

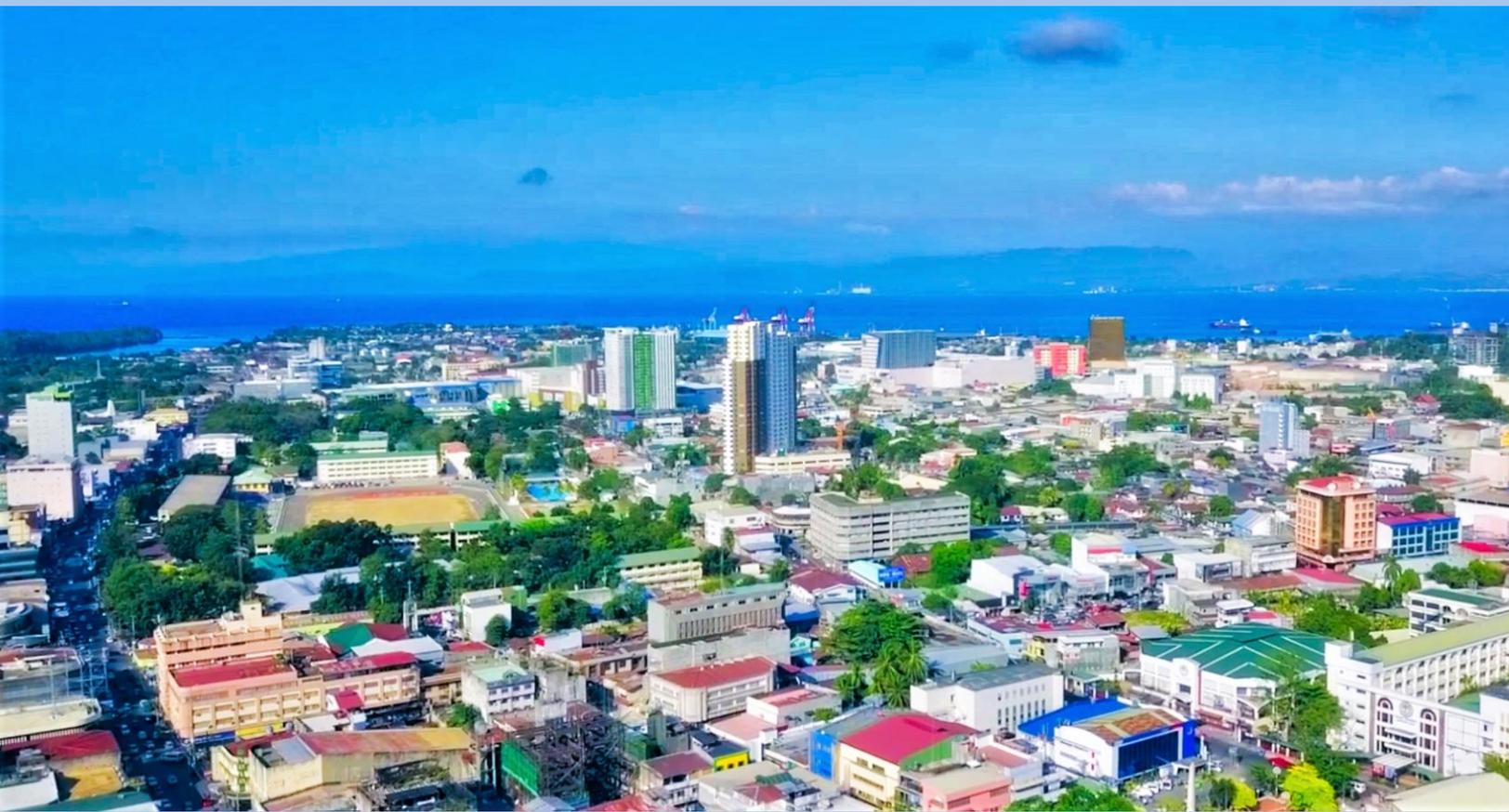


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TECHNICAL REPORT

CLIMATE ADAPTATION MONITORING AND EVALUATION SYSTEM

CAGAYAN DE ORO CITY



August 2019

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CAGAYAN DE ORO

August 2019

Prepared for:

United States Agency for International Development
Adaptation Thought Leadership and Assessments (ATLAS)

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ACRONYMS

ATLAS	Adaptation Thought Leadership and Assessments
CAO	City Agriculture Office (also known as Agriculture Productivity Office)
CCA	Climate Change Adaptation
CDRRMD	City Disaster Risk Reduction and Management Department
CDO	Cagayan de Oro
CLENRO	City Local Environment and Natural Resources Office
CEO	City Engineer's Office
CHUDD	City Housing and Urban Development Department
CLUP	Comprehensive Land Use Plan
CPDO	City Planning and Development Office
CPMEC	City Project Monitoring and Evaluation Committee
CSO	Civil Society Organization
CVA	Climate Vulnerability Assessment
DRRMP	Disaster Risk Reduction Management Plan
GIS	Geographic Information System
HLURB	Housing and Land Use Regulatory Board
LCCAP	Local Climate Change Action Plan
LGU	Local Government Unit
M&E	Monitoring and Evaluation
MECAT	Monitoring and Evaluation Capacity Assessment Toolkit
NCCAP	National Climate Change Action Plan
PAGASA	Philippine Atmospheric, Geophysical and Astronomical Services Administration
PPA	Programs, Projects, and Activities
RBMES	Results-Based Monitoring & Evaluation System
SALT	Sloping Agricultural Land Technology
SURGE	Strengthening Urban Resilience for Growth with Equity
SWOC	Strengths, Weaknesses, Opportunities, and Challenges
TWG	Technical Working Group
USAID	United States Agency for International Development

EXECUTIVE SUMMARY

OVERVIEW

The City of Cagayan de Oro (CDO) faces a number of natural hazards which will likely be exacerbated by climate change, including flooding, landslides, and storm surge. In order to address these hazards, the city conducted a climate vulnerability assessment (CVA) and updated its Local Climate Change Action Plan (LCCAP) in 2019. In order to begin measuring the effectiveness of the activities outlined in the LCCAP, the city will need to improve monitoring and evaluation (M&E) efforts to better understand the outcomes and impacts of the activities. CDO has been undertaking reforms focused on improvements to city management and administration for a number of years. As the city focuses on key reforms, and particularly with the beginning of a third and final term for Mayor Oscar Moreno, city officials can use the results of this M&E capacity assessment and proposed LCCAP M&E system to improve efforts to measure the effectiveness of its LCCAP, ultimately paving the way for a city-wide results-based management system.

RESULTS OF THE CDO M&E SYSTEM CAPACITY ASSESSMENT

CDO does not currently have an M&E system that can measure the effectiveness of city-wide initiatives, or cross-cutting initiatives like climate change adaptation (CCA). While the LCCAP brings together a collection of existing projects, policies and activities (PPAs) that relate to CCA, these PPAs were not formulated explicitly to address the risks laid out in the CVA, and there is no department or person currently tasked with achieving CCA goals or the managing the LCCAP's progress. Despite these structural challenges, the assessment identified a number of positive areas within the domain of M&E, and additional challenges that will need to be addressed in order to implement an M&E system for the LCCAP.

Positive elements of CDO's M&E capacity

Under the leadership of the Mayor and the City Accountant with support from the City Planning and Development Office (CPDO), the city has put significant effort into improving financial reporting and progress monitoring, which was found to be an appropriate first step given the difficulty city staff currently face in collecting basic financial information from various departments. The individual self-assessment also revealed a wide range of skills and experience, with a strong understanding of general M&E principles. Overall, the assessment found that organizational capacity, human capacity for M&E, partnerships and governance, and M&E culture were the strongest elements of CDO's M&E efforts.

Elements of CDO's M&E system in need of strengthening

The monitoring that exists in CDO is primarily focused on financial and physical accomplishment monitoring and reporting, with limited activity output reporting. More robust M&E focused on outputs, outcomes and impacts was found to be lacking city-wide, with limited existing systems that could be leveraged for LCCAP M&E. The assessment found that overall, M&E planning,

routine monitoring, data use and storage (e.g., data quality assessments, data demand, M&E databases) and evaluation were either lacking or functionally nonexistent. While some staff reported more advanced M&E skills and knowledge, the average response to the self-assessment placed respondents between the beginner and intermediate skill levels, indicating that additional human and organizational capacity building will be needed to improve M&E and its use in decision-making.

STRUCTURE OF PROPOSED LCCAP M&E SYSTEM FOR CDO

Using the national Results-Based Monitoring & Evaluation System (RBMES) as a starting point—with its two ultimate outcomes, seven strategic priorities and seven intermediate outcomes—the LCCAP M&E plan aligns local actions with national level objectives, which reduces the number of LCCAP objectives to an actionable number and facilitates reporting across all levels of government.

The organizing principle of the M&E system—the results matrix—is presented below.

LCCAP Ultimate Outcome	Enhanced adaptive capacity of communities, resilience of natural ecosystems, and sustainability of built environment to climate change (NCCAP)			
LCCAP Strategic Priorities	Human Security	Ecological & Environmental Stability	Food Security	Water Sufficiency
LCCAP Intermediate Outcomes	Reduced risk to the population from CC and disasters	Enhanced resilience and stability of natural systems and communities	Availability, stability, accessibility to safe and healthy food ensured amidst climate change	Water resources sustainably managed and equitable access ensured
Output Areas (PPAs/Policies)	<ul style="list-style-type: none"> Resettlement / Conversion of danger zones (PPAs 3, 9) 	<ul style="list-style-type: none"> Reforestation (PPAs 1, 2, 8, 9) Rehabilitation of marine area and rivers (PPAs 4, 6, marine ordinance) 	<ul style="list-style-type: none"> Agricultural infrastructure (PPA 10) Agroforestry (PPA 7) Sustainable fishing (PPA 6, fisheries mgmt. ordinance) 	<ul style="list-style-type: none"> Reforestation (PPAs 2, 8) Agricultural infrastructure (PPA 10) Water management policies

Under each level of the results matrix are output and outcome indicators (25 in total) that directly relate to a PPA, each with a corresponding Indicator Fact Sheet (found in Annex A) that provides in-depth background information for each indicator, including precise definitions and data collection methods and sources. The system also provides guidance on developing context indicators, the timeframe for implementation, data management practices, reporting, using the M&E system for management decisions, and evaluation and research.

RECOMMENDATIONS FOR CAGAYAN DE ORO AND DONORS TO SUPPORT CLIMATE ADAPTATION MONITORING AND EVALUATION

The recommendations below—covering M&E planning, strengthening organizational and human capacity, improving routine monitoring, increasing the use of evaluations in management, and strengthening the city’s CCA capacity—address the gaps noted in the M&E assessment and

work toward building the city's capacity to undertake M&E across all departments. Donors, either through short-term support, or longer-term engagement, have an opportunity to assist the city with many of these recommendations by providing technical assistance, training, and the resources the city needs to implement these activities.

ESTABLISH A RESULTS-BASED M&E FRAMEWORK AND BUILD M&E CULTURE

- Identify a list of city-wide standard indicators (general indicators, not CCA-specific) that each department would report on semi-annually and incorporate these indicators into future planning documents.
- Create a basic M&E plan to accompany the Mayor's PRIMEHAT agenda, with a results framework and a simple, Excel-based indicator tracking table.
- Implement regular data collection, led by CPDO with the cooperation of the departments' focal points for M&E, and share progress against targets city-wide.
- Conduct bi-annual performance meetings with department heads to review indicator data and make programming decisions to ensure departments (and the city) are on track to meet targets and overall goals.
- Once a results-based M&E system is in place, the CCA M&E system should be integrated into the city-wide M&E system.

STRENGTHEN INSTITUTIONAL STRUCTURES

- Consider restructuring the City Project Monitoring and Evaluation Committee (CPMEC) to incorporate routine monitoring of outputs and outcomes into its current process. Two options to strengthen the CPMEC include:
 - Separate CPMEC into three separate committees for the infrastructure, social and economic sectors, which would allow the committees to cover both financial and M&E oversight.
 - Form a second CPMEC that focuses exclusively on results-based monitoring and evaluation, led by CPDO.
- Appoint a department to manage the LCCAP, with defined responsibilities and the authority to request data from other departments.

ALIGN STAFF RESPONSIBILITIES AND BUILD CAPACITY

- Consider hiring an M&E officer for each department with clearly defined roles and responsibilities to provide adequate attention to gathering quality data and reporting.
- Recruit a local CCA specialist to serve as the primary technical resource for the city.
- Develop an M&E training strategy to ensure that all staff with M&E responsibilities understand basic concepts of routine monitoring, data quality standards, data management, GIS, and evaluation.
- Develop (or continue to develop) M&E experts the city can turn to for more complex undertakings (such as building M&E results frameworks, crafting indicators, developing

scopes of work for evaluations, and delivering basic M&E training), and provide these experts with more intensive and ongoing advanced M&E training.

USE EVALUATIONS TO ASSESS IMPACT AND MAKE MANAGEMENT DECISIONS

- Create city-wide research and evaluation agendas. For the LCCAP specifically, focus on baseline assessments for the listed PPAs and schedule regular updates to the CVA and hazard maps (e.g., flood, storm surge, landslide).
- To address immediate needs, consider hiring a third-party firm that specializes in evaluations and impact assessments. For longer-term sustainability, the city should identify local partners such as Xavier University or the National Economic and Development Authority that can assist with evaluations.
- Outcome-level performance reviews and discussions of results and data should be incorporated into regular meetings with staff to demonstrate the importance of data for decision-making.

STRENGTHEN MONITORING

- The City Disaster Risk Reduction and Management Department (CDRRMD) would be an ideal candidate to pilot a results-based M&E system within city government, given the department's dedicated funding source, and well-developed plan and M&E framework.
- Develop site visit standards, protocols and forms, provide training on conducting site visits, and use field notes to inform CPMEC discussions about the project performance and provide additional data for indicators.
- Digitize data collected through field visits, and develop data storage standards either through a dedicated M&E computer or central database, or by developing data storage protocols to ensure data are being treated uniformly across all departments.

IMPROVE CCA PLANNING

- Update the city's CVA before any subsequent updates to the LCCAP, preferably using a third-party with expertise in CVA, and involving the Ateneo University system (e.g., Manila Observatory), the Climate Change Commission and the National Disaster Risk Reduction and Management Council through the Office of Civil Defense.
- Continue to regularly update hazard maps, and document any changes made to the methodology to allow for future interpretation of trends.
- If possible, identify a dedicated funding stream for LCCAP activities, or develop a policy of prioritizing funding for the LCCAP PPAs based on anticipated CCA impact. Potential for CCA impact should be used as one of the primary criteria in selection of PPAs in order to maximize CCA funds.
- Ensure that each PPA produces monitoring and evaluation data, and necessary M&E activities should be costed and budgeted for in each PPA's budget.
- Define the CCA objectives for each PPA in future versions of the LCCAP, and develop indicators that measure progress toward the CCA objective.

INTRODUCTION

While an increasing number of cities have completed CVAs and have developed CCA plans, fewer have moved beyond the planning stage to implement the actions identified in completed assessments or plans. For cities like Cagayan de Oro (located in Mindanao, Philippines) that have developed an action plan and are implementing (or are ready to begin implementing) risk reducing initiatives, there is a need to put in place a system to track the effectiveness of those actions.

CDO faces a number of challenges and disincentives to implementing a CCA M&E system, including:

- Limited internal capacity to assess climate change vulnerability, and to evaluate, prioritize and implement CCA responses;
- Absence of a well-defined coordination body needed to operationalize the LCCAP in order to achieve CCA goals;
- Limited access to the financial resources necessary to scale-up adaptation M&E across departments;
- Limited existing capacity and human resources to monitor and evaluate the effectiveness of the adaptation responses CDO implements over short- and long-term time scales.

The purpose of this document is to summarize the results of an assessment conducted in April 2019 that examined CDO's capacity to monitor and evaluate its CCA efforts and, specifically, activities implemented as part of the city's LCCAP¹. Based on the findings of the assessment, the document then presents an M&E plan for the LCCAP, provides detailed recommendations to the city to strengthen its M&E efforts, and provides recommendations to donors such as USAID for supporting CDO's M&E efforts, particularly for climate change adaptation.

