November 10, 2017

STRATEGIC PROGRAM ON CLIMATE RESILIENCE (SPCR)

GOVERNMENT OF THE PHILIPPINES

RISK RESILIENCY AND SUSTAINABILITY PROGRAM PHASE I[1] (RRSP Phase 1: 2018 - 2022)

1The Government of the Philippines prefers to use the name ―Risk Resiliency and Sustainability Programme (RRSP) rather than ―Strategic Programme for Climate Resilience (SPCR). In the remainder of this document the former name will be used.

GOVERNMENT OF THE PHILIPPINES
RISK RESILIENCY AND SUSTAINABILITY PROGRAM (RRSP)

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ABBREVIATIONS AND ACRONYMS

AMIA	Adaptation and Mitigation Initiative in Agriculture, DA
BPF	Budget Priorities Framework
COA	Commission on Audit
CSOs	Civil Society Organizations
CPS	Country Partnership Strategy
CCAM-DRR	Climate Change Adaptation andMitigation- Disaster Risk Reduction
CC	Climate Change
CCC	Climate Change Commission
CCET	Climate Change Expenditure Tagging
CIFs	Climate Investment Funds
DA	Department of Agriculture
DBM	Department of Budget and Management
DENR	Department of Environment and Natural Resources
DILG	Department of Interior and Local Government
DOF	Department of Finance
DPWH	Department of Public Works and Highways
DRRM	Disaster Risk Reduction and Management
ENSO	El Niño Southern Oscillation
FASPS	Foreign Assisted and Special Projects Service, DENR
FY	Fiscal Year
GDP	Gross Domestic Product
GOP	Government of the Philippines
HLURB	Housing and Land Use Regulatory Board
IMF	International Monetary Fund
LCCAP	Local Climate Change Action Plan
LGU	Local Government Unit
MDB	Multilateral Development Bank
MMDA	Metro Manila Development Authority
MRB	Major River Basin
NCCAP	National Climate Change Action Plan
NDRRMC	National Disaster Risk Reduction and Management Council
NEDA	National Economic and Development Authority
NGAs	National Government Agencies
NGOs	Non-Governmental Organizations
ODA	Overseas Development Assistance
PAGASA	Philippine Atmospheric, Geophysical and Astronomical Services Administration
PCB	Program Convergence Budgeting
PDO	Project Development Objective
PDP	Philippine Development Plan
PEM	Public Expenditure Management
PFM	Public Financial Management
PHP	Philippine Peso
PIP	Public Investment Plan
PPCR	Pilot Program for Climate Resilience
PSF	People's Survival Fund
RRP	Risk Resiliency Program
RRSP	Risk Resiliency and Sustainability Program

SDGs	Sustainable Development Goals
SPCR	Strategic Program on Climate Resilience
USD	United States Dollar
WRI	World Risk Index

SUMMARY OF THE PHILIPPINES'S STRATEGIC PROGRAM FOR CLIMATE RESILIENCE

PILOT PROGRAM FOR CLIMATE RESILIENCE **Summary of the Philippines Risk Resiliency Program**		
1. **Country/Region**:	Philippines/East Asia and Pacific	
2. **PPCR Funding Request (in USD million):**	Grant: 395.62	Loan: 0
3. **National PPCR Focal Point**:	Undersecretary Analiza Rebuelta-Teh, Department of Environment and Natural Resources (DENR)	
4. **National Implementing Agency** (Coordination of Strategic Program)**:**	Implementation/Coordination: Department of Environment and Natural Resources (DENR); Oversight Responsibility: Cabinet Cluster on Climate Change and Disaster Risk Reduction (CCAM DRR) of the Government of the Philippines (Chaired by the Secretary of DENR)	
5. **Involved MDB**	World Bank (lead); and Asia Development Bank (ADB)	
6. **MDB PPCR Focal Point and Project/Program Task Team Leader (TTL)**:	WB Headquarters-PPCR Focal Point: Kanta Kumari Rigaud ADB Focal Point: Preety Bhandari, pbhandari@ADB.org	*World Bank:* Maurice Andres Rawlins *ADB*: Xianfu Lu

7. **Description of SPCR:**

(a) Key challenges related to vulnerability to climate change/variability: The Philippines is among the most vulnerable countries to climate variability and change, and is already feeling its adverse impacts. The Philippines' rural, coastal and peri-urban populations face numerous climate risks that amplify the costs of development. Non-climate factors, such as fast-growing environmental deterioration and unsustainable development practices, aggravate climate vulnerability in the Philippines. It is exposed to several climate hazards, which generate associated adverse socio-economic impacts, and which are expected to increase in the future. These hazards include: flooding, landslides, wind damage, drought and coastal erosion, all of which occur in areas with large concentrations of population. Climate change trends, which also are contributing to climate hazards, include: increasing surface temperatures; increasing frequency and intensity of rainfall and typhoons; sea level rise.

(b) The Philippines' priorities for climate resilience are drawn from among the priority areas of the NCCAP; these include food security, water sufficiency, and environmental and ecological sustainability. Accordingly, the agriculture, coastal, and water sectors are high priority for climate resilience in the Philippines. Agreed RRSP strategic themes: (i) strengthening the enabling environment for climate change adaptation and risk management at the national and local level; (ii) improving the management of ecosystems to enhance their resilience; (iii) reducing the vulnerability of physical assets through developing protective and resilient infrastructure; (iv) increasing the adaptive and coping capacity of communities through development of sustainable livelihoods.

(c) Expected Outcomes from the Implementation of the RRSP: (i) Strengthened and effective RRSP "enabling" environment at national and target subnational levels; (ii) Enhanced management, stability and resilience of key ecosystems in target areas (coastal, forest, peri-urban); (iii) Reduced vulnerability of physical assets through prioritized protective and resilient infrastructure; and (iv) Increased adaptive and coping capacities through sustainable and resilient livelihoods of vulnerable agricultural, fishing, and upland communities.

8. **Expected Key results from the Implementation of the Investment Strategy (consistent with PPCR Results Framework):**

Result (Impact and Outcome Levels)	**Success Indicator(s)**
Impact Level: 1: Reduction in the loss of life due to climate-related risk	1: No. and % reduction in the loss of life due to climate-related risk
2: Reduction in the total value of property damage, assets and losses due to climate-related risks	2: % reduction in the total value of property damage, assets and losses due to climate-related risks

3: Recovery internally generated revenues from climate shocks and extreme events for Local Government Units (LGUs).	3: % recovery of LGUs revenues after 2 years
4: Increased climate resilience of vulnerable population	4: Risk Resilience Index (measured in % terms, with higher % reflecting higher degree of resilience).
Outcome1.1: Increased CC resilient investments at national and subnational level; Outcome 1.2: Formulation, approval and operationalization of a national and regional CC knowledge management system for climate resilience	Outcome Indicator 1.1: Amount and % increase of CC resilient investments at national and subnational level; Outcome Indicator 1.2: Status of formulation (Y or N), approval (Y or N), and operationalization (H, M, L) of a national and regional CC knowledge management system for climate resilience
Outcome 2.1: Increased area of coastal and forest ecosystems protected and rehabilitated in prioritized landscapes	Outcome Indicator 2.1: No. of hectares. and % increase of area of coastal and forest ecosystems protected and rehabilitated in prioritized landscapes
Outome 2.2: Formulation, approval & Implementation of incentive mechanisms (e.g., cost sharing) and market-based instruments for enhanced ecosystem-based management in priority LGUs	Outcome Indicator 2.2: No. of formulated (Y or N) approved (Y or N) and implemented (H, M, L) incentive mechanisms and market-based instruments for enhanced ecosystem-based management in priority LGUs
Outcome 3.1: National and LGUs adoption of climate resilience design standards (2015 Design Guidelines, Criteria and Standards and other existing legislation and guidelines)	Outcome Indicator 3.1: No. of. NGAs and LGUs adopting climate resilience standard
Outcome 3.2: Increased financing of resilient infrastructures which are serving concentrations of vulnerable population	Outcome Indicator 3.2: Amount and % increase of financing of resilient infrastructures which are serving concentrations of vulnerable population
Outcome 4.1: Increased diversity of viable livelihoods linked to the markets (and incomes) (especially those not dependent on the natural resources of vulnerable target groups)	Outcome Indicator 4.1.1: Percentage of total household incomes derived from major livelihoods (as proxy measure for HH livelihood diversification); Outcome Indicator 4.1.2: No. and % increase of HH engaged in viable alternative livelihood initiatives
Outcome 4.2: Improved access to enterprise support facilities, financing and social protection support	Outcome Indicator 4.2: No. and % of HHs with improved access to enterprise support facilities, risk insurance coverage, financing and social protection support, with focus on MSME and informal sectors

9. **Project and Program Concepts under the SPCR:**

Sub-Project/Program Concept Title	**MDB**	**Requested potential PPCR Amount ($ M)[2]**			**Expected co-financing ($)**	**Preparation grant request (US$M)**	**Total request for resilience building[3]**	**Potential MDB Fee[4]**
		TOTAL (US$M)	**Grant**	**Loan**				
1) Enhancing Climate Information Services for Decision-Making	TBD	19.64	TBD	TBD	TBD	0.75	TBD	TBD
2) Enhancing coastal protection in selected areas of the Philippines	TBD	57.1	TBD	TBD	TBD	1.5	TBD	TBD
3) Integrated Water Resources Management Project	ADB	250.41	TBD	155.0	TBD	1.5	TBD	TBD
4) Social Enterprise Development, Entrepreneurship and Innovation	TBD	68.45	TBD	TBD	TBD	1.25	TBD	TBD

[2] Includes preparation grant and project/program amount. This section to be filled out should PPCR funding be available only.
[3] Other than PPCR resources
[4] To be filled by MDB submitting the project. This section to be filled out should PPCR funding be available only.

TOTAL		395.62	TBD	155.0	TBD	5.0	TBD	

10. **Timeframe**[5] Milestones: TBD; it is expected that detailed preparation work will aim to show a timeframe during 2018 – 2022 for the identified/prioritized/agreed subprojects which will be implemented in accordance with the proposed operational cycle. An initial 4 subprojects have been identified:
Sub-Project 1: Enhancing Climate Information Services for Decision-Making;
Sub-Project 2: Enhancing coastal protection in selected areas of the Philippines.
Sub-project 3: Integrated Water Resources Management Project.
Sub-project 4: Social Enterprise Development, Entrepreneurship and Innovation
Other Subprojects: to be identified as part of detailed preparation and also during implementation phase.

11. **Key national stakeholder Groups involved in SPCR design**[6]: National Government Agencies (NGAs): DENR; Department of Agriculture (DA); Department of Social Welfare and Development (DSWD); Department of Public Works and Housing (DPWH); Department of Interior and Local Government (DILG); Department of Budget and Management (DBM); Department of Finance (DOF).
Local Government Units (LGUs): Targeted Provinces (10): Masbate, Sorsogon, Negros Oriental, Samar, Surigao del Norte, Surigao del Sur, Dinagat, Maguindanao, Lanao del Sur, Saranganni.
Regional Development Councils: Caraga (Region 13); Bicol (Region 5); Eastern Visayas (Region 8); Central Visayas (Region 7); Soccsksargen (Region 12); Autonomous Region in Muslim Mindanao (ARMM)
NGOs: To be defined
Academia: To be defined
Private Sector: To be defined
MDBs/Development Partners: World Bank; Asian Development Bank; European Union; USAID; AusAID; Austria Aid; JICA; CIDA (Canada); SIDA (Sweden); KOIKA; UNDP

12. **Other Partners involved in SPCR:** To be defined

[5] Expected signature of loan/grant agreement between government and implementing agency.
[6] Other local, national and international partners expected to be involved in design and implementation of the strategy.

EXECUTIVE SUMMARY

Overview

i. The Government of the Philippines' (GOP) Strategic Program for Climate Resilience (SPCR) is a framework program to improve the efficiency and effectiveness of responses to climate change (CC) through promoting a better resilience "enabling environment", adapted and more resilient ecosystems, strategic resilience infrastructure and strengthened livelihoods in target vulnerable areas across the Philippine landscape. The SPCR for the Philippines is called the Risk Resiliency and Sustainability Program (RRSP). It supports and is strongly aligned with GOP's long-term and medium-term development plans: AmBisyon Natin 2040 and the Philippine Development Plan/PDP 2017-2022; the latter aims to "strengthen resilience to climate and disaster risks". The RRSP is designed to help operationalize in an integrated, coherent and phased manner the: (a) Philippines' national resilience program called the Risk Resiliency Program (RRP); (b) National Climate Change Action Plan (NCCAP); and(c) the Local Climate Change Action Plans (LCCAP) at the LGU level.

ii. Part 1 presents the national and sub-national context in which RRSP has been formulated, especially with respect to assessing the main climate resilience "gaps". Part 2 outlines the main design and implementation features of the proposed Phase 1 of RRSP (2018 – 2022), driven by a theory of change and supporting results framework, and informed by evidenced-based studies/experience and extensive multi-stakeholder consultations. Accordingly, the main development objective of the RRSP is to strengthen: (i) the "enabling environment" and key multi-stakeholder institutional capacities and knowledge management systems to effectively address climate change risks in the Philippines; and (ii) the climate change resiliency of strategic ecosystems, priority infrastructure assets, and livelihoods of vulnerable groups and communities in prioritized landscapes.

Part 1: Background and Context

iii. Intensifying Climate Change (CC) Challenges. The Philippines is among the most vulnerable countries to climate variability and change, and is already feeling its adverse impacts. The Philippines' rural, coastal and peri-urban populations face numerous climate risks that amplify the costs of development. Non-climate factors, such as fast-growing environmental deterioration and unsustainable development practices, aggravate climate vulnerability in the Philippines. It is exposed to several climate hazards, which generate associated adverse socio-economic impacts, and which are expected to increase in the future. These hazards include flooding, landslides, wind damage, drought and coastal erosion which occur in areas with large concentrations of population. Climate change trends, which also are contributing to climate hazards, include: increasing surface temperatures; increasing frequency and intensity of rainfall and typhoons; sea level rise.

iv. Government's Response, Emerging Gaps and CC Risks. GOP has recognized CC as an overarching sustainable development and social equity issue. GOP has demonstrated strong commitment to developing and implementing in a coordinated manner a comprehensive climate change policy (e.g., National CC Act of 2009), strategies, institutional reform agenda and priority investments (e.g., RRP, climate budgeting system climate change expenditure tagging, program convergence budgeting). Notwithstanding this progress in addressing climate change challenges and risks, the GoP acknowledges that, based on the emerging results from the national response to climate change and to addressing the findings from the recent CC "gap" assessment exercise, the response and interventions to CC remain fragmented and limited in scope and effectiveness, and therefore needs further improvement on a programmatic basis, taking a phased approach.

Part 2: Key Design and Implementation Features of RRSP

v. "Organic Design" and Rationale. Based on recent climate change assessment/"gap" analyses in the Philippines, identified strategic lessons emerging from several climate change studies in the Philippines with respect to various CC interventions, the recent comprehensive multi-stakeholder CC consultation process, a RRSP theory of change and supporting results framework (demonstrating strong linkages and synergies), GOP, together with World Bank technical support, has taken an "organic" approach to formulating a draft RRSP Phase 1 for the period 2018 2022. The value-addition of the RRSP is the transformation of the CCAM-DRR objectives into a nation-wide program for Climate Adaptation and Disaster Reduction, through which to more efficiently catalyze, direct, and monitor funding and investments in ways that lead to more efficient and effective achievement of measurable outcomes, linked to the NCCAP and convergent-sectoral targets. More

specifically, through the proposed RRSP, there would be: (a) enhanced alignment of budget and activity planning with specific and measurable indicators of the extent to which climate-related risk reduction and resiliency objectives are being met; (b) enhanced quality of design and implementation of activities, including convergence,local participation and sustainability of investments; and (c) increased level and quality of financing for adaptation activities/investments, including mainstreaming of adaptation elements into regular programs, activities and projects (PAPs). Moreover, RRSP is a country-owned program, which is comprehensive in scope and presents a medium-term vision for the country's efforts on climate resilience,strongly aligned with the National Climate Change Action Plan (NCCAP) 2011-2028 and the national Philippine Development Plan (PDP) 2017-2022. RRSP prioritizes investments that the country deems important for helping to enhance climate resilience, supported with a sound financing strategy. This approach can enhance the Government's capacity and prospects for accessing financing from various fund sources (e.g., GCF).

vi. RRSP Development Objective. Accordingly, The RRSP Phase 1 program objective, by end-2022, as part of a long-term phased program, is: to strengthen multi-stakeholder institutional and adaptive capacities and knowledge/practices to effectively address climate risks and disaster preparedness; and to strengthen the resiliency of strategic ecosystems, priority infrastructure assets, and livelihoods of target resource-based communities in prioritized landscapes. Strategic impacts are expected to include: reduction in the loss of life due to climate-related risk; reduction in the total value of property damage, assets and losses due to climate-related risks; recovery of internally generated revenues from climate shocks and extreme events for LGUs; and increased climate resilience of vulnerable population.

vii. Result Areas, Approach to Prioritization of Interventions, and Delivery Model and Operational Cycle. The design process has identified four result areas/RAs (or components): (a) RA1: Strengthened and effective RRSP "enabling" environment at national and target subnational levels; (b) RA2: Enhanced management, stability and resilience of key ecosystems in target areas (coastal, forest, peri-urban); (c) RA3: Reduced vulnerability of physical assets through prioritized protective and resilient infrastructure; and (d) RA4: Increased adaptive and coping capacities through sustainable and resilient livelihoods of vulnerable agricultural, fishing, and upland communities. The results of the gap analyses, the extensive multi-stakeholder consultations and the application of the geographical and investment/subproject prioritization criteria have played a key role in helping to identify more precisely the main types of investments/activities which comprise a "menu" of priority interventions. The actual activities will be selected based on a combined demand-supply approach, to be driven by the target stakeholders and RRSP technical staff at the target Provincial and Municipal levels. The actual implementation of the interventions will be driven by agreed RRSP prioritization criteria and operational cycle guidelines (guiding NGA and LGU roles) to help ensure the most appropriate and strategic mix and sequencing of interventions which will contribute to the expected impacts and outcomes, and their associated targets.

viii. Institutional Implementation Arrangements and Roles. RRSP preparation work led by the DENR identified and carefully assessed various institutional/implementation and delivery options, models, and principles which defined the most suitable institutional and implementation arrangements. The main features of the implementation arrangements and roles include: a RRSP National Program Advisory Board (NPAB), a lean Program Support Office, multi-stakeholder Regional Development Councils (RDCs), National Government Agencies (NGAs) and Local Government Units (LGUs).

ix. Initial Investment Sub-Projects. Based on the four result areas/components and the envisioned RRSP Phase 1 impacts and outcomes, preparation work has identified and costedfourstrategic and prototype investment sub-projects (SPs). These SPs will provide the initial strategic interventions,contribute to key aspects of the 4 RAs, and provide core inputs for total cost estimates of RRSP Phase 1:SP1: Enhancing Climate Information Services for Decision-Making; SP2: Enhancing coastal protection in selected areas of the Philippines; SP3:Integrated Water Resources Management; and SP4: Social Enterprise Development, Entrepreneurship and Innovations. These fourSPs will be complemented by additional interventions (or subprojects) which will be identified, prioritized and implemented during RRSP Phase 1 implementation, based on the application of the demand-driven RRSP delivery model and operational cycle.

x. Framework of Costs. GOP is allocating substantial fiscal support to enhance the adaptive capacity and resilience of communities to address climate risks. At the national level, six agencies (NGAs) that provide direct services to the most climate and disaster vulnerable sectors and population groups have proposed to allocate Php 856 Billion (US$17 Billion) for the period 2017-2022. Indicative cost estimates for the proposed RRSP Phase 1 (2018-2022) will be based on the four distinct result areas (RAs)/components, and disaggregated according to sub-components, and NGA and LGU implementation and financing responsibility. Taking a bottom-up approach to costing RRSP Phase 1, thus far preparation work has focused on formulating the design features and preliminary costs of the four strategic SPs. These investment costs are estimated to total PHP 19. 8 Billion (or US $395.6 Million). Building on these prototype SPs, the total costs for interventions to be prioritized and implemented under the proposed RRSP Phase 1 are in the process of being estimated, taking into account realistic financing scenarios.

xi. Framework Financing Strategy. Over the past 5 years, GOP has built its overall climate financing effort under two pillars: (1) disaster response financing and disaster risk insurance; and (2) climate adaptation, resilience building and disaster risk reduction investment. The two pillars indicate a movement from a singular and specific focus on affected institutions or locations to a more integrated focus towards addressing CC risks. The first pillar focuses on the development of specialized financial instruments for risk-oriented components across government levels that cannot be addressed via mainstreaming measures. The second pillar will enhance the effectiveness of instruments under the first pillar by working to enhance resilience through the mainstreaming of climate and disaster risk reduction in plans and programs, including in conventional planning processes, project design and development decision-making. The RRSP will contribute to the evolution and effectiveness of the second pillar. The specific financing strategy and plan for the proposed investment project is still being determined within GOP. At this time, GOP envisions a blend of financing for resilience investment projects that includes: regular government budget; dedicated domestic special purpose funds for climate and disaster resilience such as the People's Survival Fund (PSF) and Local Disaster Risk Reduction and Management Fund (LDRRMF); overseas development assistance (grants and loans); international climate finance sources such as the Green Climate Fund (GCF) and Global Environmental Facility (GEF); and private sector investments, including green bonds. Further preparation work will firm up the costs and financing plan.

xii. Framework of Benefits. The expected tangible benefits, especially accruing to vulnerable households, from the Phase 1 RRSP interventions are expected to include: (a) impact level benefits cited above (see para. vi); (b) Strengthened multi-stakeholder and institutional capacities, with special emphasis on: operationalized knowledge management systems for climate resilience; enhanced joint resilience convergence and mainstreamed planning and budgetary processes and results; and increased level & quality of prioritized resilience expenditures; (c) strengthened ecosystems, especially with respect to: protection & rehabilitation of coastal and forest areas; reduction in damage to flooding & storm surge; use of incentive mechanisms & market-based instruments for ecosystem management; (d) enhanced resilient infrastructure, especially involving:adoption of resilience design standards; increased coverage with risk insurance for Govt. assets; financing of key resilience infrastructure (e.g., roads, flood control); and (e) improved Adaptive Capacities and Livelihoods, including: reduction in loss of HH incomes; increased diversity of viable livelihoods. Also, the four identified investment sub-projects are expected to generate tangible benefits to vulnerable HHs, in line with the above benefits for each of the four RAs

xiii. Assessment of Risks and Risk-Mitigation Strategies. There are two major risks that the envisioned results from RRSP would not be achieved. A first risk is that a 'climate-lens' is not adequately or appropriately applied to 'business as usual' development planning. A second risk is that agencies (whether NGAs or LGUs) will tend to favor activities with immediately visible results, whereas some adaptation measures may take many years to become established and visibly improve the "health" of a natural ecosystem. RRSP design and implementation features, including a strengthened results-focused M&E CC system, are identifying mitigation measures to address these two major risks, as well as to address other secondary risks identified in the program document.

1.0 BACKGROUND AND CONTEXT

1.1 Introduction

The Philippines's Strategic Program for Climate Resilience (SPCR) is a framework program to improve the efficiency and effectiveness of responses to climate change through better enabling environment, more resilient ecosystems, infrastructure and livelihoods in target vulnerable areas across the Philippines. The program is funded through the Pilot Program for Climate Resilience (PPCR), one of the four funding windows of the Climate Investment Funds (CIF). The Government of the Philippines (GOP) has prepared the SPCR through a participatory and consultative process, building on the diverse ongoing efforts in the Philippines to address climate change challenges.

The Risk Resiliency and Sustainability Program (RRSP) under the SPCR supports the Philippine government's long-term and medium-term development plans:*AmBisyon Natin 2040* whose objective is that by 2040: "Filipinos enjoy a strongly rooted, comfortable and secure life"; and the *Philippine Development Plan 2017-2022* which aims, inter alia, to strengthen resilience to climate and disaster risks.

The RRSP is designed in an integrated, coherent and phased manner to help operationalize: (a) Risk Resiliency Program (RRP)- Philippines' national resilience program; (b) National Climate Change Action Plan (NCCAP); (c) Local Climate Change Action Plans (LCCAP) at the Local Government Unit(LGU) level; and (d) Intended Nationally Determined Contribution[7] (INDC).

The development objective of the RRSP is therefore closely aligned with the overall goal of the RRP which is to strengthen the resiliency of natural ecosystems and the adaptive capacity of vulnerable groups and communities to short and long term risks and disasters particularly in the 18 major river basins of the country. Accordingly, the development objective of the RRSP is to strengthen (i) the enabling environment,key multi-stakeholder institutional capacities, and knowledge management systems to address effectively climate change risks; and (ii) the climate change resiliency of strategic ecosystems, priority infrastructure assets, and livelihoods of vulnerable groups and communities in prioritized landscapes. Through a focus on priority landscape areas, the implementation of the RRSP will generate the following strategic results:

i. Strengthened and effective enabling environment for enhanced climate change adaptation and resilience at national and target subnational levels;
ii. Enhanced management, stability and resilience of ecosystems in target areas;
iii. Reduced vulnerability of strategic physical assets through prioritized protective and resilient infrastructure; and,
iv. Strengthened coping and adaptive capacities of vulnerable agricultural, fishery, and upland communities through sustainable and resilient livelihoods.

The RRSP builds on, strengthens and expands the existing efforts in the country to better respond to climate change through enhancing resilience and adaptive capacity of key stakeholders, in order to address the key barriers and constraints to effective planning, budgeting, and implementing adaptation and resilience interventions in a coherent and coordinated manner. This adopted approach is expected to accelerate the generation of transformative benefits of climate resilience and sustainable socio-economic development to the targeted sectors and geographical areas.

[7]The Philippines expressed its commitment to understake GHG emissions reduction of about 70% by 2030 relative to its BAU scenario through mitigation measures in the energy, transport, waste, forestry, and industry sectors, conditioned on the extent of financial rsources that will be made available to the country. Recognizing its vulnerability, adaptation serves as the anchor strategy and considers mitigation as a function of adaptation. The GoP will mainstream CCA-DRR in country planning and programming, and priority measures include institutional and system strengthening climate modeling, scenario building, vulnerability assessments, and resilience in ecosystems and key sectors.

1.2 Country Context

The Philippines is an archipelagic country comprising more than 7,100 islands with a total land areas of 300,000 square kilometers, and a total coastline of 36,289 kilometers in length. The country is located between 116° 40', and 126° 34' E longitude and 4° 40' and 21° 10' N latitude, and experiences four climate types which produce spatial and temporal variations in precipitation and temperature throughout the year (Figure 12).The country is divided into 18 regions, 82 provinces, 135 cities and 1,493 municipalities. The population count as of 2015 was approximately 100 million inhabitants, with a relatively high growth rate which will accentuate the climate change challenges.[8]

The Philippines has benefited from strong macroeconomic fundamentals, manifested by low and stable inflation, falling debt ratios, a healthy current account surplus, high international reserves, and a stable banking sector. Driven by household consumption, private construction, and exports of goods and services, the economy grew by 6.8 percent in 2016. There is strong commitment for inclusive economic growth and poverty reduction from both the previous and present (since 2016) administrations. The International Monetary Fund (IMF) positively projected the continued growth of the Philippine economy based on sound policy reforms and increasing strategically prioritized public infrastructure spending.

Based on various comparative indicators, the Philippines is among the most vulnerable countries to climate variability and change and is already feeling its adverse impacts. The country is situated within the Pacific typhoon belt[9] and exposed to a wide range of hydro-meteorological hazards including: typhoons (average of 20 per year), floods, droughts, landslides and sea level rise.The Philippines consistently ranks high on most of the reputable global indices for vulnerability to climate change. In 2016, the World Risk Index (WRI) ranked the Philippines third among countries most at risk for disasters. The United Nations Office for Disaster Risk Reduction estimates that in the past 30 years, more than 360 disasters befell the Philippines, with a total death toll of 33,000 people and adversely affecting 120 million people. Direct economic damage from these disasters is estimated at US$ 7.4 billion. The recognition of its vulnerability to climate-related risks has induced the Philippines' active engagement in the global climate change dialogue. The 2009 Expert Group Report that was in charge of selecting the initial set of Pilot Program for Climate Resilience (PPCR) countries recommended the inclusion of the Philippines as one of the pilot countries in the program, in addition to Cambodia and Vietnam, based on exposure and preparedness to climate change.

The Philippines' rural, coastal and peri-urban populations face numerous climate risks that amplify the costs and challenges of development. Three out of four poor Filipinos live in rural areas, including growing peri-urban areas, and most of them depend on ecosystem-based activities, especially agriculture, which is affected by disasters and climate change. Typhoons, droughts and floods have already caused average annual damages of PHP 46.7 billion(about over USD 0.9 billion).[10]Increased temperature and rainfall variability is expected to reduce rural landscape productivity. Droughts reduce rural household consumption with impacts varying across regions- the most affected regions include Ilocos and Western Visayas Islands.[11] Furthermore, most of the Filipinos living in coastal areas face multiple climate hazards: increased storm surges, sea level rise and salt-water intrusion and increased coastal flooding, which could directly affect their lives or economic sectors, such as tourism, fisheries and other coastal economic activities, including agriculture. Storm surges are projected to affect about 14 percent of the total population and 42 percent of the coastal population.[12] Warming and acidifying oceans, combined with reef destruction from dynamite fishing, will change fish catch potential with severe

[8] Statistical figures. http://www.psa.gov.ph/
[9] Cinco et al., 2016.
[10] Philippines Statistical Yearbook. https://www.psa.gov.ph/tags/philippine-statistical-yearbook
[11] Balisacan, A., Skoufias, E., & Piza, S. F. (2012). Disquiet on the weather front: The welfare impacts of climatic variability in the Philippines.
[12] Brecht, H., Dasgupta, S., Laplante, B., Murray, S., & Wheeler, D. (2012). Sea-level rise and storm surges: High stakes for a small number of developing countries. *Journal of Environment Development, 21*(1), 120–138.

impacts on fishing-dependent livelihoods. The projected changes in maximum catch potential in a 4°C world range from a 50 percent decrease around the southern Philippines during the 2050s to a 6–16 percent increase around the northern Philippines.[13] Large populations and assets are concentrated in coastal cities, where they are exposed to climate change-induced risks. About 70 percent of the 1,500 municipalities located along the coast are vulnerable to intense tropical storms, sea level rise or fluvial and coastal flooding. About 45 percent of the Philippines' overall urban population live in informal settlements that are often located in low-lying areas and lack sufficient infrastructure and the adaptive capacity to address their extreme vulnerability to floods, storms, and accompanying human health risks.

Non-climate factors, such as deteriorating environmental qualityand unsustainable development practices, aggravate climate vulnerability in the Philippines. Widespread mining and deforestation in Mindanao were blamed for recent flash floods, including those produced by Tropical Storm Sendong in 2011, which resulted in the deaths of approximately 1,000 persons.[14] The cumulative neglect of required drainage systems, and the lack of long-term planning and enforcement have seen exacerbated floods that swamped nearly all of Manila in 2012.[15] Meanwhile, water scarcity, already felt in many areas of the country at certain seasons, is aggravated by the deterioration of water quality due to pollution from untreated domestic sewage, industrial wastewater, agricultural runoffs, peri- and urban runoffs(see Figure 1).[16]

Figure 1: Main stresses in the different river basins of the Philippines

Source: National Guidance IWRM

Well-prioritized adaptation actions and resilience measures, coupled with sound developmental strategies and effective implementation can contribute to accelerated and sustainable growth, job creation and poverty reduction. The physical impacts of climate change can reduce economic growth and make it more difficult to sustainably lift Filipinoswho are at the margin of subsistence out of poverty. Investing in resilience will benefit the people and sectors most vulnerable to climate change. Many of these people are disproportionally exposed to climate-related risks and often have limited means to cope with or adapt to climate change. By 2030, climate shocks could push an additional 0.9 million people

[13] World Bank. (2013). Turn down the heat II: Global hotspots and regional case studies.
[14] Iqbal, Z. (2011). Deforestation and mining blamed for Philippines disaster. *Eurasia Review.*
[15] Macaraig, M. (2012). Philippine floods a man-made disaster—experts. *Inquirer News.*
[16] Climate Change Commission. 2011. National Climate Change Action plan 2011-2028.

back into extreme poverty and reduce the income of the bottom 40 percent of the population by 2.3 percent, thereby imposing amajor constraint to poverty eradication.[17] Climate-informed development could prevent or reduce many of these impacts. Activities that conserve water and improve soil quality will enhance water resources management and help alleviate food insecurity. Labor-intensive activities, such as retrofitting infrastructure or ecosystem-based adaptation strategies to account for increased flood risk, will build resilience while also increasing employment opportunities.

