps for the transformation from a climate-vulnerable to climate-smart locality.

Invaluable feedback on some core challenges of pilot localities have been identified for each of its three (3) phases: (i) science-based information; (ii) well-adjusted plans and investment program; and (iii) anticipatory actions. Constraints include limitations in formulating a municipal/city based CDRA, particularly when they are part of a larger ecosystem. Experiences on these are being shared by Local Chief Executives (LCEs) who can discern implications of flooding that may have been better managed if interventions were done in the municipalities upstream. Currently, the Provincial Governor of Cagayan Valley is firm that an effective CCA-DRR measure along the Cagayan River Basin would not happen if it is not coordinated with neighboring provinces and region. The Province of Iloilo is preparing a Province wide proposal to do CDRA.

The above, among other challenges, has resulted in the formulation—in close coordination with project partners—of an ESSP action plan that is being implemented to directly address said challenges (See Figure 3). Project ReBUILD aims to fill the gaps, directly experienced at the local level. As such, instead of a roadmap, it is more concerned on plotting a journey map and evaluating whether additional interventions are needed to ensure that LGUs will be able to complete their journey in transforming their locality from being climate-vulnerable to climate-smart.

**Developing a Geospatial Analytics National Platform (GANaP).** While the ESSP is operationalizing assistance for its pilot LGUs throughout all phases of the process framework, a large part of its efforts involves the development, continuous improvement, and preparation for the technology transfer of the Geospatial Analytics National Platform (GANaP) tool. The GANaP is being designed to address some core challenges for LGUs in the process framework through its services. Some of its most significant attributes are the following:

1. **Simplicity.** The outputs for both the CDRA (spatial) and LCCAP (sectoral) are addressed, and data only need to be input into the system. It is user-friendly and greatly reduces the technical competency requirements to produce a high-quality CDRA (i.e., GIS training, environmental planning, etc.). To quote the HLURB Region VI when the project team presented the capabilities and information outputs of the platform to them: “These are exactly the outputs we expect for CDRA.”

2. **Resistant to data corruption and loss.** As an online repository, data can always be retrieved via cloud. (e.g. during Yolanda post-disaster assessment, data was not available via cloud and all hardware and printouts were destroyed).

3. **Importable.** Although an online system, the system data can always be loaded onto a local server, and updated periodically. This will be especially useful if connectivity is an issue for localities.

4. **Interoperable.** Since data need only be input and loaded onto the system, compatibility problems are avoided. Further, additional data set categories, and additional formulas for different outputs and simulations, can be added as desired to suit different purposes.

5. **Rapid assessment.** Results can be immediately generated via matrix with a click of a button. If results cannot be generated due to minimum data requirements not being met, users will be informed as to specific lacking data sets for ease of identification.

6. **Security.** Specific data sets can only be manipulated if the editor has an “access key”. Unique access keys are provided to different public and private entities specific only to the data sets that they are concerned with. The manipulating entity, and date the edit was made is monitored by the system and reviewed.

7. **Integrated.** Once loaded onto the system, the outputs (e.g., maps and matrices) can be viewed (not manipulated) by everyone who has access to the system via cloud. This makes coordinated planning and simulation of scenarios much more efficient, faster, and convenient. In the future, GANaP may be able to integrate data from barangay-municipal/city-province-region-nation.

**Provincial Hub and the Critical Role of Higher Education Institutions (HEIs).** Project findings suggest that managing the process framework, in consideration of its massive scope, demands the services of a core group—that is both multi-disciplinary and multi-sectoral—composed of key participants to the process framework, to ensure the success and sustainability of initiatives during and post Project ReBUILD, Phase 1 implementation. As the localities are in the forefront, a Reliable Technical Support (RTS) present and accessible at the local level is a critical resource. This allows national-level climate change initiatives to better link and respond to local-level initiatives. Empowering the core group with enabling tools such as GAP, enables much more to be done, with much less manpower and technical know-how requirements—and should thereby facilitate the better and more efficient management of the process framework. That said, Higher Education Institutions (HEIs), being the technical backbone of localities, are the central players in the roll-out of the ReBUILD framework. Currently, the ESSP includes facilitating the formation of said core group in pilot sites.