The report is structured as follows:

- Section 1: Results of the CDO M&E system capacity assessment
- Section 2: Proposed M&E system for CDO's LCCAP
- Section 3: Recommendations to CDO and to donors, specifically USAID/Philippines

¹ Please note that CCA efforts listed in the LCCAP are often also listed in other city planning documents, including the Disaster Risk Reduction Management (DRRM) Plan, and the Comprehensive Development Plan (CDP).

SECTION 1: CAGAYAN DE ORO M&E SYSTEM CAPACITY ASSESSMENT

CDO was chosen as a pilot city to develop a CCA M&E system after a scoping trip to the Philippines in December 2018. CDO was selected for the pilot based on seven criteria: (1) Quality of climate change evidence; (2) Connection between evidence and climate change actions listed in the LCCAPs; (3) Local government continuity; (4) Capacity of four key departments (CPDO, City Local Environment and Natural Resources Office [CLENRO], CDRRMD, City Engineer's Office [CEO]); (5) The city's existing M&E capacity; (6) Synergy between the LCCAP and CDRRMP; (7) Involvement of the private sector and academia.

The USAID ATLAS team then conducted a rapid M&E assessment in CDO in April 2019 as the first step in an effort to develop an M&E system for the city's CCA activities. During the assessment, the team met with key staff across a range of departments, as well as key contacts from civil society organizations (CSOs) and academia to collect information about the city government and its institutional structure, roles and responsibilities of staff, and the city's M&E system in order to inform the M&E assessment (see Annex D for full list of interviews).

The objective of this assessment was to document the existence and functionality of the city's plans, structures, and tools for CCA M&E, as well as organizational and staff capacity to take on M&E related tasks. The assessment was conducted as a baseline, to which later assessments can be compared.

METHODOLOGY

The M&E assessment took place April 1–5, 2019 in CDO, and was conducted by an M&E Specialist and a CCA Specialist from the USAID ATLAS project. While the M&E assessment was framed by the LCCAP, the assessment focused on the capacity of the local government unit (LGU) to monitor and evaluate the activities listed in the LCCAP, not on the LGU's overall capacity to design and implement CCA activities, as the former was the focus on ATLAS' activity. The assessment was comprised of three parts:

- 1) A review of background documents related to CCA and M&E, including the following key documents:
 - Cagayan De Oro City Local Climate Change Action Plan working draft (dated 02/13/19)
 - Cagayan De Oro City Local Disaster Risk Reduction and Management Plan 2017 to 2021

- UN HABITAT Cagayan De Oro City Vulnerability and Adaptation Assessment Report (2014)
 - Cagayan de Oro City Updated Comprehensive Development Plan 2017-2019
 - National Climate Change Action Plan Results-Based Monitoring & Evaluation System 2011-2028
- 2) The assessment team adapted the USAID MEASURE Evaluation Project’s Monitoring and Evaluation Capacity Assessment Toolkit (MECAT) for use in the assessment. The MECAT was originally developed for use in assessing the capacity of health agencies, which typically have well developed M&E systems; therefore, the assessment team adapted the Excel-based scoring tools for cities with limited M&E capacity, removed sections that did not apply, and focused questions on CCA activities. The MECAT is comprised of two primary assessment tools (topics covered are listed below in Table 1):
- A group assessment tool that examined the overall M&E capacity of the city. The inputs for this tool were primarily derived from a mini-workshop held on April 2, 2019 with 11 staff from CPDO. For each topic, staff were asked to describe the presence or nature of specific factors using ordinal categories.
 - An individual capacity self-assessment tool which was administered via online survey, and received 15 responses (out of 19 invitations) from five departments.
- 3) Key informant interviews were conducted with 29 personnel from a wide range of city departments, CSOs, academia, and local donor-funded projects, including: the Mayor’s Office, CPDO, City Accountant’s Office, City Budget Office, CEO, CLENRO, CDRRMD, the City Agriculture Office (CAO) and the City Housing and Urban Development Department (CHUDD). In addition, the team met with Xavier University, the Macajalar Bay Development Alliance, the Cagayan de Oro River Basin Management Council, UN HABITAT’s Building Climate Resilience through Urban Plans and Designs (BCRUPD) Project, and the USAID Strengthening Urban Resilience for Growth with Equity (SURGE) project. An interview guide was developed to help the assessment team cover the same topics from the assessment tool.

Table 1. Topics of M&E Capacity Assessment

TOPICS FOR SYSTEMS		TOPICS FOR INDIVIDUALS
Organizational Capacity	Routine Monitoring	M&E General Competency
Human Capacity	Surveys & Surveillance	Data Collection & Management
Partnerships & Governance	Databases	Evaluation
M&E Plan	Data Quality Assessment	Data Analysis, Dissemination & Use
Costed M&E Work Plan	Evaluation & Research	
Culture	Data Demand & Use	

FINDINGS

The findings of the assessment are organized in three sections: (1) Overall Observations; (2) Assessment of CDO’s M&E Systems; and (3) Individual Self-Assessment of Staff Capacity.

OVERALL OBSERVATIONS

The team made three key observations that underpin the overall results of the assessment.

(1) City government staff use the term “M&E” to reference financial and physical accomplishment reporting, which is a less robust definition of M&E. M&E is typically understood to be focused on tracking activity outputs and outcomes so that the effectiveness of activities can be measured and projects can be adjusted accordingly. This different definition means that a review of CDO documents or a conversation with staff can leave the impression that CDO has a well-developed M&E system, whereas very little output (and no outcome) monitoring and no evaluation was found to be occurring at the city level. While the CPMEC was formed and meets regularly, it is chaired by the City Accountant and its focus is on reviewing projects for financial performance and ensuring that work is verified before payments are authorized. Accordingly, M&E staff who work in CPDO support the CPMEC financial review, and have additional GIS duties, but have no tasks related to higher level monitoring or evaluation (i.e. monitoring activity outputs and outcomes). The assessment team found the city’s current prioritization of financial and physical accomplishment tracking to be understandable given that these areas have been a weakness until recently.

(2) There is currently no M&E plan for the LCCAP and no general M&E system that could be leveraged when developing a CCA M&E plan. While the national government requires an LCCAP, formulation and management of the plan is entirely local. CCA efforts are intended to be mainstreamed, with no designated authority responsible for achieving results on a day-to-day basis and no dedicated source of funding. UN HABITAT provided technical assistance to the city to revise the LCCAP in 2019, but there is no clear internal process to manage the LCCAP once approved. The Mayor and the CPMEC have nominal responsibilities for the LCCAP, but functionally do not have the time or processes to oversee the plan; instead, the LCCAP names nine departments and 22 individuals who are responsible for the activities listed in the plan. Currently, these nine departments have PPAs or policy plans that fit the criteria for inclusion in the plan, but the departments manage these efforts independently and have no obligation to prioritize or report CCA-related performance.

The purpose of M&E is typically to support decision-making by managers, or to demonstrate the effectiveness of activities. In the case of the LCCAP, the lack of management structure limits the usefulness of any M&E that is conducted. If there was a requirement to report on LCCAP progress, there may be some pressure to define and implement an M&E system, but currently there is no such requirement. The assessment team noted that throughout the LCCAP development process, the working group sensibly avoided creating new objectives or targets; instead, the LCCAP lists relevant objectives and activities that are found in other city plans, such as the City’s Comprehensive Land Use Plan or the Comprehensive Development Plan.

(3) CDO puts far more effort and attention into disaster risk reduction and management (DRRM) when compared to CCA (see Table 2). CDO has a fully-staffed CDRRMD that holds quarterly management meetings. The City Disaster Risk Reduction Management Council, which is comprised of CSOs and private sector representatives, oversees the CDRRMD. The office is

supported by a Local Disaster Risk Reduction and Management Fund (LDRRMF), which is funded by an LGU set aside of 5 percent of the budget, as mandated by the national government. The CDRRMD has its own implementation plan with a robust M&E plan, which was supported by the USAID Be Secure Project, and is required to report up to the national level. However, despite these advantages, the CDRRMD has yet to operationalize these routine monitoring indicators, struggles to collect the necessary data from other departments, and does not conduct evaluations. This suggests that developing an M&E system for the less well-resourced issue of CCA—particularly in the absence of a strong mandate and coordinating body—will face significant challenges.

Table 2. Comparison of LCCAP and DRRMP Potential for Monitoring and Evaluation

	LCCAP	DRRMP
Authority	No individual or central coordinating department functionally managing LCCAP	CDRRMD Department Head clearly mandated to implement CDRRMP
Funding	No dedicated funding source	Local Disaster Risk Reduction and Management Fund
Staffing	No dedicated staff	Staffed to implement DRRM
Demand	No demand for results	Demand from multiple levels (national, regional and local)
Reporting Requirements	No progress reporting requirement	Quarterly meetings; reporting requirement through the Office of Civil Defense
M&E Status	No M&E plan	M&E plan exists but not implemented

ASSESSMENT OF CDO'S M&E SYSTEMS

Following the format of the MECAT, the systems assessment examined 12 domains that would be found in a typical robust M&E system. In interviews with the assessment team, city leaders widely acknowledge that CDO is in a nascent stage of M&E development and lacks basic elements of an M&E system, but also pointed to growing awareness and interest. The results of the assessment confirm this understanding; three of the 12 domains were judged to have met none of the criteria, meaning that the domain is not considered in a systematic way. An additional five domains were found to meet only one requirement partially, while four domains met several of the requirements partially or in full. Of the 62 evaluated statements across all twelve domains, 44 received a score of zero, meaning that 71 percent of the M&E elements assessed were found to be missing in CDO (see Table 3).

Table 3. Summary of Scores for the 12 Domains of the M&E Systems Assessment

ZERO SCORES FOR THE DOMAIN	ZERO SCORES, WITH ONE EXCEPTION	MIXED SCORES FOR THE DOMAIN
Evaluation and Research	Organizational M&E Plan	Organizational Capacity
Data Quality Assessment	Survey and Surveillance	Human Capacity for M&E
Costed M&E Work Plan	Data Demand and Use	Partnerships and Governance
	Routine Monitoring	Culture
	Databases	

The results of the systems assessment are described by domain below, beginning with the strongest performing areas.

Mixed Scores / Partial Capacity

Organizational Capacity: This domain is concerned with the presence of a mission statement and goals for CCA, along with a well-structured and functional M&E unit. While the assessment team found language with broad CCA goals, it is not specific and clear. In this domain, CDO gets credit for regular CPMEC meetings, which are chaired by the City Accountant, but scores zero in M&E planning and management, given that the CPMEC is concerned with financial and physical reporting. CPMEC does not take up results-based M&E in practice, and members do not have clear responsibilities for M&E.

Human Capacity: The human capacity domain has some overlap with the individual staff capacity assessment, discussed later in more detail. In this domain the assessment team notes that while individual staff do have competency on key M&E issues, there is no systematic training for M&E (outside of financial reporting) or data quality assessment.

Partnerships and Governance: In this domain, CDO gets credit for having a functional Technical Working Group (TWG) with relevant stakeholders and some policies that mention M&E functions. However, the score for this domain is reduced due to the lack of standard operating procedures and a reporting mechanism.

M&E Culture: Several staff with responsibilities for collecting data from other departments stated that they faced an underappreciation for data and a reluctance to share data in a timely fashion. These challenges were noted to be pervasive, particularly among long-tenured staff. This long-standing problem was cited as a major barrier to efforts to improve M&E. Under the current administration, there has been an effort to professionalize the workforce and standardize planning and processes, including hiring new staff with an appreciation for and experience with M&E; therefore, this domain receives mixed scores.

Low Capacity

Routine Monitoring: Historically, there has been no system for monitoring indicators across the city. Only in recent years has the Mayor requested annual reporting on indicators from departments, and reporting is not yet systematic. The CEO described performing routine monitoring of construction progress and quality in order to verify work for payment of invoices. The CAO, CHUDD and CLENRO similarly described routine monitoring of project progress, indicating that some departments do monitor activities. However, the practice is not universal or systematic, and is limited to physical progress (i.e. rate of accomplishment of infrastructure projects).

M&E Plan: There is no M&E plan for the city, or for the LCCAP. However, the city scored positively for the category “current M&E system has been assessed” due to this assessment.

Surveys and Surveillance: CDO staff may monitor relevant surveys and surveillance but there is no central tracking of results in a way that is easily accessible.

Databases: There is no central or departmental database of output and outcome indicators. However, some individual staff maintain basic financial and progress reporting databases on their personal computers; therefore, this domain received partial credit.

Data Demand and Use: There are no formal plans for data analysis or use. However, anecdotal examples exist of staff sharing data and fulfilling data requests, and data are shared on a request basis with relevant stakeholders.

No Evidence of Capacity

The following elements were not found in CDO. It should be noted that these are among the more advanced elements of an M&E system. The city may logically choose to strengthen other domains before addressing these missing elements.

Evaluation and Research: There was no evidence of evaluation or assessments conducted by the city, and no city-wide research agenda, although a research agenda is planned.

Data Quality Assessment: The city does not follow a process to assess data quality; this domain received a score of zero.

Costed M&E Work Plan: There is no costed M&E work plan; this domain received a score of zero.

Overall, there is evidence of basic capacity for M&E within CDO, but there is no existing system into which the LCCAP could be easily integrated. Under the leadership of the Mayor and the City Accountant with support from the CPDO, the city has put significant effort into improving financial reporting and progress monitoring, which was found to be an appropriate first step given the difficulty city staff currently face in collecting basic financial information from various departments.

INDIVIDUAL SELF-ASSESSMENT OF STAFF CAPACITY

This section describes the result of the Individual Self-Assessment of Monitoring and Evaluation Capacity survey, as well as observations from the individual and group interviews.

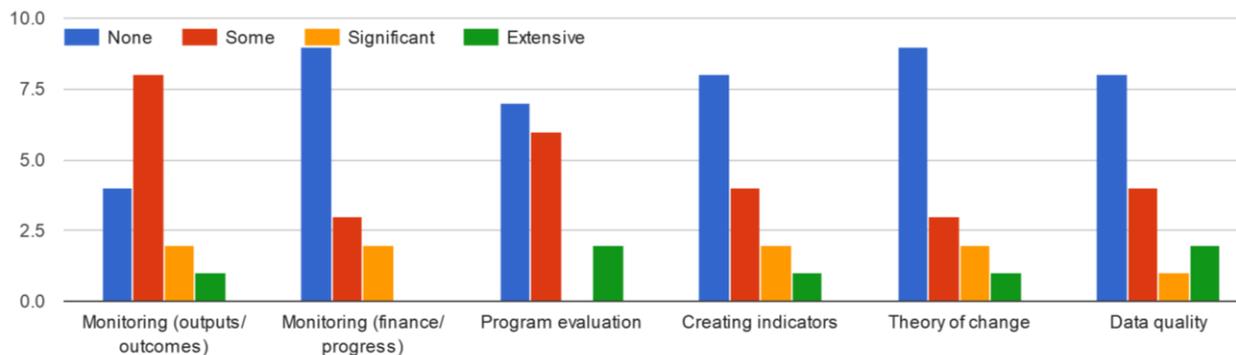
The assessment team received 15 survey responses (5 female and 10 male, out of 19 invitations) from five departments. The assessment was conducted via a Google Forms survey sent directly to interviewees in a follow up email, and asked respondents to provide basic information about their experience with M&E, their role with M&E, the amount of M&E training received, and to self-assess their capacity in four categories: M&E General Competency; Data Collection & Management; Evaluation; and Data Analysis, Dissemination & Use. Respondents ranked themselves on the following scale:

- Advanced (numerical equivalent: 3)
- Intermediate (numerical equivalent: 2)
- Beginner (numerical equivalent: 1)
- No experience/awareness (numerical equivalent: 0)
- Not applicable/unsure (numerical equivalent: 0)

Work experience and experience with M&E: 67 percent of respondents reported working for five or fewer years in CDO city government, highlighting that significant effort has been made recently to expand staff resources and replace underperforming staff. Seventy-three percent reported five or fewer years of experience with financial and progress monitoring and reporting, and 67 percent reported five or fewer years of experience with output and outcome monitoring and reporting, including 33 percent reporting zero years of experience.