1.3 Summary of Main Risks, Challenges and Impacts of Climate Change in the Philippines

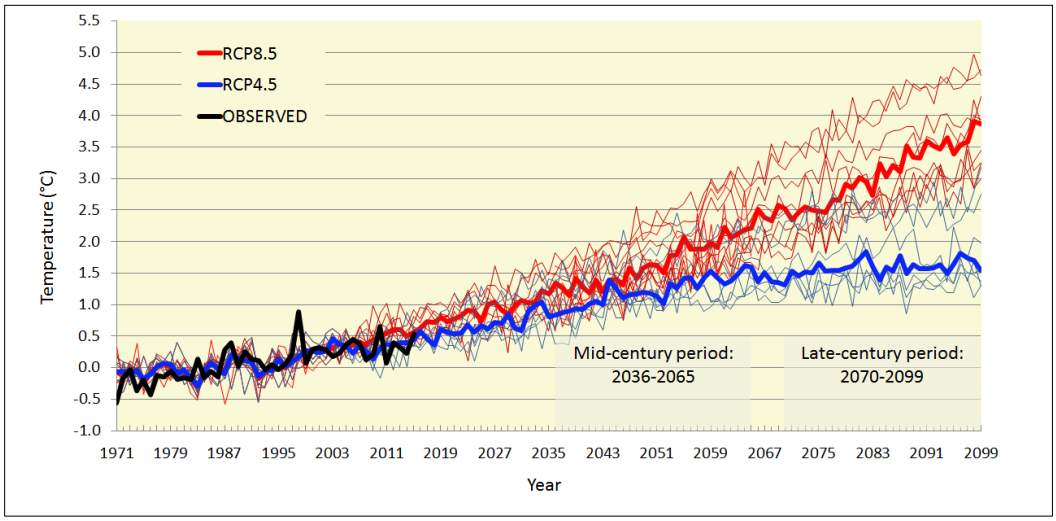
The Philippines is exposed to several climate hazards and trends which are inter-connected and expected to increase in the future.These hazards include flooding, wind damage, drought and coastal erosion. Between 2005 to 2015, 2,754 natural hazards affected the Philippines: 56% of property damage was caused by typhoons and storms, and another 29% was caused by floods.[18]Climate hazards such as typhoons impact significantly on economic sectors within the Philippines, generating economic damage costs in billions of Philippine pesos (PHPs).Historical weather data and modeled climate projections have allowed the GoP to establish key climate trends, and thereby better understand the priorities for enhancing resilience.[19] This next part presents these climate trends and provides an overview of the adverse impacts of climate on the Philippines.

1.3.1 Key Climate Trends

Increasing surface temperature. Historical information, namely from the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA), indicate that the mean surface temperature in the Philippines has increased over the past 60 years. Temperature records between 1951 and 2015 show an increase in mean temperature by 0.68 °C, and fewer cold days and cool nights, and more frequent hot days and warm nights have been observed.[20]Climate projections from PAGASA indicate that warming trends will continue into the future, with models projecting warming between 0.9 and 2.3^{o}C by mid-21st century, and 1.3 and 4.1^{o}C by the end of the 21st century (see Figure 2).[21]

[17] Rozenberg, J., & Hallegatte, S. The impacts of climate change on poverty in 2030 and the potential from rapid, inclusive, and climate-informed development. Policy Research Working Paper Series 7483, World Bank.
[18] TNC, 2017.
[19] Climate modeling in the Philippines used the Coupled Model Intercomparison Project Phase 3 (CMIP3) model Special Report on Emissions Scenarios (SRES) scenarios to develop its first set of downscaled model projections for the Philippines. The Coupled Model Intercomparison Project Phase 5 (CMIP5) model and and Representative Concentration Pathways (RCP) scenarios were later used for climate modeling.
[20] Annual maximum temperature between 1951 and 2015 increased by 0.24 °C, whereas annual minimum temperature increased by 0.99 °C (Cinco, et al. 2014; Comiso, et al. 2014; PAGASA, 2011).
[21] Projections using regional concentration pathway (RCP) models 4.5 and 8.5 show warming by mid-21st century between 0.9 to 1.9 ^{o}C and 1.2 to 2.3 ^{o}C, and by the end of the 21st century between 1.3 to 2.5 ^{o}C and 2.5 to 4.1 ^{o}C (Cinco, 2016).

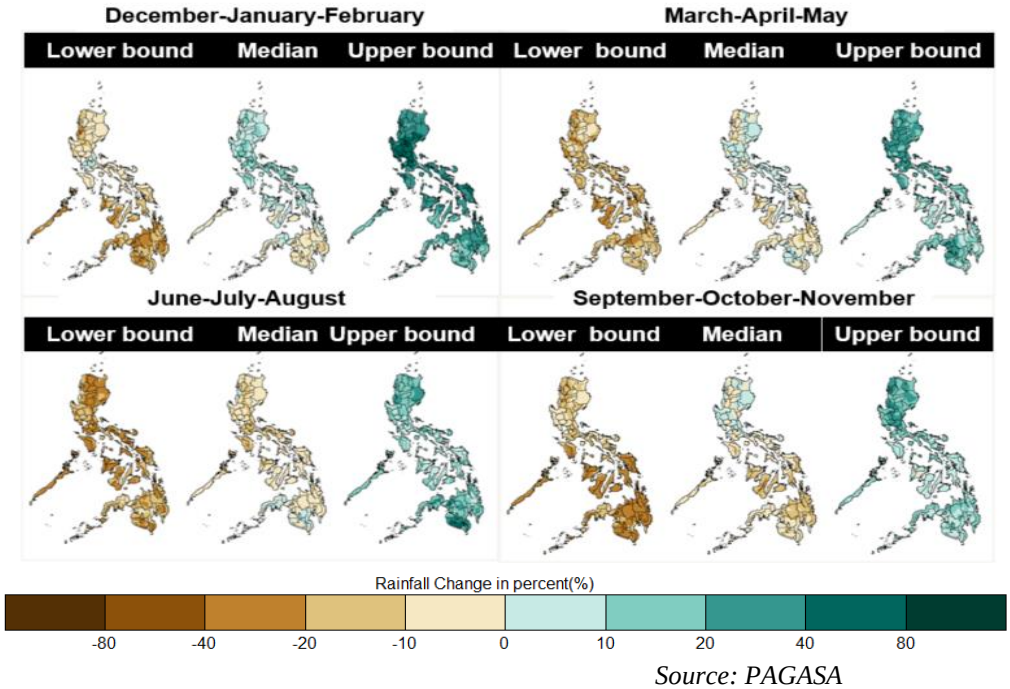
Figure 2: Annual mean temperature change in the Philippines with respect to (1971-2000) – RCP4.5 andRCP8.5



Source: PAGASA

Increasing frequency and intensity of rainfalls. Rainfalls in the Philippines are spatially variable due to differences in topography and latitude, monsoons, and the El Niño Southern Oscillation (ENSO) that results in varying rainfall in the different parts of the country.[22]Rainfall records from 1951 to 2010 show a pattern of overall increase in intensity and frequency. PAGASA projections for rainfall indicate drier dry seasons, wetter wet seasons and wetter northeast monsoon by mid-21st century (see Figure 3).

Figure 3: Projected Changes in Seasonal Rainfall in the Mid-21st Century (2036-2065) relative to 1971-2000 under High Emission Scenario (RCP 8.5)



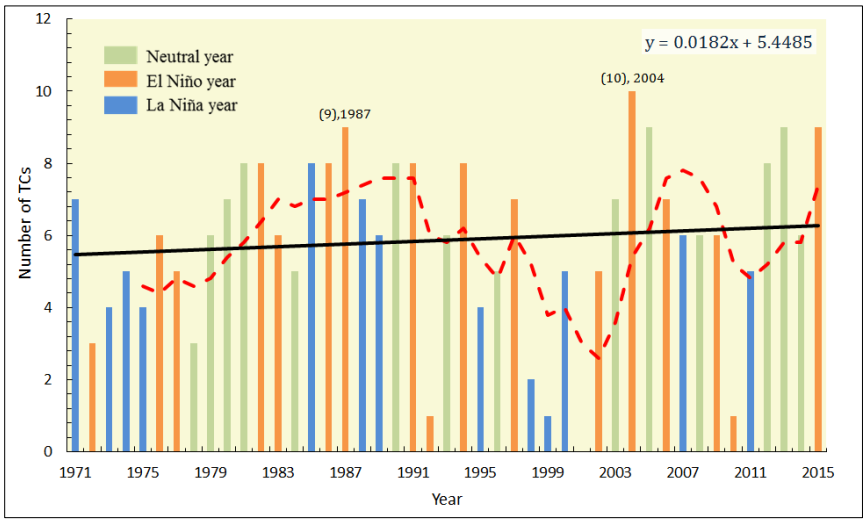
Source: PAGASA

Increasing Intensity of Typhoons. Historical records on typhoons indicate that, while the number of tropical cyclones entering the Philippine Area of Responsibility have decreased, the number of

[22] Villarin et al. 2016

classifiably strong tropical cyclones have increased.[23]Climate models for typhoons forecast an increase in the intensity of tropical cyclones in the Philippines by the mid-21st century, and that the total number of tropical cyclones is likely to remain the same or decrease by mid-21st century (Figure 4).

Figure 4: Number of strong (MSW > 150kph) cyclones in the PAR between 1971 and 2015



Source: PAGASA

Sea Level Rise. Sixty percent of all Philippine cities and municipalities is located along coastal areas, and is thus vulnerable to sea level rise.[24] An increase of about one meter in sea level can submerge many small islands and cause the destruction of many wetland ecosystems such as lakes and mangroves. Historical records show a rate of sea level rise between 1993 and 2015 of about 5-7mm/year, which is about twice the global average (Cinco, 2016). PAGASA projects that sea level is expected to increase throughout the 21st century, regardless of whether greenhouse gas emissions are reduced. By the end of the 21stcentury, projection from the high-end climate scenario adds approximately 20cm to the projected mean sea level. A number of provinces in the Philippines have been identified as having high risk to coastal hazards, including coastal flooding and coastal erosion as a result of sea level rise and storm surges(see Figure 13).

1.3.2 Key Climate Impacts

Flooding is a perennial issue in many parts of the Philippines due to poor drainage systems, occupation of low-lying areas and flood plains, combined with weather systems like monsoons and typhoons that result in large amounts of rain over a short period. About 70% municipalities in the Philippines are located along the coast and are exposed to sea level rise and coastal flooding. Additionally, 45% of the urban population in the Philippineslives in informal settlements that are often located in low-lying areas and lack drainage infrastructure.The number of flood events, including flashfloods, has increased from an average of 43 per year between 2000 and 2010, to 67 per year between 2011 and 2015. Despite the increase in the number of flood events, the number of families affected by floods has decreased from an annual average of 155,521 between 2000 and 2010 to 46,614 between 2011 and 2015. The economic damage cost of floods has also decreased from PHP 942 million per year between 2000 and 2010 to PHP 57 million per year between 2011 and 2015.[25]Heightened awareness about the risks and prevention methods of flooding; increased spending on sewerage systems and flood

[23] Cinco 2016
[24] World Bank, 2003
[25] Data sourced from the Philippine Statistical Yearbook.

management infrastructure[26]; and the migration away from flood-prone areas are factors which have contributed to the trends of flood damage costs.Recent efforts by the Philippine government on mangrove reforestation along the coast, will have some benefits for coastal flood mitigation(see Box 1).

Box 1: Costal Flood Mitigation Benefits of Mangroves

Recent work on the risk reduction benefits of mangroves in the Philippines found that:

- ✓ In the Philippines, mangroves annually reduce flooding for more than 613,000 people, of whom more than 23% live below the poverty line;
- ✓ Mangroves provide annual benefits greater than US $1 billion in averted property damages from flooding;
- ✓ An average hectare of mangroves provides more than US $3200/year in flood reduction benefits;
- ✓ If mangroves were restored to their 1950 distribution, there would be additional benefits to 267,000 people, including 61,000 people below poverty, and US $450 million in annual averted damages.

Source: TNC, 2017. The Coastal Protection Services of Mangroves in the Philippines

Landslides are also a perennial issue in many areas of the Philippines that is exacerbated, inter alia, by large amounts and intense rainfall. Many areas of the Philippines are susceptible to landslides due to topography and geology (see Figure 14).A long history of deforestation from as early as the 16th century to the early part of the 21st century resulted in decline in forest cover from 90% (of total land area) to 23% (6.84 million hectares) in 2010, would have contributed to landslide susceptibility through changing soil structure and exposing bedrock in some places.[27] The GoP has embarked on large-scale efforts to reverse forest loss and increase forest cover recently through a National Green Program (NCP). However, gaps in forest cover indicate opportunities for expansion of forest cover on susceptible areas, or introduction of soil stabilization infrastructure where forest development is deemed not appropriate or feasible for increasing resilience to landslides.

Typhoonsgenerate flood damage, and trigger landslides and cause significant wind damage to property and crops in the Philippines, and most importantly,extensive injury and loss of life. Statistics on damages show that the average annual damages cost from typhoons increased from PHP 20.1 billion (USD 0.4 billion) between 2004 and 2009 to PHP 46.7 billion (USD 0.93 billion) between 2010 and 2014. Mortality and damage cost statistics for some recent major typhoons is included in Box 2.

[26] DPWH reported an increase of more than 500% for it allocation on flood control from PHP 11.3 Billion in 2011 to PHP 75.2 billion in 2017.

[27] Fortenbacher and Alave, 2014; FMB, 2016

Box 2: Mortality and Damage Costs due to Typhoons in the Philippines

Typhoon Ondoy (September 26, 2009)
- 464 persons killed
- 529 persons injured
- PHP 11 billion in damage to infrastructure and agriculture

Typhoon Pablo (December 4, 2012)
- 1,020 persons injured
- PHP 37 billion in damage to infrastructure, agriculture and property

Typhoon Yolanda (Haiyan) (November 08, 2013)
- 6,300 persons killed
- 28,689 persons injured
- PHP 571.1 billion in damage to infrastructure, agriculture and property

Source: NDRRMC

While droughts do not occur as frequently as flooding, landslides and typhoons, the associated damages of droughtsare significant. The agriculture sector in the Philippines is highly vulnerable to the impacts of droughts, and is the sector most significantly impacted (see Table 1). Droughts tend to occur during El Nino years, and impact heavily on food crop production and productivity (e.g., rice production), and consequently on economic growth. For example, one of the worst droughts experienced in the Philippines was a result of the El Nino in 1998, resulted in a decline in growth rate of 2.9% in the previous year (1997) to -6.6% in 1998.

Table 1: Drought events in the Philippines during the period 1968 – 1998

Period of occurrence	Main Areas Affected	Indicative Damages
1968-1969	Moderate to severe drought over most of the Philippines with Bicol Region as most severely affected	Total of 500,000 megatons of rice and corn production
1972-1973	Central Luzon, Palawan, Visayas and Mindanao	Total loss of 630,000 megatons of rice and corn production
1977-1978	All of Mindanao except Davao	Total loss of 750,000 megatons of rice and corn production
Oct. 1982-Sept. 1983	Western and Central Luzon, Southern Tagalog Provinces, Northern Visayas, Bohol and Western Mindanao Moderate to severe drought affected most of Luzon, Negros Occidental and Iloilo	Rice and corn production loss of 640,000 megatons; insurance claims amounted to PHP 38 million; hydropower generation loss was PHP 316 million
Oct. 1986 – Mar. 1987	Severe drought affected Bicol Region, Southern Negros, Cebu and Western Mindanao	Estimated agricultural damages of PHP 47 million
Apr. 1987 – Sept. 1987	Severe drought affected mainland of Luzon, Central Visayas and Western Mindanao	Estimated hydro energy generation loss was PHP 671 million
Oct. 1989 – Mar. 1990	Drought affected Cagayan Valley, Panay Island, Guimaras, Palawan and Southern Mindanao; affected rice and corn area totalled283,562 hectares; major multipurpose water reservoirs reduced inflow	Estimated 500,000 megatons of rice and corn production losses; hydropower generation loss of PHP 348 million; 10% cutback in water production in Metro Manila
1991-1992	Severe drought affected Mindanao, Central	PHP 4.09 billion agricultural losses; 20%

	and Western Visayas and Cagayan Valley; affected agricultural areas of 461,800 hectares	shortfall in Metro Manila water supply
1997-1998	About 70 % of the Philippines experienced severe drought; about 292,000 hectares of rice and corn area completely damaged	622,106 megatons of rice production loss and 565,240 megatons of corn amounting to PHP 3 billion; water shortages; forest fires and human health impacts.

Source: de Guzman, PAGASA (2011)

Flooding and wind damages associated with typhoons and storms, and droughts have a significant impact on the agricultural sector in the Philippines. It should be noted that about 13 percent of the country's 39.3 million employed labor force are involved in agricultural, forestry and fisheries, activities and are likely to suffer losses, along with their dependents, on the occurrence of flooding, drought, typhoon damage, and soil erosion.[28]Damages to agricultural commodities between 2000 and 2010 totaled PHP 110 billion (USD 2.2 billion (see Table 31).Damages cost to infrastructure supporting the agriculture sector was also assessed for period 2000-2010, and it was found that damages totaled PHP 15.3 billion (USD 305 million)(see Table 32). Modeled climate impacts on the agricultural sector in the Philippines projected a reduction in long-term economic growth by 0.02% per year, which equates to a 3.8% reduction in GDP in 2050 as a result of reduced agricultural yields of important commodities such as rice, maize and banana (Rosegrant et al. 2015)(see Figure 5).[29]The impact of climate change on forest systems has not been assessed within the Philippines, but studies from similar forest ecosystem types (e.g., in Thailand) strong suggest that there could be dieback of some forest types and increases in others depending on species, elevation, the effect of climate change, for example changes in temperature and rainfall (Pumijumnong and Techamahasaranont, 2008).

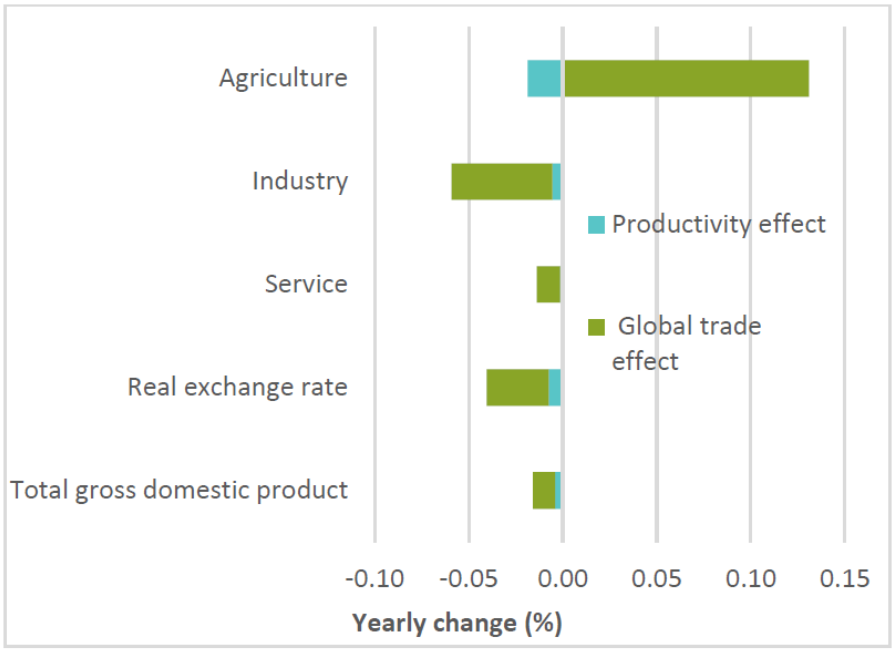


Figure 5: Climate impact on real exchange rate and growth in gross domestic product by sector

Source: Rosegrant et al., (2015)

[28] January 2017 Labor Force Survey

[29] The analysis by Rosegrant et al (2015) is based on modeling to assess the effects of alternative agricultural policies, technologies, and investments; macroeconomic policies and institutions; and climate adaptation strategies on agriculture under a range of simulated climate and socioeconomic "futures" to evaluate agricultural strategies to address climate change in the Philippines. The results are estimates and are likely to be affected by structural transformation changes which may reduce the share of the agriculture sector in the GDP.

A national study of the impact of climate change on the fishery sector has not been undertaken, but site-specific studies provide evidences of the impact of climate change on fisheries in the Philippines. It is worth noting the impact of climate change on fisheries in the Philippines as they(i) contribute about 2% to GDP; (ii) employ over 1.6 million fishing operators, are an important source of food and animal protein, particularly amongst the poorest; and (iii) were estimated to be valued at PHP 257 billion (US$5.14 billion) in 2014. Work done in Zamboanga Peninsula in southern Philippines showed that inter-annual ENSO variations can affect the small Zamboanga Peninsula pelagic fishery, resulting in a decrease in fish catch due to weak upwelling during La Ninas (Villanoy, 2011). Fish catch data from Pangasinan showed that some type of coral-dependent fish decrease following coral bleaching events (June, 1998; Cesar et al., 2001). The results indicate negative implications on some coral-dependent fisheries as coral bleaching – linked to thermal stress - has affected a large proportion of corals in the Philippines(see Figure 6).

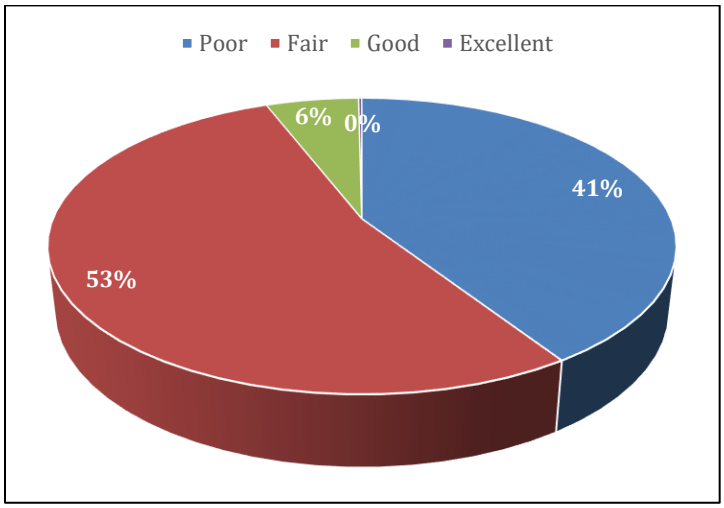


Figure 6: Status of Philippine coral reefs

1.4 Recent and Current Government responses/initiatives and targets for addressing Climate Change Risks/Challenges

The GoP has recognized climate change as an overarching sustainable development and social equity issue, which has disproportional adverse effects on the low income vulnerable population,and has demonstrated strong commitment to developing and implementing in a coordinated manner a comprehensive climatechange policy called the Climate Change Act of 2009, strategies, institutional reform agenda and priority investments. See Figure 7for some key milestones of the Government's climate change agenda.

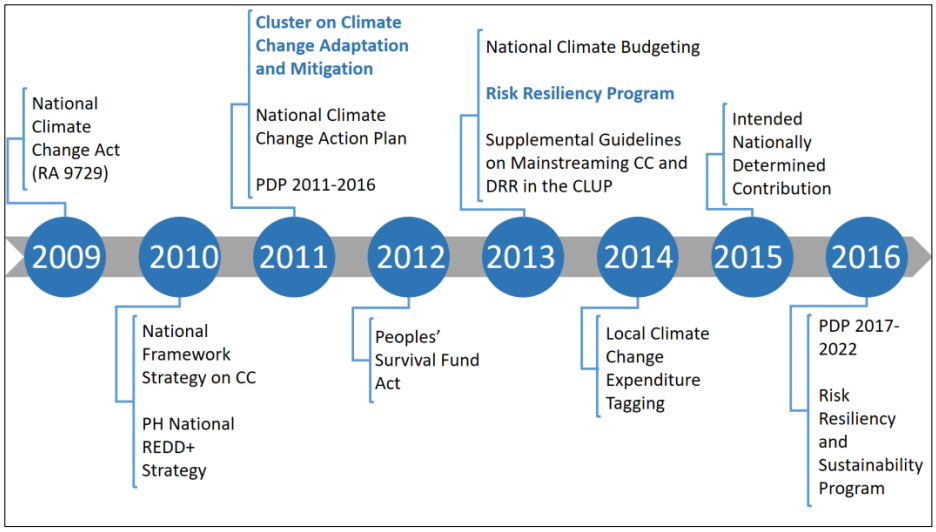


Figure 7: Key milestones in the Philippine government's response to climate change

The Climate Change Act of 2009 (Republic Act 9729) requires all Government agencies and institutions to systematically integrate the concept of climate change in key phases of their policy formulation, development plans, poverty reduction strategies, budgetary proposals and other development tools and processes. The National Framework Strategy on Climate Change (NFSCC) in 2010 defined the overall objectives and the scientific evidence base for climate action. The National Climate Change Action Plan (NCCAP) of 2011 provided a long-term roadmap for climate action for achieving its two ultimate outcomes: (i) enhanced adaptive capacity of communities, resilience of natural ecosystems, and sustainability of built environment to climate change; and (ii) successful transition towards green growth. The GoP has also issued complementary policies on disaster risk reduction and management (DRRM) during this period to enhance convergence between climate change adaptation and disaster risk reduction actions. The Philippine Development Plan/PDP2017-2022 identified climate change as one of themain challenges in achieving inclusive rapid and sustainable growth. As a result of these policy reforms, the scope of the Government's climate change response has been further defined across agencies and at the national and local levels. NationalGovernment Agencies (NGAs) have increasingly integrated climate adaptation measures into sectoral plans and programs, including agriculture, natural resources, and rural and urban infrastructure. At the local level, climate change adaptation and disaster risk reduction are also aimed to be integrated into local development and land use plans guided by the DRRM-CCA planning guidelines, to be spearheaded by local government units (LGUs).

The cross-sectoral nature of climate response necessitated a number of important institutional reforms that facilitated dialogue and operational collaboration across NGAs and with LGUs, and aimed to strengthen convergence across programs. To better coordinate the climate response, the Government strengthened institutional arrangements for planning, coordinating and delivering climate actions by establishing the Climate Change Commission (CCC). The CCC is responsible for coordinating across the oversight agencies and with the implementing agencies on all aspects of climate policies and interventions. It is complemented by climate change offices and focal points of key NGAs and LGUs to implement appropriate climate change strategies and measures. The Cabinet Cluster on Climate Change Adaptation, Mitigation, and Disaster Risk Reduction (CCAM-DRR), a cross-departmental mechanism, being led by the Department of Environment and Natural Resources (DENR), serves as a venue and mechanism for harmonization, alignment, complementation, and synergy of programs, activities and projects (PAPs) among Departments and other Government instrumentalities in deliveringgovernment's objectives on climate change adaptation, mitigation and disaster risk reduction. The CCC serves as secretariat to the Cabinet Cluster on CCAM-DRR.

The Government has demonstrated a strong commitment to increase public funding for promoting climate adaptation and risk resiliency, particularly through the mobilization of domestic resources in the context of a growing national budget as part of a climate budgeting system (see Box 3).Reforms in the medium and annual budget processeswere carried out to more effectively identify, plan, budget, and report CC responses. At the national level, the DBM and CCC issued a Joint Memorandum Circular/JMC(2013-01) focused on climate change expenditure tagging (CCET) at the national level, with progressive refinements in JMC 2015-01. In parallel, and together with the Department of Interior and Local Government (DILG), the three NGAs issued JMC 2014-01 with progressive refinements in JMC 2015-01 to operationalize CCETwith respect to the Annual Investment Programs (AIPs) on a pilot basis for 2015 and expanding to a national scale in 2016. Both JMCs provided guidelines including definitions and a detailed typology of CC activities aligned with the NCCAP to support the NGAs and LGUs in tagging their budget for CC expenditures. The CCET established baseline information by producing a rich and robust set of data at three stages of budget cycle – the Agency budget request, the President's proposed budget, and the approved budget. This data has been strengthened through a Quality Assurance Review process.

Box 3: Philippine's Climate Budgeting System

Starting in 2015, the DBM and CCC mobilized NGAs to setup and begin implementing a climate budgeting system. In parallel, the DBM, CCC and DILG enjoined LGUs to mainstream climate change in their annual investment programming (AIP).

Planning and Prioritization
Based on the DBM/CCC Joint Memorandum Circular, NGAs identify CC priorities in their planning and budgeting frameworks, and determine whether the objectives and outcomes are adaptation or mitigation measures. NGs then tag their requested climate budget in the Online Submission of Budget Proposal system using a standardized typology, and submit it to DBM. Similarly, LGUs are encouraged to identify CC priorities in their budgetary allocations in their AIPs, as prescribed in the DBM/CCC/DILG Memorandum Circular 2015-01.

Quality
This climate budget data is then strengthened through a Quality Assurance Review process (QAR) whereby NGAs and LGUs submit a form to CCC

Analysis
Briefs are developed by CCC to provide analyses of the alignment of climate expenditures with the NCCAP, thereby identifying strengths and potential gaps.

Dialogue
NGAs, with DBM and CCC, engage in substantive discussions on how to strengthen their climate response, in alignment with the NCCAP. In addition, CCC participated in the Technical Budget Hearings.

Climate change expenditures, tracked through the CCET, have shown an increase between 2015 and 2016, and accounted forabout 6 percent of the national budget in 2016.The larger share of climate change expenditures was for adaptation in 2015 and 2016 (average 78%), and the largest climate change expenditures were in the NCCAP priority areas of sustainable energy (avg. 41% of climate change expenditure) and water sufficiency (avg. 34% of climate change expenditure). The experience in the Philippines for the past three years (2014-2016) has shown relevance of the climate budgeting system (CBS) for informing national and local government'scommittedclimate response. Government's capacity for implementing the CCET system, including conducting analyses that inform decisions on climate expenditure allocation, needs continued support. Critical next steps are mainstreaming the use of climate expenditure information to inform enhanced planning, implementation and M&E

In 2012, the DBM adopted Program Convergence Budgeting (PCB) to direct available fiscal space towards the attainment of the Government's key result areas (KRAs).[30]The PCB aims to improve

[30] The DBM declared its intention to focus the available fiscal space on the key priority programs (National Budget Memorandum (NBM) 114) which consists of an integrated group of programs and projects within one NGA or across NGAs that are central to the achievement of the five KRAs as set in the PDP (NBM 115). The DBM reaffirmed this intent to use the PCB to focus the budget on the identified priority programs critical to the attainment of the desired key results in the 2014-2016 Budget Priorities Framework (NBM 118, NBM 119).

coordination and convergence among NGAs in the planning, prioritization, budgeting and implementation of priority programs by focusing on their expected achievements relative to expenditures within the available fiscal space. The results-based orientation of the PCB is supported by the Public Expenditure Management (PEM) and the Public Financial Management (PFM) reforms that enable NGAs to improve the planning, monitoring, and reporting of the results delivered through the PCB. The Cabinet Cluster on CCAM-DRR formulated the RRP to increase coherence, linkages and synergies across agencies in addressing climate change, particularly on strengthening the resiliency of natural ecosystems and the adaptive capacity of vulnerable groups and communities to short and long term risks using a landscape management approach in the 18 major river basins of the country (see Box 4). The Office of the Secretary of the DENR was designated by DBM to lead and coordinate the Agencies under the CCAM-DRR in formulating the RRP to (i) develop a coordinated government response on climate change adaptation and resilience; (ii) enable the climate response to be scaled up; and (iii) allow the Government to focus available fiscal space on priority CC programs. This is complemented by the Budget Priorities Framework (BPF), which provides general guidance to all NGAs on the priority programs under the PCB.[31]

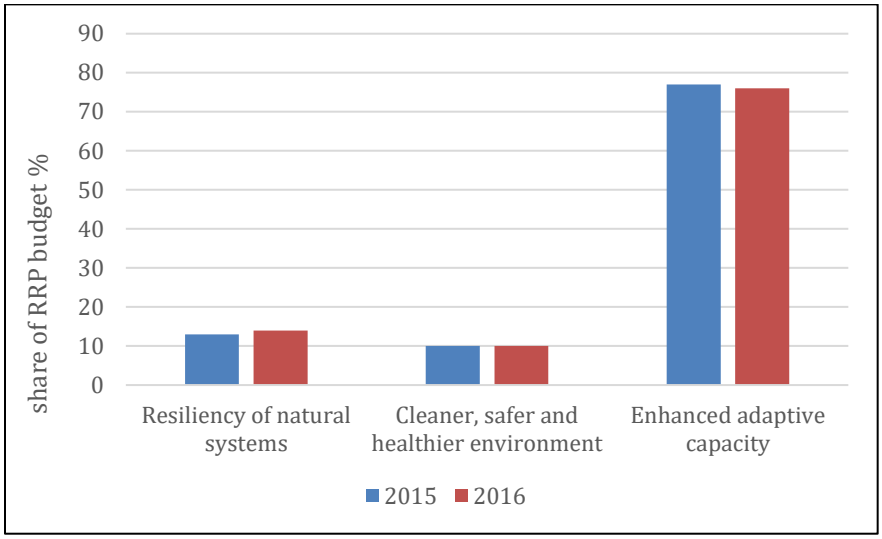
Box 4: Outcomes of the RRP

- ✓ Enhanced resiliency of natural systems. Improvements in conservation, protection or rehabilitation of natural resources aimed to enhance resiliency of the natural systems to the risks brought about by hydro meteorological and geological factors.
- ✓ Improved environmental quality for cleaner and healthier environment. Improvements in air and water quality, reduction in greenhouse gases (GHG) emissions from transport, energy and waste and proper waste management aimed to reduce risks to human and ecosystems health from degradation of environmental quality.
- ✓ Improved adaptive capacity of communities. Reduction in threats to human security from risks and disasters by addressing the sources of vulnerability and strengthening coordination on disaster risks reduction (DRR) and climate change adaptation (CCA).

The budget for RRP has increased progressively -from PHP79.7billion in FY15 to PHP112.5 billion in FY18, representing a 41% increase in approved budget. Although RRP is also meant to address non-climate risks such as earthquakes and volcanic eruptions, climate change remains the major area of focus of the RRP, accounting for nearly all (96%) of the PAPs and 92% of the RRP (PHP 83.2 billion) in FY2016 responding to climate change. This implies that the RRP is an important vehicle for achieving the NCCAP outcomes. In FY2016, climate change expenditures in the RRP accounted for half of the total national climate expenditures, and focused on interventions that enhance adaptive capacity (76%), and thereby are contributing to this outcome(see Figure 8). PPAs that contribute to the NCCAP priority areas of water sufficiency and ecological and environmental stability are channeled through RRP, and account for about 84% of the climate expenditure of the RRP.Climate change expenditure data for RRP also shows that the proportion of PPA submissions that were included in the RRP NEP increased from 2015 to 2016 (44% to 80%), indicating that agencies may have been more selective in what was submitted for inclusion in the RRP.The process of developing the RRP has immensely improved compared to how it is being done in 2012. The DENR as the lead public entity has taken steps to strengthen the design of the RRP by establishing a review process to screen and prioritize programs for inclusion in the RRP, starting in FY2016. The DENR also created the Climate Change Service/CCS (DAO No. 2016-13) with 26 staff, and a full-time Director to focus on the climate change initiatives of DENR, particularly on the RRP.

[31] In FY2015, the BPF identified implementing CC adaptation measures and disaster risk reduction and management programs as a priority program for funding through the PCB (then PBA).

Figure 8: RRP FY15-FY17 budget by output area



The RRP does not provide direct financing to agencies to implement their respective programs and projects, as financing is provided through agency budgets. As such, the RRP represents the set of programs, projects and activities of agencies that contribute to the RRP outcomes, and the 'budget' of the RRP is the total cost of implementing those identified programs, activities and projects (PAPs). The current incentive for an agency to participate in the RRP (submit their PAPs for inclusion in the RRP) is that it signals to the government that their PAPs are contributing to national priorities, and therefore should be priority for funding. This is relevant for PAPsthat are submitted for funding as part of available fiscal space or as Tier 2 proposals,[32] the approval of which is more likely for PAPs that are critical to national development, and consistent with the Budget Priorities Framework (reflecting national priorities). This trend,in principle, should help to support the agencies in their Tier 2 budget request. Another potential benefit to agencies participating in the RRP, is thetechnical guidance on how their PAPs submitted for inclusion in the RRP could be improved. In the annual preparation of the RRP, a technical review committee (TRC) is convened to review the quality and appropriateness of PAPs proposed for inclusion in the RRP.[33] The review from the TRC is shared with the participating agency with a request for clarification and revisions.[34]

The GoP acknowledges that despite the strong progress, commitment and leadership in promoting and mainstreaming adaptation and resilience, and the national response to climate change remainfragmented and limited in scope and effectiveness, and therefore need further improvement taking a phased approach on a programmatic basis. Analysis of climate budget expenditure between 2013-2016 helped identify some of the key areas for improvement (see Box 5). There is a need to shift and go beyond sector-based mainstreaming as the primary entry point for action, and to enhance convergence across sectors, and between the national and local government levels of planning and

[32] The Two-Tier Budget approach (2TBA) has been introduced to improve the effectiveness and transparency of public spending. This separates discussion and deliberation about existing activities and projects from consideration of entirely new spending proposals, including proposals for the expansion of existing activities (DBM).
[33] The TRC will be composed of one representative, at least Director Level, from the DENR, CCC, DND-OCD, DOST and DA. The DENR shall chair the TRC.
[34] The TRC shall submit its findings and recommendations on the P/A/Ps submitted by participating agencies to the DENR Secretary. The DENR then shall endorse and transmit the TRC findings and recommendations to Participating agencies together with a request for clarifications and revisions, to be submitted not later than January 30, 2015 duly signed by the Designated Undersecretary (RRP Guidance Note 2016).

budgeting in order for the Government to achieve strong implementation and tangible and sustainable results of resilience programs. While strengthening the Philippines' disaster response remains a key need, investing at scale, and more effectively, in climate resilience and adaptation measures is a critical priority which provides a cost-effective approach towards alleviating the impacts of climate hazards on people, assets, livelihoods and the local and national economies.

Despite the comprehensive strategies, legislation and guidelines that have been issued to promote and direct Climate Change Adaptation and Disaster Risk Reduction, the manner in which investment planning and implementation is conducted by NGAs and LGUs, have been slow to change. A key reason is that there has been very little incentive to do so. This remains a continued challenge, despite the significant expenditure on climate related activities being recorded through the CCET, and the considerable efforts to change planning processes, such as through the training for preparation of NCCAPs and LCCAP. Support can be provided through DILG and on-going initiatives, for example, through the Housing and Land Use Regulatory Board (HLURB). The absence of perceived incremental funding is not conducive to encouraging NGAs and LGUs to substantively change institutional and convergence processes to undertake the needed capacity strengthening, or to "jump through the additional hoops" that participation in the RRP would require for the desired outcomes to be achieved. A compounding factor is that interventions to reduce risk and build resiliency of ecosystems and communities can be costly, requiring longer term and often less visible investments. Within the political economy context, less attention is given to such investments, especially by the LGUs. Therefore, in addition to the incentives associated with incremental funding, there also needs to be an incentive for the LGUs to invest in those longer maturing and livelihood resiliency types of activities that would make a significant difference in the sustainable resiliency of ecosystems and communities.

Box 5: Key messages from Climate Change Expenditure Analyses

- There is insufficient institutional capacity, including limited access to knowledge, and the complexity of planning tools have hindered efficient execution of climate reforms and action.
- Major challenges remain for the integration of climate risks into the planning process and implementation on the ground.
- There is a disconnect between climate budget allocation to provinces, and provinces with high climate risks, indicating that climate risks are not yet the main determinant of CC expenditure budget allocation.Processes for prioritization of climate change adaptation PAPs are inconsistent from LGU to LGU.
- LGUs are action-oriented, but sources of funding for climate adaptation and resilience are fragmented and their available amounts are limited.There is a clear gap in the financial capacity of many LGUs to fund many of their projects.
- LGUs are primarily investing in roads and transport infrastructure, but this is not always where the greatest risks are.
- Existing monitoring and evaluation (M&E) systems have cumbersome reporting requirements, and the lack of climate indicators limits their usefulness.The identification and use of indicators to measure adaptation and resiliency results achieved by PAPs remains a significant challenge.
- Recommended to strengthen the budget planning and execution framework for managing climate programs, activities, and projects.
- Recommended to strengthen and develop monitoring and evaluation capacity in the departments and LGUs for climate adaption and resilience.

Sources: National Government Agencies.

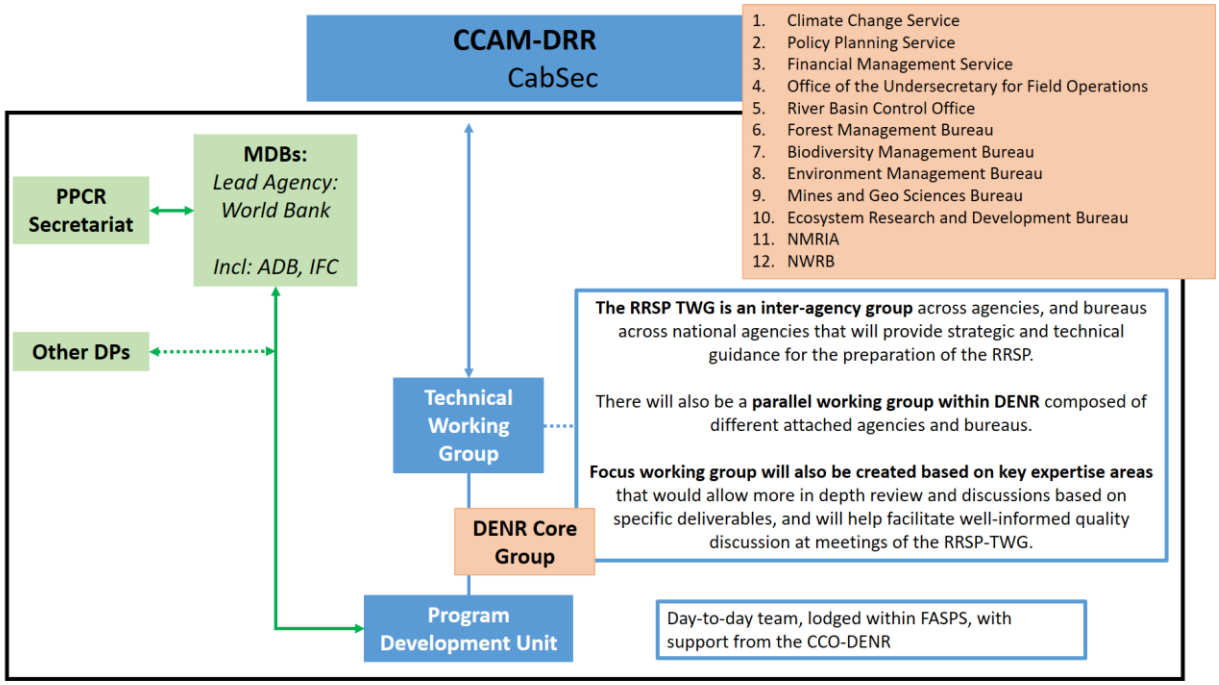
The Government, through the Cabinet Cluster on CCAM-DRR,therefore setsin motion a process to address needed resilience improvements through the development of a national framework program for investments aimed at building climate adaptation and resilience called the RRSP that would helpoperationalize the RRP. The CCAM requested the mobilization of technical assistance, advisory services, and funding through the World Bank from the Pilot Program for Climate Resilience (PPCR) to support the development of the RRSP. On January 15, 2016, the PPCR Multilateral

Development Bank (MDB) Committee approved US$1.5 million in PPCR funding towards the preparation of the Strategic Program on Climate Resilience (SPCR) for the Philippines. DENR was designated as the Government focal point, and the Asian Development Bank (ADB) and the World Bank (WB) identified as partner MDBs for its preparation. The grant proposal confirmed that the RRSP would constitute the SPCR of the Philippines.

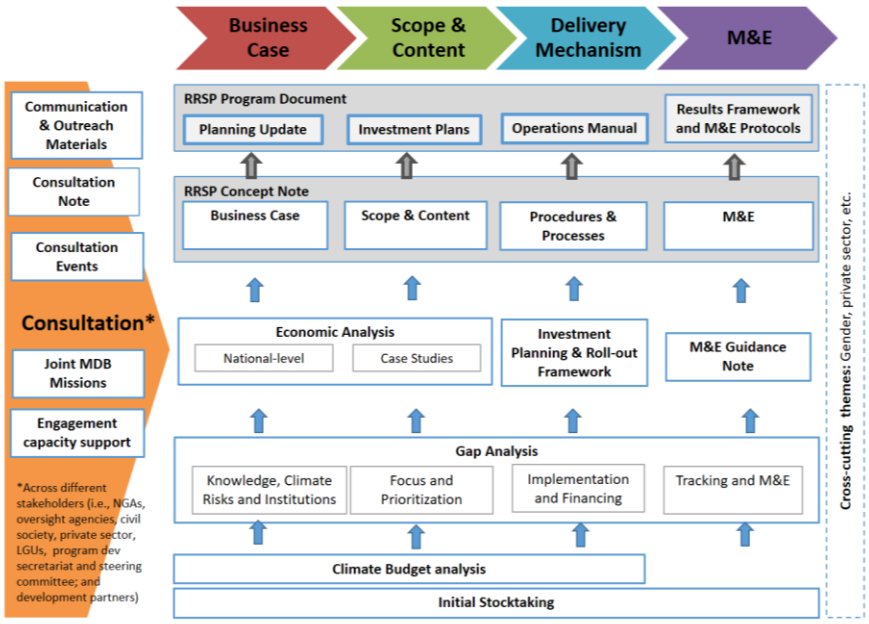
1.5 Process for Preparing the RRSP

The RRSP preparation process is Government-owned, led by an inter-agency Technical Working Group, with DENR as the chair, and a set of oversight and line departments as members of the working group. TWG members included: National Economic and Development Authority (NEDA); Department of Finance (DOF); Department of Budget and Management (DBM); Climate Change Commission (CCC); Department of Agriculture (DOA); Department of Science and Technology Philippine Atmospheric Geophysical and Astronomical Services Division (DOST-PAGASA); Department of Public Works and Highways (DPWH); Department of National Defense (DND); Department of the Interior and Local Government (DILG); Department of Energy (DOE); and Housing and Land Use Regulatory Board (HLURB). The organizational setup for the RRSP preparation is shown in Figure 9.

Figure 9: Organizational framework for RRSP development



The preparation of the RRSP is guided by an organizational framework shown as Figure 10 which was developed through consultation and participatory processes. Figure 10 illustrates the key building blocks for the RRSP, and identifies a number of activities undertaken to develop the building blocks.



Business case: the development of the technical, socio-economic, and policy-based rationale for a national program that enables risk-informed planning, budgeting, prioritization, and implementation;
Scope &content: the development of criteria and tools to formulate the scope, content, and approach of the RRSP;
Delivery mechanism: the development of institutional and operational mechanisms and procedures to translate plans and budgets into implementable actions and initiate program roll-out;
Monitoring, evaluation, and reporting: the development of the framework to monitor, evaluate and report RRSP results and allow feedback and learning; and
Consultative Process: securing inclusive cross-sector, cross-level dialogue and/or consensus across key stakeholders to prepare and implement the RRSP.

Figure 10: Building blocks and key activities of RRSP

1.5.2 Participatory Process for developing the RRSP

The RRSP was developed as a highly participatory and consultative process in government, development partners, and civil society. The preparation of the RRSP benefited from extensive participation with representatives of national government agencies including the National Economic and Development Agency (NEDA), Department of Budget and Management (DBM), Department of Finance (DOF), Climate Change Commission (CCC), Department of Agriculture (DA), Department of Public Works and Highways (DPWH), Department of Interior and Local Government (DILG), Department of National Defense Office of Civil Defense (DND-OCD), Housing and Land Use Regulatory Board (HLURB), Department of Science and Technology Philippine Atmospheric, Geophysical and Astronomical Services Administration (DOST-PAGASA), Department of Energy (DOE) and Department of Environment and Natural Resources (DENR) representatives of the provincial local government units of Surigao del Norte, Surigao del Sur, Dinagat, Masbate, Sorsogon, Negros Occidental, Sarangani, and Samar; representatives of Regional Development Councils of Caraga, Bicol, Negros, and Soccsksargen; civil society, including state universities and research institutions, and development partners including multi-lateral development banks.

As part of the preparatory phase of the RRSP a number of missions were held which provided the platform for consultation and discussion of the development of the program. The main agreements reached during the missions are included on Appendix 3.1 Table 10.

Gender Mainstreaming

The Philippines government established the Magna Carta of Women (Republic Act No. 9710) in order to prevent discrimination against women and marginalized groups including small farmers and rural workers, fisherfolk, urban poor, workers in the formal economy, workers in the informal economy, migrant workers, indigenous peoples, Moro, children, senior citizens, persons with disabilities, and single parents.[35]Accordingly, as a government-led process, the development of the RRSP considered strongly

[35] The Magna Carta of Women is comprehensive women's human rights law that seeks to eliminate discrimination against women by recognizing, protecting, fulfilling and promoting the rights of Filipino women, especially those in marginalized sector. The Magna Carta of Women defines the marginalized sectors as those who belong to the basic, disadvantaged, or vulnerable

the Magna Carta of Women and the Indigenous Peoples' Rights Act (IPRA) to ensure that the process was inclusive and did not marginalize any particular group.[36] Consultations at the national and regional levels reflected equal gender balance, and the preparation was proactive in identifying where there may have been issues of marginalization. As the sub-projects are further developed, gender analysis will be undertaken to identify gender gaps and appropriate interventions to ensure gender mainstreaming.

The remainder of Part 1 of the document summarizes the climate budget analysis and gap analyses, which lays a robust foundation for the RRSP program features which are described in detail in part 2. Details of the consultations have been included in Annex 3.

1.5.1 Conclusions from Gap Analysis on Knowledge,Climate Risks, and Institutions

Based on the gap analyses, there is a need to deepen scientific knowledge to assess more precise climate risks, determine impacts, and increase access to climate information. National agencies such as PAGASA and NAMRIA, for instance, have been reliable when it comes to specific information on climatic conditions—temperature, rainfalls, humidity—as well as non-climate hazards that the country faces. Not all the information that is needed is available even from these agencies, as data at the ecosystem level (both on national and regional levels) are needed to understand the varying impacts of climate change on natural resources. Studies are generally lacking that link and attribute climatic conditions and trends with welfare, and with physical deterioration of capital, natural and human resources. More rigorous scientific studies and simulation models need to be conducted and created, in order to identify and forecast more reliably the state and possible impacts of climate change at all levels and across different ecosystems. Currently, data at the regional level remains too incomplete and aggregative to assess these welfare impacts, such as price changes and aggregate economic performance among others. Although several academic institutions, specialized agencies, and CSOs specialize in specific climate-related issues and produce a vast amount of research and data, this knowledge is often kept within the Agency that generates it. It has been quite costly—in terms of time, money, and effort—to find and gather data in the country because there is no central agency that manages a central information/data base of climate information.

Related to the above gap,there is a need to convert scientific knowledge to usable and disaggregated/localized information that national government agencies and local government units like NGAs and LGUs can use in planning and designing relevant climate resilience programs. Climate-driven PAPs under implementation can provide powerful levels and data to all areas of government that are involved in climate activities. This points to the need to develop systems for identifying lessons learned from climate PAPs at national and local levels, incentivize staff to extract relevant lessons on an on-going basis, use content management systems to help categorize and organize information, and synthesize lessons learned to improve dissemination and learning. The DENR, the lead designated agency for effective dissemination of information at various levels, has an online Climate Change Resource Center that was established to improve science-based knowledge on climate change. At present, the website offers very limited resources on climate change- most of the information available consists of old news articles, suggesting that the website is not regularly updated. This needs to be strengthened and updated with linkages to information portals and repositories, which could help gather the knowledge created by the academia or specialized agencies as well as to collect lessons learned from the implementation of programs. Incentivizing the generation of knowledge, and facilitation of sharing of knowledge is needed to overcome the significant capacity gap in oversight agencies, throughout Departments, and at the LGU levels.

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groups who are mostly living in poverty and have little or no access to land and other resources, basic social and economic services such as health care, education, water and sanitation, employment and livelihood opportunities, housing security, physical infrastructure and the justice system. These include, but are not limited to women in the following sectors or groups: Small farmers and rural workers, Fisherfolk, Urban poor, Workers in the formal economy, Workers in the informal economy, Migrant workers, Indigenous Peoples, Moro, Children, Senior citizens, Persons with disabilities, and Solo parents. https://psa.gov.ph/content/q-magna-carta-women-republic-act-no-9710.

[36] The Indigenous People's Rights Act of 1997 (IPRA) (RA 8371) recognizes and promotes all the rights of Indigenous Cultural Communities/Indigenous Peoples of the Philippines.

There also arises another need to strengthen the technical capacity of key NGAs and LGUs to engage in effective monitoring and evaluation of and planning for climate resilience. The NCCAP has a monitoring system called the results based monitoring and evaluation system (RBMES). However, the RBMES does not include an institutionalized system to collect and integrate results from various NGAs. The CCC does not specify how implementation progress on specific tasks is to be monitored and where the responsibility for monitoring lies. LCCAPs face similar challenges, with the focus of LGUs being the implementation of PAPs, and not on assessing the outcomes or impacts. While some LGUs have begun to develop and implement their LCCAP, systems are not in place to monitor or review and learn from these plans. A critical next step for CCET is the analysis of how effective the use of funding has been in achieving the objectives that the various PAPs set out to do.

Precise financing requirements for climate change adaptation and resilience is uncertain. Accordingly, there is a need to derivefinancing needs and priorities for CC adaptation and resilience. Work has been done for the agriculture sector and shows that here is a financing deficit for adaptation and enhancing resilience.[37] Similar work needs to be done in other sectors, especially those that are the priority areas of the NCCAP.

1.5.2 Conclusions fromFocus and PrioritizationReview

A focus and prioritization review was undertaken to identify and agree on the appropriate criteria for selecting geographic areas of focus for the RRSP and priority investments. The objective of prioritizing areas for implementation is to provide focus to the most vulnerable provinces and investments needed to reduce vulnerability and to increase climate resiliency. Following review and consultation, the minimum site prioritization criteria proposed were: (i) high susceptibility or exposure to a single or multiple climate hazards; (ii) high poverty incidence; and (iii) government priority. Applying these criteria to provinces helped identify the following ten provinces for focus of the RRSP (see Table 2).

Table 2: Potential priority provinces based on susceptibility to multiple climate hazards, poverty incidence, and convergence of government programs

Region	Province	RIL, Flooding &Drought Hazard [b/]	Coastal Flooding &Storm Surge [c/]	Poverty Incidence [d/]	Total Score	Rank	DA Special Area for Agricultural Development	DENR Green Economy Site	Major River Basin	DENR Special Area for Development	Potential Convergence
8	Western Samar	5	5	5	15	1	Yes			2016	Yes
NIR	Negros Oriental	3	5	5	13	4	Yes		Yes	2017	Yes
12	Sarangani	2	5	5	12	8	Yes		Yes	2016	Yes
ARMM	Maguindanao	3	3	5	11	10	Yes		Yes	2016	Yes
ARMM	Lanao del Sur	3	1	5	9	27	Yes		Yes	2016	Yes
CARAGA	Surigao del Norte [a/]	2	3	4	9	27		Yes		2017	Yes
CARAGA	Surigao del	1	3	4	8	32		Yes		2017	Yes

[37] Work done by Alampay et al. using 'backward analysis of CCA investments in the agriculture sector showed a gap in terms of level of investment and the needs of the region.

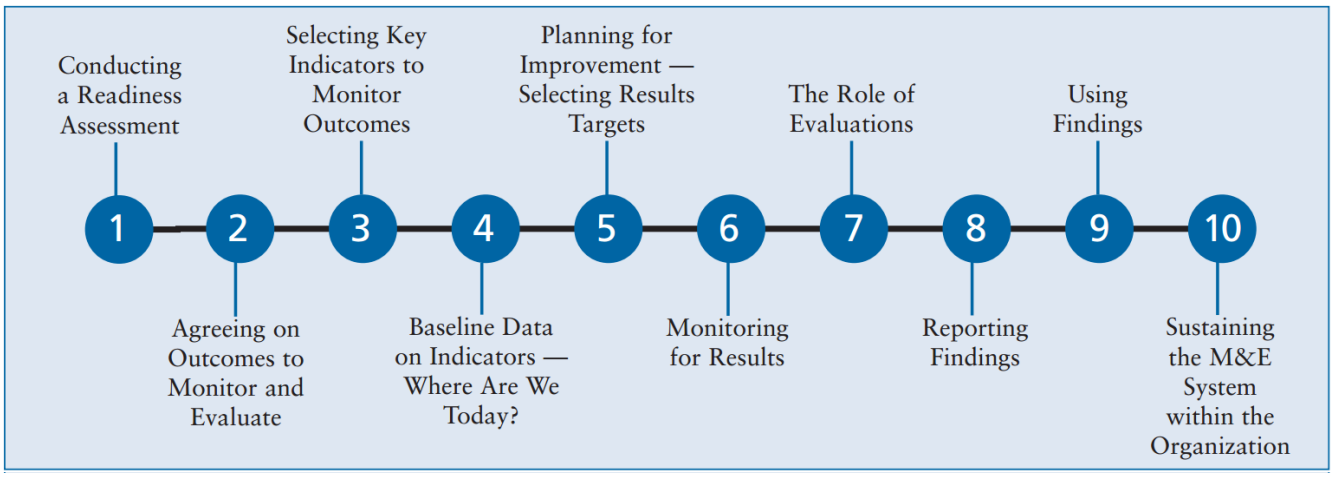
	Sur [a/]										
CARAGA	Dinagat [a/]	2	1	4	7	45		Yes		2017	Yes

[a/] Eleven (11) government agencies, including DA, have committed to contribute programs for the communities in closed mining areas in CARAGA.
[b/] Combined rain-induced landslides (RIL), flooding & drought hazards: Very High (VH) = 5; High (H) = 4; Moderate (M)= 3; Low (L)= 2; Very Low (VL) = 1
[c/] Coastal hazard: H = 5; M = 3; L = 1
[d/] Poverty incidence: Cluster 1 (VH) = 5; Cluster 2 = 4; Cluster 3 = 3; Cluster 4 = 2; Cluster 5 (VL) = 1

1.5.3 Conclusion from M&E analysis

The Philippines are well advanced in formulating relevant, critical climate policies at the national level and developing associated frameworks for measurement. The NCCAP, the RBMES, and the PDP results matrix are clear examples of this strength. The chief challenge for the GoP lies in the effective implementation of these policies and programs.Key gaps in national climate change-related M&E frameworks involve the operationalization, data analysis, and knowledge management (KM). Operationalization is challenging partly due to a lack of resources and capacity at the sub-national/LGU level to monitor and report results. In terms of KM, there is limited communication or knowledge-sharing between national-level agencies that are working on similar or related programs, activities and projects, nor is there a systematic mechanism to harness reports for reflection or action. One reason for this is that national-level agencies seek to achieve their own sectoral targets, set both by the PDP and internally. Globally, a focus on achieving sectoral targets incentivizes working within silos at the expense of inter-agency collaboration. The RRSP has an opportunity to set a national example for how to best operationalize M&E, and establish and maintain a KM system. Overall, it is in these areas that the RRSP can bring to the table technical assistance, political will and influence, and capacity building to contribute to the emerging knowledge base on resilience. In line with this, one of the RRSP's pillars is "Increasing Knowledge, Information and Institutional Capacities to Respond to Risks." One possible area for technical assistance is in facilitating strategic decisions in design and selection of investments, paired with evaluations to explore 'big picture' questions about climate resilience in the Philippines.The ten steps included in Figure 11 are recommended for developing a M&E system for the RRSP.

Figure 11: Ten Steps to Designing, Building, and Sustaining a Results-Based Monitoring and Evaluation System



Source: Kusek & Rist (2004)

1.5.4 Summary of Lessons Learned from Implementing Climate Change Projects in the Philippines and Global Experiences

As an input for supporting the sound design of the proposed RRSP, it is useful to highlight relevant lessons arising from pertinentinternational climate change resilience dialogue (especially the International Climate Change Agreement, ratified in 2016), and relevant programs/projects, arising from the Philippines experience, and also from other countries.

There are a growing number of climate change programs/projects being implemented over a wide range of developing countries, and also supported by the PPCR. Based on available information, some of the main lessons arising from the Philippines and from other PPCR-supported countries are summarized below.

1.5.4.1 Emerging Lessons from the Philippines

With respect to the Philippines, there are various lessons emerging from several climate change studies, programs/projects, especially the RRP, the PhilCCAP and the emergency response to Typhoon Yolanda. Based on available assessments/information, the main lessons are summarized below.

The Philippines Climate Change Expenditure Analysis Report, includes useful material to derive relevant lessons and guide program design. [38] The lessons cover three key topics of relevance which are being taken into account in the design of RRSP, namely, the central importance of:

- strengthening the planning, execution, and financing frameworksfor adapting to and mitigating climate change effects;
- enhancing leadership and accountability through strengthened monitoring, evaluation, and review of climate change policies and activities; and
- building capacities of strategic stakeholder entities (at central and local levels) regarding their roles and effectiveness in managing change with respect to adaptation and mitigation of climate change "shocks")

The Bank-supported Climate Change Adaptation Project (PhilCCAP) has generated the following 5 key lessons, with useful implications for the design of the proposed RRSP. [39]

i. Methodology for Assessment of Viability: Pilot projects/initiatives, such as PhilCCAP and the first phase of the proposed RRSP, require a clear and upfront methodology for assessing costs and benefits, in order to properly assess the pilot and first phase. The project is essentially an experiment to understand if an initiative is feasible, and replicable. A critical aspect of feasibility is the benefits and costs of implementing the project. Projects often fail to devote sufficient attention to systematically assessing the costs and benefits of interventions, and this shortfall ultimately undermines robust conclusions about their feasibility, and reaching a clear decision on replication and scale-up. The PhilCCAP as a pilot was not designed to capture this aspect of feasibility, and only collected costs and benefits data for one intervention, and undertook subsequent economic analysis. This made it difficult to undertake a proper assessment of efficiency, and to be confident about the cost effectiveness of the CCA measures introduced. Accordingly, the emerging lesson here is about the importance of clear and upfront methodology for assessing costs and benefits of CCA interventions. Based on this and other experiences of projects of similar type and scale, it is recommended to develop in collaboration with implementing agencies, templates and guidelines for an appropriate methodology and for data collection on benefits and costs. Further, it is useful for the results framework to include one or more indicators of economic feasibility.

[38] See: Getting a Grip on Climate Change in the Philippines, report prepared by the World Bank (2013).
[39] See Implementation Completion Report (ICR) of thePhilippines Climate Change Adaptation Project.

ii. Multi-Stakeholder Engagement: Climate change is a crosscutting issue which requires multi-sectoral and multi-agency engagement; such engagement requires a project design that is flexible, and accommodates the time it takes for cross-sectoral collaboration. PhilCCAP facilitated the convergence of and collaboration by DA, DENR, and DOST agencies on a number of CCA interventions. A subsequent lesson emerging from this convergence experience is that there is a need for flexibility to accommodate: (a) time and space to learn how to work with multiple sectors, agencies and stakeholders; and (b) the iterative process required to ensure that that agencies derive sufficient benefits from convergence and collaboration;

iii. Institutional Arrangements/Roles: Given the cross-cutting nature of climate change programs/projects, there is a need to work out carefully and agree with key stakeholders the most appropriate institutional coordination arrangements and roles, which can also facilitate access to sustainable incentives to participate, at the national and sub-national levels. Strong and effective coordination, together with access to budgetary resources to mainstream climate change interventions, are vital. Accordingly, a central government department/leadership will be needed, coupled with and complemented by a sectoral lead ministry, to share the coordination and leadership roles;

iv. Approaches to Sustainable Livelihood Initiatives: Livelihood development projects need a thorough assessment of enabling and constraining factors to their success, as a part of good project design. Inadequate focus and resources for soft-processes in livelihood development interventions (e.g., capacity assessment) can lead to project failure. Livelihood interventions, which enhance existing livelihoods or introduce new ones, therefore need to have a thorough assessment of baseline conditions to support the livelihood, ensure the enabling conditions to support the livelihood, identify the constraining conditions on the livelihood (e.g., climate risks and low capacity), and ensure proper consultations with the receiving community for the livelihood, including their capacity needs. Two of the introduced livelihoods interventions – seaweed cultivation and abalone cultivation – faced challenges and did not include most all of the 'soft processes' outlined above. It was found that none of the introduced livelihood sub-projects considered the climate risk being faced by communities that could impact livelihoods. This is an important lesson for the government, particularly DENR as it is developing its Sustainable Integrated Area Based (SIAD) program which is built on a livelihood development model. Two important recommendations include: (a) proper cost analysis of projects to understand the financial resources needed for hard[40] and soft interventions; and (b) livelihood projects should be financed based on realistic cost requirements and not based on a standard allocation as was done for PhilCCAP.

v. Engagement of Local Government: Early orientation and sustained engagement of local government (especially at the provincial level) is essential to achieve progress in climate change adaptation and sustainability of introduced interventions. A challenge in the Philippines, and in other countries, is the fairly high turnover of local government staff. In the case of the Philippines this turnover can occur every three years, based on the election cycle. With changes in local government there are likely to be changes in priorities, and therefore changes in government and financial support at the local level. The experience of PhilCCAP was that early engagement with new local governments, and sustaining this engagement through integrating local government in project activities, was important for the progress of the project, and is likely to impact on its sustainability. The key lesson is the importance of providing early orientation and sustained engagement with newly elected local government officials for ensuring progress and sustainability of CCA initiative. Related to this point is the need to align CCA with the development priorities of the local government (e.g., Provincial and District Development Plans).