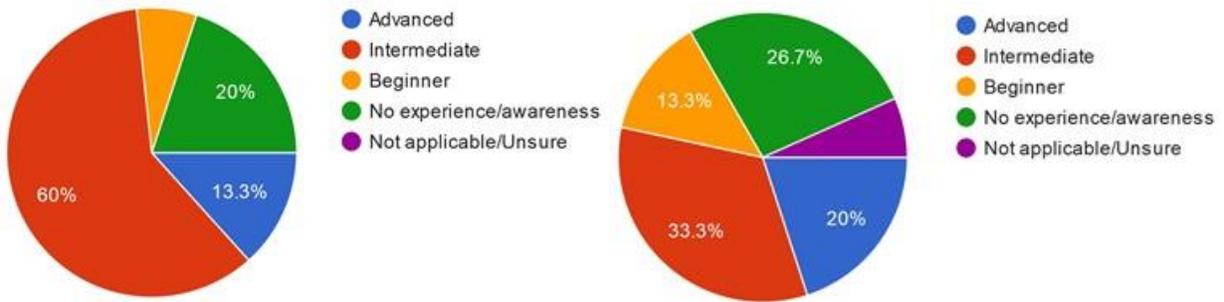
Training. Staff largely reported receiving either no or some (minimal) training in various topics related to M&E system development and implementation (Figure 1). Given the capacity gaps noted in the M&E systems assessment, additional training for staff should be a priority.

Figure 1. Amount of training received on topics related to M&E



M&E General Competency. Scores in this section averaged 1.5 out of 3 across 10 questions, indicating that the overall self-assessment of M&E competency is between the beginner and intermediate levels. The highest scores fell under questions that reflect the type of M&E the city is currently engaged in, namely: (1) Understands the role of qualitative methods (e.g., visiting project beneficiaries and local officials) in program management, and (2) Understands the financial and human resources needed to monitor project results. Similarly, the lowest scores fell under questions that reflected gaps captured in the system assessment, namely: (1) Understands the role of quantitative data methods (e.g., survey data, beneficiary data) in program management, and (2) Experience determining appropriate targets for output and outcome indicators (Figure 2).

Figure 2. Respondent understanding of the role of qualitative (left) and quantitative (right) data methods in program management



Data Collection and Data Management Competency. Scores in this section averaged 1.4 out of 3 across four questions, indicating that the self-assessment of data management competency is just above the beginner level. Respondents indicated a higher level of competency regarding the design, collection and use survey data, and lower levels of competency regarding data management requirements and the development and use of tools for routine monitoring of project outcomes and outputs.

Evaluation Competency. Scores in this section averaged 1.1 out of 3 across two questions, indicating that experience with evaluation is very limited in CDO. More than half of respondents indicated that their understanding of the role of evaluation (e.g., mid-term assessments, impact assessments, final program assessments) in program management is at an intermediate level or higher, however less than a quarter of respondents reported significant experience managing the evaluation process (e.g., developing terms of reference, contracting with a third-party, evaluating deliverables), and one third of respondents reported no experience in this area.

Data Analysis, Dissemination, and Use Competency. This set of questions focused on using data analysis methods and tools to analyze data and using those data in decision-making. Scores in this section averaged 1.3 out of 3 across seven questions. Responses varied considerably, typically either falling under intermediate or advance knowledge, or no experience. Producing and compiling data to meet the needs of key decision makers was the area with the highest reported capacity, and experience using quantitative or qualitative data analysis to answer questions about overall program effectiveness was the area with the lowest reported capacity. This capacity gap can perhaps be attributed to staff position in the organizational hierarchy, with more senior managers reporting stronger capacity in evaluation of program effectiveness.

The individual self-assessment revealed a wide range of skills and experience, with a seemingly strong understanding of general M&E principles, but lacking in the specific skills and experience necessary to develop and implement a robust M&E system. The average response to the self-assessment placed respondents between the beginner and intermediate skill levels, which aligned with the systems assessment, and the overall impression gained from individual interviews.

Strengths, Weaknesses, Opportunities, Challenges (SWOC) Analysis

The assessment team performed a SWOC analysis of the city's capacity to conduct routine M&E in general (Table 4) and to conduct M&E for the LCCAP specifically (Table 5). Below is a summary of SWOC analyses for both scenarios.

Table 4. SWOC of CDO's M&E Capacity

STRENGTHS	WEAKNESSES
There is a functioning CPMEC with regular meetings and relevant attendees.	CPMEC is focused on physical and financial completion of projects for payment purposes and does not have the capacity to take on outcome monitoring or evaluation.
CPMEC monitors physical and financial completion of projects with the help of an inter-departmental TWG.	CPMEC faces compliance challenges with departments reluctant to provide basic data.
In-house GIS capabilities, including trained staff.	There is no M&E unit or dedicated M&E staff in each department.
Mayor, City Accountant and CPDO have interest in strengthening M&E.	There is no city-wide routine monitoring of outputs or outcomes, and no indicator reporting aside from ad hoc reporting on PRIMEHAT.
Leaders feel there are sufficient staff to take on additional responsibilities, such as routine monitoring.	No examples of the city conducting evaluation; evaluation conflated with consideration.
LGU has relationships with many stakeholders and can access and influence some data; Mayor wants to create a research agenda.	Lack of formal and routine sharing of data; lack of evaluation and research agenda.
New staff seem open to M&E and are aware of its role in program management.	Cultural challenges with staff appreciating and practicing monitoring for learning and improvement.
OPPORTUNITIES	CHALLENGES
LGU has flexibility to design its own reporting structure.	Little demand for results or data from national government.
CSOs and media are active and demand accountability.	City leaders face many competing challenges, and M&E may seem too onerous to tackle and too low pay-off.
Systematizing PRIMEHAT reporting would help create a city-wide process.	
The current Mayor won a third (and final) term in May 2019, and by a sizable margin. There is an opportunity to embark on a multi-year M&E strengthening effort.	

Table 5. SWOC of CDO's ability to monitor & evaluate LCCAP

STRENGTHS	WEAKNESSES
LCCAP draws on a strong CVA.	LCCAP does not have clear goals.
LCCAP TWG involves all relevant departments.	No one department or person has accountability for LCCAP goals.
LCCAP consists largely of funded or priority (but as of yet unfunded) actions.	No funding for LCCAP or M&E; limited ability to respond to M&E findings.
OPPORTUNITIES	CHALLENGES
Xavier University and other local organizations have relevant data to share and can assist with analysis.	CCA is not a top issue for any external stakeholder.
The LCCAP is in the process of being revised during the first half of 2019, meaning the actions listed are current and there is momentum behind the plan.	There is a no national level reporting requirement for the LCCAP, meaning demand for results must come from the LGU.

CONCLUSIONS

GENERAL CAPACITY FOR M&E

CDO currently does not have an M&E system that can measure progress of city-wide initiatives, or cross-cutting initiatives like CCA. The CPMEC has a mandate to monitor outputs and outcomes, but no staff, tools or processes with which to do so; instead, the city is understandably focused on improving financial reporting and tracking physical progress to ensure projects are completed. On the other hand, the city does have many strengths that could be leveraged to create an M&E system. CPDO alone cannot institute results-based M&E; it will require prioritization from the Mayor’s Office, cooperation from department heads, and some technical assistance and resources as the system is set up. The recommendations section (section 3) provides specific actions the city can take to begin building an M&E system, and recommendations for donors who wish to support this effort.

CAPACITY TO UNDERTAKE M&E FOR THE LCCAP

The LCCAP brings together a collection of existing projects and policies that relate to CCA but were not formulated explicitly to address the risks laid out in the CVA. There is no department or person currently tasked with achieving CCA goals or the managing the LCCAP’s progress, nor is there any demand for results from the national government or any other authority. Without CCA funding to program, there is no opportunity to make strategic decisions about what activities best achieve CCA objectives. M&E data could be used to improve the CCA effects of existing programs, however this would require the LCCAP TWG to have influence over other department’s management decisions, which would be difficult given the nature of the TWG as an advisory committee.

Going forward, particularly as climate change continues to threaten the city’s well-being, there could be a need to create a CCA office (under the Mayor’s office, for example) or to designate one department as the lead on CCA, with oversight of the LCCAP and responsibility to coordinate its implementation. With funding, a CCA office could fill gaps in programming identified by the LCCAP. If held accountable for results, a CCA office head might have more power to demand data sharing from other departments. With authority, funding, and demand for results, a CCA manager responsible for implementing the LCCAP could use the M&E plan outlined in the next section.

WHAT CONSTRAINTS UNDERMINE EFFORTS TO ESTABLISH AN M&E SYSTEM?
Situations where an M&E system may be of limited use without additional support:

- No demand for results
- No unit or person responsible to achieve results
- No ability to change programming in response to M&E findings
- No clear objectives
- No resources to gather and analyze data / no access to necessary data

SECTION 2: PROPOSED LCCAP M&E SYSTEM

The M&E system described in this section was developed to measure implementation of CDO’s LCCAP, and is based on the National Results-Based Monitoring and Evaluation System (RBMES). The ATLAS team recognizes that CDO does not currently have the structure or resources to implement a full M&E effort. The proposed system contains some elements which may be implemented in the current environment as well as some elements that represent the next logical step should the city take additional steps to manage the LCCAP.

BACKGROUND

The city of CDO developed the LCCAP as a requirement of the 2012 Climate Change Act, known officially as Republic Act No. 9729. Like many cities, particularly secondary cities, CDO does not have a dedicated office for CCA. UN HABITAT is leading the LCCAP revision process, convening representatives of many relevant city departments to revise and update the plan. The revised CDO LCCAP, which was awaiting approval as of August 2019, includes sections which summarize the risks, list CCA-related objectives, and list existing PPAs and policy plans that meet the national government’s criteria for NCCAP inclusion. This document does not go into the details of the LCCAP (Table 6 briefly describes the content, Table 7 summarizes the proposed PPAs and policies), however this document should be considered an attachment to the LCCAP as it cannot function separately from the LCCAP.

It is important to note that CDO’s LCCAP does not establish any new objectives or initiatives, in keeping with the lack of a CCA funding stream. CCA is mainstreamed and has no governing body, therefore the plan represents a synthesis of existing objectives and actions from other departmental plans. Similarly, this LCCAP M&E system draws from existing data wherever possible.

Table 6. LCCAP Content and PPAs

LCCAP SECTION	DESCRIPTION
Background (5 pages)	City and city government information.
Risks (13 pages)	A Vulnerability and Adaptation Assessment highlighted projected changes in the environment and major risks.
Plan Objectives (4 pages)	A list of 50 CCA-related objectives found in other plans.
PPAs & Policies (12 pages)	A list of 10 Programs, Projects and Activities and 10 additional proposed policy actions related to CCA.

Table 7. List of Proposed PPAs and Policies

PPAs	<ol style="list-style-type: none"> 1) Eco park development from decommissioned city controlled dumpsite 2) Afforestation and reforestation of identified forest growth areas 3) Cagayan de Oro resettlement action plan 4) Reforestation and nursery in coastal barangays; installation of sustainable wave breakers in strategic coastal areas 5) Adoption of sustainable transport system: identification of sustainable mobility solutions through a transport study 6) Implementation of the integrated coastal resources management plan 7) Integrated agro-forestry on sloping agricultural land technology (salt) systems 8) Integrating green pocket parks design and open spaces in available spaces in the city 9) Ordinance for the conversion of flood danger zones into eco parks and retention ponds 10) Construction of water impounding structure, rainwater harvesting facilities (small farm reservoir), and concrete irrigation canals; feasibility study on the construction of small water impounding project in upstream areas
Policies	<ul style="list-style-type: none"> • Comprehensive fisheries management ordinance • Policy regulating groundwater extraction • Green Building Ordinance • Ordinance incentivizing the use of renewable energy • Ordinance establishing and maintaining Marine Protected Areas in the City • Tourism master plan toolkit • Integration of recharge interceptors in slope side construction design • Enhancement of drainage master plan in built up areas • Rainwater harvesting system implementing rules and regulations

LCCAP M&E SYSTEM STRUCTURE

The ATLAS team chose to structure the LCCAP M&E system after the national equivalent, the Results-Based Monitoring and Evaluation System (RBMES), developed for the National Climate Change Action Plan. This structure is in keeping with national government expectation, as stated in the RBMES, that LGUs will measure their own progress towards achieving CCA objectives (Government of Philippines, 2015). The plan described in this section follows the RBMES example, using a logical framework approach to organize interventions and planned results to enable analysis. As in the RBMES, the CDO LCCAP M&E System includes a range of indicators (quantitative, qualitative and binary; output and outcome) to give a full understanding of the impact chain.

CDO'S CCA OBJECTIVES

According to the C40 Climate Change Leadership Group, cities should first look to identify their key hazards when developing a monitoring, evaluation and reporting framework for climate change. The C40 Report includes a helpful visual to show how a city's ultimate concern—climate risk—is a function of their unique hazards, in combination with their unique exposure, vulnerability and adaptive capacity (see Figure 3). In its LCCAP, CDO has successfully identified its key hazards as flooding, storm surge and landslides, based on a comprehensive vulnerability and adaptation assessment.

With an understanding of the key hazards, the C40 Report suggests that city officials should then formulate the impact they want to achieve in reduction of risk to climate change. By identifying the hazards the city faces and the intended reduction in risk, the city should have a logical process for selecting interventions to mitigate exposure and vulnerability and enhance adaptive capacity to reduce risk (C40 2019). This approach represents a typical strategic

planning process. CDO's LCCAP does not follow this second step of articulating an overarching goal or intended impact. If resources become available in the future, CDO should adapt its LCCAP process to develop activities and set targets that are directly linked to reducing the impact of specific identified climate hazards in the most vulnerable areas, rather than the current process of identifying the climate adaptation benefits after activities have already been developed.

Figure 3. C40's Climate Risk Formula



Source: C40, 2019

ALIGNMENT WITH NATIONAL-LEVEL OUTCOMES AND PRIORITIES

CDO's LCCAP working group could not set new objectives or fund new interventions, therefore the group listed the objectives in the City Land Use Plan, including those which had an element of CCA, and reworded them and others to emphasize the CCA focus. This approach ensured alignment with existing plans—an important element of mainstreaming—but resulted in 50 objectives, many of which do not have a corresponding action (PPA or policy) and are unlikely to be met in this phase of the LCCAP.

For the purposes of creating an actionable M&E system, the ATLAS team used to the national RBMES as a starting point, with its two ultimate outcomes, seven strategic priorities and seven intermediate outcomes. The team then compared CDO's planned PPAs to the national level framework and selected the most relevant national outcomes and priorities (see Table 8). This process aligned the M&E plan to national level objectives and priorities as well as reduced the number of LCCAP objectives to an actionable number. If the national government requires LGU reporting in the future, the LCCAP M&E Plan will be organized to facilitate reporting.

Using the RMBES as a guide, the team identified the following ultimate CCA objective: *Enhanced adaptive capacity of communities, resilience of natural ecosystems, and sustainability of built environment to climate change*. Furthermore, the team identified four strategic priorities for CDO, in order of importance to LCCAP actions: *Human Security; Ecological and Environmental Stability; Water Sufficiency; and Food Security*.

The related intermediates outcomes are: *Reduced risk to the population from climate change and disasters; Enhanced resilience and stability of natural systems and communities; Water resources sustainably managed and equitable access ensured; and Availability, stability, accessibility to safe and healthy food ensured amidst climate change*.

Table 8. NCCAP Strategic Priorities Aligned with LCCAP PPAs and Policies

NCCAP Ultimate Outcomes	Enhanced adaptive capacity of communities, resilience of natural ecosystems, and sustainability of built environment to climate change				Successful transition toward climate smart development		
NCCAP Strategic Priorities	Food Security	Water Sufficiency	Ecological & Environmental Stability	Human Security	Climate Smart Industries and Services	Sustainable Energy	CC Knowledge & Capacity Development
NCCAP Intermediate Outcomes	Availability, stability, accessibility to safe and healthy food ensured amidst CC	Water resources sustainably managed and equitable access ensured	Enhanced resilience and stability of natural systems and communities	Reduced risk to the population from CC and disasters	Climate-resilient and eco-efficient and environmentally friendly industries and services developed, promoted and sustained.	Sustainable, renewable energy & ecologically efficient technologies adopted	Enhanced knowledge about and capacity to address CC
LCCAP PPAs and Policies	<u>PPAs</u> <ul style="list-style-type: none"> • 6—ICRM Plan • 7—Agroforestry (SALT) • 10—Agricultural infrastructure (water storage / irrigation) 	<u>PPAs</u> <ul style="list-style-type: none"> • 2—Reforestation • 8—Green pocket parks • 10—Agricultural infrastructure (water storage / irrigation) 	<u>PPAs</u> <ul style="list-style-type: none"> • 1—Eco Park • 2—Reforestation • 4—Coastal reforestation & wave breakers • 6—ICRM Plan • 8—Green pocket parks • 9—Conversion of flood danger zones 	<u>PPAs</u> <ul style="list-style-type: none"> • 3—Resettlement action plan • 9—Conversion of flood danger zones 	<u>PPAs</u> <ul style="list-style-type: none"> • 5—Transport Study 	<u>PPAs</u> <ul style="list-style-type: none"> • No related PPAs 	<u>PPAs</u> <ul style="list-style-type: none"> • No related PPAs
	<u>Policies</u> <ul style="list-style-type: none"> • Fisheries management ordinance 	<u>Policies</u> <ul style="list-style-type: none"> • Rainwater harvesting rules • Drainage master plan • Groundwater extraction policy • Recharge interceptors for slope-side construction design 	<u>Policies</u> <ul style="list-style-type: none"> • Marine ordinance 	<u>Policies</u> <ul style="list-style-type: none"> • Conversion of danger zones into ecoparks and detention ponds ordinance 	<u>Policies</u> <ul style="list-style-type: none"> • Tourism master plan toolkit 	<u>Policies</u> <ul style="list-style-type: none"> • Renewable energy ordinance • Green building ordinance 	<u>Policies</u> <ul style="list-style-type: none"> • No related policy

RESULTS MATRIX

Like the national RBMES structure, the proposed M&E system for the LCCAP uses a results matrix to show the connection between “Ultimate Outcomes,” “Intermediate Outcomes,” and “Output Areas” organized by strategic priority, with corresponding indicators (see Table 9).

Table 9. LCCAP Results Matrix

LCCAP Ultimate Outcome	Enhanced adaptive capacity of communities, resilience of natural ecosystems, and sustainability of built environment to climate change (NCCAP)			
Ultimate Outcome Indicators	<i>Percent population living in areas deemed high risk to hazards</i>			
LCCAP Strategic Priorities	Human Security	Ecological & Environmental Stability	Food Security	Water Sufficiency
LCCAP Intermediate Outcomes	Reduced risk to the population from CC and disasters	Enhanced resilience and stability of natural systems and communities	Availability, stability, accessibility to safe and healthy food ensured amidst CC	Water resources sustainably managed and equitable access ensured
Intermediate Indicators	<ul style="list-style-type: none"> • <i>Number of deaths and injuries due to extreme weather events</i> • <i>Value of property damage due to extreme weather events</i> 	<ul style="list-style-type: none"> • <i>Percent forest cover</i> • <i>Number of hectares of mangrove cover</i> • <i>Percent healthy coral</i> • <i>Percent heavy rainfall events leading to flooding</i> 	<ul style="list-style-type: none"> • <i>Number of hectares of marine protected areas</i> • <i>Percent change in catch for fisherman</i> • <i>Crop losses during drought event</i> 	<ul style="list-style-type: none"> • <i>Number of hectares under irrigation</i>
Output Areas (PPAs/Policies)	<ul style="list-style-type: none"> • <i>Resettlement / Conversion of danger zones (PPAs 3, 9)</i> 	<ul style="list-style-type: none"> • <i>Reforestation (PPAs 1, 2, 8, 9)</i> • <i>Rehabilitation of marine area and rivers (PPAs 4, 6, marine ordinance)</i> 	<ul style="list-style-type: none"> • <i>Agricultural infrastructure (PPA 10)</i> • <i>Agroforestry (PPA 7)</i> • <i>Sustainable fishing (PPA 6, fisheries mgmt. ordinance)</i> 	<ul style="list-style-type: none"> • <i>Reforestation (PPAs 2, 8)</i> • <i>Agricultural infrastructure (PPA 10)</i> • <i>Water management policies</i>
Output Indicators	<ul style="list-style-type: none"> • <i>Number of households in danger zones</i> • <i>Number of vulnerable residential houses not compliant with the Building Code</i> 	<ul style="list-style-type: none"> • <i>Number of trees planted</i> • <i>Number of community planting efforts</i> • <i>Number of hectares marine area rehabilitated</i> • <i>Number of meters of river bank rehabilitated</i> • <i>Number of environmental policies analyzed, drafted, approved, and implemented</i> 	<ul style="list-style-type: none"> • <i>Number of irrigation or retention ponds constructed</i> • <i>Number of climate-resilient seeds/seedlings distributed</i> • <i>Number of farmers trained in SALT</i> • <i>Fisheries ordinance analyzed, drafted, approved, and implemented</i> 	<ul style="list-style-type: none"> • <i>Number of trees planted</i> • <i>Number of community planting efforts</i> • <i>Number of irrigation structures constructed</i> • <i>Number of water management policies analyzed, drafted, approved, and implemented</i>

OUTCOME AND OUTPUT INDICATORS

The proposed M&E system contains indicators for each of the three results levels in Table 9. In formulating these indicators, the team prioritized practicality and suggested indicators for which data exists (or are likely to exist) or would be feasible to collect and analyze (Table 10). In subsequent versions of the LCCAP, the TWG may wish to consider adding qualitative indicators, as the RBMES does; however, given the current level of M&E capacity, binary and quantitative data are the recommended starting points. Each proposed indicator has an associated Indicator Fact Sheet (found in Annex A, and modeled after the RBMES template), which provides the additional information required to collect the data, calculate the indicator value, and interpret the result.

Table 10. LCCAP Indicator Table

	OUTCOME	INDICATOR	FREQUENCY	PPA/POLICY	DEPARTMENT
	Ultimate Outcome				
	Enhanced adaptive capacity of communities, resilience of natural ecosystems, and sustainability of built environment to climate change	<i>Percent population living in areas deemed high risk to hazards</i>	Annual	All	CPDO/GIS Team
	Intermediate Outcome				
1	Reduced risk to the population from CC and disasters	<i>Number of deaths and injuries due to extreme weather events</i>	Annual	All	DRRM Council with CDRRMD and CSWD
		<i>Value of property damage due to extreme weather events</i>	Annual	All	DRRM Council with CDRRMD, CEO and CSWD
2	Enhanced resilience and stability of natural systems and communities	<i>Percent forest cover</i>	Annual	2	CLENRO
		<i>Number of hectares of mangrove cover</i>	Annual	4, 6	CLENRO
		<i>Percent healthy coral</i>	Baseline/Endline	4, 6	CLENRO
		<i>Percent heavy rainfall events leading to flooding</i>	Annual	1, 2, 4, 8, 9	CDRRMD (Weather Monitoring Division)
3	Availability, stability, accessibility to safe and healthy food ensured amidst CC	<i>Number of hectares of marine protected areas</i>	Annual	6	CAO
		<i>Percent change in catch for fisherman</i>	Monthly	6	CAO
		<i>Crop losses during drought event</i>	Annual	7, 10	CAO

	OUTCOME	INDICATOR	FREQUENCY	PPA/POLICY	DEPARTMENT
4	Water resources sustainably managed and equitable access ensured	<i>Number of hectares under irrigation</i>	Annual	10	CAO
Output Area					
1.1	Resettlement/Conversion of Danger Zones	<i>Number of households in danger zones</i>	Annual	3, 9	CHUDD
		<i>Number of vulnerable residential houses not compliant with the Building Code</i>	Annual	policy	Office of the Building Official
2.1	Reforestation	<i>Number of trees planted</i>	Annual	1, 2, 8, 9	CLENRO
		<i>Number of community planting efforts</i>		1, 2, 8, 9	CLENRO
2.2	Rehabilitation of marine area and rivers	<i>Number of hectares of marine area rehabilitated</i>	Annual	4, 6	CAO
		<i>Number of meters of riverbank rehabilitated</i>	Annual	4, 6	CLENRO
		<i>Number of environmental policies analyzed, drafted, approved and implemented</i>	Annual	policy	CLENRO
3.1	Agriculture infrastructure	<i>Number of irrigation or retention ponds constructed</i>	Annual	10	CEO
3.2	Agroforestry	<i>Number of climate-resilient seeds/seedlings distributed</i>	Annual	7	CLENRO, CAO
		<i>Number of farmers trained in SALT</i>	Annual	7	CAO
3.3	Sustainable fishing	<i>Fisheries management ordinance analyzed, drafted, approved and implemented</i>	Annual	policy	CAO
4.1	Agriculture infrastructure for water management	<i>Number of irrigation structures constructed</i>	Annual	10	CEO
4.2	Water management	<i>Number of water management policies analyzed, drafted, approved and implemented</i>	Annual	policy	CLENRO

CONTEXT INDICATORS

Monitoring the success of CCA is particularly challenging because changes to the climate are observed over a long period of time, and specific future local climate change impacts are difficult to predict. Furthermore, as discussed above, climate risks are a function of the climate hazard together with exposure, vulnerability and adaptive capacity; therefore, adaptation to climate change is influenced by other interconnected development factors, such as socioeconomic trends, urban services, city infrastructure, social support networks and financial systems. As the LCCAP describes, CDO expects to see rising temperature, rising sea level, changing rainfall patterns and amounts, and an increase in the frequency and intensity of extreme weather events. A typical M&E system would include context indicators to monitor these changes so the city could adjust its CCA activities, targets, and interpretation of monitoring data as needed. CDO is already conducting and reporting on CVA and hazard mapping exercises. Rather than duplicate efforts, the M&E system for CDO is designed to be used in concert with the latest vulnerability and hazard data. In an annual performance review, the Mayor's Office should request both performance data from the M&E plan, as well as context information in the form of updated vulnerability data and/or hazard maps. Both must be considered to determine the city's progress in meeting targets and outcomes, and determine where resources are most needed.

MONITORING INDICATOR DEFINITIONS

Performance Indicator: Measures expected outputs and outcomes of projects or activities. Performance indicators help determine the extent to which the LGU is progressing toward its objectives.

- **Output:** Results of activities achieved at the program level, in two forms: the number of activities performed and measures of service utilization. Outputs are the tangible, immediate, and intended products or consequences of an activity (Frankel and Gage, 2007; USAID, 2018)
- **Outcome:** Changes measured at the population level in the program's target population, some or all of which may be the result of a given program or intervention. Outcomes refer to specific knowledge, behaviors, or practices on the part of the intended audience that are clearly related to the program, can reasonably be expected to change over the short-to-intermediate term, and that contribute to a program's desired long-term goals (Frankel & Gage, 2007, p. 77).

Context Indicator: Measures factors outside the control of the LGU that have the potential to affect the achievement of expected results. Context indicators may be used to track country/regional context, programmatic assumptions of strategies, projects and activities, and operational context (USAID, 2018).

TIMEFRAME

To reflect the time period of the LCCAP, this M&E Plan takes the year 2019 as baseline and 2021 as endline, with targets in 2020 for annually reported indicators. In the case of some output indicators where the baseline is zero at the beginning of 2019, annual targets for 2019 are also set.

DATA MANAGEMENT

Data collection methods are included for each indicator in the Indicator Fact Sheets in Annex A. In general, quantitative and qualitative data should be collected by the department in charge of managing the PPA, using the methods and processes established by the LGU department or

relevant national government department or office, as applicable. For now, data storage and security measures will likely be constrained to maintaining a standard Excel-based indicator tracking tool in each office to ensure data are recorded uniformly across all offices. To the extent possible, the indicator tracking tools should be password protected, or access to the computers on which the tools are housed should be limited to ensure data are adequately protected.

Data Quality

Data quality should be regularly assessed (annually or biannually) to ensure data can be trusted to influence management decisions. USAID uses five data quality standards which can be applied at the LGU level (Table 11).

Table 11. Data Quality Standards and Measures to Ensure Quality

STANDARD	PURPOSE	MEASURES TO ENSURE QUALITY	INDIVIDUAL RESPONSIBLE
Validity	The extent to which an indicator and its data actually represent what the city intends to measure.	<ul style="list-style-type: none"> Ensuring definitions are comprehensive and align with results framework. Annual review of indicators and definition in relation to LCCAP or departmental work plans and any changes. 	M&E Focal Point or Specialist, PPA project manager
Precision	Data should have a sufficient level of detail to present a fair picture of performance and enable management decision-making.	<ul style="list-style-type: none"> Indicator tracking tool utilized for level quality control. 	M&E Focal Point or Specialist, PPA project manager
Reliability	Stable and consistent data collection processes and analysis methods over time (i.e. using the same measurement procedures, can the same results be replicated?).	<ul style="list-style-type: none"> Standard Operating Procedures for data collection and reporting are established and followed. Files of substantiating data are maintained. All staff interacting with the M&E system will be trained on processes. Data has sufficient documentation to be auditable. Data is cross-referenced with other sources (e.g., national government, academia) when possible. 	M&E Focal Point or Specialist, PPA project manager
Integrity	Data should be protected from improper manipulation or falsification.	<ul style="list-style-type: none"> Duties are segregated so different individuals are responsible for data collection and data verification. Random site visits may be conducted by the M&E specialist if follow up on data integrity is necessary. Processes are documented to lower likelihood of process errors. 	M&E Focal Point or Specialist, PPA project manager
Timeliness	Data is available and up to date enough to meet management needs.	<ul style="list-style-type: none"> All data are reported in the reporting period in which the activities took place. Thus, all data are up-to-date in any given report. 	M&E Focal Point or Specialist, PPA project manager

REPORTING

The LCCAP does not have a management structure and there are limited resources for reporting and limited opportunities for stakeholders to review progress; therefore, the city should report on an annual basis as specified in RA No. 9729. The city should expand on the requirement under RA No. 9729 to submit “annual progress reports on the implementation of their respective local action plan” by also including public reporting in the City Mayor’s Annual Report on the progress of meeting targets in the LCCAP indicator table. For each indicator, a frequency of reporting is indicated, and in some cases, reporting may be less frequent than annually.

UTILIZATION

If CDO decides to devote resources to reporting on the LCCAP, it is important that there is a simultaneous management process to take these reports into consideration for programming. It is recommended that LCCAP representatives from all nine departments attend a yearly review meeting to review the CCA objectives and progress to date, captured through indicator data, alongside the updated vulnerability and hazard information. The primary LCCAP oversight department (CPDO, or other as identified) should take the lead in organizing and facilitating this annual meeting. Organizing a review meeting will require preparation, but would allow city staff to periodically reflect on the city’s CCA goals and whether CCA efforts are as effective as possible. Even if there is no funding to address identified gaps, there may be opportunities to adjust programming to improve performance, or to influence the programming decisions of other departments. Annex B contains a sample agenda for a year CCA performance review.

EVALUATION AND RESEARCH

Currently, CDO does not have a mechanism to perform routine evaluations. If an opportunity arises to have an independent evaluation done, the following are possible evaluation questions to consider, drawing from the LCCAP:

- Are the current PPAs having the intended CCA impact? Are there other PPAs that could have greater impact?
- The city does not do as much in the commercial and energy sectors as suggested by the NCCAP. What opportunities exist to increase impact in these sectors?
- How effective is the resettlement program at achieving its intended consequences? Are there any unintended consequences? What are lessons learned for future efforts?
- How effectively does CDO pursue its climate change policy agenda? How can it improve, and what support is needed?

SECTION 3: RECOMMENDATIONS

CITY OF CAGAYAN DE ORO

CDO has been undertaking reforms for a number of years, focusing on improvements to city management and administration. As the city focuses on key reforms, CDO can use the results of this M&E capacity assessment to improve its routine monitoring and evaluation efforts and its efforts to measure the effectiveness of its LCCAP, paving the way for a city-wide results-based management system.