[40] Hard interventions are understood here to be tangible outputs, such as equipment and infrastructure.

Having robust data on the costs and benefits of CCA interventions, will help to make the case for the importance of supporting CCA interventions.

Lessons from Yolanda: The World Bank conducted a recent assessment of the post-Yolanda Typhoon recovery and rehabilitation interventions carried out by the Government. Although the lessons focused on post-disaster efforts, there are useful recommendations for strengthening resilience within the Philippines, and for taking into account for the design of the proposed RRSP.[41] These lessons are summarized below:

i. Standard Rehabilitation and Recovery Policy Framework.During Yolanda, the post-disaster needs assessment and recovery planning stage caused confusion and undue burden among NGA and LGU staff. There was no standard rehabilitation and recovery policy framework. Different forms and templates which required varying baseline data and information were sent out by multiple agencies and had to be completed by national and LGU staff who were also managing the response. Thus, there is a need to develop a standard and yet flexible disaster rehabilitation and recovery framework to guide the government and stakeholders in the smooth transition from emergency phase to rehabilitation and recovery phase. It involves the conduct of rapid post-disaster assessment and recovery planning and budgeting, faster implementation of programs, and consistent monitoring of its progress. The Framework should be supported by pre-disaster activities such as database build-up for rehabilitation and recovery and develop science-based scenarios of disaster events. In addition, there is a need to design an assessment tool that builds on existing data and proceeds in a progressive manner so as not to burden the LGUs and communities at the early stages of the recovery.

ii. Appropriate Implementation Arrangements. Significant delays in the implementation of rehabilitation and recovery projects in Yolanda affected areas which were due to a "national-centric" implementation system. The NGAs were mandated to implement all recovery projects in the affected areas without additional staff complement and funding. This task was on top of their regular agency mandates and deliverables. Thus, to address implementation bottlenecks and speed up recovery, it is necessary to adopt implementation arrangements that allow the LGUs and communities to actively implement reconstruction projects with technical and financial support from NGAs. Consolidating a list of implementation strategies that builds on existing programs and can be easily scaled up will be useful.

iii. Clear Role of the Private Sector. The private sector can support disaster rehabilitation and recovery in many ways: (i) it can cover a significant amount of the cost of rehabilitation and recovery; (ii) it can help design the structures and infrastructure to be built, compliant with the government standards on resilient infrastructure; (iii) it can supply the materials needed for reconstruction; (iv) it can do the construction itself; and (v) it can jumpstart local and regional economies by quickly re-establishing their businesses in the affected areas. The role of private sector partners can be classified as: suppliers of goods and services participating in an economic transaction and charitable donors of goods, services, and expertise.

iv. Effective Coordination Arrangements. After a disaster, international agencies and development partners are usually quick to offer assistance. However, their funding may have conditions or donors may choose to manage their own rehabilitation and recovery assistance by directly implementing rehabilitation and recovery projects in affected areas. Creating joint ownership of the government-led rehabilitation and recovery process among development partners enables them to work with government in dealing with specific complexities of the rehabilitation and recovery efforts. This could help encourage partners to make long-term commitments to projects that they have pledged to fund and implement. However, the government must be able to balance the assistance of partners and ensure that government remains in control of the rehabilitation and recovery program. The national government should direct the development partners to

[41] See: Philippines -- Lessons Learned from Yolanda: An Assessment of the Post-Yolanda Short and Medium-Term Recovery and Rehabilitation Interventions (draft report prepared by the World Bank, September, 2017).

consolidate their interventions and coordinate closely with NGAs and/or LGUs. Establishing a coordination mechanism between and among development partners and government will facilitate and clarify at the outset the respective roles of development partners. The government can identify avenues for their participation in the response phase and rehabilitation and recovery phase. The government should establish clear guidelines on triggers, protocols, roles and responsibilities, and mandates. They could also be included in the clusters as needed to facilitate coordination of policies and implementation of rehabilitation and recovery projects. This would avoid duplication of assistance and support in the affected areas;

v. NGA/LGU Partnerships. Another implementation modality that can be used for rehabilitation and recovery is the national government agency and LGU partnerships. There are existing NGA programs where the funds can be directly downloaded to LGUs for the implementation of PAPs. This usually involves local infrastructure, small-scale programs and projects on basic services, livelihood, school buildings, evacuation centers, flood control, civic centers, and housing. In this modality, the specific rehabilitation and recovery budget for the line agency will be downloaded to the LGU for the implementation of PPAs. This allows strong participation of LGUs in rehabilitation and recovery programs and speeds up the implementation of projects by sharing the responsibility to LGUs. The role of the national agency in this arrangement is to provide policy guidance and technical expertise to LGUs. The key to an effective implementation of this modality is for NGAs to assist LGUs in the preparation of the requirements such as program of works, project documents and to ensure that LGUs who will be receiving funds to implement rehabilitation and recovery projects do not have unliquidated expenses from previous programs. In Indonesia, Japan, and Mexico, this is a commonly used implementation modality. National government through the lead national DRRM agency will provide block grants to LGUs and communities for the implementation of rehabilitation and recovery projects such as infrastructure (roads, bridges, schools, hospitals, civic centers, evacuation centers, and flood control), livelihood programs, and housing. LGUs will prepare proposals for specific rehabilitation and recovery needs and submit to the national DRRM agency to qualify for block grants. This is on top of the regular national government PAPs for large scale infrastructure reconstruction;

vi. Opportunity to Build Resilience. Disasters can also serve as opportunities to build resilience. LGUs will have an opportunity to propose and implement comprehensive disaster risk reduction and preparedness programs through their DRR Plans and Programs. As LGUs plan and implement their rehabilitation and recovery programs, they can incorporate key pillars to build resilience to disasters such as:
    a. Effectively respond to urban disasters – develop city level disaster response system, including emergency operations center, communications system, plans and related training and drills;
    b. Reinforce existing infrastructure – reduce the vulnerability of key public infrastructures such as hospitals, schools, and transportation systems through physical strengthening;
    c. Ensure resilient construction – integration of disaster risk into development planning including better codes and land use enforcement; and

vii. Menu of Programs/options. The menu of options for disaster risk reduction and resilience programs at the local level could be included by the provinces, cities and municipalities in their local DRRM plans/programs for funding and implementation depending on their capacity, need, exposure and vulnerability. The menu of programs would provide local chief executives an option of which components to focus on in certain areas at a specific period of time. These are simple and comprehensive DRRM programs that can complement the existing development programs at the national and local level. The menu of options for DRRM and resilience programs can be co-financed by the national and local government or LGUs could leverage on other financing mechanisms (loans from GFIs or development banks).

1.5.4.2 Emerging Global Lessons

The followingfive lessons are derived from the experiences of 28 countries which are participating in the PPCR.[42] Overall, these lessons are very relevant to consider for the design and implementation features of the proposed RRSP.

i. High-level coordination across multiple sectors:coordination across multiple sectors supported at the highest levels of government was the most effective approach for shaping a program of resilient investments, and is promising for implementation effectiveness and anticipated scaling-up. Coordination may be through climate change committee or council, steering or coordination committee, or technical team or working group. Specific lessons on coordination include:
    a. Coordination works best when leadership for developing multisector approaches rests with the Ministry of Finance or comparable "core" institution, given their crosscuttinginfluence at highest levels of government.
    b. Leadership by environment ministries with responsibility over natural resources or water infrastructure can be effective.
    c. Planning processes can be accelerated if strongly supported by senior government officials.
    d. While coordination and integration is key at National level for programmatic delivery, implementation of investments follow the normal route through relevant line ministries.

ii. Vulnerability Assessment: Assessing vulnerability to climate risks and hazards is important for the development of robust investment plans. The PPCR found that all countries were able to shape investment plans and priorities based on their experiences and evidence with current climate variability and impacts. Specific lessons on coordination include:
    a. Preparation of investment plans to bolster climate resilience are developed on a robust knowledge base for climate resilience including experience with climate related disasters, and analytical work to projections of climate impacts on critical sectors.
    b. Countries with an advanced understanding of sector risks were best suited to identify transformational investments.
    c. Awareness of climate and disaster risks in the general population and among high-level officials in government is key complementary factors.
    d. Countries where climate risks are already being felt at critical sectors were able to quickly target PPCR resources to those sectors.
    e. Hydromet services are a foundational element in refining the understanding and management of risks.

iii. Transformational investments and policy reforms: Advanced partnering with bilateral and country-based funding sources spurred policy reforms and furthered the incorporation of resilience at the national, regional and local levels. Specific lessons here included:
    a. Many SPCRs are fostering policy reforms through incorporation of resilience in national and sub-national development planning.
    b. Some SPCRs were successful at mobilizing significant regional and municipal co-funding within a country.

iv. Stakeholder engagement: Mandatory and documented stakeholder engagement built ownership and support for the planning and investment selection process. Specific lessons here include:
    a. Tailored and innovative approaches to engaging stakeholders have enhanced inclusiveness and representation within the SPCR.
    b. Mandating inclusive consultations and stakeholder engagement can yield positive results, especially where thus may not be routinely applied.

[42] These lessons are synthesized from: Key Lessons from the Pilot Program for Climate Resilience: Shaping Climate Resilience for Transformational Change (World Bank, draft report, 2017).

c. Early engagement of stakeholders can generate opportunities for their continued engagement and evolving role both within and beyond the program.

v. Private sector engagement: Upfront technical assistance and targeted advisory services have been critical for overcoming barriers to engaging the private sector on climate resilience. This includes piloting new modalities of climate adaptation, validating their commercial viability, and creating an enabling environment for successful investments.
   a. Limited private sector capacity and difficult business environments in low-income countries coupled with the novelty of adaptation can constrain private sector interest to invest. Advisory services/ technical assistance projects have been demonstrated as essential to address these constraints by piloting new modalities of climate adaptation, validate their commercial viability, and create an enabling environment for successful investments.
   b. Private sector operations timeframes are generally shorter than public ones. Consequently, the consultation process during PPCR Phase 1 was too long and therefore it did not match the private sector's needs. Nevertheless, private sector demonstrated interest to engage in and participate on multi-sector plans and discussions when the possibility of funding was available.
   c. Assessment of climate risks to key economic sectors which are targeted to a private sector audience can be used to raise awareness and map concrete investment needs and opportunities in a country specific context.
   d. Private sector investment experiences in climate resilience from high/ middle-income countries, where formal private sector has greater breadth and capacity to invest in climate resilience measures, adapted to address the needs of low-income country contexts.

1.6 Emerging Gaps and Strategic Issues and Actions to be Addressed in Developing and Implementing RSSP

As discussed above, the on-going preparation work has identified some important knowledge and institutional gaps, and other important conclusions which need to be addressed during the process of finalizing the design of RRSP and during its implementation which can help fill these key gaps, especially during the first phase of RRSP.[43]

Knowledge Base Gaps

- While the country has generated much information and scientific knowledge base, there is a need to update them. Similarly, there is a need to create a modern information system with a storehouse for the accumulated knowledge.
  - Gaps in the collection and maintenance of comprehensive biodiversity databases risk the creation of projects and policies that may actually be harmful to various flora and fauna in the long run.
  - There is a need for more information and study on the current state of every wetland in the country, its respective vulnerability to climate change, and how each impacts nearby communities.
- Another identified gap is the scarcity of local studies linking the specific and unambiguous impacts of climate change on the different Philippine forests of varying geographic characteristics.

Strengthening of Government's Planning, Budgeting, and Execution of PAPs for Climate Change

- Inclusion of climate information on prioritization tool in the RRP

[43] See technical report: Knowledge, Institutional and Financing Gaps Review Report (prepared by REECS).

- Provision of specific guidance in the National Budget Memorandum on the prioritization of PAPs that will be included in the PCB
- Quantitative program-level targets: Adopting SMART[44] targets for the RRP would improve awareness and understanding of the objectives, enhance alignment of investments, and provide for M&E of progress.
- Early issuance of the NBM instructing NGAs to formulate the PCB that provides adequate time for convergence planning
- Strengthen dialogues on climate response priorities by conducting internal deliberations among NGAs prior to the national budget call
- Identifying gaps through targeted discussion and reviews with NGAs of their progress on strategic priorities.

Strengthening Feedback Mechanism

- Strengthen existing M&E system to include climate change M&E requirements
- Assess progress against specific program targets
- Provide lessons learned for quality enhancement of specific types of investments
- Demonstrate program impact to leverage additional funding
- Ensuring the outcomes of targeted discussions are translated into appropriate actions. Institutionalized feedback mechanism to ensure that results of these discussions are included in the planning and budgeting cycle for subsequent years.

Institutional Capacity Gaps:

- The national agencies need to acquire more technical capabilities for information collection, monitoring, evaluation and planning.
- Likewise, local government personnel also need an enhancement in capacity especially in finding funding for their projects and initiatives related to climatechange resilience and adaptation.
- Make quality information and data available in a timely manner to support and complement implementation of climate-related tools
- Strengthen DENR's Climate Change Resource Center, or CCC's Community of Practice in gathering the knowledge created by the academia or specialized agencies, as well as in collecting lessons learned from the implementation of programs

Other Key Gaps:

- The Philippines have generated scientific knowledge that can be used to assess risks, but these need to be expanded because of the growing complexity of climatechange.
- There needs to be more concrete initiatives to build models that will help monitor the performance of the country's projects, and to determine the economic values of the impacts of these projects.
- There is a need for strengthening the technical capacity of agencies and local government units to engage in effective monitoring and planning.
- There is also a need to convert scientific knowledge to information that national government agencies and local government units can use in planning and designing programs.
- The report also concludes that there is financing uncertainty for the investments needed to finance the gaps identified in the report.
- The current recent policy of government is that all projects must be financed through the agencies' budgets, and should there a need for additional funds, the agencies can apply for Tier 2 funding.
- Tier 2 funding, however, depends on the government's fiscal space, which is variable and uncertain.
- While the NCCAP and available LCCAPs provide a reference framework and initial inputs for identifying, prioritizing/screening relevant climate resilience PAPs, it is understood that these

[44] SMART refers to indicators which are: specific, measureable, achievable, relevant and time-bound.

NCCAP and LCCAPs are of variable quality; accordingly, RRSP preparation work will need to support the updating and enhancement of the content of these proposals, and thereby wouldprovide a stronger basis for the proposed PAPs which would be further screened for support under RRSP.

- The phasing of the RSSP, which is also linked with clarifying/agreeing on the scope (see above discussion) and with clarifying available financing (including from DPs),
- The implementation delivery arrangements and mechanisms, and coordination roles and arrangements, especially at the national level. At the local level, the relevant LGUs should take management/coordination role. There is also a need to clarify the precise role of the private sector and NGOs, as part of engaging all relevant stakeholders.

2.0 RISK RESILIENCY AND SUSTAINABILITY PROGRAM: MAIN FEATURES

2.1 Rationale for RRSP

The RRSP is being developed to enhance the coordination of the Philippine government's efforts on climate change resilience. The Philippine government is undertaking a considerable set of activities that contribute to climate resilience; this is evident by the substantive expenditure on climate change annually, and the broad menu of activities that are being undertaken within the country (Table X). The Philippine Development Plan (PDP) 2017-2022 clearly signals that enhancing resilience to climate change is a priority for the government and an important consideration for the Philippines's sustainable growth and development. Accordingly, several government departments and agencies are contributing on various parts of the climate resilience agenda, for example the CCC is tasked to provide policy direction climate change and works with NEDA on the planning of climate change, DBM leads on the budgeting of climate change while DOF leads on the financing, agencies like DENR, DA, DWPH, and DOST implement programs and projects that help enhance climate resilience. The Risk Resiliency Program (RRP), as a program for convergence budgeting (PCB) of the DBM, was envisioned to bring about some of this coordination, and since its formulation in 2013 was successful in: (i) helping to focus agencies' climate resilience interventions in the country's 18 major river basins; (ii) creating a platform for technical guidance to agencies for climate planning through the convening of an inter-agency technical review committee (TRC); and (iii) convening a technical budget hearing for the RRP in 2015 which provided a platform for dialogue on resilience among the different oversight and line agencies. The RRSP is therefore envisioned to enhance the coordinative function of the RRP through: (i) refining the geographic focus for resilience interventions; (ii) coordinating the leadership on climate change through a program advisory board; (iii) strengthening the capacity of the Technical Review Committee (TRC); (iv) and institutionalizing platforms for convergence such as the TBH for RRP and regional development councils in the regular planning and budget cycles of the country.

Related to the coordination is the enhancement of the planning, budgeting, implementation, M&E system, and operational framework of the RRP through the RRSP, which will help ensure appropriate technical and investment options and priorities will be funded, delivered on the ground and scaled up to all provinces in the most cost-effective manner. Therefore, the value addition of the RRSP would be the transformation of the CCAM-DRR objectives into a phased nation-wide program for Climate Adaptation and Disaster Reduction, through which to more efficiently catalyze, direct, and monitor funding and investments in ways that lead to more efficient and effective achievement of measurable outcomes, linked with the NCCAP and convergent-sectoral targets. More specifically, through the RRSP, there would be: (i) enhanced alignment of budget and activity planning with specific and measurable indicators of the extent to which climate related risk reduction and resiliency objectives are being met; (ii) enhanced quality of design and implementation of activities (including convergence,local participation and sustainability of investments); and (iii) increased volume of financing for adaptation activities/investments, including mainstreaming of adaptation elements into regular programs, activities and projects.

Two important requirements are necessary for scaling-up and accelerating the pace of implementing the RRP through the RRSP. First, specific funding needs to be provided in the General Appropriations Act (GAA) to catalyze and incentivize NGAs and LGUs to build capacity and undertake specific climate change related investments. Based on the experience of Philippines Climate Change Adaptation Project (PhilCCAP), such a budget line or other funding instrument is needed to provide the mechanism through which domestic and external sources of funds could be more effectively channeled in support of the RRP.[45] Second, appropriate cost-sharing mechanisms between NGAs and LGUs are needed to encourage and support LGUs, especially those in vulnerable areas, to focus more on climate adaptation and risk reduction investments, including those that may be more costly, longer term, less visible and/or require greater convergence effort. Other forms of incentives may also be considered, especially to promote private sector participation, e.g., through tax concessions or simplified loan equity requirements. The proposed RRSP focuses on operationalizing these two important requirements through developing guidance on how cost sharing for different types of resilience investments should be undertaken, and through development of a series of key investments for which the government can develop a financing strategy that considers the most effective way to use available sources of financing.

An important contribution of the RRSP is the development and documentation of the Philippine government's program for climate resilience. Although the RRP has been implemented since 2013, there is no government-owned document that describes how the program was developed; the rationale for the specific result areas; the scope and content of the program; nor how the program should be implemented – the RRSP provides these descriptions and explanations. Furthermore, the highly consultative and participatory process for developing the RRSP helps to position it as a country-owned program, which is comprehensive in scope and presents a medium-term vision for the country's efforts on climate resilience aligned with the National Climate Change Action Plan (NCCAP) 2011-2028 and the national Philippine Development Plan (PDP) 2017-2022. A key added value of the program is the prioritizing of investments that the country deems important for helping to enhance climate resilience with a strategy for financing these, thereby providing leverage to the government for accessing financing from fund sources such as the Green Climate Fund which require, inter alia, a clear country strategy on climate change.

The RRSP is also developed to contribute to the Sustainable Development Goals (SDGs) and Sendai Framework on Disaster Risk Management; see Box 6.

Box 6: RRSP link to the Sustainable Development Goals and Sendai Frameowkr on Disaster Risk Management

The GoP's response in addressing climate change risks through coordinating and strengthening scientific, institutional, policy, and investment efforts showcases its unwavering commitment to the global effort in improving the efficiency and effectiveness of responses to climate change. The successful implementation of climate change initiatives directly contributes to a great majority of the *Sustainable Development Goals* (SDGs). And the RRSP in particular addresses all four priority areas for action under the *Sendai Framework for Disaster Risk Reduction*.

SDGs that the RRSP supports:

Goal 1: End Poverty
Goal 2: End Hunger
Goal 6: Sustainable Management of Water and Sanitation for All
Goal 7: Energy for All
Goal 8: Inclusive and Sustainable Growth
Goal 9: Resilient Infrastructure, Sustainable Industrialization

[45] The development of a budget line for the RRSP was discussed in the context of the recent changes being made to agencies' budget structure through the program expenditure classification (PREXC) exercise led by DBM. The Technical Working Group for the RRSP preparation confirmed that the inclusion of a budget line for RRSP would be considered on an agency by agency basis, as some agency budgets may already include a line item for reflecting RRSP investments.

Goal 11: Sustainable Cities
Goal 13: Take Climate Actions
Goal 14 &15: Ecosystem Conservation
Goal 17: Global Partnership for Sustainable Development

Priorities for Action under the Sendai Framework that RRSP supports:

- Priority 1: Understanding disaster risk in all its dimensions of vulnerability, capacity, exposure of persons and assets, hazard characteristics and the environment.
- Priority 2: Strengthening disaster risk governance at the national, regional and global levels to manage disaster risk.
- Priority 3 Public and private investment in disaster risk reduction for resilience.
- Priority 4: Enhancing disaster preparedness for effective response, and to «Build Back Better» in recovery, rehabilitation and reconstruction.

2.1.1 Priorities and Focus of the RRSP

The Philippines' priorities for climate resilience are drawn from among the priority areas of the NCCAP; these include food security, water sufficiency, and environmental and ecological sustainability. Accordingly, the agriculture, coastal, and water sectors are high priority for climate resilience in the Philippines. Preparatory activities for the RRSP includedcarrying out resilience assessments,joint technical missions, consultations with government agencies and local government units, civil society, development partners and private sector; these stakeholder groups confirmed these sectors as being priority, and agreed RRSP should focus on four strategic themes:

i. Strengthening the enabling environment for climate change adaptation and risk management at the national and local level;
ii. Improving the management of ecosystems to enhance their resilience;
iii. Reducing the vulnerability of physical assets through developing protective and resilient infrastructure;
iv. Increasing the adaptive and coping capacity of communities through development of sustainable livelihoods. Each of these themes is described below.

(i) Strengthening the enabling environment for climate change adaptation and risk management at the national and local level.

The Philippines has developed the enabling framework for climate change action that includes policies and plans supporting the mainstreaming of climate change in development and increasing focus on CC adaptation and resilience – NCCAP and LCCAPs, enhanced CLUP and CDP; tools like CCET for tracking climate change expenditure, vulnerability measurement and mapping tools [46]; data and information like climate hazard maps, provincial-scale climate change projections. Further needs for developing the framework include: (i) improving the links between different parts of the framework for example the use of climate data, information and tools for prioritization of CCA investments that are included in the LCCAPs; (ii) improving the use of climate tools and data in planning; (iii) development of new tools and data such as climate impact analyses to further support planning; (iv) establishment of a monitoring, evaluation and reporting system for measuring progress on climate change adaptation and resilience; and (v) more effective targeting and focusing of resources and coordination of efforts to achieve scale. Accordingly, this component includes activities and investments that will help enhance the enabling environment for climate change action.

[46] Different tools have been applied in different areas for example work Ballaran et al., 2014 development a composite vulnerability index (exposure and sensitivity indicators) for assessing and mapping vulnerability in Laguna; a qualitative assessment was undertaken for assessing vulnerability of Sorsogon city.

Three key areas of focus under this component are: (i) strengthening climate information services – production and use of information; (ii) developing prioritization criteria and tools for CC investments; (iii) developing the MER framework for the RRP (described in Section 2.8).

Strengthening climate information services – production and use of information

Climate services that aim to generate and integrate climate risks into the decision-making process will aid in countries' efforts in mitigate vulnerabilities and risks brought by exposure to natural hazards. The provision of early warning systems yields positive economic returns even under the most conservative scenario. Most of these benefits are due to avoided asset and livelihood losses. Hallegatte (2012) conducted cost benefit analysis of hydro-meteorological services and earning warming systems and concluded that the potential benefits from upgrading to developed-country standards in all developing countries would reach between 4 to 35 billion USD per year from avoided assets and livelihood losses, plus additional economic benefits. These figures are probably underestimates given that it has not considered indirect loses from nature disasters and the possibility that reduced disaster losses can lead to accelerated economic growth. The cost implication for the upgrading is relatively modest- an estimated investment of 1 billion per year would result in benefit-cost ratios between 4 and 36. Subbiah et al. (2008) conducted a case study that assessed the economic benefits of climate forecast application in the Philippines and concluded that the total value of forecast based on avoided cost assessment was US $20 million for 100,000 ha of agricultural land impacted by the 2002-2003 El Nino.

Within the Philippines, the challenges in the availability and access to climate information include:

- Lack of downscaled (provincial, city and municipal) climate risk maps. Presently, many local governments use current climate risks as basis for planning. Provincial scale rainfall and temperature projections have become available since 2011, and have been updated but have yet to be translated into risk maps.[47] A number of provinces that have been trained on interpreting climate projections under the RRSP have started using them in assessing climate risks over short- and long-term planning horizons and identifying adaptation options to manage future climate risks. Most provinces have undertaken some form of climate vulnerability assessment (VA) using the information generated on rainfall and temperature change.[48] However, most VAs done by LGUs were based on current climate hazards, and do not consider climate projections and their impacts. This process allowed LGUs to identify their danger zones and high risk areas, and to a certain extent, generated actions and budgets from their local development funds to address these risks. However, these were done in a piecemeal manner, and will need to be compiled, and in cases where these are outdated these should be revised.[49]
- Lack of storm surge maps, although PAGASA has identified the Storm Surge Atlas for Coastal Flood Early Warning as a key project to be implemented from 2018-2020.
- Lack of hydro meteorological multi hazard maps and assessments for highly vulnerable cities in the Philippines. This has been programmed for implementation by PAGASA from 2019-2021.
- Only the Greater Metro Manila Area has a severe wind hazard map and risk assessment. The PAGASA has lined-up the other 17 regions for 2018 and 81 provinces in the next three years.
- Lack of comprehensive information of climate impact on sectors. There have been several studies undertaken on the impacts of climate change on agriculture, which have led to significant

[47] PAGASA updated its projections for climate change in the Philippines in 2016. The summary of the updates was presented by Ms. Thelma Cinco in the regional consultations undertaken for the RRSP preparation.

[48] HLURB enhanced guidelines on preparation and updating of the CLUP and Zoning Ordinances integrated climate change and disaster risk reduction, and prioritized the 177 Typhoon Yolanda-affected municipalities for CC and DRR enhanced CLUPs. DILG through its Memorandum Circular 201631-05 provided guidelines to provinces on the use of the Climate and Disaster Risk Assessment (CDRA) and the mainstreaming of climate change and DRR into the local planning and budgeting process. USAID and GIZ supported the Climate Change Commission in specific regions (Regions 1, 6, 8, and Caraga) in the conduct of vulnerability assessments.

[49] Vulnerability assessments have been conducted in four of the ten priority provinces for RRSP: Sorsogon (in Local Climate Change Action Plan, Climate Change Assessment, Forest Land Use Plan, Coastal Resource Management Plan); Masbate (in Provincial Disaster Risk Reduction and Management Plan), Surigao del Sur (in Disaster Risk Reduction and Management Plan); and Surigao del Norte (in Local Climate Change Action Plan).

effort by the Department of Agriculture to develop and implement climate change adaptation and resilience measures in agriculture.[50] Other sectors such as forestry, water, energy, and transport have not had analysis or assessment of how climate change could affect production, income, jobs and sustainability.

- Low capacity to interpret and use climate information in sectoral and local level planning. Consultations with NGAs, LGUs, civil society and development partners have cited that the capacity to use climate information is a major challenge, and that the needs to comprehensive and long term capacity development and training to build the necessary capacities. Notwithstanding, there are ongoing interventions to build capacity to use climate information; these will need to be enhanced and scaled-up for greater impact.
- Inadequate number of experts and resource persons on the ground in interpreting climate information, albeit the Climate Change Commission in partnership with the DILG-LGA have recently undertaken the 'Coaches Training on the Enhanced LCCAP Guidebook.' Trainers from state universities and colleges (SUC), non-government institutions, provincial DILG, and regional offices of NAMRIA and PAGASA were trained on Enhanced LCCAP Formulation with a module on Climate and Disaster Risk Assessment (CDRA). The 360 participants trained were expected to train LGUs in LCCAP formulation.
- There is need to increase the number of weather stations in order to improve the availability of high quality weather information (rainfall, temperature, humidity, pressure, wind speed) that can be used for a variety of purposes – crop planning, weather index based insurance, medium-term weather projections. In addition to the weather stations, there is need for supporting software and hardware to support the processing and storage of information.
- PAGASA has cited the lack of regional clearinghouses of information as being a limitation of their ability to provide better services to local governments. Establishing regional centres for weather and climate information is therefore identified as a priority for climate information services.

Prioritization criteria and screening tools for CC investments

The purpose of developing prioritization criteria and screening tools for climate change investment is to enable the NGAs and LGUs toeffectively design and screen/select investments that are efficacious in addressing climate hazards, are efficient in terms of their cost-effectiveness, and that generate benefits in addition to adaptation and resilience. Screening tools also are being developed to aid in planning under uncertainty with respect to climate change impacts. Many decisions concerning long-lived investments already need to take into account climate change. But doing so is not easy for at least two reasons. First, due to the rapid rate of climate change, new infrastructure will have to be able to cope with a large range of changing climate conditions, which will make design more difficult and construction more expensive. Second, uncertainty in future climate trends makes it impossible to directly use the output of a single climate model as an input for infrastructure design, and there are good reasons to think that the needed climate information will not be available soon. Instead of optimizing based on the climate conditions projected by available models, therefore, future infrastructure should be made more robust to possible changes in climate conditions through considering the range of possible impacts projected by the models.[51] In the preparation of the RRSP, three case studies were produced (reference) using an approach for economic analysis under uncertainty (Figure 12), and demonstrated the utility of approaches such as these in helping to identify strategies for adaptation that consider efficacy, efficiency, and the range of possible climate impacts; see for example Box 7. A case study was produced at the national level focusing on water security using this type of analysis, and further work will be done through the RRSP to inform other sectors.

[50] Climate field schools, expansion of marine protected areas, and the use of drought resistant crops have been integrated in the program of the Department of Agriculture specifically as climate response.

[51] Hallegatte, Stephen. (2012). A Cost-Effective Solution to Reduce Disaster Losses in Developing Countries: Hydro-Meteorological Services, Early Warning, and Evacuation. Policy Research Working Paper. World Bank.

Box 7: Summary of case study - flood management in Laguna de Bay, Philippines using economic and uncertainty analysis

Laguna de Bay is the largest, most economically important lake in the Philippines, serving as a vital multiple-use natural freshwater resource. It supports the fisheries sector and provides livelihoods for some 14,000 fishermen; supplies domestic water to the cities and settlements situated around the lake through water concessionaires; provides irrigation water for approximately 103,000 hectares of agricultural land; and supports hydropower production. Over the past decades, population expansion, urbanization, industrialization, deforestation, and land conversion have led to considerable degradation of the lake's waters and its watershed. As a result, the Laguna Lake Development Authority (LLDA) identified eight critical management priorities among which was mitigating flood risks in the vicinity of the lake and Metro Manila.

Given the objective to minimize flood risks for shoreline communities and Metro Manila, the key drivers of flood risks in Laguna de Bay were identified as the socioeconomic drivers of population growth, GDP growth, urbanization, population density and land use as the key determining drivers governing the exposure and vulnerability to flood risks. Intensity, frequency and precipitation intensity of typhoons largely governing the flood risk hazard were also identified as drivers. These drivers were combined to generate the widest possible ensemble of plausible futures, as indicated below. Accordingly, two reference cases were developed: the first based on a reduced or lower lake flood risk, and the second based on the highest levels of risk.