ESTABLISH A RESULTS-BASED M&E FRAMEWORK AND BUILD M&E CULTURE

- With the Mayor's leadership, CDO has begun to report on indicators in the City Mayor's Annual Report. This existing process represents an opportunity to systemize a limited set of indicators and begin to build a culture of data appreciation and utilization. The steps below provide recommendations to establish an M&E framework and continue building an M&E culture, and assume CPDO or a yet-to-be-created central M&E department would take responsibility for coordinating the effort.
 - CDO should identify a list of city-wide standard indicators (general indicators, not CCA-specific) that each department would report on semi-annually (in lieu of department heads choosing the indicators on which they prefer to report). Selecting standard indicators should be done in a consultative workshop, during which departments set targets and indicate which staff are responsible for regular reporting. The Mayor should then approve the standard indicators to be incorporated into future planning documents.
 - CPDO should create a basic M&E plan to accompany the Mayor's PRIMEHAT agenda, with a results framework and a simple, Excel-based indicator tracking tool. Details for each standard indicator should be noted in an Indicator Fact Sheet, such as the template used in Annex A.
 - CDO should implement regular data collection, led by CPDO with the cooperation of the departments' focal points for M&E. Data should be collected in the tracking tool created under step 2. Comparisons against targets should be performed and shared with department heads and the Mayor's Office.
 - The Mayor's Office should conduct bi-annual performance meetings with department heads to review indicator data and make programming decisions to ensure departments (and the city) are on track to meet targets and overall goals.
 - Once a results-based M&E system is in place, the CCA M&E system should be integrated into the city-wide M&E system.

STRENGTHEN INSTITUTIONAL STRUCTURES

- Per Executive Order 104-2018, the CPMEC's functions should include setting standard operating procedures for M&E, ensuring data quality, facilitating data sharing among departments, and ensuring that projects are achieving their intended results. Given the CPMEC's workload and composition, the committee currently focuses on financial oversight and implementation issues, and the other listed M&E functions are not being fulfilled. CDO should consider restructuring the CPMEC so the committee can incorporate routine monitoring of outputs and outcomes into its current process. Two options to strengthen the CPMEC include the following:
 - Separate CPMEC into three separate committees for the infrastructure, social and economic sectors, which would allow the committees to cover both financial and M&E oversight.
 - Form a second CPMEC that focuses exclusively on results-based monitoring and evaluation, led by CPDO.
- The Mayor should appoint a department to manage the LCCAP. According to the NCCAP, CPDO may be the most appropriate option, but regardless of which department is named, it is important that the department selected has clearly defined responsibilities and is provided the authority to request data from other departments.

ALIGN STAFF RESPONSIBILITIES AND BUILD CAPACITY

- CDO has an M&E focal point in each department, however, differing levels of capacity and other job responsibilities make this approach inconsistent. CDO should consider hiring an M&E officer for each department to provide adequate attention to gathering quality data and reporting. The M&E officer should have adequate skills and experience in gathering and analyzing output and outcome data, and their position descriptions should clearly outline their roles and responsibilities as being focused primarily on M&E.
- There are currently no staff with experience in climate change or CCA. In order to increase the LCCAP's effectiveness, CDO should recruit a local CCA specialist to serve as the primary technical resource.
- CDO should develop an M&E training strategy to ensure that all staff with M&E responsibilities understand basic concepts of routine monitoring, data quality standards, data management, GIS, and evaluation. If expertise exists within the LGU, the city could develop a tailored M&E curriculum and adapt existing training materials, and CDO's most highly-skilled M&E practitioners could lead trainings and provide technical assistance to other staff with M&E responsibilities. If insufficient technical expertise exists, CDO should consider establishing an ongoing relationship with an M&E training institute, such as Xavier University's Governance and Leadership Institute or the Local Government Academy (see Annex E for a list of M&E and CCA training resources).
- CDO should develop (or continue to develop) M&E experts the city can turn to for more complex undertakings (such as building M&E results frameworks, crafting indicators,

developing scopes of work for evaluations, and delivering basic M&E training). Staff designated for more advanced M&E skill building could be sent to more intensive training programs at the national level or to local institutions such as Xavier University. The cadre of M&E experts should also be linked to their national counterparts, M&E communities of practice, and counterparts at neighboring LGU counterparts, for greater awareness of M&E requirements, tools and resources. Resources would need to be designated for travel and training of the city's M&E experts.

USE EVALUATIONS TO ASSESS IMPACT AND MAKE MANAGEMENT DECISIONS

- CDO should continue its efforts to create a city-wide research agenda, and should also consider developing an evaluation agenda. For the LCCAP specifically, the city should consider conducting baseline assessments for the listed PPAs, and should plan on conducting regular updates to its CVA and hazard maps (e.g., flood, storm surge, landslide).
- Given the lack of evaluation experience within the LGU, CDO should considering hiring a third-party firm that specializes in evaluations and impact assessments in the immediate to medium-term; however, conducting high-quality external evaluations can be expensive. CDO should consider piloting an evaluation with a local partner, such as Xavier University, or with a national-level department such as the National Economic and Development Authority, the Department of the Interior and Local Government or the Department of Environment and Natural Resources to help minimize cost.
- In parallel with pursuing external options, CDO should institute informal reviews of performance at an outcome level. While there may not be sufficient data currently to support a scientific review, the process of engaging stakeholders annually to discuss high-level results is an essential part of M&E, and builds a results-focused culture. See the sample agenda for a CCA performance meeting in Annex B as an example.
- The City Mayor and department heads should incorporate discussions of results and data into regular meetings with staff (such as the Management Committee), to demonstrate the importance of data for decision-making.

STRENGTHEN MONITORING

- If CDO would like to pilot routine monitoring with a department (i.e. pilot improved M&E generally, not necessarily CCA M&E), the CDRRMD would be a good candidate, given that the office has a dedicated funding source, and a well-developed plan and M&E framework. With leadership support, the CDRRMD would need to appoint or hire a full-time M&E officer, and ensure that staffing recommendations (e.g., creating appropriate position description, ensuring adequate regular trainings) from this report are followed. The new M&E officer should update existing indicators and follow the steps outlined in *Establishing an M&E Framework and Building M&E Culture*.
- CDO should develop site visit standards, protocols and forms. For example, the city may require that project managers or M&E focal points visit ongoing projects at least once

every two months. The city should also create a PPA visit form for projects (see example template in Annex C) to help staff ask and answer the right questions in the field, and staff with the responsibility for using the tool should be trained on how to properly conduct field interviews. Field notes can help inform CPMEC discussions about the project performance and can provide additional data for indicators. Once the process is established, CDO should consider converting the tool to an online or tablet-based form for easy data entry, storage and analysis (for example, Kobotoolbox.org by Harvard Humanitarian Initiative accessible at <https://www.kobotoolbox.org/>).

- CDO should digitize existing M&E data and data from field collection forms, as much of this data currently exists only in hardcopy format, limiting the ability to analyze data. If the city does not have the resources to digitize existing data, all future data collected in hardcopy format should be converted into digital format and entered in a database.
- In addition to strengthening monitoring, the city should also develop data storage standards. If data cannot be stored on a dedicated M&E computer or central database, data storage protocols will ensure data are being treated uniformly across all departments. Once routine monitoring is established, the city may wish to invest in an M&E database or cloud storage system that increases data quality and security, as well accessibility (for example, Synergy International System's Indicata Monitoring & Evaluation Software).

IMPROVE CCA PLANNING

- Before future updates to the LCCAP, CDO should update the city's CVA to use as a baseline for the current LCCAP and near-term revisions. The CVA should focus primarily on 2030, with additional analysis for changes expected by 2050. The CVA should be conducted by a third-party with expertise in CVA, and should ideally involve the Ateneo university system (e.g., Manila Observatory), the CCC and the National Disaster Risk Reduction and Management Council through the Office of Civil Defense. General guidance on designing CVAs and the scope of work for consultants is available in [Designing Climate Vulnerability Assessments](#), and local guidance is available through "Supplemental Guidelines on Mainstreaming DRR-CCA in CLUP" from the Housing and Land Use Regulatory Board, and through Book 1 of the "LGU Guidebook on the Formulation of Local Climate Change Action Plan (LCCAP)" from the Local Government Academy.
- The hazard maps that are included in the LCCAP are an excellent additional tool (as a supplement to the CVA) to track risk over time and should be the focus of a continued joint effort with Xavier University. It is important to note that while the city should be open to improving methods for creating hazard maps, any changes to the approach should be carefully weighed against the consequence of rendering comparisons impossible. Changes made to the methodology should be carefully described in records to allow for future interpretation of trends.
- In an ideal situation, the LCCAP should have dedicated funds that can be used to program CCA activities that were specifically formulated to address identified risks. If no

dedicated funding is available, the city should consider adopting a policy of prioritizing funding for the LCCAP PPAs based on anticipated CCA impact. Additionally, each PPA should produce monitoring and evaluation data, and necessary M&E activities should be costed and budgeted for in each PPA's budget.

- In the next version of the LCCAP, CDO should consider defining the CCA objectives for each PPA, and then developing indicators that measure progress toward the objective. In future LCCAP revisions, the city should also consider adopting the simpler set of objectives proposed for the M&E System, which correspond to NCCAP objectives.
- When revising the LCCAP, the TWG should also consider the potential for CCA impact as one of the primary criteria used in selection of PPAs. Although it is difficult to assess the CCA objective of each PPA as that information is missing, some PPAs seem to have less impact (e.g., transportation study), while others have more (e.g., reforestation).
- CDO should consider adding questions to the proposed Community-Based Monitoring System to increase information gathering about the impacts of weather and climate change. Questions should focus on gathering data on the impacts of the main hazards (flooding, landslide, storm surge) on people (e.g., number of deaths and/or injuries due to these events) and property (e.g., value and type of property damaged or lost due to these events).

USAID PHILIPPINES AND OTHER DONORS

CDO has been host to a number of donor-funded projects that focused on local governance and climate change over the past 10 years, including USAID's SURGE and Be Secure projects, UN HABITAT's BCRUPD project, and UNDP's Project Climate Twin Phoenix. During this period, as noted above, the city has also been systematically implementing reforms and bringing new, experienced staff who are knowledgeable about using M&E for performance management and learning. There are still untapped opportunities to assist CDO in strengthening its accountability and M&E efforts, particularly given the interest of current leadership. While an M&E system for the LCCAP is proposed in this document, additional support will be needed to operationalize the system, as explained in sections 1 and 2, and additional reforms will need to be undertaken by the city, as outlined in section 3 above.

The following recommendations are targeted to USAID and other donors who are interested in supporting M&E assistance in CDO.

IMMEDIATE/SHORT-TERM SUPPORT

- The city began reporting on indicators—although in an ad hoc fashion—in the City Mayor's Annual Report. This process represents an opportunity to systemize a limited set of indicators and foster a city-wide appreciation for the role of data in program management and decision-making. The previous section outlines four steps CDO could take to turn the practice of reporting on indicators into a basic M&E system. Should CDO chose to follow these recommendations, the city would benefit from dedicated technical assistance (TA) from an M&E specialist. Donors could consider providing up to three

months of full-time TA to work with designated CPDO staff members to put the recommendations into place, followed by part-time support for an additional six months while the system is implemented.

- A long-term project could provide training funds for staff who are designated to take on the role of either M&E officer or M&E expert. A project or activity could also fund the development of a basic M&E training package for CDO along with training of trainers sessions for CDO's M&E experts (see Annex E for a list of M&E training resources, and the enhanced LCCAP M&E methodology section in the *Climate Disaster Risk Assessment Training Modules* [a joint effort of the USAID SURGE project and HLURB]).
- A long-term project should consider offering a comprehensive CCA training program to the members of the LCCAP TWG, covering topics included in the LCCAP, such as: interpreting vulnerability assessments and hazard maps and their roles in planning; developing PPAs and mapping objectives to address climate risks; sources of weather and climate data and their use in M&E; and developing and monitoring CCA indicators (see Annex E for a list of CCA training resources).
- While the city works on establishing an M&E system for the LCCAP's routine output indicators, donors may consider contracting with a consultant to put together an annual report on outcome indicators. While this effort may not improve overall performance management, beginning systematic annual collection of CCA M&E data would assist the city in later years as M&E capacity grows.
- Donors also have an opportunity to fund LCCAP-focused evaluations, items on the research agenda (e.g., a planned hydrological study), or baseline evaluations (e.g., an updated CVA) to support the M&E system and/or policy agenda. For example, the CHUDD-led resettlement PPA appears to have sufficient data for an evaluation. The PPA has one of the largest potentials to decrease risk to extreme weather events, but also has the largest potential for unintended (negative) consequences, thus making it a priority for a thorough external evaluation.

FUTURE/LONG-TERM SUPPORT

- Donors could provide assistance to the CDRRMD to serve as a pilot for routine monitoring and implement previously designed indicators (with support from USAID Be Secure), as recommended above in the *Strengthening Monitoring* section. The M&E plan and indicators would need to be reviewed for relevance and feasibility, and updated accordingly. A full-time consultant embedded in the office could work with the assigned M&E staff member(s) over a period of 6-9 months to support the M&E cycle and build capacity. Experience and lessons learned from this assistance could then be shared with the LCCAP TWG and other departments to allow improved M&E practices to be scaled up across city government.
- The M&E capacity assessment in CDO shed light on flaws in the GOP's LCCAP rollout to LGUs. Unlike the rollout of the DRRMP, LGUs received very little or no training and guidance on how to develop and implement LCCAPs, no funding was mandated, and no

reporting on progress or outcomes was required. USAID and other donors have the opportunity to engage national level climate change leaders (e.g., the CCC) to improve the LCCAP development process so that LGUs are more likely to use the plan for strategic planning and performance management. If no management structure, reporting process or funding is planned in the near future, the GOP should either make the LCCAP requirement as minimal as possible and provide more support to alleviate the burden on LGUs, or they should replace the LCCAP with another planning process that is more likely to stimulate action, such as a requirement to identify and fund a certain number (or value) of PPAs where CCA is the main objective.

- The challenges CDO faces in both implementing the LCCAP and effectively using M&E for performance management are not unique to CDO; secondary cities throughout the Philippines face similar challenges. Interventions designed to improve M&E for the LCCAP in CDO should be designed with an eye toward replicability, so that improvements in M&E can be scaled up and rolled out in other cities (for example, in Iloilo, Zamboanga City and Tagbilaran, which all have complete LCCAPs and have received similar CVA support from USAID and other donors).

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ANNEX A: INDICATOR FACT SHEETS

The following section contains a completed Indicator Fact Sheet² for each indicator, as well as an Indicator Fact Sheet template with instructions.

Indicator Fact Sheet template with instructions

Fact Sheet Author	Enter name and department of individual completing the fact sheet.
Last Update	If creating a new fact sheet or editing an existing sheet, enter today's date.
Next Update	Enter planned date of next update (typically done annually).
Indicator	Enter the full title of the indicator.
Level of Result	List the level of result measured by the indicator (i.e. the output, intermediate, or ultimate outcome level)
Definition and underlying concepts	Define the specific words or elements used in the indicator. Remember to define any terms that may be ambiguous. For example, how do you define training? Is there a minimum requirement or standard? How are classrooms defined? How is "improvement" qualified and so on...
Computation	Define how you will calculate progress toward the target and what data you will use.
Unit of Measurement	Enter the unit of measurement (e.g., number of..., percent of...). Clarify the minimum or maximum values if needed (minimum score is 1.0 and maximum score is 5.0). Clarify if the number is cumulative or specific to the year. Clarify numerator and denominator if applicable.
Interpretation of the indicator value	Provide guidance for explanation indicated by high or low indicator values, particularly for indicators based on complex calculations or for indicators without unit of measurement (dimensionless, as in ratios)
Unit of analysis/system of interest	Enter the system of interest (e.g., human, natural, economic) to be assessed with respect to the result being monitored. It may be determined at different levels (e.g., a single crop system, an ecosystem, a region) depending on the objective of the analysis. Defining systems of interest provides the reference for determining whether and how climate change impacts might be important and how adaptation can be attributed.
Geographical coverage	Indicate the specific area or location for which the indicator will be calculated (e.g., city-wide, specific barangays).
Linkage with NCCAP thematic priorities	Enter the relevant ultimate or intermediate outcomes from the results framework.
Frequency of measurement	Specify how often the indicator will be measured (e.g., monthly, quarterly, annually)
Baseline and reference year	Enter baseline value for the indicator and the year in which the baseline was measured.

² The indicator fact sheets included in this section are adapted from the Philippines National Climate Change Action Plan Results Based Monitoring and Evaluation System (RBMES) Indicator Factsheet template (Government of Philippines, 2015, pg. 25-26).

Target and reference year	Enter target value for the indicator and year by which the target should be achieved.
Data/information source and method of data collection	Describe the tools and methods for collecting the raw data. Examples include: training attendance sheets, document review, structured interviews, focus group interviews, written survey, direct observation, self-reported information, and so on. If the indicator is constructed, such as an index or an expert panel assessment, describe the procedure for construction. Who collects the raw data and where is it stored?
Lead department (and contributing, if applicable)	Identify the department that is responsible for calculating, reporting on and/or analyzing the indicator.
Rationale for Indicator	Briefly describe why this particular indicator was selected to measure the intended result and how it will be useful for managing performance.
Known Data Limitations	Enter any data limitations, such as lack of historical data for comparison.
Feasibility of the indicator	<p>Rate and explain the implementability of the indicator or describe the conditions needed for its measurement to be accomplished. Use the following rating scale as a guide and provide additional explanations/details if deemed needed:</p> <ul style="list-style-type: none"> • 1—Indicator can be implemented on the basis of available data using existing data sharing agreement and/or M&E system of key agencies • 2—Indicator can be implemented on the basis of available data but subject to data sharing agreement among key agencies • 3—Indicator can be implemented on the basis of available data; however, additional calculations are needed and timely implementation seems probable. This is usually the case for indicators using indices based on available data. • 4—Further development stage(s) is/are required to calculate the indicator such as improvement of survey instruments to include additional fields or based on new methods. However, there are already on-going initiatives related to this and implementation in the next 3 years seems probable • 5—Further development stage(s) is/are required to calculate the indicator such as creation of new survey instrument or development of new methods. However, there are only on-going discussions related to this and implementation in the next 3 years seems improbable.
REMARKS	

Fact Sheet Author	ATLAS
Last Update	August 14, 2019
Next Update	
Indicator	<i>Percent population living in areas deemed high risk to hazards</i>
Level of Result	Ultimate Outcome— Enhanced adaptive capacity of communities, resilience of natural ecosystems, and sustainability of built environment to climate change
Definition and underlying concepts	“High risk to hazard” will correspond to the definition currently used in the vulnerability assessment; the definition of population will match that of the available data source.
Computation	Overlying population and hazard maps will lead to the number of people living in high risk areas (numerator). The denominator is the total population in CDO.
Unit of Measurement	Percent of total population
Interpretation of the indicator value	This calculation is meant to be compared over time
Unit of analysis/system of interest	Population level
Geographical coverage	CDO-wide
Linkage with NCCAP thematic priorities	All
Frequency of measurement	Annual
Baseline and reference year	2019 – Baseline value unknown
Target and reference year	Long-term targets to be set – 2029 recommended
Data/information source and method of data collection	The data and methods should be the same that are used to populate the LCCAP now
Lead department (and contributing, if applicable)	CPDO
Rationale for Indicator	This indicator captures the ultimate issue of concern – risk to humans as a function of exposure, vulnerability and, improvement in adaptive capacity. It is an appropriate indicator because it reflects controllable conditions such as where people settle, and whether the area remains at risk.
Known Data Limitations	GIS staff prepared this map for the LCCAP following guidance of the Housing and Land Use Regulatory Board (HLURB) with external data. If HLURB’s guidance changes in the future, the ability to interpret change over time will degrade. If changes are made in the future, GIS staff should measure this using both old and new methods to enable comparison. It is not known how up-to-date population data is, but we assume annual data is available.
Feasibility of the indicator	3 – these data should be available but would require analyzing risk and population maps.
REMARKS	

Fact Sheet Author	ATLAS
Last Update	August 14, 2019
Next Update	
Indicator	<i>Number of deaths and injuries due to extreme weather events</i>
Level of Result	Intermediate Outcome—1) Reduced risk to the population from CC and disasters
Definition and underlying concepts	Deaths will be the number of confirmed and assumed (missing) dead, injuries will be the number of confirmed injuries. An extreme weather event is determined by the DRRM Council.
Computation	Addition of the number of dead and the number of injured
Unit of Measurement	People
Interpretation of the indicator value	While mortality and morbidity are highly variable depending on the hazard, they are important indicator to track and affect over time
Unit of analysis/system of interest	Population level
Geographical coverage	CDO-wide
Linkage with NCCAP thematic priorities	Human Security
Frequency of measurement	Annual
Baseline and reference year	2019 – Baseline value unknown
Target and reference year	This indicator is important for longer-term tracking of results, but not as useful for tracking over one or two reporting periods
Data/information source and method of data collection	When the DRRM Council determines that a weather event necessitates follow up, they request that the City Social Welfare Development Department (CSWD) coordinates the Rapid Damage Assessment and Needs Analysis (RDANA), completed at barangay level, which will include data on deaths and injuries.
Lead department (and contributing, if applicable)	DRRM Council with CDRRMD and CSWD
Rationale for Indicator	This indicator captures the human security issue of mortality and morbidity and measures the impact of climate on human life.
Known Data Limitations	Year-to-year comparisons are not supported, but collecting this information and reviewing it with the information on actual extreme events will help department teams to make sense of the information to the extent possible
Feasibility of the indicator	1 – this data is available.
REMARKS	

Fact Sheet Author	ATLAS
Last Update	August 14, 2019
Next Update	
Indicator	<i>Value of property damage due to extreme weather events</i>
Level of Result	Intermediate Outcome—1) Reduced risk to the population from CC and disasters
Definition and underlying concepts	Property damage will be defined using CDRRMD definition. An extreme weather event is determined by the DRRM Council.
Computation	Addition of the estimates for each affected barangay for each qualifying event.
Unit of Measurement	Philippine peso
Interpretation of the indicator value	While property damage sums are highly variable depending on the hazard, they are important indicator to track and affect over time
Unit of analysis/system of interest	This will be analyzed city-wide.
Geographical coverage	CDO-wide
Linkage with NCCAP thematic priorities	Human Security
Frequency of measurement	Annual
Baseline and reference year	2019 – Baseline value unknown
Target and reference year	This indicator is important for longer-term tracking of results, but less useful for annual or bi-annual monitoring
Data/information source and method of data collection	When the DRRM Council determines that a weather event necessitates follow up, they request that the City Social Welfare Development Department (CSWD) coordinates the Rapid Damage Assessment and Needs Analysis (RDANA), completed at barangay level, which will include data on property damage. The CEO assists in making an estimate of the value of property damaged, based on the RDANA data.
Lead department (and contributing, if applicable)	DRRM Council with CDRRMD, CEO and CSWD
Rationale for Indicator	This indicator captures the human security issue of housing and infrastructure, and measures the impact of climate on property.
Known Data Limitations	Year-to-year comparisons are rarely justified, but collecting this information and reviewing it with the information on actual extreme events will help department teams to make sense of the information to the extent possible.
Feasibility of the indicator	1 – this data is available.
REMARKS	

Fact Sheet Author	ATLAS
Last Update	August 14, 2019
Next Update	
Indicator	<i>Percent forest cover</i>
Level of Result	Intermediate Outcome—2) Enhanced resilience and stability of natural systems and communities
Definition and underlying concepts	Forest cover will be defined as currently defined by CLENRO/DENR
Computation	The numerator is the number of hectares of forested land, and the denominator is the total number of hectares in CDO
Unit of Measurement	Percent
Interpretation of the indicator value	The percentage should be tracked over time to monitor for increases in overall forest cover
Unit of analysis/system of interest	CDO-wide
Geographical coverage	CDO-wide
Linkage with NCCAP thematic priorities	Ecological and Environmental Stability
Frequency of measurement	Annual
Baseline and reference year	2019 – Baseline value unknown
Target and reference year	2020 & 2021 – Targets to be set
Data/information source and method of data collection	The data and methods are those used by CLENRO and DENR.
Lead department (and contributing, if applicable)	CLENRO
Rationale for Indicator	This indicator captures CDO's reforestation efforts, which reduces the risk of flooding and landslides
Known Data Limitations	The key limitation comes from any changes in how data is collected and analyzed each year
Feasibility of the indicator	1 – this data is available
REMARKS	

Fact Sheet Author	ATLAS
Last Update	August 14, 2019
Next Update	
Indicator	<i>Number of hectares of mangrove cover</i>
Level of Result	Intermediate Outcome—2) Enhanced resilience and stability of natural systems and communities
Definition and underlying concepts	Mangrove cover will be defined as currently defined by CLENRO/DENR.
Computation	No computation
Unit of Measurement	Hectares
Interpretation of the indicator value	The number should be tracked over time for change
Unit of analysis/system of interest	CDO coastal region
Geographical coverage	CDO coastal barangays
Linkage with NCCAP thematic priorities	Ecological and Environmental Stability
Frequency of measurement	Annual
Baseline and reference year	2019 – Baseline value unknown
Target and reference year	2020 & 2021 – Targets to be set
Data/information source and method of data collection	The data and methods should be the same that are used by CLENRO
Lead department (and contributing, if applicable)	CLENRO
Rationale for Indicator	This indicator captures CDO's coastal management efforts, which reduces the risk of storm surge and flooding.
Known Data Limitations	Limitation may come from any changes in how data is collected and analyzed each year
Feasibility of the indicator	1 – this data is available
REMARKS	

Fact Sheet Author	ATLAS
Last Update	August 14, 2019
Next Update	
Indicator	<i>Percent healthy coral</i>
Level of Result	Intermediate Outcome—2) Enhanced resilience and stability of natural systems and communities
Definition and underlying concepts	“Healthy” will be defined as currently defined by CLENRO/DENR.
Computation	The numerator is percentage of hard coral cover in CDO’s waters deemed healthy, and the denominator is the overall percentage of hard coral cover in CDO’s waters.
Unit of Measurement	Percentage
Interpretation of the indicator value	The number should be tracked over time for change. While not all change can be attributed to CDO’s efforts, keeping coral healthy is a key objective, and may require extra effort if an external factor becomes increasingly threatening
Unit of analysis/system of interest	CDO coastal region
Geographical coverage	CDO municipal marine waters
Linkage with NCCAP thematic priorities	Ecological and Environmental Stability
Frequency of measurement	As often as the baseline study is repeated
Baseline and reference year	2019 – Baseline value unknown
Target and reference year	Target to be set, according to scheduling of future data collection
Data/information source and method of data collection	The data source is a baseline study that is planned but not yet designed. To be updated once details are available.
Lead department (and contributing, if applicable)	CLENRO
Rationale for Indicator	This indicator captures CDO’s coastal management efforts, which reduces the risk of storm surge and flooding
Known Data Limitations	No data has been collected to date. The usefulness of the data will depend on the quality of the study design, data collection and analysis, and whether it is repeated at regular intervals.
Feasibility of the indicator	4 – this data is not available, but a baseline study is planned and it seems likely that data will be available in the next three years.
REMARKS	

Fact Sheet Author	ATLAS
Last Update	August 14, 2019
Next Update	
Indicator	<i>Percent heavy rainfall events leading to flooding</i>
Level of Result	Intermediate Outcome—2) Enhanced resilience and stability of natural systems and communities
Definition and underlying concepts	“Heavy rainfall events” and “flooding” will be defined as currently defined by the CDRRMD in its Hydro-Met Evacuation and Communication Protocol.
Computation	The numerator is the number of heavy rainfall events that lead to flooding and the denominator is the number of all heavy rainfall events in the reporting period (those that lead to flooding and those that do not).
Unit of Measurement	Percentage
Interpretation of the indicator value	The number should be tracked over time for change. While not all heavy rainfall events carry the same potential for flooding, CDO should still aim to decrease the percent of such events that cause flooding.
Unit of analysis/system of interest	This indicator covers all qualified events in CDO
Geographical coverage	CDO-wide
Linkage with NCCAP thematic priorities	Ecological and Environmental Stability
Frequency of measurement	Annual
Baseline and reference year	2019 – Baseline value unknown
Target and reference year	2020 & 2021 – Targets to be set
Data/information source and method of data collection	The data and methods should be the same that are used by CDRRMD. Rainfall will be measured by CDO’s automatic weather stations, and flooding will be measured by river gauges and community reports.
Lead department (and contributing, if applicable)	CDRRMD (Weather Monitoring Division)
Rationale for Indicator	This indicator captures CDO’s cumulative efforts to reduce vulnerability and increase adaptive capacity to mitigate the effects of flooding.
Known Data Limitations	One limitation might come from any changes in how data is collected and analyzed each year. Another is the fact that rainfall events may be more severe on average in one year as compared to another.
Feasibility of the indicator	3 – these data should be available but would require additional analysis
REMARKS	

Fact Sheet Author	ATLAS
Last Update	August 14, 2019
Next Update	
Indicator	<i>Number of hectares of marine protected areas</i>
Level of Result	Intermediate Outcome—3) Availability, stability, accessibility to safe and healthy food ensured amidst CC
Definition and underlying concepts	“Marine protected area” will be defined according to regularly-used CLENRO/DENR definitions.
Computation	No computation
Unit of Measurement	Hectares
Interpretation of the indicator value	The indicator should be tracked over time to identify the effect of CAO's coastal protection efforts
Unit of analysis/system of interest	MPAs in CDO's coastal region
Geographical coverage	CDO municipal marine waters
Linkage with NCCAP thematic priorities	Food Security
Frequency of measurement	Annual
Baseline and reference year	2019 – Baseline value unknown
Target and reference year	2020 & 2021 – Targets to be set
Data/information source and method of data collection	The data and methods should be the same that are used by CAO
Lead department (and contributing, if applicable)	CAO
Rationale for Indicator	This indicator captures CAO's efforts to improve the health of corals and fisheries through the use of marine protected areas.
Known Data Limitations	One limitation might come from any changes in how data is collected and analyzed each year. Another is that the measurement of hectares does not directly measure improved outcomes.
Feasibility of the indicator	1 – this data is available.
REMARKS	

Fact Sheet Author	ATLAS
Last Update	August 14, 2019
Next Update	
Indicator	<i>Percent change in catch for fishermen</i>
Level of Result	Intermediate Outcome—3) Availability, stability, accessibility to safe and healthy food ensured amidst CC
Definition and underlying concepts	“Catch” is defined as the total quantity (in kilograms) of aquatic organisms (fish, crustaceans, mollusks, and any other animal that spends at least part of its time in water) harvested, grown, or gathered for consumption or sale, per fisherman.
Computation	The numerator is the average monthly quantity (in kg) of aquatic organisms caught by surveyed fisherman during this reporting period, and the denominator is the average monthly quantity (in kg) of aquatic organisms caught by surveyed fisherman during the previous reporting period (or the baseline year)
Unit of Measurement	Percentage
Interpretation of the indicator value	The indicator should be tracked over time to identify the effect of CDO coastal protection efforts on fisherman
Unit of analysis/system of interest	Fishermen within CDO’s municipal marine waters
Geographical coverage	CDO municipal marine waters
Linkage with NCCAP thematic priorities	Food Security
Frequency of measurement	Monthly
Baseline and reference year	2019 – Baseline value unknown
Target and reference year	2020 & 2021 – Targets to be set
Data/information source and method of data collection	The CAO fisheries division conducts a monthly survey to ask the fisherman to list their actual daily catch
Lead department (and contributing, if applicable)	CAO
Rationale for Indicator	This indicator captures CAO’s efforts to secure the health of the protected marine areas as it relates to food security for CDO families
Known Data Limitations	One limitation might come from any changes in how data is collected and analyzed each year. Fluctuations from season to season might be due to an external factor, yet important to monitor this key indicator for food security.
Feasibility of the indicator	3 – these data should be available but would require additional analysis
REMARKS	