- Low lake flood risk: low population growth; low GDP growth; low urbanization; low population density; low land use change; low typhoon intensity; low typhoon frequency; low typhoon precipitation.
- High lake flood risk: high population growth; high GDP growth; high urbanization; high population density; high land use change; high typhoon intensity; high typhoon frequency; high typhoon precipitation

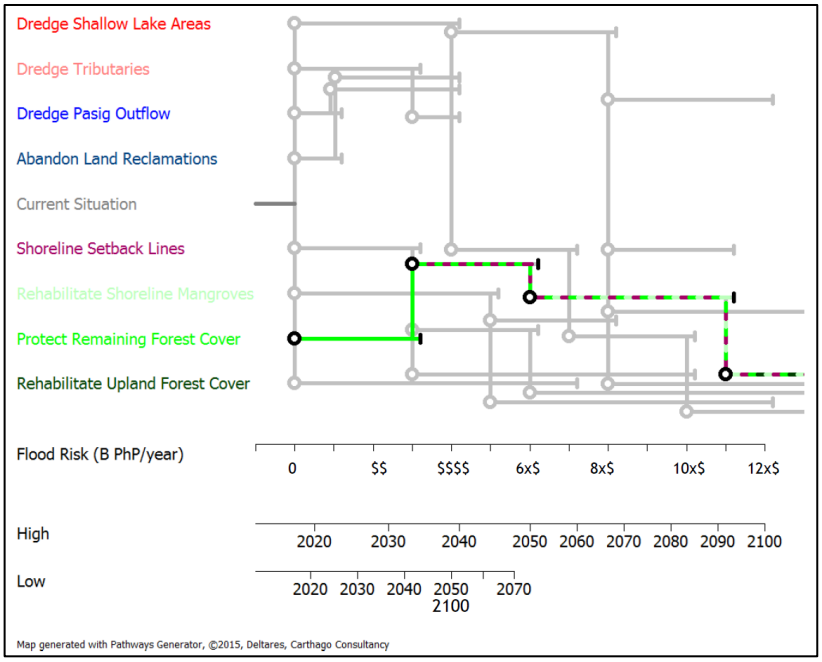
Three broad categories of investment to mitigate flood risks were identified and assessed against performance criteria, see for example in the table below:

- Lake and river-based options: Dredge shallow areas of the lake between 11.5m and 12.5m; dredge river tributaries; dredge Pasig River outflow channel; abandon future land reclamation activities.
- Shoreline options: Implement setback lines along the shoreline; rehabilitate shoreline mangroves.
- Uplands options: Protect remaining forest cover; rehabilitate upland forest cover

Investment option: Dredge shallow areas of the lake between 11.5m and 12.5m	
Performance criteria	**Impact of investment option**
Ability to reduce soil erosion	No reduction as measure does not address soil erosion
Ability to reduce lake sedimentation	Very effective option as measure removes excess sediments from the critical flood retention zone
Ability to reduce flood exposure	No reduction as measure does not address the population exposed to flood risks
Ability to improve lake water quality	Very poor water quality impacts as lake sediments will be stirred up and bed ecosystems disturbed
Ability to improve lake ecology and biodiversity	Very poor ecology and biodiversity impacts as lake sediment removal would negatively impact bed ecosystems, particularly for benthic flora and fauna
Mitigation of flood risks in Laguna de Bay and Metro Manila	Moderately effective option that addresses the issue of excess sediments being present in the lake

Adaptation tipping points are used to develop potential adaptation pathways for Laguna de Bay. Adaptation tipping points are reached when the system is judged to no longer perform acceptably in terms of the pre-specified objectives and criteria. Potential adaptation pathways are a series of either sequenced or combined packages of investment options that address the Laguna de Bay system vulnerabilities to flood risks, and given scenario conditions (low and high lake flood risk). They illustrate the decisions that need to be taken regarding investment options in time given the uncertainties surrounding the future flood risks. Investment options are combined in a consistent and logical set of combinations that cluster similar types of investment options together (e.g. dredging, or vegetation protection/rehabilitation).

In this case study, three adaption pathways were developed. The figure on the left shows on of the pathways:



"Commence with protecting the remaining forest cover, quickly followed by implementing shoreline setback lines. This may prove sufficient to 2050 or beyond; for example, it will be entirely sufficient under a low scenario. However, under a high scenario the rehabilitation of mangroves in the shoreline zone would need to be carried out to address vulnerabilities up until 2090. If still insufficient in the long-term, rehabilitation of the uplands could then extend the validity of this pathway beyond 2100."

Pathway 3 focusing on ecosystem management

The pathways were evaluated using least cost criteria as a type of economic analysis, and it was determined the least cost economic pathway for flood minimizing flood risk around Laguna de Bay was one which focused on protecting remaining forest cover, implementing shoreline setback lines, rehabilitating shoreline mangroves, and rehabilitating uplands forest cover.

The pathways can help in selecting short term investment options that are robust and flexible and long term options that can be postponed until more information is available regarding uncertain future outcomes. However, categorizing an investment option as a potential long-term measure can present issues which must be considered in the present. For example, land use controls may need to be put into place to restrict future developments in those areas that may preclude their use for the long-term option later, or result in prohibitive transfer costs to shift to that option in the future; see Table below.

'No regret' immediate investments	Likely mid-term investments	Optional long-term investments
Protect remaining forest cover	Implement shoreline setback lines	Rehabilitate uplands forest cover
• Strengthen land rights • Build institutional and regulatory capacity • Regulate and restrict any future land use changes in forested areas	• Prevent further settlement to vulnerable areas via land use controls • Advise existing settlements of the need to relocate • Establish compensation fund • Assign areas for relocation and provide compensation to affected households • Regulate and restrict any future land use changes in these areas	• Identify priority areas for rehabilitation • Prevent further settlement or changes in land use to these areas via land use controls • Establish compensation fund • Relocate/ compensate any affected households/ farmers
	Rehabilitate shoreline mangroves	

	• Identify priority areas for rehabilitation • Build local capacity and knowledge regarding the importance of mangroves to flood risk mitigation and ecosystem services	

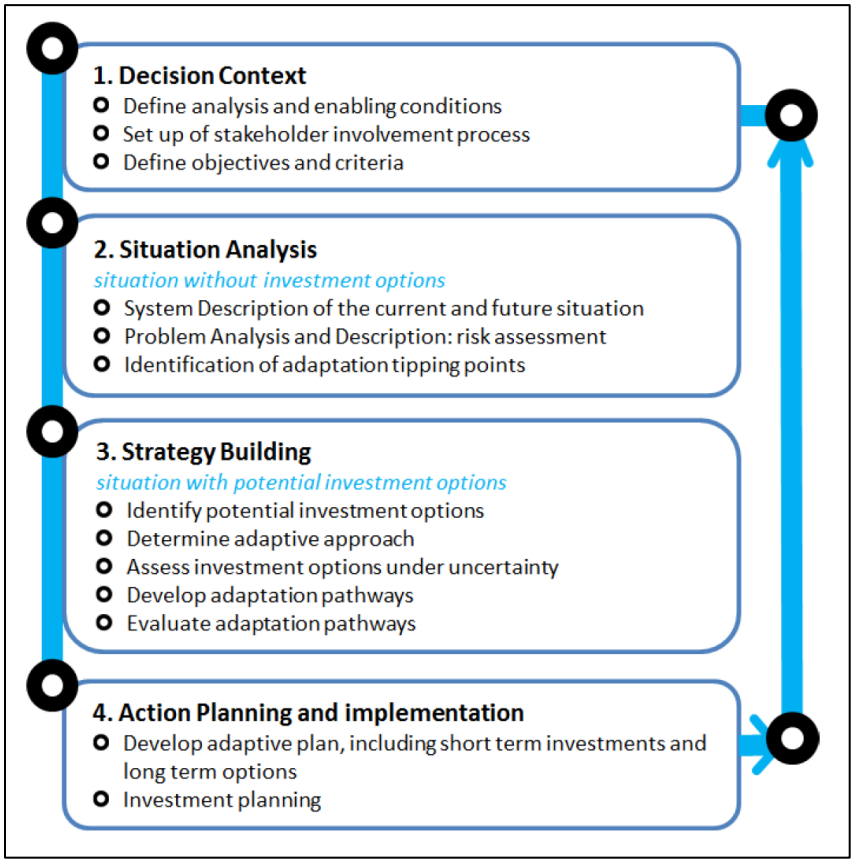


Figure 12: Step-wise approach for economic analysis under uncertainty using the Dynamic Adaptation Policy Pathways tool

(ii) Improving the management of ecosystems to enhance their resilience

The GoP recognizes the role of ecosystems in climate change adaptation and resilience, and accordingly has reflected these in the key climate change policy document – the NCCAP has included ecosystems management as an objective of the RRP. Well-managed and stable ecosystems can help to enhance resilience to climate change hazards, through the ability of these systems to buffer weather and climate variability, and continue to provide services that are important for human well-being. These include water regulation and provisioning, flood regulation, erosion and sediment regulation, food production, and coastal protection. Recent work undertaken by the DENR shows that forested landscapes in the Philippines are critical in helping to sustain dry season stream flows which support irrigation and domestic uses, and in regulating catchment flows and delaying peak floods by as much as five hours.[52] The role of mangroves for coastal protection was studied, and it was found that an average hectare of

[52]Rawlins et al., (2017). Understanding the Role of Forests in Supporting Livelihoods and Climate Resilience: Case Studies in the Philippines, World Bank: Manila, Philippines.

mangroves in the Philippines provides more than PHP 160,000/ year (US $3200/year) in flood reduction benefits.[53] Because ecosystems are also affected by climate change, it is important to integrate climate change impacts into the management of ecosystems. This integration has been done in few instances, for example in the protected area management plans for Penablanca Protected Landscape and Seascape (PPLS), and the Siargao Protected Landscape and Seascape (SIPLAS), and should be scaled up. The design of large-scale ecosystem management projects such as the National Greening Program (NGP) and the Coastal and Marine Ecosystems Management Program (CMEMP), can be revised to incorporate climate change more explicitly. The specific areas of support needed in ecosystem management include: (i) climate impact analysis on ecosystems in the Philippines namely dipterocarp and evergreen forests, mangroves and coral reefs; (ii) standardized approaches for incorporating climate change in ecosystem management interventions; (iii) scale-up of analysis of the mitigating effect of ecosystems on climate hazards.

(iii) Reducing the vulnerability of physical assets through developing protective and resilient infrastructure

Considering that the Philippines is highly vulnerable to climate change impacts, the resilience of infrastructure is high priority for the country. Accordingly, development of resilient infrastructure is included as a key topic for Sector Outcome 4 of the Philippine Development Plan (PDP) 2017-2022 "intensify infrastructure -related research and development", and as well is promoted as a strategy for increasing the adaptive capacity and resilience of ecosystems. Efforts to make infrastructure resilient are already ongoing, and design standards that incorporate climate change have been developed for some types of infrastructure for example roads and are being applied albeit not in all instances.[54] With the high likelihood of more intense weather systems like typhoons, there is need for updating design standards, and as well upgrading infrastructure – where possible – with new climate information to be climate resilient (see Figure 13). Options for enhancing resilience of infrastructure using approaches such as was done for enhancing resilience of irrigation infrastructure, are needed to guide planning and investment for resilience.[55] The benefits of investing in climate resilient infrastructure can be gleaned from the example in Box 8.

Figure 13: Damaged seawall, Bacon District, Sorsogon

[53] TNC (2017). The Coastal Protection Services of Mangroves in the Philippines.
[54] DPWH noted during the regional consultation that particularly for works undertaken by local governments design standards are not always adhered to.
[55] As part of the Philippine Climate Change Adaptation Project (PhilCCAP), the National Irrigation Authority (NIA) undertook feasibility and economic analysis of options for enhancing resilience of irrigation infrastructure for the Jalaur and Pinacanauan river irrigation systems in the Philippines. The findings of the studies were used to upgrades the river irrigation systems.

The seawall that protects most of the coastal communities from storm surge was heavily damaged by the two super typhoons in 2006. Though repair activities began, only minor sections have been repaired due to limited budget from both local and national government. As revealed during focus group discussions in the hotspot areas, the present condition of the sea wall in these areas is a major factor that increases their vulnerability to storm surge and sea level rise. The city government however lacks consolidated information on the structural gaps of the sea wall, considering that the sea wall infrastructure is managed and maintained by the national government through the DPWH.[56]

Box 8: Excerpt from "Sustainable resilient infrastructure is key to economic growth"

The benefits of investing in climate resiliency can be substantial. For example, the Millennium Challenge Corporation (MCC) recently partnered with the Philippines to upgrade more than 133 miles of a coastal roadway on the island of Samar, Philippines. This road serves as the main artery for travel and commerce. During the environmental assessment of the project, t evaluated climate change-related risks and concluded that over the next 20 years, the road would be subjected to increasingly frequent storms, intense rainfall and a potential rise in sea level. Any of these factors could significantly threaten the long-term viability of the road and, more importantly, negatively impact families and the local economy.

In light of these risks, the road designs were modified to integrate climate adaptation measures, including raising bridges, upgrading drainage systems, installing protective sea walls and strengthening road embankments. These climate-resilient modifications were made for a modest investment of 10 percent of the total project costs. The value of this investment became clear in Nov. 2013 when Typhoon Haiyan, one of the strongest storms on record, made landfall on Samar. The road was directly in the path of the storm but survived largely intact. It provided a crucial artery for the emergency response, subsequent reconstruction and the ongoing development of Samar. The government of the Philippines is now applying these climate-resilient design standards to other national roads.

Source: https://www.devex.com/news/sustainable-resilient-infrastructure-is-key-to-economic-growth-85902

(iv) Increasing the adaptive and coping capacity of communities through development of sustainable livelihoods

The rural population in the Philippine is especially vulnerable to major climate change impacts because of their direct dependence on agriculture and natural resources. Three out of four poor Filipinos live in rural areas, including growing peri-urban areas, and most of them depend on ecosystem-based activities, including agriculture, which as noted in Part one of this document are affected by climate change. Poor communities have fewer options for coping and rebounding, and can suffer major setbacks after damage due to climate change impacts. Climate change adaptation and enhancing resilience is seen as a priority for poverty reduction in the Philippines, and the GoP recognizes that efforts to date on climate change adaptation are inadequate, and have indicated several strategies in the PDP 2017-2022 for enhancing adaptive capacity, which the investments included in the RRSP are aligned to (see Box 9).

Box 9: Strategies for building adaptive capacity and resilience

- Strengthen existing inter-agency bodies that serve as venues for improving policy making and implementation of CC and DRRM.
- Develop, maintain, and ensure the accessibility of climate and geospatial information and services.
- Develop a data protocol to facilitate access and sharing of available scientific researches and studies, geospatial information, and climate projection.
- Continue to mainstream CCAM and DRRM in national and local development plans and policies.
- Promote climate and disaster-resilient structures and designs following established measures and standards.
- Identify technological and research priorities and capacity needs on CCAM and DRRM.
- Maximize access to CC and DRRM financing and risk transfer mechanisms.
- Promote business continuity planning.

Source: Philippine Development Plan, 2017-2022, pp. 328-330.

2.3RRSP Program Key Design Features: Theory of Change, Development Objective, and Result Areas (RAs)

2.3.1 Theory of Change

Figure 13 illustrates the theory of change (ToC) and underlying results chain (or roadmap) for addressing key components of the climate change challenges (see Chapter 1) and for enhancing risk resilience. The ToC addresses the following key questions, in line with the core RRSP goal of enhanced resilience of target communities and households in prioritized landscapes of the Philippines: "Resilience of what?","Resilience to what?","Resilience for whom?","Resilience through what?" The planning process/perspective goes counterclockwise in Figure 14, based on the following design logic: "what priority outcomes are required to generate the envisioned changes/impacts?","what priority outputs are needed to generate the required outcomes?", and "what priority inputs/activities are required to generate the required outputs?" In addition, during the planning and implementation phase, it is important to map out and implement the most appropriate mix of interventions, as well as their sequencingtoachieve thekey outcomes, outputs and activities, contextualized to the specific geographical areas and target groups in the Philippines. More specifically, the results of the gap analysis and the policy and strategic directions of the PDP with respect to risk resilience highlighted the need to achieve key outcomes involving enhanced enabling environment (key policies, institutional roles/capacities and resilience information systems). Achieving this outcome would help guide the achievement of the outcomes involving improved strategic and prioritized ecosystems, infrastructure and livelihoods for vulnerable groups. These four outcomes comprise the major components of the RRSP, and therefore help guide the identification of the most relevant outputs and activities which also generate linkages and synergies that help contribute to the higher-level impacts and their corresponding targets. The detailed design of the RRSP involved using this results chain logic and an enhanced RRSP operational cycle in order to identify the most relevant and prioritized activities. This RF and underlying results chain and 4 result areas (RAs) also provides the basisfor costing the first phase RRSP program (see below).

This ToC provides the basis for formulating the results framework, which was developed to align with and support the Philippine Development Plan (PDP) 2017-2022, and the Philippines' National Climate Change Action Plan (NCCAP), while also exhibiting "SMART" result indicators at impact and outcome levels). This approach to formulation helps ensure that the RRSP contributes to these national objectives and targets, while also providing measurable indicators at the impact and outcome levels. The "mother" results framework was designed for the national RRSP Phase 1, and the RF would guide the formulation of participating provincial-specific result frameworks to help ensure overall coherence and consistency of results and priority interventions.

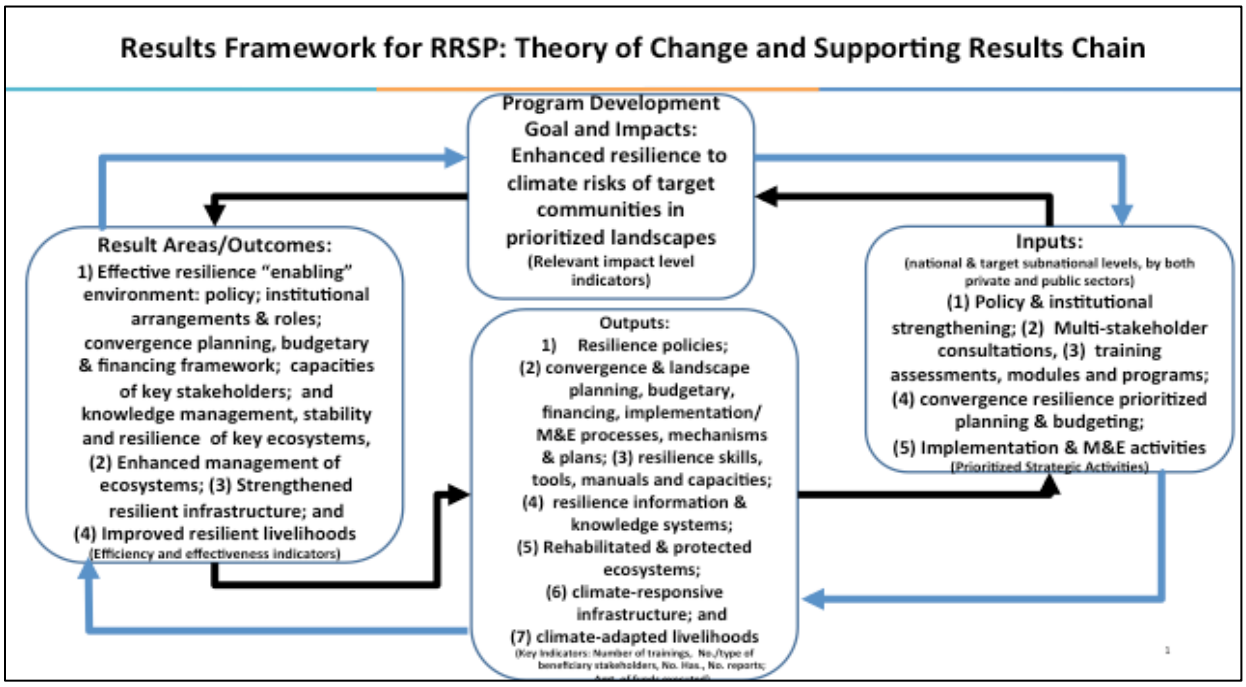


Figure 14: Theory of Change for Achieving Enhanced Resilience to Climate and Disaster Risks

2.3.2 Program Objective

The RRSP Program Objective (PO) by end of 2022, as part of a long-term phased program, is to: *To strengthen multi-stakeholder institutional and adaptive capacities and knowledge/practices to effectively address climate risks and disaster preparedness, and to strengthen the resiliency of strategic ecosystems, priority infrastructure assets, and livelihoods of target resource-based communities in prioritized landscapes*. Key impacts and their corresponding impact indicators include:

Table 3: Key impacts and impact indicators of the RRSP

Key Impacts	Impact Indicators
A.1: Reduction in the loss of life due to climate-related risk	**A.1:** No. and % reduction in the loss of life due to climate-related risk
A.2: Reduction in the total value of property damage, assets and losses due to climate-related risks	A.2: % reduction in the total value of property damage, assets and losses due to climate-related risks
A.3: Recovery internally generated revenues from climate shocks and extreme events for LGUs.	A.3: % recovery of LGU revenues after 2 years
A.4: Increased climate resilience of vulnerable population	A.4 Risk Resilience Index (measured in % terms, with higher % reflecting higher degree of resilience).

As stated above, this PO is consistent with and helps contribute to the relevant strategic objective outlined in the PDP (2017-2022), namely: Ecological integrity ensured and socioeconomic condition of resource-based communities improved.

2.3.3 Result Areas

There are 4 proposed result areas/components to support the achievement of the above PDO. They are summarized below, together with some examples of the types of supporting "core"/priority investment

activities which are consistent with the above results chain/ToC and emerging preparation work. [57]The results of the gap analysis, the multi-stakeholder consultations and the application of the investment/subproject prioritization criteria (see below) have played a key role in helping to l identify more precisely the main types of investments/activities which comprisea "menu" of priority interventions. The actual activities will be selected based on a combined demand-supply driven approach, to be driven by the target stakeholders and RRSP technical staff at the Provincial and Municipal levels, based on the agreed prioritization criteria and operational cycle guidelines to help ensure the most appropriate and strategic mix and sequencing of interventions. Further details on the Results Framework are shown in Annex 1, which reflects the above results chain/ToC in addressing the core challenges of climate change. The main elements of each result area are as follows:

i. Result Area 1:Strengthened and effective RRSP "enabling" environment at national and target subnational levels. There would be a focus on the following key elements: policy; institutional arrangements & roles; convergence planning, budgetary & financing framework; capacities of key stakeholders; and knowledge management systems and learning;

ii. Result Area 2: Enhanced management, stability and resilience of key ecosystems in target areas (coastal, forest, peri-urban). This would involvereduced exposure to critical hazards through strengthened and prioritized ecosystem stability and resilience. Critical hazards include: drought, flooding, landslides, and erosion. Targeted prioritized areas will cover:(a) rural and peri-urban upland watershed areas; and (b) coastal and fishery resource areas), while laying the foundation in terms of enhanced capacities and systems/processes for scaling up to other areas);

iii. Result Area 3:Reduced vulnerability of physical assets through prioritized protective and resilient infrastructure. This component will help reduce the vulnerability of physical assets through prioritized protective and resilient infrastructure, at the national and local levels, according to the main types of geographical areas: (a) rural and peri-urban upland watershed areas; and (b) enhanced coastal and fisheries resources management areas);[58]

iv. Result Area 4: Increased adaptive and coping capacities through sustainable and resilient livelihoods of vulnerableagricultural, fishing, and upland communities. This component will support increased adaptive/coping capacity through sustainable and resilient livelihoods and community-based enterprises of agricultural, fishing, and low-income peri-urban communities.

2.4RRSP Delivery Model and Operational Cycle

The main steps in the RRSP delivery model and operational cycle are summarized below. This includes the RRSP program rollout and geographical focus; investment planning; eligibility criteria; sub-project prioritization, technical and financial/budgetary approval processes; and implementation processes. A key activity of the government is the development of an RRSP Operational Manual in the first half of 2018 which would provide detailed guidance on sub-project prioritization, technical and financial/budgetary approval processes; and implementation processes.

[57] The indicative "core investment areas" are non-exhaustive and are to be refined through technical work, including the gap analysis and economic analysis. The specific mix of investments (within a component and between components) in a given area/community will be demand-driven, together with the localized assessment of priorities, in the light of limited resources, and cost sharing arrangements. Hence, the RSSP will offer a menu of investment options to be tailored and phased to specific requirements. See below for the RRSP operational cycle.

[58] Key infrastructure is expected to include: water impounding structures; embankments and flood protection structures; roads (including inland evacuation roads) and shelters, dams, irrigations, power infrastructure, rain water harvesting infrastructure, water supply systems; sanitation systems; sewerage, ports, airport, health care facilities, school buildings; hazard resilient housing; resilient rural connectivity; early warning systems).

Sub-project formulation, approval and implementation processes would build upon existing procedures and guidelines as defined in key legislation, notably; The Climate Change Act of 2009 (RA No. 9729 as amended by RA 10174, and The Disaster Risk Reduction Management (DRRM) Act of 2010 (RA No. 10121). For the most part LGUs would be responsible for the implementation of interventions designed to reduce risks and increase resiliency to the effects of climate change, with technical backstopping and capacity support being provided by National Government Agencies. The following describes the processes that would be followed by LGUs and NGAs, and these processesare summarized in Figures14 and 15.

2.4.1 RRSP Program Roll-out and Geographical Focus

The rollout of the RRSP would be designed and implemented to facilitate "learning by doing-, both at the level of the implementers (LGUs and NGAs), as well as in overall program coordination and oversight. To facilitate this learning process and to accelerate the scaling-up of a portfolio of strategic subprojects, a particular focus would be given to a limited and representative number of vulnerable provinces in the initial 3 to 5-year period. This would be specifically designed to strengthen their planning and technical capacities to prioritize, design and implement climate change responsive investments. Development partner technical and financial support in this process would be most helpful if focused on these provinces and processes to help further develop the tools for refining the approach, methodology, monitoring and impact analyses. Based on agreed criteria, ten vulnerable provinces have been selected by the CCAM-DRR for initial focus.[59]

Notwithstanding this focus, during the first 3-5 years, the RRSP would support the overall RRP which encompasses the country's 18 Major River Basins (MRBs) and the provinces of Western Samar, Negros Oriental, Sarangani, Lanao del Sur and Maguindanao. These five provinces, while not located in the MRBs, have a high poverty incidence and vulnerability. Other vulnerable areas may subsequently be included by the CCAM-DRR as circumstances require. Importantly, all provinces within the geographical areas designated by the CCAM-DRR would be eligible to participate in the RRSP. This is designed to both encourage development of a portfolio of subprojects across the spectrum of vulnerable LGUs, while also providing a "demonstration effect", whereby "early-movers" catalyze other provinces to participate. Subprojects meeting the RRSP eligibility criteria would be considered by the CCAM-DRR on a first come-first served basis. This demand-driven approach could be reviewed and some prioritization criteria would be introduced and applied after a sizeable portfolio is developed.

2.4.2Investment Planning

Except for those RRSP eligible investments that would need to be designed and implemented by NGAs, (e.g. technology development and meteorological data gathering), the identification and development of RRSP sub-projects would be initiated by LGUs through the existing processes and requirements[60] to prepare Local Climate Change Action Plans (LCCAP), Comprehensive Land Use Plans (CLUPs) and Comprehensive Development Plans (CDPs). The purpose of these Action Plans would be to strengthen LGU Development and Investment Planning processes of community strategies for strengthening local risk governance, enhancing rural livelihood, ensuring ecosystems integrity, and building cultural resilience. The procedures for developing such LCCAPs are well defined[61], and there is ongoing work by

[59] The ten provinces selected are Masbate, Sorsogon, Negros Oriental, Western Samar, Surigao del Norte, Surigao del Sur, Dinagat, Lanao del Sur, Maguindanao and Sarangani. Prioritization criteria used for selecting the 10 provinces included: (i) high susceptibility or exposure to a single or multiple climate hazards; (ii) high poverty incidence; and (iii) government priority. Applying these criteria to provinces, helped identify the following ten provinces for focus of the RRSP

[60]Climate Change Act of 2009 or RA 9729-Section 14 requires that "LGUs shall be the frontline agencies in the formulation, planning and implementation of climate change action plans in their respective areas, consistent with the provisions of the Local Government Code, the Framework, and the National Climate Change Action Plan".

[61]User's Manual for LGUs: Guidebooks (Vol 1 &2) for Preparation of Local Climate Change Action Plan (LCCAP) 2013, Local Government Academy (LGA) of the Department of the Interior and Local Government (DILG)

the Climate Change Commission (CCC) to build capacity of State Universities and Colleges to support LGUs in developing and enhancing LCCAPs.[62] Provinces participating in the RRSP program should develop an LCCAP, or an updated CCAP (if already have one). In the RRSP geographical area, 14 out of a total of 206 LGUs (7%) have LCCAPs.

2.4.3Eligibility Criteria for participating in the RRSP

The specific criteria for funding subprojects through the RRSP would be defined in the RRSP Operational Manual. The NGAs in turn, would develop Operation Manuals detailing the requirements and processes for subproject selection, detailed design and implementation. Criteria for eligible sub-and participating provinces in the RRSP are outlined in Box10.

Box 10: Criteria for Sound Design of RRSP sub-projects and Participation of LGUs

- Sub-projects should contribute directly to one or more of the following outcome objectives:
  - Reduced impact of disasters and extreme weather events (investment contributes directly to reducing risk to natural resource degradation and/or contributes directly to strengthening the resiliency of the natural resource base);
  - Improved ecosystem stability and adaptive capacity of the biophysical systems to quickly bounce back in the face of climate-induced and hazard-based disasters;
  - Investment contributes directly to reducing risk to persons and communities from natural and man-made disasters;
  - Increased coping capacity of people;
  - Investment contributes directly to strengthening the resiliency of persons and communities to disasters;
  - Development of collaborative and workable mechanisms for convergence at the national, regional and local levels;
  - Building a resource efficient society responding to climate change;
  - Investments provide alternative and sustainable livelihood opportunities to those livelihood activities dependent upon extractive or destructive practices that contribute to the destruction or decline of marine, freshwater and land-based natural resources and biodiversity).

- Sub-projects should be designed to ensure:
  - Relevance – the sub-project must be relevant to the RRSP's goal of increasing risk resiliency of ecosystems and communities to the impacts of climate change; also, the sub-project should identify opportunities for convergence and/ or catalytic influence in attracting complementary investment/activity support.
  - Importance – sub-project must be a felt need of the beneficiary LGUs;
  - Urgency – sub-project must bring immediate and lasting results especially in terms of alleviating the plight of poor and vulnerable communities being impacted by climate change;
  - Viability – sub-project must be viable in the medium- and long-term from economic, social and environmental viewpoints; the sub-project should identify at least two RRSP key performance indicators by which its performance is to be monitored and reported to the CCAM-DRR;
  - Convergence

- LGU participation criteria in RRSP would include:
  - The administrative area of the proponent LGU must be at least partially within the areas designated for RRSP support;
  - The proponent LGU(s) should have a LCCAP or have identified sub-project investments based on interim technical instruments such as eVSAs as approved by the PAB;
  - The proponent LGU must be a recipient of the Seal of Good Housekeeping and Good Financial Housekeeping;
  - LGUs that have previously been supported under the RRSP should have a satisfactory performance

[62] As indicated in Part 1, a key issue with LCCAPs are that they lack prioritization of interventions for climate change adaptation and enhancing resilience. Through the work of the CCC and complemented by the RRSP focus on developing tools for prioritization, it is expected that the quality of LCCAPs being developed would increase over time in terms of the targeting and prioritizing of adaptation and resilience interventions, and the financing plans for these.

(physical and financial) during implementation and in the operation and maintenance (O&M) of completed subprojects.

To the extent an interested LGU does not meet the above participation criteria, but is interested in participating in the RRSP, there will be capacity development undertaken with the LGU to increase the 'readiness' of the LGU to implement a subproject.

2.4.4Sub-Project Prioritization, Technical & Financial Approval

Sub-projects developed by LGUs, in partnership with NGAs for RRSP support, would need to be incorporated into Provincial Investment Plans, and submitted to the appropriate Regional Development Council (RDC) for review and modification as necessary, to facilitate complementation and convergence with other ongoing or planned activities. Upon endorsement by the RDC, the subproject would be submitted to the responsible NGA for technical and financial review and approval. In the case of RRSP eligible sub-projects identified as supportive of Provincial Commodity Investment Plans (PCIPs), the procedures are already well defined through existing DA- Operation Manuals (see para 13 (ii) above). In the case of DENR or other participating NGAs, Operation Manuals would need to be developed detailing the review and approval process (as well as the subsequent Implementation processes and requirements).