Fact Sheet Author	ATLAS
Last Update	August 14, 2019
Next Update	
Indicator	<i>Crop losses during drought event</i>
Level of Result	Intermediate Outcome—3) Availability, stability, accessibility to safe and healthy food ensured amidst CC
Definition and underlying concepts	“Crop loss” refers to the difference between the expected quantity of crops and the actual harvested quantity. A “drought” event is one where an official drought notice is issued.
Computation	Aggregation of different data
Unit of Measurement	Tons
Interpretation of the indicator value	The indicator should be tracked over time to identify risks to food security
Unit of analysis/system of interest	The system of interest is all crop production in CDO
Geographical coverage	CDO-wide
Linkage with NCCAP thematic priorities	Food Security
Frequency of measurement	Annual
Baseline and reference year	2019 – Baseline value unknown
Target and reference year	This should be tracked annually but due to fluctuation in hazards year-to-year, interpretation is not likely to be useful until several years have passed
Data/information source and method of data collection	When a drought notice is issued, there is protocol to guide a survey to estimate crop loss. Data is reported to the national government.
Lead department (and contributing, if applicable)	CAO
Rationale for Indicator	This indicator captures a key indicator of food security as related to CDO’s key risks. While it may rise and fall due to the extent of drought, over time the city should be able to expect improvements as a result of a combined effort to lower vulnerability and exposure and improve adaptive capacity.
Known Data Limitations	One limitation might come from any changes in how national level data is collected and analyzed each year. As mentioned above, year-to-year changes must be viewed in light of the hazards that presented, given that the strength of the conditions will fluctuate.
Feasibility of the indicator	1 – this data is available.
REMARKS	

Fact Sheet Author	ATLAS
Last Update	August 14, 2019
Next Update	
Indicator	<i>Number of hectares under irrigation</i>
Level of Result	Intermediate Outcome—4) Water resources sustainably managed and equitable access ensured
Definition and underlying concepts	Hectares under irrigation will be the number of hectares that CAO assists farmers to irrigate.
Computation	Aggregation
Unit of Measurement	Hectares
Interpretation of the indicator value	The indicator should be tracked over time to quantify CDO's irrigation efforts
Unit of analysis/system of interest	All agriculture areas covered by CDO's irrigation efforts.
Geographical coverage	CDO-wide
Linkage with NCCAP thematic priorities	Water Sufficiency
Frequency of measurement	Annual
Baseline and reference year	2019 – Baseline value zero
Target and reference year	2020 & 2021 – Targets to be set
Data/information source and method of data collection	CAO currently uses field visit forms to tracks the number of hectares farmed by farmers who benefit from their interventions.
Lead department (and contributing, if applicable)	CAO
Rationale for Indicator	This indicator captures CDO's efforts to decrease the amount of agricultural land that relies on rain as the primary source of water.
Known Data Limitations	This indicator will not capture hectares irrigated through farmer's independent efforts or efforts of the national government or other agencies. It also does not capture the quality or effectiveness of irrigation interventions. Data is available but limited to paper records.
Feasibility of the indicator	3 – these data should be available but would require digitizing paper records to add information recorded
REMARKS	

Fact Sheet Author	ATLAS
Last Update	August 14, 2019
Next Update	
Indicator	<i>Number of households in danger zones</i>
Level of Result	Output Area—1.1) Resettlement/Conversion of Danger Zones
Definition and underlying concepts	“Households” are defined by the national government; “danger zones” are defined by the Bureau of Mines and Geosciences.
Computation	Simple aggregation
Unit of Measurement	Households
Interpretation of the indicator value	This indicator should reduce as CDO moves towards its goals of moving people out of high risk areas
Unit of analysis/system of interest	Households
Geographical coverage	All CDO danger zones
Linkage with NCCAP thematic priorities	Human Security
Frequency of measurement	Annual
Baseline and reference year	2019 – Baseline value is 1,196.
Target and reference year	2020 & 2021 – Targets to be set
Data/information source and method of data collection	CHUDD collects this information through its city-wide profile of informal settlers.
Lead department (and contributing, if applicable)	CHUDD
Rationale for Indicator	This indicator expresses progress against resettlement goals
Known Data Limitations	If data is reported based on households who have moved with CDO assistance, it may be important to monitor to ensure previously resettled households do not move back or new households settle in danger zones
Feasibility of the indicator	1 – this data is available.
REMARKS	

Fact Sheet Author	ATLAS
Last Update	August 14, 2019
Next Update	
Indicator	<i>Number of vulnerable residential houses not compliant with the Building Code</i>
Level of Result	Output Area—1.1) Resettlement/Conversion of Danger Zones
Definition and underlying concepts	“Houses” and “compliant with the Building Code” will be defined and CDO currently defines them
Computation	Simple aggregation
Unit of Measurement	Houses
Interpretation of the indicator value	This indicator should reduce as CDO improves compliance with the Building Code
Unit of analysis/system of interest	Houses
Geographical coverage	CDO-wide
Linkage with NCCAP thematic priorities	Human Security
Frequency of measurement	Annual
Baseline and reference year	2019 – Baseline value unknown
Target and reference year	2020 & 2021 – Targets to be set
Data/information source and method of data collection	Office of the Building Official is in charge of surveying structures.
Lead department (and contributing, if applicable)	Office of the Building Official
Rationale for Indicator	This indicator captures improvements in adaptive capacity that will mitigate risks
Known Data Limitations	If data is reported based on houses who are assisted to become compliant, it is important to monitor for new houses who do not meet the code and houses that fall below standards, in order to keep an accurate count.
Feasibility of the indicator	1 – this data is available.
REMARKS	

Fact Sheet Author	ATLAS
Last Update	August 14, 2019
Next Update	
Indicator	<i>Number of trees planted</i>
Level of Result	Output area—2.1) Reforestation
Definition and underlying concepts	The number of trees planted should reflect trees planted according to city plans with city efforts or influence
Computation	Simple aggregation
Unit of Measurement	Tree
Interpretation of the indicator value	This value should reflect the city's tree planting efforts
Unit of analysis/system of interest	CDO's environment
Geographical coverage	CDO-wide
Linkage with NCCAP thematic priorities	Ecological and Environmental Stability / Water Sufficiency
Frequency of measurement	Annual
Baseline and reference year	Baseline is zero at the beginning of the year
Target and reference year	2019, 2020 & 2021 – Targets to be set
Data/information source and method of data collection	CLENRO keeps computer-based records of every tree planting and the numbers of trees planted.
Lead department (and contributing, if applicable)	CLENRO
Rationale for Indicator	Tree planting is an important intervention that CDO takes to promote reforestation
Known Data Limitations	The number of trees planted may be easy to gather but does not ensure that trees planted survive. Nor does it reflect whether tree planting is done in strategic locations with species that are well suited. These aspects of the city's efforts might be better studied in an evaluation or evaluative monitoring exercise.
Feasibility of the indicator	1 – this data is available.
REMARKS	

Fact Sheet Author	ATLAS
Last Update	August 14, 2019
Next Update	
Indicator	<i>Number of community planting efforts</i>
Level of Result	Output area—2.1) Reforestation
Definition and underlying concepts	The number of planting efforts should reflect efforts planned or encouraged by the city with community participation
Computation	Simple aggregation
Unit of Measurement	Event
Interpretation of the indicator value	This value provides another measure of the city's tree planting efforts
Unit of analysis/system of interest	CDO's environment
Geographical coverage	CDO-wide
Linkage with NCCAP thematic priorities	Ecological and Environmental Stability / Water Sufficiency
Frequency of measurement	Annual
Baseline and reference year	Baseline is zero at the beginning of the year
Target and reference year	2019, 2020 & 2021 – Targets to be set
Data/information source and method of data collection	CLENRO keeps computer-based records of every tree planting event.
Lead department (and contributing, if applicable)	CLENRO
Rationale for Indicator	Tree planting is an important intervention that CDO takes to promote reforestation. This indicator measures community involvement in reforestation efforts.
Known Data Limitations	The number of planting efforts may be easy to gather but does not ensure that trees planted survive. Nor does it reflect whether tree planting is done in strategic locations with species that are well suited. These aspects of the city's efforts might be better studied in an evaluation or evaluative monitoring exercise.
Feasibility of the indicator	1 – this data is available.
REMARKS	

Fact Sheet Author	ATLAS
Last Update	August 14, 2019
Next Update	
Indicator	<i>Number of hectares marine area rehabilitated</i>
Level of Result	Output area—2.2) Rehabilitation of marine area and rivers
Definition and underlying concepts	Hectares that have been rehabilitated should meet the city's standards according to CLENRO
Computation	Simple aggregation
Unit of Measurement	Hectares
Interpretation of the indicator value	This value should reflect the city's mangrove rehabilitation efforts
Unit of analysis/system of interest	CDO's municipal waters
Geographical coverage	CDO-wide
Linkage with NCCAP thematic priorities	Ecological and Environmental Stability
Frequency of measurement	Annual
Baseline and reference year	Baseline is zero at the beginning of the year
Target and reference year	2019, 2020 & 2021 – Targets to be set
Data/information source and method of data collection	CAO
Lead department (and contributing, if applicable)	CAO
Rationale for Indicator	The rehabilitation of marine areas is an important intervention that CDO takes to promote marine areas and mitigate risk to storm surge and flooding
Known Data Limitations	The number of hectares of marine area does not ensure that the work will be sustainable or whether it reflects the proper strategic priorities. These aspects of the city's efforts might be better studied in an evaluation or evaluative monitoring exercise.
Feasibility of the indicator	1 – this data is available.
REMARKS	

Fact Sheet Author	ATLAS
Last Update	August 14, 2019
Next Update	
Indicator	<i>Number of meters of riverbank rehabilitated</i>
Level of Result	Output area—2.2) Rehabilitation of marine area and rivers
Definition and underlying concepts	Meters of riverbank that have been rehabilitated should meet the city's standards according to CLENRO
Computation	Simple aggregation
Unit of Measurement	Meters
Interpretation of the indicator value	This value should reflect the city's riverbank rehabilitation efforts
Unit of analysis/system of interest	CDO's riverbanks
Geographical coverage	CDO-wide
Linkage with NCCAP thematic priorities	Ecological and Environmental Stability
Frequency of measurement	Annual
Baseline and reference year	Baseline is zero at the beginning of the year
Target and reference year	2019, 2020 & 2021 – Targets to be set
Data/information source and method of data collection	CLENRO
Lead department (and contributing, if applicable)	CLENRO
Rationale for Indicator	The rehabilitation of riverbanks is an important intervention that CDO takes to promote marine/river health and mitigate risk to storm surge and flooding
Known Data Limitations	The number of meters of riverbank rehabilitation does not ensure that the work will be sustainable or whether it reflects the proper strategic priorities. These aspects of the city's efforts might be better studied in an evaluation or evaluative monitoring exercise.
Feasibility of the indicator	1 – this data is available.
REMARKS	

Fact Sheet Author	ATLAS
Last Update	August 14, 2019
Next Update	
Indicator	<i>Number of environmental policies analyzed, drafted, approved, and implemented</i>
Level of Result	Output area—2.2) Rehabilitation of marine area and rivers
Definition and underlying concepts	<p>The LCCAP has a list of priority policies (to include laws, legal frameworks, or regulations). During a reporting period, a policy could be categorized as having achieved one or more of the following:</p> <ol style="list-style-type: none"> 1. Underwent analysis, public debate or consultation with stakeholders or experts 2. Drafted or revised 3. Received official approval 4. Substantially implemented <p>At reporting time, CDO should list the number of policies which achieve each designation. It is possible that one policy could have achieved one step (such as implementation), two steps (e.g., drafted and approved in one reporting period), or no steps. Policy processes are not always linear; a policy may be revised and then undergo additional consultation or debate before further drafting or approval. “Substantially implemented” means that the policy is in force in all or most intended geographic areas and at all or most intended administrative levels with all or most intended regulations/rules in place.</p>
Computation	Count the number of policies that fit each category; a policy may be counted in no category if no action has taken place, or more than one category if applicable.
Unit of Measurement	Policies
Interpretation of the indicator value	This indicator helps track actions toward implementation of rationally developed policy
Unit of analysis/system of interest	Policy status
Geographical coverage	CDO-wide
Linkage with NCCAP thematic priorities	Ecological and Environmental Stability
Frequency of measurement	Annual
Baseline and reference year	2019 – Baseline value is 0 for all categories
Target and reference year	2020 & 2021 – Targets to be set
Data/information source and method of data collection	CLENRO
Lead department (and contributing, if applicable)	CLENRO
Rationale for Indicator	This indicator captures important policy achievements and measures the city’s progress toward achieving its policy goals.
Known Data Limitations	The indicator does not capture the quality of policy making or the effect of the policy.
Feasibility of the indicator	1 – this data is available.
REMARKS	

Fact Sheet Author	ATLAS
Last Update	August 14, 2019
Next Update	
Indicator	<i>Number of irrigation or retention ponds constructed</i>
Level of Result	Output area—3.1) Agriculture infrastructure
Definition and underlying concepts	CEO's definition of "retention ponds" and "irrigation ponds"
Computation	Simple aggregation
Unit of Measurement	Pond
Interpretation of the indicator value	This value should reflect the city's pond construction efforts
Unit of analysis/system of interest	CDO's environment
Geographical coverage	CDO-wide
Linkage with NCCAP thematic priorities	Food Security
Frequency of measurement	Annual
Baseline and reference year	Baseline is zero at the beginning of 2019
Target and reference year	2019, 2020 & 2021 – Targets to be set
Data/information source and method of data collection	CEO keeps detailed records of all construction projects. While there are no irrigation structures currently or recently under construction, if there were, these would be recorded on CEO forms.
Lead department (and contributing, if applicable)	CEO
Rationale for Indicator	Pond construction is evidence of an important output needed to achieve improved agriculture efficiency and food security objectives, and mitigate climate risk such as drought.
Known Data Limitations	The number of ponds constructed may be easy to gather but does not ensure that ponds meet their intended food security objectives. Nor does it reflect whether ponds are constructed in strategic locations with accessibility and equity in mind. These aspects of the city's efforts might be better studied in an evaluation or evaluative monitoring exercise.
Feasibility of the indicator	1 – this data is available.
REMARKS	

Fact Sheet Author	ATLAS
Last Update	August 14, 2019
Next Update	
Indicator	<i>Number of climate-resilient seeds/seedlings distributed</i>
Level of Result	Output area—3.2) Agroforestry
Definition and underlying concepts	The number of seeds/seedlings distributed should consist of varieties selected according to CLENRO and CAO's strategy and specifications and distributed to the intended recipients
Computation	Simple aggregation
Unit of Measurement	Seeds/seedlings
Interpretation of the indicator value	This value should indicate the city's investment in Water Sufficiency
Unit of analysis/system of interest	CDO's environment
Geographical coverage	CDO-wide
Linkage with NCCAP thematic priorities	Food Security
Frequency of measurement	Annual
Baseline and reference year	Baseline is zero at the beginning of the year
Target and reference year	2019, 2020 & 2021 – Targets to be set
Data/information source and method of data collection	CLENRO, CAO
Lead department (and contributing, if applicable)	CLENRO, CAO
Rationale for Indicator	Seed/seedling planting is an important intervention that CDO takes to promote crop diversification and food security. Distributing climate resilient seeds/seedlings will also help communities mitigate climate risk from drought and flooding.
Known Data Limitations	The number of seeds/seedlings distributed may be easy to gather but does not ensure that they were planted or survived. Nor does it reflect whether recipients were strategically and equitably chosen or whether the varieties selected were well suited. The term "climate-resilient" needs to be defined by the city and applied consistently. These aspects of the city's efforts might be better studied in an evaluation or evaluative monitoring exercise.
Feasibility of the indicator	1 – this data is available.
REMARKS	

Fact Sheet Author	ATLAS
Last Update	August 14, 2019
Next Update	
Indicator	<i>Number of farmers trained in SALT</i>
Level of Result	Output area—3.2) Agroforestry
Definition and underlying concepts	“SALT training” will be defined by CAO’s definitions
Computation	Simple aggregation
Unit of Measurement	Farmers
Interpretation of the indicator value	This value should reflect the city’s efforts to engage farmers in better agroforestry practices
Unit of analysis/system of interest	CDO’s environment
Geographical coverage	CDO-wide
Linkage with NCCAP thematic priorities	Food Security
Frequency of measurement	Annual
Baseline and reference year	Baseline is zero at the beginning of the year
Target and reference year	2019, 2020 & 2021 – Targets to be set
Data/information source and method of data collection	CAO keeps paper-based training records for formal training events.
Lead department (and contributing, if applicable)	CAO
Rationale for Indicator	CAO intends to build sustainability into its investments by training farmers in techniques they can use to achieve crop diversification and improved biodiversity.
Known Data Limitations	CAO does informal trainings which are not captured in their records. Records of formal trainings are paper-based, which makes aggregation difficult. The number of farmers trained may be easy to gather but does not ensure that farmers have met learning objectives or will employ the training in their work. Nor does it reflect whether farmers were strategically chosen to participate. These aspects of the city’s efforts might be better studied in an evaluation or evaluative monitoring exercise.
Feasibility of the indicator	1 – this data is available.
REMARKS	

Fact Sheet Author	ATLAS
Last Update	August 14, 2019
Next Update	
Indicator	<i>Fisheries ordinance analyzed, drafted, approved and implemented</i>
Level of Result	Output area—3.3) Sustainable fishing
Definition and underlying concepts	<p>During a reporting period, CDO should report progress on the fisheries ordinance, including whether any of the following steps have been reached:</p> <ol style="list-style-type: none"> 1. Underwent analysis, public debate or consultation with stakeholders or experts 2. Drafted or revised 3. Received official approval 4. Substantially implemented <p>At reporting time, it is possible that more than one step had been accomplished, or that no step had. Policy processes are not always linear; a policy may be revised and then undergo additional consultation or debate before further drafting or approval. “Substantially implemented” means that the ordinance is in force in all or most intended geographic areas and at all or most intended administrative levels with all or most intended regulations/rules in place.</p>
Computation	N/A
Unit of Measurement	Category
Interpretation of the indicator value	This is a categorical measure of progress toward ordinance approval and implementation
Unit of analysis/system of interest	Policy status
Geographical coverage	CDO-wide
Linkage with NCCAP thematic priorities	Food Security
Frequency of measurement	Annual
Baseline and reference year	2019 – Baseline value is no achievement
Target and reference year	2020 & 2021 – Targets to be set
Data/information source and method of data collection	CAO
Lead department (and contributing, if applicable)	CAO
Rationale for Indicator	This indicator captures important policy achievement
Known Data Limitations	The indicator does not capture the quality of the ordinance or the impact it will have
Feasibility of the indicator	1 – this data is available.
REMARKS	

Fact Sheet Author	ATLAS
Last Update	August 14, 2019
Next Update	
Indicator	<i>Number of irrigation structures constructed</i>
Level of Result	Output area—4.2) Agriculture infrastructure for water management
Definition and underlying concepts	CEO's definition of "irrigation structures"
Computation	Simple aggregation
Unit of Measurement	Irrigation structures
Interpretation of the indicator value	This value should reflect the city's irrigation construction efforts
Unit of analysis/system of interest	CDO's environment
Geographical coverage	CDO-wide
Linkage with NCCAP thematic priorities	Water Sufficiency
Frequency of measurement	Annual
Baseline and reference year	Baseline is zero at the beginning of the year
Target and reference year	2019, 2020 & 2021 – Targets to be set
Data/information source and method of data collection	CEO keeps detailed records of all construction projects. While there are no irrigation structures currently or recently under construction, if there were, these would be recorded on CEO forms.
Lead department (and contributing, if applicable)	CEO
Rationale for Indicator	Irrigation construction is evidence of an important output needed to achieve improved Water Sufficiency objectives and increase the resilience of communities to climate risks, particularly from drought.
Known Data Limitations	The number of irrigation structures constructed may be easy to gather but does not ensure that the structures meet their intended Water Sufficiency objectives. Nor does it reflect whether they are constructed in strategic locations with accessibility and equity in mind. These aspects of the city's efforts might be better studied in an evaluation or evaluative monitoring exercise.
Feasibility of the indicator	1 – this data is available.
REMARKS	

Fact Sheet Author	ATLAS
Last Update	August 14, 2019
Next Update	
Indicator	<i>Number of water management policies analyzed, drafted, approved and implemented</i>
Level of Result	Output area—4.3) Water management
Definition and underlying concepts	<p>The LCCAP includes a number of water management policies (to include laws, legal frameworks, or regulations). During a reporting period, a policy could be categorized as having achieved one or more of the following:</p> <ol style="list-style-type: none"> 1. Underwent analysis, public debate or consultation with stakeholders or experts 2. Drafted or revised 3. Received official approval 4. Substantially implemented <p>At reporting time, CDO should the number of water management policies which achieve each designation. It is possible that one policy could have achieved one step (such as implementation), two steps (e.g., drafted and approved in one reporting period), or no steps. Policy processes are not always linear; a policy may be revised and then undergo additional consultation or debate before further drafting or approval. “Substantially implemented” means that the policy is in force in all or most intended geographic areas and at all or most intended administrative levels with all or most intended regulations/rules in place.</p>
Computation	Count the number of policies that fit each category; a policy may be counted in no category if no action has taken place, or more than one category if applicable.
Unit of Measurement	Policies
Interpretation of the indicator value	This is a simple count of policies that fit each category
Unit of analysis/system of interest	Policy status
Geographical coverage	CDO-wide
Linkage with NCCAP thematic priorities	Water Sufficiency
Frequency of measurement	Annual
Baseline and reference year	2019 – Baseline value is 0
Target and reference year	2020 & 2021 – Targets to be set
Data/information source and method of data collection	CLENRO
Lead department (and contributing, if applicable)	CLENRO
Rationale for Indicator	This indicator captures an important policy achievements and measures the city’s progress toward achieving its policy goals.
Known Data Limitations	The indicator does not capture the quality of policy making or the effect of the policy.
Feasibility of the indicator	1 – this data is available.
REMARKS	

ANNEX B: SAMPLE AGENDA FOR YEARLY CCA PERFORMANCE REVIEW

The TWG should treat the LCCAP as a living document which guides decision-making. On a yearly basis, it is important to have an opportunity to pause and reflect on the status of climate change, the appropriateness of the LCCAP goals, and the performance of the PPAs in relation to the goals. Below is a sample agenda for a half-day meeting on CDO's climate change agenda.

Participants: It is important that the Mayor's Office fully participates in the yearly review, so as to reflect the importance of climate change as a multi-sectoral effort across the city. Each of the nine departments involved in the LCCAP should send their TWG members, at a minimum, as well as the respective department heads. Permanent CSO members of the TWG should also attend, in addition to other key partners such as Xavier University and the Cagayan de Oro River Basin Management Council.

Preparation: If there is an annual report on LCCAP, those data will form the basis for the morning presentations and group discussions. If there is no regular reporting on the LCCAP, the CPDO should organize an effort to collect as many data as possible for presentation. If there is no regular reporting, data presented and notes from this exercise can serve as documentation. In either case, a notetaker should be appointed to take notes and distribute them following the meeting.

As long as there is no permanent office for climate change, it is recommended that CPDO chair the discussion. The city's annual meeting may also be an opportunity to invite a representative from the national Climate Change Commission to brief the audience on any updates at the national level and the implications for LGUs.

Table 12. Agenda for Annual LCCAP Meeting

TIME	LEAD	TOPIC
8:30 – 8:45	Mayor’s Office	Welcome
8:45 – 9:15	Representative, Climate Change Commission	Updates from the national CCC office and Q&A
9:15 – 10:15	CPDO	Updates from latest CVA/hazard map and discussion <ul style="list-style-type: none"> • Are the latest data different than expected? • What are the implications for the LCCAP? • What are the implications for each department?
10:15 – 10:30	---	BREAK
10:30 – 11:15	CPDO	Review of Ultimate Outcome and Hazard Maps <ul style="list-style-type: none"> • Is our outcome appropriate? • Is the target appropriate? • How is the city doing on its ultimate goal of reducing risk from climate change?
11:15 – 12:00	CPDO	Review of Intermediate Outcomes and Indicators <ul style="list-style-type: none"> • How is the city doing reaching its objectives? • What are the implications for programming? • Are the objectives still relevant and priority? • Are the indicators and targets appropriate? • Do we need additional data to determine success?
12:00 – 1:00	---	LUNCH
1:00 – 1:30	Dept/CSO breakout sessions	Depts & CSOs take time to organize for presentation: <ul style="list-style-type: none"> • Updates on CCA PPA status (or activity for CSOs) • “How do your PPAs contribute to CCA and how do you know?” • Any ways to improve PPA management to have more effect on CCA? • Any ways the department can improve CCA impact? • Any recommended revisions to the LCCAP?
1:30 – 3:00	CPDO (Facilitator)	Department/CSO Presentations
3:00 – 3:30	CPDO	Discussion of revisions to LCCAP and next steps

ANNEX C: SAMPLE SITE VISIT FORM

Date:	Department:
PPA:	
Name and Position of Lead Staff:	
Name and Position of Others Accompanying:	
PRE-SITE VISIT QUESTIONS	
1. Date of last site visit	
2. Key findings from last site visits, including points for follow-up	
3. Any concerns about the progress of this PPA to follow up on?	
4. Summarize the overall objective of this PPA	
QUESTIONS DURING SITE VISIT	
5. Name, Position of Key Contact	
6. Is this PPA on track to meeting its spending and output targets? Why or why not?	
7. Have any previous concerns been addressed satisfactorily?	
8. Did you talk with community members?	Yes () No ()
9. (If yes) What views do community members have on this PPA? Note key points of concern. Take contact information if needed for follow-up.	
10. Overall, is this PPA on track to meet its objectives? Why or why not?	
11. Notes points for follow-up during next visit	
12. Next visit scheduled:	

ANNEX D: LIST OF INTERVIEWS

NAME	TITLE	ORGANIZATION	EMAIL
Ninfa Albania	City Program Coordinator	SURGE	nalbania@surge.org.ph
Eileen San Juan	Local Economic and Investment Promotion Officer / Overall Coordinator	Trade and Investment Promotion Center / Cagayan de Oro Resilience Team for National Resilience Council's pilot project	sanjuan_eileen@yahoo.com.ph / investcdo@cagayandoro.gov.ph
Chedilyn Aissa P. Dulguime	City Coordinator, Cagayan de Oro	Building Climate Resilience through Urban Plans and Designs (BCRUPD) Project United Nations Human Settlements Programme	chedilyn.dulguime@gmail.com
Engr Isidro Borja	Department Head	City Planning and Development Office	sidborja@yahoo.com
EnP Armen Cuenca	Department Head	City Local Environment and Natural Resources Office	cuenca_cdo@yahoo.com
EnP Ramir Balquin	Asst. Department Head	City Planning and Development Office	ramir.balquin@gmail.com
Engr. Rolando M. Pacuribot	City Engineer	Department of Engineering and Public Works	
Engr. Dexter Lo	Director, Institutional Societal Engagement	Xavier University	dlo@xu.edu.ph
Kristine Galarrita	Executive Director	Macajalar Bay Development Alliance	krisgals07@yahoo.com
Dr. Hilly Ann Quiaoit Roa	Executive Director	Cagayan de Oro River Basin Management Council	hquiaoit@gmail.com
EnP Elvisa Mabelin	Assistant CLENRO	City Local Environment and Natural Resources Office	elvisamabelin@gmail.com
Kenneth Valde	Assistant, Planning Division	City Engineer's Office	
Atty. Beda Joy B. Elot	City Accountant	City Accounting Office	
Elmer Wabe	Assistant City Budget Officer	City Budget Office	
Ms. Mirasol Mojello		CDRRMD	cdo.oroescue911@gmail.com
Erika Carmella Inovero	Research and Development Officer	CDRRMD	cdo.oroescue911@gmail.com
Luisa Sabuga-a	Asst. Researcher	CDRRMD	cdo.oroescue911@gmail.com
Engr Bernie Daba	Engineer I	City Agriculture Office	berniedaba14@gmail.com
Natalie Dulla		City Agriculture Office	
Allen Borja	Information Technology Officer	City Housing and Urban Development Dept (CHUDD)	chudd.udp@gmail.com

Engr Jeo M. Valerio	Focal Person for CPMEC/Monitoring	CPDO	valeriojeo@gmail.com
Simeon Josaphat J. Licaya	Chief - Project Monitoring Div/GIS Services	CPDO	bonglix@gmail.com
Cletus J. Vallar	Staff - Project Monitoring Div/GIS Services	CPDO	klitvals@yahoo.com
Marilita S. Dadivas	Chief, Administrative Services	CPDO	litasionilodadivas@gmail.com
Vanessa Lei N. Talosig	Staff, Planning Division/Zoning	CPDO	vntalosig@gmail.com
Mabel M. Marte	Chief, Project Evaluation Division/Social Sector	CPDO	mabelvmarte@gmail.com
Engr. Ferdinand D. Dy	Staff, Planning Division/Zoning	CPDO	ferdinandy@gmail.com
Engr Alfredo M. Nambatac	Chief, Planning Division/Zoning	CPDO	cpdo.cdeo@gmail.com
Engr Joel V. Momongan	Staff, Project Evaluation Division/Social Sector	CPDO	cpdo.cdeo@gmail.com

ANNEX E: TRAINING RESOURCES

Capacity building in M&E and CCA principles and methods will help ensure the city is able to design, implement, monitor and manage appropriate and effective CCA activities. Training sessions should be conducted by a third party such as a training institute, university, donor, a consultant hired by the LGU. The following resources are intended not as out-of-the-box training resources, but rather as informational tools to provide ideas for training topics and course content.

M&E TRAINING RESOURCES

[USAID Monitoring and Evaluation Training Curriculum](#)—Provides an in-depth session guide, a facilitator’s guide, a sample agenda, training handouts, and session presentation slides. Covers the following topics: Planning, Developing an M&E Logic Framework, Defining Indicators, Data Collection, Making Data Usable, Using Data for Making Decisions, and M&E Plans.

[MEASURE Evaluation M&E Fundamentals: A Self-Guided Minicourse](#)—Covers the basics of program monitoring and evaluation (in the context of population, health, and nutrition programs), including the following topics: M&E terminology; M&E Fundamentals; Basic M&E Concepts; M&E Plans; Frameworks; Indicators; and Data Sources.

[UNDP Monitoring and Evaluation Training Guide](#)—Provides exercises, session notes and agendas for conducting training sessions ranging from one and a half hours to two days. Covers a variety of topics, including: Basic Introduction to the Monitoring & Evaluation Framework; Essentials of Monitoring & Evaluation - Indicators and Outcome Monitoring; and Essentials of Monitoring & Evaluation.

Local resources: [Xavier University - Governance and Leadership Institute](#), [Pilipinas Monitoring and Evaluation Society](#), [Asian Institute of Management: Monitoring and Evaluation for Results](#)

CCA TRAINING RESOURCES

[USAID Urban Climate Change Adaptation and Resilience Training Manual](#)—Aimed at improving climate change knowledge among mid- to senior-level managers working in urban and infrastructure planning. Provides training resources for a seven-module, five-day course covering the following topics: introduction to climate change and climate change adaptation; tools and techniques for assessing climate change impacts and vulnerabilities; identification, evaluation, selection, and implementation of climate adaptation strategies, programs and projects; and financing adaptation projects and methods of accessing climate change finance.

[USAID LEAF Project's Regional Climate Change Curriculum](#)—Provides an online repository of curriculum materials, including presentations, lecturer notes and supporting materials. The curriculum covers the following topics: climate concepts, social and environmental issues, land use planning, and carbon measurement.

[USAID CREL Project's Climate-Resilient Ecosystem Curriculum](#)—Provides five university-level curricula on aspects of climate change and ecosystem management and conservation, including the following topics: Climate Change; REDD+; Forest Carbon Measurement; Ecosystem Conservation; Co-management of Natural Resources.

[WeADAPT Climate Adaptation Training](#)—A collection of modules developed and refined through training workshops and short courses on climate information analysis, vulnerability assessment and adaptation planning. Provides links to a wide range of online modules, as well as links to international training programs and courses.

Local resources: [Ateneo School of Government - Climate Change, Development, and Environmental Governance Program](#); [Local Climate Change Adaptation for Development](#)

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