2.4.5RRSP Budget Submission and Approval Process

Based on RRSP sub -projects developed in partnership with LGUs, endorsed by the RDC and meeting the responsible NGAs technical, economic and financial review standards, the NGA would annually submit such PAPs to the RRSP-NPAB together with DBM Form 20-1E for budget consideration. The NPAB, though it's Program Support Office would undertake a quality review of the sub-project proposals for consistency with RRSP Guidelines only. Such review would not involve further technical, economic or financial review which is the responsibility of the proponent NGA. The NPAB would endorse NGA-RRSP plans, activities and programs (PAPs) to the CCAM DRR to ensure that they are aligned with the cabinet cluster's roadmap.[63]It is envisaged the NPAB review could complement the Technical Budget Hearings on subproject proposals for support under the RRP. Final approval of subprojects for funding follow the regular process of approval by the NEDA subcommittees.

Cost sharing between NGAs and LGUs would need to be established by each NGA with inputs from NPAB, based on NEDA guidelines and also on the experience from existing systems (e.g., cx such as those being used by the Department of Agriculture (DA) under the Philippine Rural Development Project (PRDP). By way of example, cost sharing might be:

i. For Infrastructure investments: 90:10 cost sharing (NGA-LGU)
ii. For Rural Enterprises and / or livelihood subprojects: 80: 20 cost sharing (NGA-LGU), with a requirement that the proponent group provide at least 20% equity (cash or kind) in the total cost of the enterprise/ livelihood activity, and
iii. For ecosystem / watershed management sub-projects: 80:20 cost-sharing (NGA-LGU), of which at least 50% of the LGU contribution would be in cash.

2.4.6Operation Cycle/ Implementation Process

Except for those RRSP eligible investments that would need to be designed and implemented by NGAs, sub-projects would be implemented by LGUs in accordance with procedures and protocols defined in Operation Manuals of the responsible NGA which *inter alia* cover for sub-project selection, design, approval, implementation, procurement, safeguards, O&M and M&E. In the case of the DA, these Manuals already exist and considerable experience has been gained by LGUs in their application. Steps

[63]Current procedure requires that participating agencies submit their climate PAPs to the TRC for review. Approved PAPs are returned to the agencies to complete DBM form 20-1E for funding before returning these to DENR for consolidation and signature of the DENR secretary and submission to CCAM and subsequent submission to DBM for approval.

are described below for the proposed operational flow for the RRSP. These processes are illustrated in Figures 15 and 16.

LGU-initiated subproject funded by NGA

1. LGU prepares and submits a RRSP subproject proposal to RDC. This applies for subproject included in the AIP and approved by the Local Development Council. The sub project has also undergone the proposed investment planning, prioritization, technical and financial/ budgetary approval process at the LGU level under the RRSP.
2. RDC reviews and endorses RRSP subproject proposal to the participating NGA. The RDC refers subproject for funding to the Participating NGA for further development.
3. NGA reviews the sub-project and endorses RRSP sub project to the NPAB.
4. RRSP-NPAB reviews and endorses RRSP sub-project proposal to the Cabinet Cluster on CCAM-DRR for funding. The NPAB assisted by the Program Support Office reviews if the proposed projects is consistent with the Policies and Guidelines under the RRSP such as Criteria for PAP funding eligibility, Key RRSP Indicators (KPIs) & reporting requirements, cost-sharing arrangements, Implementation, convergence & implementation efficiency. Reviews if the O&M & M&E. Maintains Oversight through M&E of performance against KPIs.
5. If RRSP project cost more than PhP2.5B , the NPAB will submit the proposal for ICC appraisal.

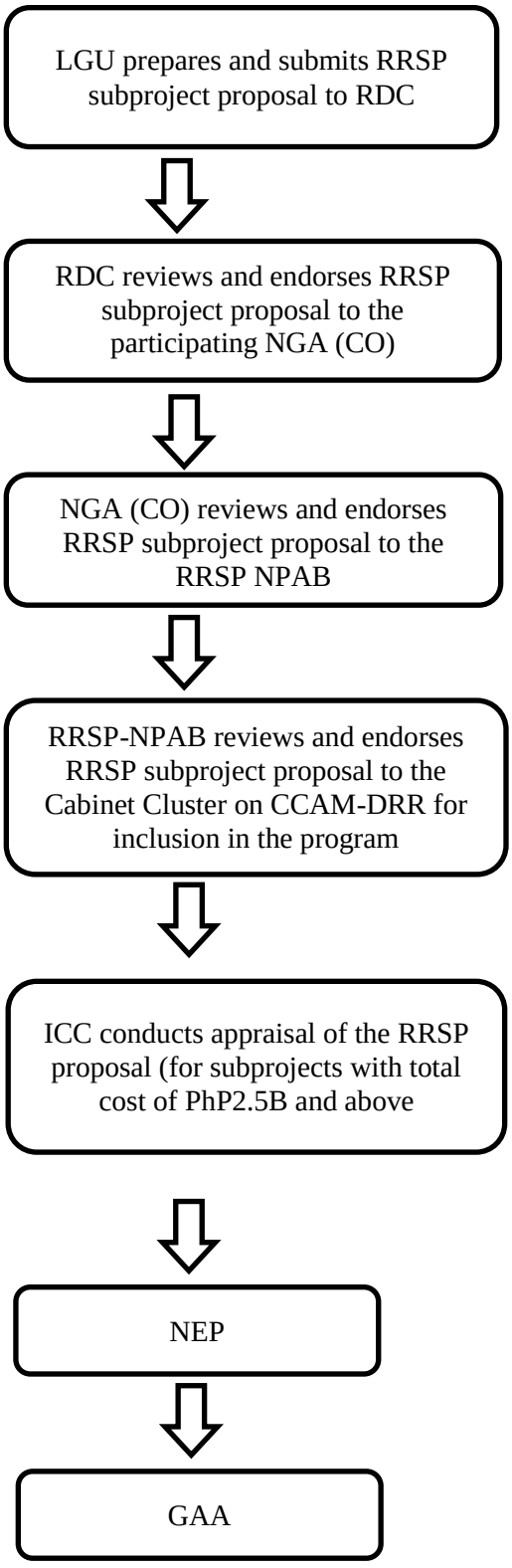


Figure 15: Process flow for LGU-initiated RRSP subprojects

NGA-initiated subproject funded by NGA

1. NGA prepares and submits RRSP project to the NPAB.
2. RRSP-NPAB reviews and endorses RRSP project proposal to the Cabinet Cluster on CCAM-DRR for funding. The NPAB assisted by the Program Support Office reviews if the proposed projects is consistent with the Policies &Guidelines under the RRSP such as Criteria for PAP funding eligibility, Key RRSP Indicators (KPIs) & reporting requirements, cost-sharing arrangements, Implementation, convergence & implementation efficiency. Reviews if the O&M & M&E. Maintains Oversight through M&E of performance against KPIs.
3. If RRSP project cost more than **PhP2.5B**, the NPAB will submit the proposal for ICC appraisal.

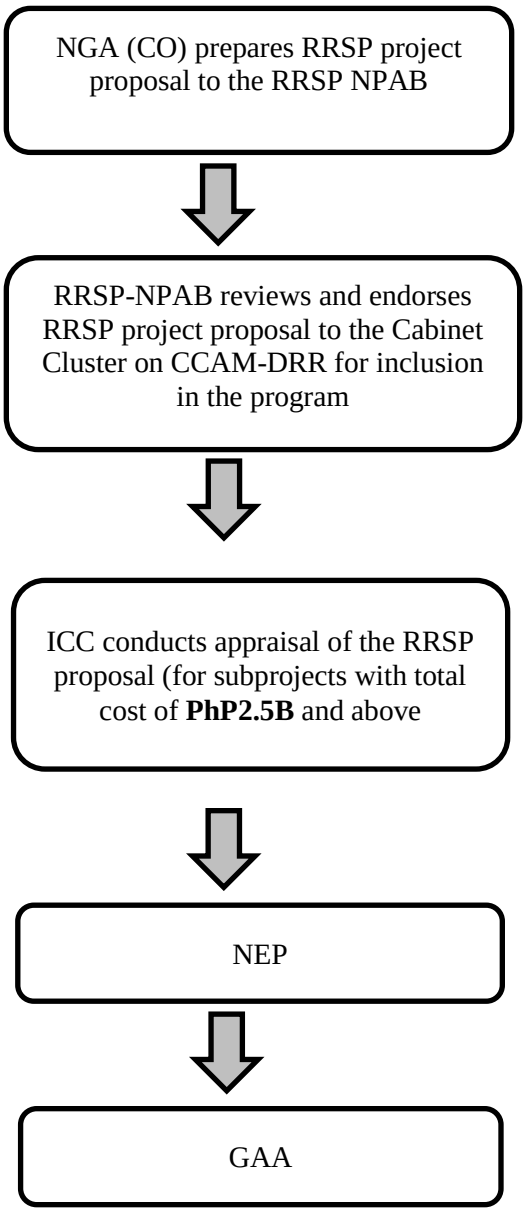


Figure 16: Process flow for NGA-initiated subprojects

2.5Institutional Arrangements and Roles

2.5.1 Guiding Principles

The RRSP preparation work has identified and assessed various implementation and delivery options and models which helped define the most suitable implementation arrangements. [64] Taking into account this comparative assessment and lessons learned from other resilience programs/projects (see Section 1), the institutional arrangements, roles and delivery model/operational cycle for implementing RRSP are based on the following guiding principles:

i. Build on and strengthen existing institutional roles and arrangements. These roles and arrangements are tailored to the requirements of mainstreaming and scaling-up a climate change "lens" and the priority PAPs, through RRSP;
ii. Adopt flexible approach. Recognize that "not one size fits all", while also recognizing the need for a common approach. Institutional arrangements may vary in different parts of the country, subject to, for example, coordination arrangements though WQMAs, River Basin Councils, Regional Councils;
iii. Ensure a sound balance in the roles of the NGAs and LGUs (and balancing the roles at Provincial and Municipal levels), while recognizing that the thrust of a results-oriented implementation of RRSP is to promote a decentralized approach to generating and sustaining climate resilience results;
iv. Ensure clear roles/mandates: NGAs will focus more on ensuring coherent and consistent policies, strategies and sound, scalable, and sustainable financing mechanisms; local level entities/LGUs will focus on ensuring their PAPs reflect priority resilience interventions which are addressing their climate change threats and priorities, and on efficient and effective implementation;
v. Use and strengthen existing planning and budgetary mechanisms and tools. To be used at the national and LGUs levels (e.g., medium term expenditure plan; annual budgetary plans, with a strong convergence dimension; PIPs; NCCAP; LCCAPs; CCET; LCCET; Climate and Disaster Risk Assessment (CIDRA); CMPs; CLUPs. The mechanisms for integrating national climate related strategic objectives with Provincial and Regional planning processes/prioritization, should to the maximum extent possible, build on and strengthen existing LGU planning and investment processes;
vi. Adopt and activate the preferred delivery model/option. This preferred option was assessed during RRSP preparation, namely, with RRSP being developed as a national program supporting climate resilience-related investments in key sector agencies (e.g., from among DENR, DPWH, DA, DILG, DOST and DAR). Accordingly, this modality would seek to strengthen the approach and support for climate resilience within those participating NGAs. At the individual agency level, the modality of delivery would follow a "project-approach", with institutional and implementation arrangements designed according to the specific needs of each entity. As such, the scope of strengthening climate change risk and resiliency within participating agencies could vary considerably across agencies. The modality of delivery under this preferred option would require the strengthening of partnership with LGUs for implementation of interventions. Accordingly, LGUs would play the central role in overall implementation.
vii. Formulate the preferred RRSP delivery processes and modalities. This should also take into account relevant lessons and multi-stakeholder feedback.

2.5.2 Proposed Arrangements/Roles

Considering the above guiding principles and design aspects, the section below summarizes the proposed institutional roles and arrangements to implement RRSP. This proposed approach/arrangement would help ensure an efficient and effective approach to mainstreaming and scaling up detailed planning and

[64] Key references include: Implementation Guidance Note: Institutional Planning and Financing Arrangements for the RRSP (prepared by REECS consultants, Feb., 2017); Areas for Elaboration in the Implementation Guidance Note (April, 2017). Another important input for this chapter is: Phil.: TA for RSSP: Methodology and Template for Investment Planning for RRSP Implementation (April 7, 2017).

implementation of climate resilience interventions. The main features of the implementation arrangements and roles comprise: a RRSP National Program Advisory Board (NPAB), a Tehchnical Review Committee (TRC), a Program Support Office, multi-stakeholder Regional Development Councils, National Government Agencies (NGAs) and Local Government Units (LGUs), which would link with district-level governments and councils. Further details are summarized below (and also illustrated in Figure17).

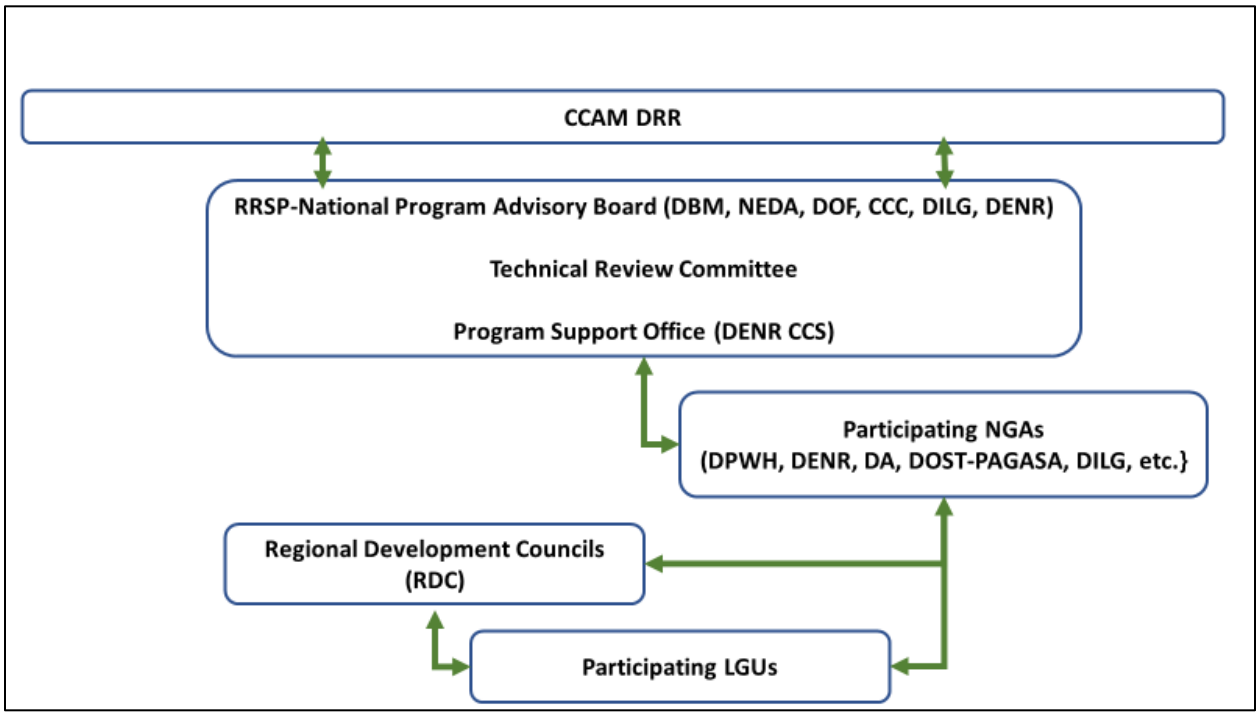


Figure 17: Proposed Institutional Arrangements for RRSP.

Note that Figure 17 highlights selected institutions. Other institutions that are part of the operational cycle for example the ICC are acknowleged but not included in the above framework for the purpose of simplification.

National Program Advisory Board (NPAB)would be established to oversee the RRSP. The NPAB wuld include representatives from the oversight agencies, CCC and participating NGAs. The functions of the NPAB would be:

- Maintain oversight of the RRSP in terms of financing, quality of interventions, convergence, targeting, implementation efficiency, and M&E.
- Prioritize and endorse annual RRSP sub-projects and budgets to the CCAM DRR for approval, and provide periodic updating on the overall RRSP progress. As such, it is envisaged the NPAB review could complement the Technical Budget Hearings on subproject proposals for support under the RRP.
- Assume and expand upon the functions currently provided by the Technical Working Group charged with formulating the RRSP.
- Prioritize and endorse annual RRSP sub-projects and budgets to the CCAM DRR, and provide periodic updating on the overall RRSP progress. This step is important for ensuring that the projects are aligned with the roadmap of the cabinet cluster. Final approval of projects would be the responsibility of NEDA board committees (e.g. Investmen Coordination Committee and
- Review could complement the Technical Budget Hearings on subproject proposals for support under the RRP.
- Also, proposed that the NPAB would assume and expand upon the functions currently provided by the Technical Working Group charged with formulating the RRSP.

Technical Review Committee (TRC) will be chaired by DENR composed of one representative, at least Director Level, from the DENR, CCC, DND-OCD, DOST and DA. The functions include:

- Evaluate and review the following and provide recommendations based on its findings to the Lead Agency:
    - The appropriateness of the PAPs proposed by Participating Agencies for inclusion in the RRP;
    - The accuracy, completeness and correctness of the agency DBM BP Form 201-E and CCAM PBA Form no. 2; and
    - The additional areas/provinces recommended for inclusion in the RRP priority areas;
- Identify and recommend to the Lead Agency outcome indicators and targets for the RRP PBA not later January 31, 2015.
- Assist the Lead Agency in presenting and clarifying the CCAM PBA during clarificatory dialogues, CCAM meetings and the TBH.

Program Support Office (PSO). A PSO would be responsible for supporting the operational and day-to-day functions of the NPAB. The Climate Change Service of the DENR is proposed to assume the role of the PSU. Specifically, the PSO would be responsible for reviewing annual NGA-RRSP budget submissions for consistency with the program criteria, and for maintaining a management information system (MIS)to monitor the RRSP, and to help coordinate implementation;

National Government Agency (NGA) Roles.Implementation of the RRSP would be open to a broad range of government agencies[65]. However, in the initial stages of the roll-out of the RRSP, the principal agencies involved could be DENR, DA, DOST -PAGSA, DPWH, DILG and CCC in view of their particular concerns in regard to planning and implementation of investments addressing climate change impacts on the environment, ecosystems and communities. Each of the proposed government agencies has, to varying degrees, undertaken steps to integrate climate change into their planning and implementation processes. The functions of NGAs under the RRSP would include provision of technical services to LGUs in the identification, prioritization and design of subprojects responsive to the criteria of the RRP, technical, financial and economic evaluation of subprojects for consistency with RRP criteria, submission of such subprojects for funding to the RRSP-NPAB, implementation support including cost sharing, M&E along with reporting on the RRP-KPIs to the RRSP-NPAB Program Support Office.

Regional Development Councils (RDCs). In each region covered (total of 3 regions), the RDC, together with the Regional Office of NEDA providing secretariat functions, is responsible for policy and coordination of plans for overall local development and implementation. The RDC will provide the forum for review and facilitation of convergence and complementarity of interventions across NGAs, LGU administrative boundaries and landscapes. Building on current practices and experience, the functions of the RDC under the RRSP would be to review LGU subproject proposals for consistency with RRSP criteria, ensure they are in line with other local plans, including the Regional Development Plan, and to facilitate convergence. The RDC would subsequently endorse proposed subprojects to the responsible NGA for technical, economic and financial evaluation and approval, before onward submission to the PAB review and submission to the CCAM-DRR for approval;

Local Government Units (LGUs). As specifically required under the Climate Change Act of 2009 or RA 9729-Section 14 requires that "LGUs shall be the frontline agencies in the formulation, planning and implementation of climate change action plans in their respective areas, consistent with the provisions of the Local Government Code, the Framework, and the National Climate Change Action Plan" "Barangays shall be directly involved with municipal and city governments in prioritizing climate change issues and in identifying and implementing best practices and other solutions. Municipal and city governments shall consider climate change adaptation, as one of their regular functions. Provincial governments shall provide technical assistance, enforcement and information management in support of municipal and city climate change action plans. Inter-local government unit collaboration shall be maximized in the conduct

[65]The main NGAs would include: DENR; DA; DOST-PAGASA; DPWH; HLURB; and DILG.

of climate-related activities". The focus of the RRSP would, as described below (Section III), be concentrated on those Provincial LGUs identified by the CCAM-DRR as particularly vulnerable to the impacts of climate change. The mechanisms through which RRSP investments would be identified, designed and approved, would build upon existing arrangements to minimize capacity issues for LGUs. This, however, is an important aspect that would require particular attention and support through DILG and Development Partner assistance.

A key feature of RRSP will involve enhanced inter and intra-institutional coordination, using convergence budgeting as a key tool. Accordingly, Regional Development Councils would play a key role in enhanced coordination (in conjunction with Watershed Councils etc.), based on Local Climate Change Action Plans (LCCAPs) or similar LGU planning & investment instrument (e.g., PCIPs in case of the DA).

There is an envisioned role for NGOsand partnerships with the private sector, and quality assurance and long-term reliability of services provided by academia. These roles are being defined in greater detail during the remaining preparation process of RRSP.

2.6Proposed Resilience Investments

2.6.1 Process for developing resilience investments

The process of developing the resilience investments was iterative, and was built on consultations with provincial LGUs, RDCs and NGAs to systematically identify priority resilience investments that are based on relevance for addressing climate hazards and development priorities, efficacy in enhancing resilience to climate hazards, and efficiency.

Consultations with Provincial LGUs and RDCs
Consultations were held with local government representatives of the provinces of Surigao del Norte, Surigao del Sur, Dinagat, Masbate, Sorsogon, Negros Oriental, Western Samar, and Sarangani to identify resilience projects for support by RRSP.[66] Regional consultations included members of the regional development councils of the respective regions, and provincial government representatives. The process of identifying resilience projects at the provincial level included the following steps: (i) assessment of current and projected climate hazards at the provincial level; (ii) assessment of potential impacts of climate hazards; (iii) mapping of key provincial climate hazards, and existing projects and programs to address climate hazards; (iv) identification and assessment of resilience projects using modified and simplified adaptation pathway analysis, multi criteria analysis, and qualitative economic assessment.[67] The use of tools like the adaptation pathway analysis (APA) (Figure X) was discussed and piloted with local governments as a potential tool for helping to prioritize and plan resilience investments that are most effective for addressing climate hazards, and that are most cost efficient; see summary of Regional Consultations in Annex 3.

Consultations with National Government Agencies
Consultations were held with officials of DENR, DA, DPWH, DILG, HLURB, DOST-PAGASA, and DOE to discuss potential resilience interventions. The output of the consultations was a list of NGA PAPs that should be redesigned or scaled-up to be more climate responsive, and new PAPs that can contribute to enhancing climate resilience; see summary of National-level Consultations in Annex 3.

[66] Due to ongoing conflict in Marawi, Mindanao during the preparation of the RRSP program document, consultations were not undertaken in Lanao del Sur and Maguindanao. Consultations in these two provinces would take place in 2018.
[67] Representatives of PAGASA provided provincial-scale climate projections, and assisted the local government teams in identifying potential impacts of climate hazards. Simplified adaptation pathway analysis was a modification of the Dynamic Adaptation Policy Pathways (DAPP) tool introduced by Deltares through the analytical work on economic analysis of adaptation investment decisions under uncertainty.

The results of the consultations were integrated to develop four resilience investment project concepts. The resilience investment projects would serve as umbrella projects (implemented by NGAs) for the resilience subprojects implemented at the provincial level. The criteria used for guiding the selection of resilience investments included the criteria in Section 2.4.3.

The potential resilience investments were discussed with stakeholders and agreed for prioritizing in the first phase of the RRSP:

- Investment Sub-Project 1: Enhancing Climate Information Services for Decision-Making
- Investment Sub-Project 2: Enhancing coastal protection in selected areas of the Philippines
- Investment Sub-Project 3: Integrated Water Resources Management Project
- Investment Sub-Project 4: Social Enterprise Development, Entrepreneurship and Innovation

The investment sub-projects selected contribute to the four results areas as shown in Table 4; theestimated total costs for implementing these four sub-projects is PHP 19,779.82 M (US $395.62).

Table 4: Contribution of RRSP Investment Sub-Projects to the Result Areas

Investment Sub-Projects	RRSP Phase 1 Result Areas			
	Strengthened and effective RRSP "enabling" environment at national and target subnational levels	Enhanced management, stability and resilience of key ecosystems in target areas	Reduced vulnerability of physical assets through prioritized protective and resilient infrastructure	Increased adaptive and coping capacities through sustainable and resilient livelihoods of vulnerable agricultural, fishing, and upland communities
Enhancing Climate Information Services for Decision-Making	X			
Enhancing coastal protection in selected areas of the Philippines	X	X	X	
Integrated Water Resources Management Project	X	X	X	X
Social Enterprise Development, Entrepreneurship and Innovation	X			X

The blue shading and Xs in Table 4 denotes the result area that the sub-project contributes to.

Investment Project 1: Enhancing Climate Information Services for Decision-Making

Background

The proposed project focuses on enhancing the production of climate information, and the uptake and effective use of climate information. While the focus is on providing targeted provinces with a comprehensive package of climate services, the analysis undertaken as part of this project will be applicable nationally. This project builds on efforts that have been undertaken at small scales within the Philippines, for example municipal-scale climate risk mapping, and focuses on scale-up of these. The project will also promote convergence among the different providers of climate information services, for example PAGASA, CCC, NAMRIA, HLURB and DILG, to ensure that the sequencing of activities undertaken by these agencies is well coordinated, effective and efficient for the users of climate information. This project also helps to provide critical information for other projects included in the RRSP document, in terms of providing the climate information that is needed. Finally, the project will also focus on developing and upgrading the infrastructure such as synoptic weather stations that underpin climate information services.

Objectives

The overall project objective is to deliver a comprehensive package of climate information services to targeted provinces in the Philippines. The sub objectives of the project include:

i. To strengthen the decision-basis for investing in climate information services;
ii. To enhance coordination of ongoing efforts for climate information services;
iii. To develop new climate information;
iv. To enhance capacity to develop and use climate information.

Geographical Scope

The project will be implemented in the following provinces: Masbate, Sorsogon, Negros Oriental, Samar, Surigao del Norte, Surigao del Sur, Dinagat, Sarangani, Maguindanao, and Lanao del Sur.

Project Beneficiaries

The direct project beneficiaries will be the LGUs of the target provinces, and national government agencies namely PAGASA and DA.

Anticipated Components and Activities

Component 1: Analysis of Climate Information Needs

Subcomponent 1.1 Baseline assessment of climate information needs. Key activities to include:

i. Stakeholder mapping and analysis of producers and users of climate information
ii. Survey among users of climate information availability and accessibility

Subcomponent 1.2 Benefits analysis of climate information. The outputs of subcomponent 1.1 guide the sectors for which the analysis will be undertaken. Key activities to include:

i. Economic analysis of the benefits of climate information provision for different sectors
ii. Capacity building on assessing benefits of climate information

Subcomponent 1.3 Plan for enhancing climate information services. The outputs of subcomponents 1.1 and 1.2 are inputs for the development of a plan for enhancing climate information services. Key activities to include:

i. Development of MOU to guide convergent planning for climate information services
ii. Participatory development of plan for climate services
iii. Capacity building on climate information plan development

Component 2: Production of Climate Information. The development of climate information would be guided by the plan that is developed in Component 1. A menu of activities is provided in the subcomponents below, however implementation of these is expected to vary by province and municipality as the project is building on the climate information that already exists. In some cases, information may need to be updated.

Subcomponent 2.1 Hazard, Risk and Vulnerability Mapping. A key request from LGUs is the development of maps at the municipal and barangay scale. The climate information needs assessment would help to determine where such maps would be strategic and add value. Key activities to include:

i. Training on GIS-based mapping
ii. Participatory map development at municipal and barangay scales

Subcomponent 2.2 Climate Impact Modeling. Key activities to include:

i. Training for undertaking climate impact modeling
ii. Climate impact modeling
iii. Dissemination of results of climate impact modeling

Subcomponent 2.3 Weather Infrastructure Enhancement

i. Survey and mapping of weather infrastructure to identify gaps in coverage
ii. Update weather infrastructure investment plan developed in 2016 under the Philippines Climate Change Adaptation Project (PhilCCAP)
iii. Implement weather infrastructure

Subcomponent 2.4 Climate Information Knowledge Management. Key activities include:

i. Establishment of regional centres for climate information

Component 3: Capacity development on use of information
Subcomponent 3.1 Capacity development. Capacity development activities are included in Components 1 and 2. Key activities include:

i. Baseline assessment of capacity, and capacity needs assessment
ii. Capacity development workshops. The content of these workshops to be determined by the needs assessment.

Results Framework for Investment Project 1

The results framework for investment project 1 focuses on intermediate outcome and output indicators. As the provision of climate information services is an important initial step in undertaking other climate resilient interventions, the result of climate information services are outputs or intermediate outcomes. These intermediate outcomes and outputs are expected to contribute to the outcomes included in the Results Framework for the RRSP Phase 1; see Annex 2.

Implementing Arrangements

DOST-PAGASA will be the lead government agency for the proposed project, and will work closely with the HLURB, DILG NAMRIA, DA, DENR-MGB, and CCC in the development and dissemination of climate information. Local government units (LGUs) will participate in the development of climate information services, and will be among the primary stakeholders in capacity development for using climate information. A project technical committee comprising representatives of lead agencies, recipient LGUs and other key players in the sector will be established to provide technical guidance during project preparation and implementation. The responsibilities of each of these institutions, and other institutions that are part of the implementing arrangements are described in Table 5.

Table 5: Responsibilities for Implementation

Institution	Project Implementation	Post-project Implementation
Recipient LGU	Lead the development of participatory mapping Participate in capacity building activities	Operation and maintenance (O&M) of weather infrastructure
DOST-PAGASA	Overall leadership on technical activities in coordination with other key agencies Monitoring contribution of project to agreed indicators.	O&M of regional climate centres Provide technical and financial support during initial years of O&M.
HLURB, DILG, NAMRIA, DENR-MGB, DA, and CCC	Lead on specific technical aspects of the project, and provide technical inputs as needed	
Regional Development Councils	Monitor and report on project implementation.	
Project Technical Committee	Provide technical oversight and guidance.	

Risks, and Environmental and Social Safeguards

A summary of key project risks and risk mitigation measures are included in Table 6.

Table 6: Key Risks and Risk Mitigation Strategies

Risks	Risk Mitigating Measures	Risk Rating
Inadequate technical capacity to undertake climate impact modeling	This risk is mitigated through: (i) dedicated budget for technical assistance; (ii) technical support provided to LGUs during development of the plan.	Moderate
Inadequate funding to fully implement climate information needs and the development of adequate network of weather infrastructure	The development of a robust financing strategy for the project that blends government financing, with other sources of financing, e.g. ODA, private sector, would help ensure that there is available funding for the project.	Moderate
Convergence required for providing comprehensive package of climate information services does not occur.	An early activity in the project is the development of an MOU to guide convergent planning; this MOU will help to ensure that convergent planning occurs. Furthermore, the development of a climate services plan, helps to ensure the appropriate sequencing of technical support provided by different agencies.	High
Local government ownership and commitment to the project fluctuates due to high turnover of local government staff.	The project emphasizes high involvement of project activities by local governments that have an interest in enhancing climate resilience as a development priority. Analysis of the economic benefits of climate information would help to make the case for the importance of robust climate information.	High

Estimated Project Cost and Financing Strategy

The estimated costs for the project are provided in Table 7, and indicate the cost for implementing the project in ten provinces between 2018 and 2022.

The financing strategy for the proposed investment project is still being determined within government; the Table 8 is under development. However, the government envisions a blend of financing for resilience investment projects that includes: regular government budget; dedicated domestic special purpose funds for climate and disaster resilience such as the People's Survival Fund (PSF) and Local Disaster Risk Reduction and Management Fund (LDRRMF); overseas development assistance (grants and loans); international climate finance sources such as the Green Climate Fund (GCF) and Global Environmental Facility (GEF); and private sector investments including green bonds; see Box 11 for a description of these funds.

Table 7: Estimated Project Cost, PHP Million

Components and Subcomponents	Total cost (2018-2022) PHP M (US $ M)	Total cost (2018-2022) US $ M
Component 1: Analysis of Climate Information Needs		
Baseline assessment of climate information needs	3.0	0.06
Benefits analysis of climate information.	10.88	0.22
Plan for enhancing climate information services	11.25	0.23
Component 2: Production of Climate Information		
Hazard, Risk and Vulnerability Mapping	55	1.1
Climate Impact Modeling	29.38	0.59
Weather Infrastructure Enhancement	250.75	5.02
Climate Information Knowledge Management	600	12
Component 3: Capacity development on use of information		
Capacity development	21.75	0.44
Total	**982.01**	**19.66**

US $ 1= PHP 50

Table 8: Financing Strategy

Components and Subcomponents	Funding Sources						Total cost (2018-2022) Ph. M
	NG	GOCC/ GFI	LGU	ODA	Private Sector	Others	
Component 1: Analysis of climate information needs							**25.13**
Component 2: Production of climate information							**935.13**
Component 3: Capacity development on use of information							**21.75**
Total							**982.01**

NG – National Government; GOCC – Government Owned and Controlled Corporation; GFI – Government Financial Institutions; LGU – Local Government Unit; ODA – Overseas Development Assistance.

Synergies with ongoing initiatives

There are identified initiatives that the project will build on. Some of these projects are expected to provide co-financing for this project; see Table 9.

Table 9: Programs and Projects with potential for synergy

Program/Project	Implementing Agency	Comment
Climate data management, agrometeorological and climate change research and development	DOST-PAGASA	Potential for co-financing
Flood forecasting and hydro-meteorological services	DOST-PAGASA	Potential for co-financing
Mainstreaming CCA-DRR in the Comprehensive Land Use Plan (CLUP) Formulation.	HLURB	Potential for co-financing
Capacity Building for HLURB Staff who provide assistance to the LGUs (Training of Trainer)	HLURB	Potential for co-financing
Training on Geographic Information System (GIS) for Climate and Disaster Risk Vulnerability Reduction	DILG	Potential for co-financing
Mainstreaming CCA and DRR in Local Development Planning	DILG	Potential for co-financing
Training on the Formulation of Local Climate Change Action Plan (LCCAP)	DILG	Potential for co-financing
Integrated Vulnerability Assessment Tools	CCC	Potential for co-financing

Investment Project 2: Enhancing coastal protection in selected areas of the Philippines

Background

The Philippine coastline has a total length of 18,000km, a large proportion of which is exposed to coastal flooding and erosion or shoreline retreat due to a combination of natural factors such as wind and waves, long-shore currents, and tectonic activities, as well as anthropogenic factors such as dam construction, sand mining, coral reef destruction, wetlands conversion, have been identified as the factors contributing to the hazard. The impact of this coastal hazard is expected to become more widespread with climate change driving increases in sea-levels and higher intensity storms with more intense wave action and storm surges, as well as with the continuing urbanization and development of coastal communities in the country (Arias et al 2015).

Coastal populations in the Philippines are identified as among the most vulnerable to climate change, as they are often low-income communities with limited capacity to cope and adapt to coastal due to increased concentration of settlements on the coast, and they are increasingly exposed to climate hazards due to declining natural coastal defenses such as mangroves, seagrasses and coral reefs.[68] Several anthropogenic causes for the decline of mangroves, corals and seagrasses have been identified, these include: (1) Mangrove forests have been converted into fishponds, salt-beds, rice paddies and even for residential, commercial, and industrial purposes. (2) Mangroves have been overexploited for timber use, firewood, and tanbarks. (3) Philippine mangroves are affected by pollution due to mining and dumping of mine tailings and solid wastes. (4) Siltation has been an important factor in the destruction of coral reefs. Another cause of deterioration of corals is water turbidity and water temperature. (5) Among the major causes of the decrease in seagrass beds is siltation due to agricultural cultivation and mining. Natural causes like storm surges, tsunamis, and volcanic activity affect the productivity and lifetime of sea grasses (Perez et al 1999).

Management of coastal areas is largely the responsibility of the local government and supported by the DENR and DA. The Local Government Code assigned most coastal management authority to over 850 coastal municipalities and cities and 54 coastal provinces that have jurisdiction in coastal areas, and plans for coastal protection should be included in the Comprehensive Land Use Plan (CLUP) (Lowry et al 2005). Coastal management is not done systematically across coastal areas in the Philippines, as there is no clear guidance for LGUs on how to effectively manage coastal areas. A Coastal Management Policy was drafted in an attempt to address inconsistencies and conflicts between national and local government programs on coastal management, and to provide a common performance framework to measure local CRM implementation. The coastal municipalities have adopted key provisions and CRM benchmarks in the policy through a resolution of the League of Municipalities but unfortunately, the policy has not yet been adopted by the national government (Lowry et al 2005).

Notwithstanding, there have been measures undertaken by the national and local government to adapt and increase resilience of coastal areas. The GoP recognizes the role of ecosystems in climate change adaptation and resilience, and accordingly have reflected these in the key climate change policy document – the NCCAP, and have include ecosystems management as an objective of the RRP. Typical responses usually involve protection activities or retreat. For example, … As well, there are ongoing national programs that contribute to enhancing resilience in coastal areas such as the National Greening Program (NGP) and the Coastal and Marine Ecosystems Management Program (CMEMP). These adaptation options, however, entail large investments and sometimes even cause undesirable impacts. **It is important, therefore, to carefully evaluate and assess the feasibility of these options before an action is taken.** For example, Arias et al (2015) evaluated three adaptation strategies for managing coastal erosion/shoreline retreat in one of the coastal areas in the country identified to be experiencing the hazard, i.e., San Fernando Bay in San Fernando City, La Union Province: business as usual (construction

[68]The role of mangroves for coastal protection was studied, and it was found that an average hectare of mangroves in the Philippines provides more than PHP 160,000/ year (US $3200/year) in flood reduction benefits (TNC, 2017).

and maintenance of bulkheads); planned retreat (procurement of new buildings – borne by the government); and planned protection (Construction cost of bulkheads, revetments and planting of vegetation). The planned protection strategy yielded the higher NPV rates under all scenarios, and the study concluded that the planned protection strategy was the most rationale option to adapt along the coast of San Fernando bay.

Objectives

The proposed project will develop an approach for evaluating options – grey and nature-based – for coastal flood mitigation in the Philippines, as an input to coastal planning and management. Options will be compared based on their projected benefits (in terms of averted damages and other social benefits) and their respective costs; see for example Figure 18. An important feature of this project, is the development of a web-based application (tool) that can help provinces/ municipalities to determine cost-effective options for coastal flood mitigation. The output of this tool would be guidance to coastal planners on the most appropriate strategies. This project will also update the design standards for specific coastal flood mitigation infrastructure, including green infrastructure.

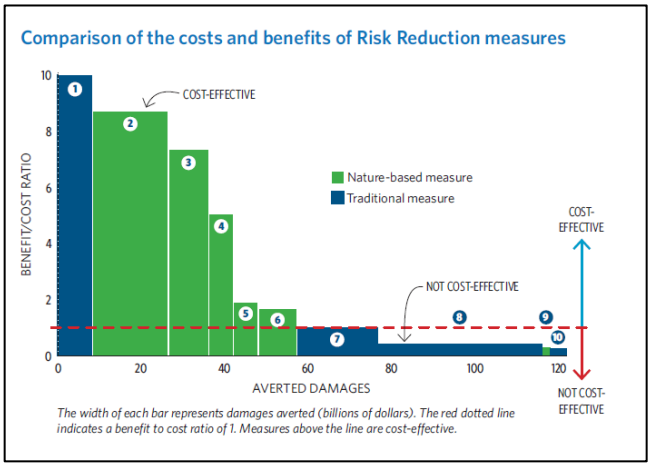


Figure 18: Comparison of the costs and benefits of Risk Reduction measures

Source: TNC, 2016

The overall project development objective is to reduce the risk of coastal flooding in targeted areas of the Philippines. The sub-objectives of the project include:

i. To strengthen capability of local government units and national government agencies for the integration of climate change risk information in coastal flood management planning;
ii. To improve the access of end-users for example LGU planners to effective and cost-efficient strategies for enhancing resilience to coastal flooding and erosion;
iii. To implement risk-informed strategies for coastal flood management.

Geographical Scope

The project will be implemented in the following provinces: Masbate, Sorsogon, Negros Oriental, Samar, Surigao del Norte, Surigao del Sur, Dinagat, Sarangani, Maguindanao, and Lanao del Sur.

Project Beneficiaries

The direct project beneficiaries will be the coastal LGUs of the targeted provinces. DPWH and DENR will also benefit from the technical capacity development activities undertaken in the project.

Anticipated Components and Activities

Component 1: Institutional strengthening for coastal protection

Subcomponent 1.1 Evaluation of coastal flood and erosion mitigation options. Key activities to include:

i. Analysis of coastal flood and erosion mitigation options. Analysis will include the protection function of green and grey coastal infrastructure, and the benefits (averted damages, environmental, and other socioeconomic benefits) of different types of infrastructure.
ii. Development of web-based application for evaluating coastal flood and erosion mitigation options.

iii. Capacity building including the development of knowledge products on undertaking efficacy and benefits analyses for evaluating coastal flood and erosion mitigation options.

Subcomponent 1.2 Enhancing resilience of existing coastal protection infrastructure. Key activities to include:

i. Analysis of protection function of coastal infrastructure to inform design standards.
ii. Feasibility studies on options for rehabilitating coastal protection infrastructure to enhance resilience.
iii. Development of operation manual for rehabilitating coastal infrastructure that includes unit cost estimates and operation and maintenance requirements.
iv. Updating of design standards for resilient coastal infrastructure.

Subcomponent 1.3 Coastal resilience planning. Key activities to include:

i. Development of a strategy for convergence planning.
ii. Apply strategy for participatory development of coastal resilience plan, drawing on the evaluation of flood mitigation options.
iii. Capacity building including development of knowledge products, on coastal resilience planning.

Component 2: Priority works for coastal protection

Subcomponent 2.1 Implementation of priority coastal protection investments. Key activities to include:

i. Implementation of priority coastal flood and erosion mitigation investments in the target provinces selected pursuant to the climate-informed flood mitigation plan.
ii. Upgrading coastal flood mitigation infrastructure to be more climate resilient pursuant to the feasibility study.

Results Framework for Investment Project 2

The results framework for investment project 2 is presented in Annex 2. It focuses on outcomes and outcome level indicators. It is acknowledged that there will be a number of outputs and intermediate outcomes that contribute to the outcomes listed in Appendix 2.2. The results framework for the project links to the outcome-level results included in the Results Framework for the RRSP (Annex 2) and shows the contribution of the project to the overall results of the program.

Implementing Arrangements

The Department of Public Works and Highways (DPWH) together with the Department of Environment and Natural Resources (DENR), will be the lead government agencies for the proposed project, and will support the recipient local government units (LGUs) in the development and implementation of the subprojects at the local level. Cost-sharing arrangements between the NGAs and LGUs will be determined during the project planning process, and will be detailed in joint memorandum of agreement between the NGAs and LGUs. A project technical committee comprising representatives of lead agencies, recipient LGUs and other key players in the sector will be established to provide technical guidance during project preparation and implementation. The responsibilities of each of these institutions, and other institutions that are part of the implementing arrangements are described in Table 10.

Table 10: Responsibilities for Implementation

Institution	Project Preparation	Project Implementation	Post-project Implementation
Recipient LGU	Lead development of coastal resilience plan Participate in capacity building activities	Lead implementation of priority coastal flood and erosion mitigation investments.	Operation and maintenance (O&M) of investments.
Department of Public Works and	Lead technical analysis and feasibility studies:	Provide technical support to LGUs	Provide technical support during initial

Highways Department of Environment and Natural Resources	• Analysis of coastal flood and erosion mitigation options • Development of web-based application • Capacity building activities • Analysis of protection function of coastal infrastructure to inform design standards. • Development of operation manual for rehabilitating coastal infrastructure • Updating of design standards for resilient coastal infrastructure Technical support to LGU for development of coastal resilience plan	during project implementation. Monitoring contribution of project to agreed indicators.	years of O&M.
Regional Development Councils	Facilitate convergent planning among LGUs, DPWH and DENR.	Monitor and report on project implementation.	
Project Technical Committee	Provide technical oversight and guidance.	Provide technical oversight and guidance.	

Risks, and Environmental and Social Safeguards

A summary of key project risks and risk mitigation measures are included in Table 11.

Table 11: Key Risks and Risk Mitigation Strategies

Risks	Risk Mitigating Measures	Risk Rating
Inadequate capacity of LGUs to fully implement coastal protection measures.	This risk is mitigated through: (i) technical assistance provided by NGAs to the LGUs as part of cost sharing arrangements to support LGUs during implementation and to guide on appropriate O&M processes; (ii) capacity development for LGUs through workshops and trainings undertaken continuously over the project cycle; (iii) development of detailed operational manual to guide project implementation.	Moderate
Inadequate technical capacity to develop climate risk-informed coastal protection plan.	This risk is mitigated through: (i) dedicated budget for technical assistance; (ii) technical support provided to LGUs during development of the plan.	Moderate
Inadequate funding to fully implement coastal protection measures.	The development of a robust financing strategy for the project that blends government financing, with other sources of financing, e.g. ODA, private sector, would help ensure that there is available funding for the project.	Moderate
Convergence required for developing coastal protection plan does not occur.	A strategy for convergence would be developed as an initial activity for the project. In lieu of a policy for convergence, the strategy would help to ensure that there is interagency discussion at management and technical levels, and at the level of the RDC.	High
Local government ownership and	The project emphasizes implementation of	High

commitment to the project fluctuates due to high turnover of local government staff.	project activities by local governments that have an interest in enhancing climate resilience as a development priority. Attractive cost sharing arrangements between NGAs and LGUs will also serve as an incentive for LGUs committing to good project implementation.	

Project Cost and Financing Strategy

The estimated costs for the project are provided in Table 12, and indicate the cost for implementing the project in ten provinces between 2018 and 2022.

The financing strategy for the proposed investment project is still being determined within government; Table 13 is under development. However, the government envisions a blend of financing for resilience investment projects that includes: regular government budget; dedicated domestic special purpose funds for climate and disaster resilience such as the People's Survival Fund (PSF) and Local Disaster Risk Reduction and Management Fund (LDRRMF); overseas development assistance (grants and loans); international climate finance sources such as the Green Climate Fund (GCF) and Global Environmental Facility (GEF); and private sector investments including green bonds; see Box 11 for a description of these funds.

Table 12: Estimated Project Cost, PHP Million

Components and Subcomponents	Total cost (2018-2022) PHP M	Total cost (2018-2022) US $ M
Component 1: Institutional strengthening for coastal protection		
Evaluation of coastal flood and erosion mitigation options	71.3	1.4
Enhancing resilience of existing coastal protection infrastructure	472.5	9.5
Coastal resilience planning	61.3	1.2
Component 2: Priority works for coastal protection		
Implementation of priority coastal protection investments	2,250	45
Total	**2,855.1**	**57.1**

US $ 1= PHP 50

Table 13: Financing Strategy

Components and Subcomponents	Funding Sources						Total cost (2018-2022) PHP M
	NG	GOCC/ GFI	LGU	ODA	Private Sector	Others	
Component 1: Institutional strengthening for coastal protection							**605.1**
Component 2: Priority works for coastal protection							**2,250**
Total							**2,855.1**

NG – National Government; GOCC – Government Owned and Controlled Corporation; GFI – Government Financial Institutions; LGU – Local Government Unit; ODA – Overseas Development Assistance.

Synergies with ongoing initiatives

There are identified initiatives that the project will build on. Some of these projects are expected to provide co-financing for this project; see Table 14.

Table 14: Programs and Projects with potential for synergy

Program/ Project	Implementing Agency	Comment
Coastal and Inland Fisheries Resource Management	Department of Agriculture	
Participatory Rural Development Project (PRDP)	Department of Agriculture	
Integrated Natural Resources and Environmental Management Project (INREMP)	Department of Environment and Natural Resources	
National Greening Program (NGP)	Department of Environment and Natural Resources	Potential for co-financing
Coastal and Marine Ecosystems Management Program (CMEMP)	Department of Environment and Natural Resources	Potential for co-financing
Project ReBUILD: Resilience Capacity Building for Cities and Municipalities to Reduce Disaster Risks from Climate Change and Natural Hazards (Phase 1) (2015)	UNDP	

Investment Project 3: Integrated Water Resources Management Project

Background

Many river basins in the Philippines are increasingly dealing with water stress related issues as a result of growing water demands and watershed degradation. The growing population and increased economic activities in these river basins are challenging the public authorities to provide their inhabitants safe and healthy living conditions, of which water is an essential part. Currently, the quality of surface water as well as groundwater is deteriorating and watersheds are degrading as a result of the growing and wealthier population and changing climatic conditions.One of the United Nations Sustainable Development Goals is targeted at good, accessible and affordable water supply, which is currently not the case for all inhabitants of the Philippines. Furthermore, in the future, water stress related problems are expected to exacerbate due to climate and socio-economic changes. It is projected that by 2050, there will be a reduction in rainfall in most provinces during the months of March to May under the mid-range scenario. From June to August, large increase in rainfall is predicted in Luzon (0.9% to 63%) and Visayas (2% to 22%) while a decreasing trend is expected in most of the provinces in Mindanao (-0.7% to -18%). The reduction in water supply due to decline in rainfall will hamper the ability of hydroelectric dams to produce power, affecting crop production, and food security particularly in Mindanao and the country. Therefore, investments are urgently needed to overcome the current and future water gap and to create abundant and affordable supply of good quality water for all inhabitants of the Philippines. However, in order to prioritize on adequate and robust investment portfolios with limited resources, a longer-term planning horizon is needed to take into account all changing uncertain conditions, compared to current practices of short term master plans.

In addition to the challenge of safe and secure water supply, flooding is a major issue in the Philippines. A JICA report (2013) predicted that larger floods will occur more in the future in the country's 3 river basins (Angat, Kaliwa, and Pampanga), wherein highest peak discharge can increase from 1.5x to 6x its past values while other peak flows show slightly higher increase (1x) to double (2x) from past values. Within the river basins in Mindanao, many areas, such as cities and barangays along major rivers,get floodedeven with low levels of rainfall. Downstream communities in the Cagayan de Oro, Tagoloan, Ranao (Agus), Mindanao, Agusan, Tagun-Libuganon, Davao, and Buayan-Malungon river basins are frequently impacted by frequent flooding especially during the wetter seasons. Flood control interventions within the river basins are essential to provide long-term solutions to the flooding concerns in the area. With rainfall projected to become more intense in some areas, there is a strategic opportunity to introduce more climate risk-informed planning.

An integrated water resources management (IWRM) approach has been adopted by the Philippine government for river basin management, and this project builds on this approach, and emphasizes the integration of climate risks into IWRM. Broader catchment management and convergent planning among stakeholders is an opportunity to bring together planning for enhancing water storage and availability, and flood control management.

Mindanao has been the farming and agricultural core of the Philippines, where more than 48% of is employment comes from the agriculture sector. Overall, Mindanao accounts for 15% of the country's gross domestic product (2016), andan average of 38% of the country's production of major crops. To maintain its economic profitability, well functioning and efficient water supply and irrigation systems are critical for the agriculture sector. Droughts and flash floods have triggered the environmental degradation of watersheds, resulting in the unreliability of water supply. Floods, on the other hand, have caused more damage. In 2011, Typhoon Sendong brought torrential rains that led to catastrophic flooding in Cagayan de Oro and Iligan cities, losing thousands of lives and damaging billion of pesos worth of properties.

Project Objectives

The project objectives are to plan and develop water resources for sustainable supplies, and to reduce economic losses from floods through increased resilience in targeted areas of the Philippine. The subobjectives of the project include:

i. To strengthen the capacity of water resource planners to use the framework of IWRM and will include socio-economic and climate uncertainty in the analysis, to determine investment needs to reach the government target set for household water supply.
ii. To improve the resilience of water supplies to impacts of climate variability and change.
iii. To strengthen the capacity of communities to cope with floods through structural interventions (i.e. construction and rehabilitation of infrastructure and other flood-control projects) and non-structural interventions such as reforestation, mangrove rehabilitation, sustainable watershed management, other ecosystem-based adaptation measures, and improved early warning systems.

Geographical Scope
The project will be implemented in the following provinces Masbate, Sorsogon, Negros Oriental, Samar, Surigao del Norte, Surigao del Sur, Dinagat, Sarangani, Maguindanao, and Lanao del Sur; and in the following river basins Tagum-Libuganon river basin, Agus river basin and Buayan-Malungon River Basin in South central Mindanao.

Project Beneficiaries
The direct project beneficiaries will be the LGUs of the target provinces, and national government agencies namely DPWH, DENR, DA and NIA.

Anticipated Components and Activities

Component 1: Institutional Strengthening for Water Resource Management Planning

Subcomponent 1.1: Evaluation of options for enhancing water storage and availability, and mitigating flooding. Key activities to include:
i. Analysis of options for enhancing water storage and availability. This analysis will use the adaptation pathways tool to determine these options.
ii. Analysis of options for mitigating flooding. This activity is related to the first, where a strategy for mitigating flooding is to store excess runoff, that can be used for other purposed such as irrigation. This is already being done in a few areas of the Philippines, and this project would help to systematize how this is done.
iii. Analysis of options for early warning systems for water shortage/stress and drought, and for flooding.
iv. Capacity building including the development of knowledge products on undertaking analyses for evaluating options for enhancing water storage and availability and mitigating flooding.

Subcomponent 1.2 Enhancing resilience of existing water storage and flood control infrastructure. Key activities to include:
i. Feasibility studies to determine options for making water storage and flood management infrastructure more climate-resilient. Supporting studies for understanding the impacts of climate on water resources.
ii. Development of operational manual for rehabilitating water storage and flood control infrastructure to enhance resilience.
iii. Updating existing water resource infrastructure design standards and guidelines where necessary.

Subcomponent 1.3: Water resource management planning. Key activities to include:
i. Development of a strategy for convergence planning in the river basin/ watershed.
ii. Apply strategy for participatory development of water resource management plan. The plan should include effective and efficient options for enhancing water storage and flood mitigation, and recommended early warning systems.[69]

[69] Options may include structural interventions such as construction and rehabilitation of climate-resilient infrastructure and other flood-control measures focusing on weirs, dikes, and non-structural interventions that may include reforestation, mangrove rehabilitation, sustainable watershed management, and other ecosystem-based adaptation measures, reservoirs, dams.

iii. Capacity building, including the development of knowledge products, on water resource planning.

Component 2: Priority works for water supply management

Subcomponent 2.1 Implementing priority measures for enhancing water storage and mitigating flooding. Key activities to include:

i. Implementation of priority measures for enhancing resilience of water storage facilities, flood management facilities, and early warning systems pursuant to the water resource management plan.
ii. Upgrading water storage and flood management infrastructure to be more climate resilient pursuant

Results Framework

The results framework included as Annex 2focuses on outcomes and outcome level indicators. It is acknowledged that there will be a number of outputs and intermediate outcomes that contribute to the outcomes listed in Appendix 2.3. The results framework for the project links to the outcome-level results included in the Results Framework for the RRSP (Annex 2) and shows the contribution of the project to the overall results of the program.

Implementing Arrangements

The Department of Public Works and Highways (DPWH) together with the Department of Environment and Natural Resources (DENR), will be the lead government agencies for the proposed project, and will support the recipient local government units in the development and implementation of the subprojects at the local level. The Department of Agriculture, National Irrigation Administration and the Mindanao Development Authority are also expected to work closely with the DPWH, DENR and LGUs to implement the project. Cost-sharing arrangements between the NGAs and LGUs will be determined during the project planning process, and will be detailed in joint memorandum of agreement between the NGAs and LGUs. A project technical committee comprising representatives of lead agencies, recipient LGUs and other key players in the sector will be established to provide technical guidance during project preparation and implementation. The responsibilities of each of these institutions, and other institutions that are part of the implementing arrangements are described in Table 15.

Table 15: Responsibilities for Implementation

Institution	Project Preparation	Project Implementation	Post-project Implementation
Recipient LGUs[70]	Lead development of IWRM plan Participate in capacity building activities	Lead implementation of priority measures for enhancing water storage and mitigating flooding.	Operation and maintenance (O&M) of investments.
Department of Public Works and Highways Department of Environment and Natural Resources	Lead technical analysis and feasibility studies: • Analysis of options for enhancing water storage and availability • Analysis of options for mitigating flooding • Analysis of options for early warning systems for water shortage/stress and drought, and for flooding	Provide technical support to LGUs during project implementation. Monitoring contribution of project to agreed indicators.	Provide technical support during initial years of O&M.

[70] The planning unit may be different based on the scale of the intervention. For example, for river basins that cut across several LGUs the planning unit may be a river basin management committee.

	• Feasibility studies • Development of operational manual Technical support to LGU for development of IWRM plan		
Regional Development Councils	Facilitate convergent planning among LGUs, DPWH and DENR, and any other relevant agencies.	Monitor and report on project implementation.	
Project Technical Committee	Provide technical oversight and guidance.	Provide technical oversight and guidance.	

Risks, and Environmental and Social Safeguards

A summary of key project risks and risk mitigation measures are included in Table 16.

Table 16: Key Risks and Risk Mitigation Strategies

Risks	Risk Mitigating Measures	Risk Rating
Inadequate capacity of LGUs to fully implement priority measures for enhancing water storage and mitigating flooding.	This risk is mitigated through: (i) technical assistance provided by NGAs to the LGUs as part of cost sharing arrangements to support LGUs during implementation and to guide on appropriate O&M processes; (ii) capacity development for LGUs through workshops and trainings undertaken continuously over the project cycle; (iii) development of detailed operational manual to guide project implementation.	High
Inadequate technical capacity to develop integrated water resources management plan.	This risk is mitigated through: (i) dedicated budget for technical assistance; (ii) technical support provided to LGUs during development of the plan; (iii) recent analytical work and capacity development for IWRM.[71]	Moderate
Inadequate funding to fully implement IWRM measures.	The development of a robust financing strategy for the project that blends government financing, with other sources of financing, e.g. ODA, private sector, would help ensure that there is available funding for the project.	Moderate
Convergence required for developing IWRM plan does not occur.	A strategy for convergence would be developed as an initial activity for the project. In lieu of a policy for convergence, the strategy would help to ensure that there is interagency discussion at management and technical levels, and at the level of the RDC.	High
Local government ownership and commitment to the project fluctuates due to high turnover of local government staff.	The project emphasizes implementation of project activities by local governments that have an interest in enhancing climate resilience as a development priority. Attractive cost sharing arrangements	High

[71] World Bank (2016). Establishing Integrated Water Resources Management Planning Tools and Guidance; and Capacity Building.

	between NGAs and LGUs will also serve as an incentive for LGUs committing to good project implementation.	

Project Cost and Financing Strategy

The estimated costs for the project are provided in Table 17, and indicate the cost for implementing the project in the ten target provinces, and the river basins Tagum-Libuganon, Agus and Buayan-Malungon River Basin between 2018 and 2022.

The financing strategy for the proposed investment project is still being determined within government; Table 18 is under development. However, the government envisions a blend of financing for resilience investment projects that includes: regular government budget; dedicated domestic special purpose funds for climate and disaster resilience such as the People's Survival Fund (PSF) and Local Disaster Risk Reduction and Management Fund (LDRRMF); overseas development assistance (grants and loans); international climate finance sources such as the Green Climate Fund (GCF) and Global Environmental Facility (GEF); and private sector investments including green bonds; see Box 11 for a description of these funds.

Table 17: Estimated Project Cost, PHP Million

Components and Subcomponents	Total cost (2018-2022) PHP Million	Total cost (2018-2022) US $ Million
Component 1: Institutional Strengthening for Water Resource Management Planning		
Evaluation of options for enhancing water storage and availability, and mitigating flooding	370.38	7.41
Enhancing resilience of existing water storage and flood control infrastructure	1,081.75	21.64
Water resource management planning	68	1.36
Component 2: Priority works for water supply management		
Implementing priority measures for enhancing water storage and mitigating flooding	11,000	220
Total	**12,520.13**	**250.41**

US $ 1= PHP 50

Table 18: Framework of Financing Plan

Components and Subcomponents	Funding Sources PHP (M)								Total cost (2018-2022) PHP M
	NG	GOCC/ GFI	LGU	ODA	Private Sector	Others	ADB	GCF	
Component 1: Institutional strengthening for coastal protection									**605.1**
Component 2: Priority works for coastal protection									**2,250**
Total							**7,750**		**12,520.13**

NG – National Government; GOCC – Government Owned and Controlled Corporation; GFI – Government Financial Institutions; LGU – Local Government Unit; ODA – Overseas Development Assistance.

Synergies with ongoing initiatives

There are identified initiatives that the project will build on. Some of these projects are expected to provide co-financing for this project:

Program/ Project	Lead Agencies	Comment
Coastal and Inland Fisheries Resource Management	Department of Agriculture	
Participatory Rural Development Project (PRDP)	Department of Agriculture	
Integrated Natural Resources and Environmental Management Project (INREMP)	Department of Environment and Natural Resources	Interventions in Lake Lanao, Upper Bukidnon, and Wahig–Inabanga upper river basins
National Greening Program (NGP)	Department of Environment and Natural Resources	Potential for co-financing
Marawi Rehabilitation Project	Asian Development Bank and World Bank	
Climate Resilience and Green Growth in Critical Watersheds	Asian Development Bank	
Ecosystem-based approach project	UNDP	

Investment Project 4: Social Enterprise Development, Entrepreneurship and Innovation

Background

Communities most vulnerable to climate change in the country are usually residing in marginal areas in the uplands, coasts, and peri-urban areas. These communities are also mostly informal settlers and belong to the poorest sector of Philippine society. The Department of Trade and Industry 2015 data show that 99.5% of business establishments in the country belong to the micro, small and medium enterprises (MSME) category. Of these, micro enterprises comprise 89.9 per cent (Department of Trade and Industry, 2017). In the 2008 Informal Sector Survey by the former National Statistics Office, of the 10.5 million informal sector operators surveyed, 41.3 percent are in agriculture and forestry, 7.2 percent in fishing, 44.9 percent in services (i.e., 29.6 percent in wholesale and retail trade, 9.9 percent in transport, and the rest in other service sectors), and 6.6 percent in other industries (Philippines Statistics Authority, 2009). Studies by the ILO also showed that women home-based operators comprise 7 million to 9 million doing own-account, piece-rate works in both rural and urban areas (International Labor Organization, 2013). The informal sector operates outside labor laws and regulations, and without social protection.

The MSMEs and informal sector operators are most constrained to adapt to climate change due to limited access to financing in general but more so when their economic activities are affected by extreme events. They have generally low productivity, limited ability to develop new products and expand operation, low human resource capacities, low technological capacities, insufficient access to capital, support services and inputs (specifically energy and water), and operate without social protection (Ballesteros & Llanto, 2017; Park, 2016). These constraints make it more difficult for start-ups associated with climate resilient entrepreneurship and innovations for climate insecure farmers and fishers, especially when trying to scale up agricultural and fisheries innovation.

Social enterprises are cause-driven businesses. They are engaged in for-profit activities with more active and deliberate action towards raising the quality of life of the vulnerable and marginalized communities. Promoting climate resilience of vulnerable and poor communities through social enterprise development blends the goals of social action with the rigor and financing structures of business.

In 2007, it was estimated that there were 30,000 social enterprises operating in the Philippines, of which the vast majority were cooperatives and associations of some form, and 500 were micro financing institutions (Darko & Quijano, 2015). To name a few successful social enterprises in the Philippines, these are (Lacanilao, 2015):

- Mabuhay Restop – promotes social tourism and entrepreneurship by empowering community-based tourism experiences and facilitating "volunteerism" tours. It pledges 30% of its net income to Gawad Kalinga (GK) demonstrating profitability in investing and partnering with poor communities.
- Human Nature – a social enterprise producing cosmetics and personal care products supporting local farming that provides high-quality and safe-level cosmetic ingredients that help flourish communities and nourish end-users.
- First Harvest – is a Filipino brand of healthy and delicious food products that employs partners from GK Enchanted Farms and aims to enrich agricultural industries.
- Theo & Philo – produces chocolate bars sourcing cacao beans from GK partners in Davao and sugar from Bacolod. It aims to make sustainable local cacao bean-to-bar business in partnership with GK.
- Plush and Play – aims to set new standards in the local toy industry by focusing on safety, social and environmental impacts. It provides jobs and helps underprivileged women develop skills. It also advocates for children's rights.
- Taclob – a social enterprise that started as a response to the need for employment in Typhoon Yolanda (Haiyan) affected areas. It sells online utilitarian backpacks from upcycled materials produced by survivor of the typhoon. Each bag sold provides a child with a floating backpack full of school supplies.

- Kawil Tours – seeks to connect Culion, a former leper colony in Palawan, with the rest of the Philippines and the world through a meaningful tour involving historical walks in the town, beach outing, and environmental "volunteerism" such as mangrove planting.
- Loudbasstard – produces handmade chic, electric-free amplifiers through a community of artisans in Cebu using local bamboo and rattan. This social enterprise provides musical instruments to musically gifted children from indigent communities.
- Rags2Riches - is a social enterprise that creates eco-ethical fashion and home accessories out of recycled scrap cloth, organic materials, and indigenous fabrics by working with artisans (mostly women) living in poor communities across the country (Oriel, 2015).

The success of some social enterprises in raising profits and in empowering and transforming communities has popularized the use of "social enterprises" in the country. Social enterprises in the Philippines are largely product or commodity-based. In other countries, there are more services-based social enterprises. There are opportunities to expand commodity-based and services-based social enterprises in the Philippines.

Objectives

The development objective of the project is to increase the adaptive and coping capacities of vulnerable and marginal communities through sustainable and climate resilient livelihoods. Specifically, the project will:

- Promote business oriented community-based organizations undertaking collective undertaking for long term sustainability
- Increase and diversify incomes to build resilience from shocks, trends and seasonality conditions
- Build capacities of targeted communities in identification of business opportunities, production, financing, marketing and in managing social enterprises
- Access to livelihood support services and markets
- Reduce pressure and dependence on critical natural resources

The project will be implemented in eight (8) priority provinces (Sorsogon, Masbate, Samar, Negros Oriental, Surigao del Norte, Surigao del Sur, Dinagat, and Sarangani) and two (2) ARMM provinces (Lanao del Norte and Maguindanao). Initiatives for the ARMM provinces will have to be coordinated with the priority rehabilitation and reconstruction plan of the government for Marawi and neighboring areas. It will directly benefit poor, highly vulnerable fishing and upland communities in these provinces.

Anticipated Project Components

There are four (4) proposed components and sub-components, which are based on building resilience though asset formation and management among the vulnerable and marginalized household and communities by developing sustainable livelihoods and enterprises, social entrepreneurship, creating opportunities for women, and building meaningful partnerships (Table 19).

Table 19: Anticipated Components and Sub-components

PROJECT COMPONENTS
Component 1: Design and develop viable climate resilient social enterprises and market interventions
Subcomponent 1.1: Developing robust policy and institutional environment for social entrepreneurship and innovation at the national and subnational levels
Subcomponent 1.2: Identification (area, participants & livelihoods) and the conduct of market studies and value chain analyses of potential climate-resilient social enterprises in coastal and upland areas in priority provinces
Subcomponent 1.3: Social preparation and organizing for target communities in priority landscapes and provinces.
Subcomponent 1.4: Financing support for start-up capital, equipment and insurance for target SEs.
Component 2: Sustainable livelihood, social entrepreneurship and innovation capacity building

Subcomponent 2.1: Organizational development of target SEs and community organizations
Subcomponent 2.2: Training of SE officers, staff and members on the following: business development and management, product development, marketing, logistics, distribution, simple accounting, transparency and reporting, legal and tax requirements.
Subcomponent 2.3: Partnership building and financing mobilization
Component 3: Business development and sustainability
Subcomponent 3.1: Creating opportunity for women's enterprises and empowerment in priority landscapes and provinces
Subcomponent 3.2: Partnership with SE networks that provide assistance to start-ups
Subcomponent 3.3: Facilitating market linkages and participation in trade fairs
Subcomponent 3.4: Regular conduct of market research and testing of new approaches and products to demonstrate viability and finance scalable solutions for SE sustainability
Subcomponent 3.5: Facilitating access to financing and investment capital, savings mobilization, and insurance
Component 4: Defining and measuring social and community resilience impacts
Subcomponent 4.1: Participatory development of desired social enterprise outcomes and indicators
Subcomponent 4.2: Community-based SE monitoring and reporting

Results Framework

The results framework included as Annex 2 focuses on outcomes and outcome level indicators. It is acknowledged that there will be a number of outputs and intermediate outcomes that contribute to the outcomes listed in Appendix 2.4. The results framework for the project links to the outcome-level results included in the Results Framework for the RRSP (Annex 2) and shows the contribution of the project to the overall results of the program.

Institutional Arrangements

The DA, Department of Interior and Local Government (DILG), DENR, DSWD and LGUs will be the implementing agencies for this component; see Table 20.

Table 20: Roles and Responsibilities for Project Implementation

Institution	Project Preparation	Project Implementation	Post-project Implementation
Recipient LGU	Lead development of an integrated coastal and upland community resilience plan, including sustainable livelihood and asset formation and management for vulnerable and poor communities. Participate in technical analysis, capacity building activities, and development of robust policy on financing and institutional environment for social enterprise development and innovation Lead in partnership building and networking	Lead implementation of sustainable livelihood and social enterprise development projects.	Post-project SE expansion and sustainability plan implementation and monitoring. Sustaining partnerships and mobilization of impact investments.
Department of Agriculture Department of Environment and	Lead technical analysis and the development of robust policy on financing and institutional environment for social enterprise development and innovation	Provide technical support to LGUs during project implementation.	Provide technical support during initial years of O&M. Support to post-

Natural Resources Department of Interior and Local Government Department of Social Welfare and Development (DSWD)	Participates and provides leadership in SE ideation and mobilization of SE financing based on conducted studies and analyses. Supports LGUs in partnership building and networking. Technical support to LGU for development of integrated coastal and upland community resilience plan DSWD to lead in household targeting, social preparation and community organizing in collaboration with its flagship projects – SLP, KALAHI-CIDSS NCDDP, and National Household Targeting System for Poverty Reduction (NHTS-PR) or *Listahan*.	Monitoring contribution of project to agreed indicators.	project SE expansion and sustainability plan implementation and monitoring. Support in mobilization of impact investments.
Regional Development Councils	Facilitate convergent planning among LGUs, DA, DILG, DSWD and DENR.	Monitor and report on project implementation.	
Project Technical Committee	Provide technical oversight and guidance.	Provide technical oversight and guidance.	

Risks and Safeguards

Successful social enterprises help create opportunities for disadvantaged communities, address climate and environmental challenges faced by vulnerable communities, foster and build business connections between the informal and formal sectors, and provide tools and platforms to help community-based enterprises to flourish sustainably.

There are a number of critical issues that must be considered by any community-based organizations before they embark on any social or entrepreneurial venture. These issues require a good analysis of the potential for success along with a good analysis of the risks inherent in embarking on the enterprise. Recognizing and managing these risks will help achieve success and sustainability. The key risks to social and community-based enterprises that must be bridged towards sustainable livelihood relate to the enabling environment, technical capacity and skills, and finance. A summary of the risks and safeguards are included in Table 21.

Table 21: Key Risks and Risk Mitigation Strategies

Risks	Risk Mitigating Measures	Risk Rating
Lack of enabling environments and supporting policies for community-based/ social enterprises.	This risk is mitigated through setting up the legal, fiscal, environmental and regulatory policies needed to incentivize creation and implementation of the programs. This could be in the form of policy development support that aims to develop and enhance reforms to incentivize scaled-up and convergent implementation of sustainable livelihood projects with NGAs and LGUs.	Moderate
Inadequate technical capacity and skills. Some social enterprises have increased organizational complexity	This risk is mitigated through: (i) dedicated budget for technical assistance and trainings; (ii) technical support provided to	High

that would require business and technical acumen needed for efficient operations. To add to the complexity, these also have to be a platform for indigenous action, grafted with local ideas, skills and practices.	LGUs during development of the plan.	
Inadequate funding to jumpstart livelihood and social enterprises. Start-up costs for social-enterprises might be higher than most investors are willing to commit. Some would also likely entail sunk costs that cannot be recouped if the business fails. Traditional non-profit funders may decrease support across time.	The development of a robust financing strategy for the project that blends government financing, with other sources of financing, e.g. ODA, private sector, would help ensure that there is available funding support for the project.	Moderate

Estimated Sub-Project Cost and Financing Strategy

The cost estimates, including their underpinning assumptions across executing and implementing agencies; and financial projections, including the underlying assumptions used in costing the project components/subcomponents are summarized in Table 22. These indicate the costs for implementing the project in the ten priority provinces between 2018 and 2022.

Recognizing the necessity to develop and grow sustainably, and the resulting need to raise large amounts of capital, social and community-based entrepreneurs with the aid of government, are faced with a range of financing options, each appropriate to a different stage/phase in the implementation of the investment project. The specific financing strategy for the proposed investment project is still being determined within government. However, the government envisions a blend of financing for resilience investment projects that includes (Table 23): regular government budget; dedicated domestic special purpose funds for climate and disaster resilience such as the People's Survival Fund (PSF) and Local Disaster Risk Reduction and Management Fund (LDRRMF); overseas development assistance (grants and loans); international climate finance sources such as the Green Climate Fund (GCF) and Global Environmental Facility (GEF); and private sector investments including green bonds; see Box 11 for a description of these funds.

Table 22: Estimated Project Cost, PHP Million

Components and Subcomponents	Total cost (2018-2022) PHP M	Total cost (2018-2022) US $ M
Component 1: Design and develop viable climate resilient social enterprises and market interventions		
SC 1.1: Developing robust policy and institutional environment for social entrepreneurship and innovation at the national and subnational levels	8.25	0.17
SC 1.2: Identification (area, participants & livelihoods) and the conduct of market studies and value chain analyses of potential climate-resilient social enterprises in coastal and upland areas in priority provinces	200.25	4.01
SC 1.3: Social preparation and organizing for target communities in priority landscapes and provinces.	217.5	4.35
SC 1.4: Financing support for start-up capital, equipment and insurance for target SEs.	2,500	50
Component 2: Sustainable livelihood, social entrepreneurship and innovation capacity building		
SC 2.1: Organizational development of target SEs and community organizations	73.5	1.47

SC 2.2: Training of SE officers, staff and members on the following: business development and management, product development, marketing, logistics, distribution, simple accounting, transparency and reporting, legal and tax requirements.	103.07	2.06
SC 2.3: Partnership building and mobilizing financing	1.88	0.04
Component 3: Business development and sustainability		
SC: 3.1: Creating opportunity for women's enterprises and empowerment in priority landscapes and provinces	37.5	0.75
SC: 3.2 Partnership with SE networks that provide assistance to start-ups	3.75	0.075
SC 3.3: Facilitating market linkages and participation in trade fairs	3.75	0.075
SC 3.4: Regular conduct of market research and testing of new approaches and products to demonstrate viability and finance scalable solutions for sustainability	95.63	1.91
SC 3.5: Facilitating access to financing and investment capital, savings mobilization, and insurance	30	0.6
Component 4: Defining and measuring social and community resilience impacts		
SC 4.1: Participatory development of desired social enterprise outcomes and indicators	18.75	0.38
SC 4.2: Community-based SE monitoring and reporting	128.75	2.58
Total	**3,422.58**	**68.45**

US $ 1= PHP 50

Table 23: Financing Strategy

Components and Subcomponents	**Funding Sources**						**Total cost (2018-2022) Ph. M**
	NG	**GOCC/ GFI**	**LGU**	**ODA**	**Private Sector**	**Others**	
Component 1: Climate resilient social enterprise development							**2,926**
Component 2: Livelihood and Entrepreneurship Capacity building							**178.45**
Component 3: Business Development and Sustainability							**170.63**
Component 4: Defining and measuring social and community resilience impacts							**147.5**
Total							**3,422.58**

NG – National Government; GOCC – Government Owned and Controlled Corporation; GFI – Government Financial Institutions; LGU – Local Government Unit; ODA – Overseas Development Assistance.

Synergy with Flagship Projects

RRSP's Social Enterprise Development, Entrepreneurship and Innovation Project can build synergies and convergence with flagship programs of the different agencies, specifically with DENR, DA and DSWD, in terms of geographic area focus, beneficiaries, commodities/products, services, and financing.

Department of Environment and Natural Resources (DENR)

Enhanced National Greening Program (ENGP). The enhanced National Greening Program is a flagship reforestation program of the Department of Environment and Natural Resources (DENR). For 2017-22, it targets to reforest 1.2 million hectares of degraded forest areas. In 2017, the Department Administrative Order 2017-03 revised the Implementing Rules and Regulations for NGP to include among others Social Enterprise Development (Section 6) and Enhanced Commodity Roadmap (Section 7) (Department of Environment and Natural Resources, 2017). Section 6 provides that forced savings from community nurseries and plantation activities will be utilized to support community enterprises decided upon by People's Organizations. The provision recognizes the role of social enterprise as means to improve the social wellbeing, environmental sustainability and economic performance of a community. Mangroves and bamboo are among the commodities of the Commodity Roadmap of the ENGP, which could be drivers of economic growth while serving as climate change mitigation and adaptation responses.

Mangroves not only protect islands from storm surges, they are also spawning grounds of many economically important marine species that could help turn islands into economic zones because of increased harvest of shrimps and other marine life. The capacity of bamboos to sequester carbon is high; thus, it can contribute significantly to climate change mitigation. Its economic potential and the technology as building material and other uses such as floor tiles, textiles and for low cost housing, among others, are well documented and available. Social enterprises, therefore, can be potentially developed around both commodities.

ENGP has a Community-based Livelihood and Reforestation Project that targets the establishment of Sloping Agriculture and Land Technology (SALT) sites, community-based livelihood, establishment of agroforestry areas, and high value crops inter-cropped with tree plantations. The amount of investment under the Philippine Investment Program (PIP) is Php 9.5 billion for 2017-2019. This project under the ENGP, however, focuses only in the MIMAROPA Region or Region IV-B (Mindoro, Marinduque, Romblon and Palawan) and Region II (Cagayan, Nueva Vizcaya, Batanes and Isabela provinces). ENGP projects of this nature in other regions and provinces go through the regular ENGP budget, which has an investment portfolio of Php46.6 billion from 2017-22 (National Economic and Development Authority, 29).

Coastal and Marine Environmental Management Program (CMEMP). This is the newest program of the Biodiversity Management Bureau (BMB). The general objective of the CMEMP is to "achieve effective management of the country's coastal and marine ecosystems thereby increasing their ability to provide ecological goods and services to improve the quality of life of the coastal population particularly ensuring food security, climate change resiliency and disaster risk reduction" (http://www.bmb.gov.ph/cmemp). CMEMP has allocated Php16.1 million for livelihood projects for 2017-20 in four (4) regions – Region 3 (Central Luzon), Region IV-A (Southern Tagalog), Region IV-B (MIMAROPA), and Region 8 (Islands of Samar and Leyte) (National Economic and Development Authority, 29). There is potential convergence in the province of Samar as well as in other provinces where CMEMP is implemented. Sharing coastal ecosystems management information and social and resilience objectives can attain convergence and synergies between RRSP social entries development project and CMEMP.

Department of Social Welfare and Development (DSWD)

Sustainable Livelihood Program (SLP). The Sustainable Livelihood Program (SLP) is a social program of the Department of Social Welfare and Development (DSWD). It was developed for beneficiaries of the Pantawid Pamilyang Pilipino Program (4Ps) as they graduate from conditional cash transfer (CCT), a

flagship anti-poverty program of the Philippine government. The SLP was initiated in January 2011 and intended to link the 4Ps families to income-generating opportunities to enable them to sustain their economic development and thus transition from survival to self-sufficiency. The program offers two tracks to its target beneficiaries: (1) the microenterprise development (MD) track and the (2) employment facilitation (EF) track. The MD Track uses the microcredit scheme of the old Self-Employment Assistance-Kaunlaran (SEA-K) Program wherein participants are provided assistance in the establishment and expansion of their microenterprises. The EF Track facilitates the employment of participants through job matchings and skills trainings (Ballesteros, et al., 2016). SLP is a convergence program contributes to programs of other agencies such as the Department of Agriculture (DA), Department of Science and Technology (DOST), Department of Labor and Employment (DOLE), Department of Health (DOH), Department of Agrarian Reform (DAR), Technology Education and Skills Development Authority (TESDA), Presidential Commission for the Urban Poor (PCUP), National Housing Authority (NHA), and local government units (LGUs).

Under the 2017-19 Philippine Investment Program (PIP), the SLP has a budget allocation of Php 38.5899 billion. For 2018, Congress approved a Php 7 billion budget (National Economic and Development Authority, 29).

KALAHI-CIDSS NCDDP. The Kapit Bisig Laban SA Kahirapan – Comprehensive and Integrated Delivery of Social Services National Community Driven Development Program (KALAHI-CIDSS NCDDP) is one of the flagship anti-poverty programs of the DSWD launched in 2003. This program is budgeted under 2017-2022 PIP for Php 20.284 billion (National Economic and Development Authority, 29). For 2018, it has a budget of Php 5.375 billion. KALAHI-CIDSS has five strategies, which intersect social, economic, and administrative development requirements of the poor. KALAHI-CIDSS has more than 10 years experience working with poor communities and social preparation, among others, that RRSP can learn from and create synergies.

Department of Agriculture

Special Area for Agricultural Development (SAAD). SAAD is a strategy to address the weaknesses of an area in terms of potentials for food production and livelihood programs. It is both a poverty reduction and food security strategy of the agency that targets first the poorest provinces. The project provides appropriate technology, financing, marketing, and other support services to make the famers and fisherfolk productive and profitable. It prioritizes members of people's organizations (POs), beneficiaries of DSWDs 4Ps, and indigenous peoples (IPs). The investment portfolio of SAAD for 2017-22 is Php23.176 billion (National Economic and Development Authority, 29).

Philippine Rural Development Program (PRDP). The Philippine Rural Development Project is a six-year (6) project designed to establish the government platform for a modern, climate-smart and market-oriented agri-fishery sector. PRDP partners with the LGUs and the private sector in providing key infrastructure, facilities, technology, and information that will raise incomes, productivity, and competitiveness in the countryside. Two of the target results of PRDP are 30% increase in income for targeted beneficiaries of enterprise development and at least five per cent (5%) increase in annual real farm incomes of household beneficiaries. For 2017-22, the program targets 1,550 enterprises to be established along value chains. The planned PRDP Expansion until 2022 has a budget of Php23.85 billion through World Bank financing (National Economic and Development Authority, 29).

Synergies with Other Ongoing Projects

There are identified initiatives that the project will build on. Some of these projects are expected to provide co-financing for this project; see Table 24.

Table 24: Programs and Projects with Potential for Synergy

Program/Project	Implementing Agency	Comment
Climate Resilient Farm Productivity Support	DA	Potential for co-financing
Enhanced climate smart farmers field school	DA	Potential for co-financing
Weather-index based crop insurance	DA	Potential for co-financing
Small scale irrigation project	DA	Potential for co-financing
Coastal and inland fisheries resource rehabilitation and development	DA	Potential for co-financing
ISF (Assistance to Informal Settler Families Living in Dangerous Areas) (DILG)	DILG	Potential for co-financing
Climate Resilient Integrated Development Program in Agrarian Reform Community (ARC) clusters	DAR	
Integrated Natural Resources and Environmental Management Project	DENR (ODA-ADB)	Potential convergence area in ARMM (Lake Lanao)
Ecosystems-based Management and Ecosystem Services Valuation in Two River Basins in the Philippines	DENR (ODA-GIZ)	Potential convergence

2.7Costs and Financing Strategy/Framework for RRSP Phase 1

2.7.1 Estimated Costs: Budget Framework and Approach

The Government of the Philippines is allocating substantial fiscal resources to enhance the adaptive capacity and resilience of communities to address climate risks. Initial calculation of the costs of climate adaptation (national level) is at $2 billion annually (CADRF, 2014).At the national level, six agencies that provide direct services to the most climate and disaster vulnerable sectors have proposed to allocate PHP 856 Billion (US $17 Billion) for the period 2017-2022 (See Table 25 below).

Table 25: Proposed National CC and Resilience Investments for 2017-2022

Result Area	Total investment targets (2017-2022)	
	PHP (M)	USD (M)
1) Strengthened and effective enabling environment at national and subnational levels	9,034.12	180.68
2) Enhanced management of ecosystems in coastal, forest, peri-urban landscapes	53,599.79	1,072.00
3) Reduced vulnerability of physical assets through prioritized protective and resilient infrastructure	711,566.29	14,231.33
4) Increased adaptive and coping capacity through sustainable and resilient livelihoods of vulnerable agricultural, fishing, and upland communities	81,670.21	1,633.40
Total	**855,870.40**	**17,117.41**

As stated above, a key feature of the RRSP Phase 1 is its emphasis on mainstreaming relevant and priority climate change interventions through prioritized PAPs. It is also important to ensure that the proposals are drawn from the priority NCCAP and available LCCAPs for participating LGUs, while also updating them in order to ensure they reflect sound proposals (technical, economic, implementation readiness), and underpinned by adequate vulnerability assessments and prioritization. This on-going updating of the NCCAP and LLCAPs also will be carried out during the implementation period of RRSP Phase 1, in order to build up a strong pipeline of sound proposed subprojects which could then be supported/implemented, based on the agreed RRSP screening and prioritization criteria and processes, giving emphasis to demand-driven consideration of key stakeholders at the LGU level. Accordingly, the estimated costs will need to consider emerging PAPs and prioritized resilience interventions, in the context of the target geographical areas and stakeholders to be in included in the initial phase of RRSP (2018 – 2022).

Indicative cost estimates for proposed RRSP Phase 1 (2017-2022) will be based on the four distinct result areas (RAs)/components, and disaggregated according to NGA and LGU implementation and financing responsibility. Taking a bottom-up approach to costing RRSP Phase 1, preparation work has focused on formulating the design features and preliminary costs of four strategic and "prototype" subprojects, which willcontribute to each of the four RAs, and these aspects aresummarized in Section 2.6. The investment costs for thesesubprojects are estimated to total PHP 19,779.82 Million (or US $395.6 M). Building on these costs estimates, the adaptation and mitigation total costs for public sector interventions to be implemented in the ten target provinces under the proposed RRSP Phase 1 are in the process of being estimated. It is expected that a significantproportion of the costs of the proposed RRSP investment sub-projects (section 2.6) will be funded through public sector investments. Some of the cost estimate gaps include:

a. some costs of new and existing programs, projects and activities (PPAs) have not been included in the computation because they have not been costed yet;
b. additional costs for required and prioritized climate resilient adaptation and mitigation interventions have not yet been identified;
c. only five of ten target Provinces were covered in the cost estimates.

Further preparation work for the proposed RRSP Phase 1 is addressing: these gaps in order to derive comprehensive and robust priorities and cost estimates; and the estimated fundinggap to be financed outside of regular government funding (public sector investments). In-depth consultations with NGAs and the priority provinces will be undertaken in the next three months to complete the cost estimates for RRSP Phase 1. Table 34 in Annex 5 illustrates the envisioned cost framework for RRSP Phase 1, to the extent the costs can be estimated.

An important aspect of RRSP Phase 1 is the importance of promoting more efficient and effective investments/PAPs which mainstream and scale-up climate change interventions, with a strong results-focus. During implementation, there would be additional LCCAPs which would be assessed/updated and/or formulated and which would form a part of the implementation pipeline and processes of RRSP Phase 1. In addition, I during implementation, efforts will be made to comply with efficiency-based unit costs and to ensure high-level implementation performance (i.e., execution rates of approved funds, based on quality work plans, and enhanced monitoring and timely follow-up actions). Relevant constraints will be identified during implementation and will be addressed as part of the implementation work and action plans. Also, monitoring and evaluation of RRSP PAPs will be strengthened significantly, and used as a tool to enhance both the efficiency, effectiveness and results of RRSP expenditures.

2.7.2 Financing Strategy/Framework and Main Sources/Mechanisms

There is a recognized and agreed need to scale up and build/ strengthen the financing for resilience and adaptation in the Philippines. Over the past 5 years, the Govt. of the Philippines has built its overall climate financing effort under two pillars: (1) disaster response financing and disaster risk insurance; and (2) climate adaptation, resilience building and disaster risk reduction investment. The two pillars indicate a movement from a singular and specific focus on affected institutions or locations to a more integrated focus towards addressing risks. The FIRST PILLAR focuses on the development of specialized financial instruments for risk-oriented components across government levels that cannot be addressed via mainstreaming measures. The SECOND PILLAR will enhance the effectiveness of instruments under the first pillar by working to enhance resilience through the mainstreaming of climate and disaster risk reduction in plans and programs, including in conventional planning processes, project design and development decision making. The RRSP will contribute to the evolution and effectiveness of the second pillar.

The financing strategy for the proposed investment project is still being determined within government. GOP envisions a blend of diverse financing sources for resilience investment projects that includes: regular government budget; dedicated domestic special purpose funds for climate and disaster resilience such as the People's Survival Fund (PSF) and Local Disaster Risk Reduction and Management Fund (LDRRMF); overseas development assistance (grants and loans); international climate finance sources such as the Green Climate Fund (GCF) and Global Environmental Facility (GEF); and private sector investments including green bonds; see Box 11 for a description of these funds and potential financing sources for RRSP Phase 1.

Box 11: Current and Potential Financing Sources for Resilience

Domestic public financing has served as a key-funding source for implementing the Philippines' agenda on resilience and adaptation. In 2016, 45 NGAs identified climate change expenditures totalling PHP 176 billion across 233 programs, projects and activities, representing an increase of 25% from 2015, which corresponds to about 6% of the total National Government Budget, the majority of which was for adaptation (89%). The aforementioned Risk Resiliency Program (RRP) has a proposed budget for FY 2017 (in the National Expenditure Program) of about PHP 113 billion across several key agencies (with the majority being channelled through DPWH, DA, and DENR). Most hard infrastructure adaptation investments of the Department of Public Works and Highways' (DPWH) Flood Management Services are funded through domestic resources through the General Appropriations mechanism.

Given that the RRP consists of the majority of the Government's climate budget, this illustrates that its

framework and governance structure is an entry point for further enhancing risk-based planning and implementation approaches across the range of possible climate and development futures. The RRP further evidences the possibilities that enhancements in a planning and convergence framework can mean for budgeting and the directions taken by the Government

Special Purpose Funds targeting adaptation and resilience at the local level have also been leveraged by LGUs; including the People Survival Fund (PSF), which designates an appropriation of PHP 1 billion annually for adaptation programs across local governments and communities. This can be augmented through donations, endowments, grants, and contributions. The PSF supports soft and hard infrastructure adaptation initiatives such as water resources management, health, agriculture and fisheries, infrastructure development, forecasting and early warning systems, capacity building programs for institutional development and local governments, regional information networks, guarantee for risk insurance needs for farmers, agricultural workers, and other stakeholders. In addition, LGUs have also tapped the Local Disaster Risk Reduction Fund (LDRRMF), amounting to not less than 5% of the estimated revenue from regular sources, wherein 70% of which should be allocated for disaster preparedness. While essential, these SPFs are not sufficient for addressing the needs of local governments and communities to addressing their key vulnerabilities.

While not currently explicitly being employed for this purpose, fiscal tools (e.g., taxes, reduction in tax exemptions) could raise revenue to finance specific adaptation and resilience interventions. In particular, DOF can leverage fiscal policies to "get prices right" so they better reflect the environmental, health, and social externalities associated with their extraction and use.

International public sources of financing, including both financing from ODA that is climate-responsive as well as those from dedicated climate finance sources, has played a growing role in financing adaptation and resilience. The importance of the support sources from bilateral and multilateral development banks for the resiliency agenda on hard infrastructure cannot be more than underscored. Globally, roughly half of public climate finance is channelled through development assistance, with most of it featuring as MDB core resources and program budgets of bilateral development agencies. At this stage, the Philippines is leveraging XXXX billion from multi-lateral and bilateral sources for adaptation and resilience activities.[72] This support includes investment and policy loans, grants, technical assistance and knowledge services for adaptation and resilience. These have allowed for an increased engagement across a wide range of activities, including generating knowledge on disaster and climate risks, capacity building for preparedness, and bringing innovative solutions in the areas of risk assessment and resilience and adaptation financing. Further, while a number of international climate finance sources exist, the Philippines has mainly accessed those to fund mitigation programs or projects[73]. The Philippines is currently working to attain accreditation for a domestic agency to be able to directly access the Green Climate Fund; in the meantime, the Government has not yet proposed any project or program for consideration through an MIE. It is evident that the Philippines will also need to continue to leverage a significant portion of financing for adaptation and resilience from domestic public resources and through facilitating resources from the private sector.[74]

The Private Sector has yet to play a key role in financing adaptation and resilience in the Philippines. While some firms, such as the Philippine Crop Insurance Corporation, the National Reinsurance Corporation of the Philippines, and the Philippines Insurers & Reinsurers Association (PIRA) are developing weather-based insurance products that provide financial pay outs to households, SMEs, agricultural producers in the event of a drought or a flood, these have largely been ineffective to date due to a lack of a credible set of data to be used for actuarial modelling. Currently, there is no existing public mechanism to encourage private sector adaptation and resilience investments and, as such, these actions are not likely to occur without policies that either enable private

[72]Four projects under Key Flood Control Structures/Facilities of the DPWH are being supported through a loan from JICA. A grant to fund a comprehensive study leading to the master plan that would help reduce the vulnerability of Metro Manila, the national capital of the Philippines and its surrounding areas to destructive floods was funded by the World Bank-administered Global Facility for Disaster Reduction and Recovery (GFDRR) Trust Fund.

[73] The Philippines has accessed the GEF to fund a few climate change adaptation programs, including the approval of "Scaling Up Risk Transfer Mechanisms for Climate Vulnerable Agriculture-based Communities in Mindanao" Project in 2012 through UNDP as an implementation agency, the "CTI Integrated Natural Resources and Environmental Management Sector" Project in 2009 through ADB as an implementing agency, and the "Climate Change Adaptation Project" in 2008 through the World Bank as an implementing agency. The Philippines did not receive any funding from the Adaptation Fund, nor has it attained direct access to the Fund. Aside from the first phase PPCR grant to support the development of the RRSP, the Philippines has accessed the World Bank-administered Climate Investment Funds exclusively for mitigation projects.

[74]Climate Policy Initiative's annual *Global Landscape of Climate Finance* finds that climate finance flows amounted to USD 392 billion in 2014– far below even the most conservative estimates of global investment needs.

action or remove barriers to such action (including the provision of hazard and risk information).There is a public interest in ensuring the resilience of critical infrastructure such as power generation and transmission lines, emergency evacuation and response corridors, emergency health services and delivery systems and response supply chains. Some of these assets are privately owned. Private entities—especially more vulnerable SMEs, which account for largest share of employment—often face significant barriers in the integration of adaptation and resilience in planning and operations. As a result, they do not adequately invest in resilient assets, especially when strong competition prevents them from passing along these extra costs to customers.

Policy and markets that incorporate climate change information can stimulate financial, environmental and social sustainability in the private sector through increased resilience. The Government can help to ensure that investments are made by providing information, regulations complemented by enforcement mechanisms, capacity-building actions or targeted subsidies to cover the incremental costs of such measures. Public-Private Partnerships, which have largely not yet been leveraged for resilience and adaptation, could potentially be included as part a strategy to accelerate viable and resilient infrastructure development, given that most forms of infrastructure are eligible projects to be facilitated by the PPP Center[75], the main facilitator of PPPs in the Government of the Philippines. Corporate social responsibility mechanisms have not yet been leveraged for adaptation and resilience in the Philippines, but offer an opportunity for further scaling up climate responses, particularly at the local level.

Green Bonds are a source of private climate finance that could be leveraged to finance adaptation and resilience**.** They are a form of capital market financing where the bond proceeds are used exclusively to finance new or existing green projects and activities that promote climate or other environmental sustainability purposes. The market is evolving rapidly – driven by both capital needs of issuers and commitment of institutional investors to responsible investing.

2.8Results-based Monitoring and Evaluation System: Framework and Arrangements

Overview. Each participating NGA, as detailed in its Operation Manuals and formalized through MOAs with LGUs, would require regular reporting against agreed performance indicators which would include, but not be limited to, RRSP-KPIs. NGAs would be responsible for M&E of RRSP-sub-project investments following their own MIS procedures. NGAs would be required to report to the RRSP-NPAB on progress against RRSP- KPIs agreed as part of the budget approval process. The RRSP Program Support Office would be responsible for maintaining the RRSP-MIS System and for providing quarterly reports to the RRSP-NPAB along with oversight recommendations as appropriate. It is envisaged that the KPIs would include both PDP-NCCAP target indicators, as well as specific sector indicators. Further details on the design process and key features are highlighted below.

The design framework of the M&E aspects for RRSP has been developed, in close consultation with relevant government entities, including complementarity with the RBM&E system of the NCCAP.[76]This M&E system will be further elaborated in order for the system to be operationalized by the launching of RRSP Phase 1 (by about mid-2018). In addition, enrolment of PAPs meeting RRP criteria and tagged (through the CCET) would be subjected to M&E-MIS using agreed risk and resiliency indicators.Reporting on outcomes/ indicators would be to the CCAM-DDR.The key indicators developed for the Results Framework will guide the operationalization of the indicators for the M&E system. Final design work of the RRSP M&E system also will ensure the RRSP indicators for both the RF and the M&E system will be strongly aligned with the relevant resilience/ecological indicators of the PDP (2017-2022) and the NCCAP strategic priorities and RBMES. The key elements from the ISET Guidance Paper are summarized below.

[75] Eligible PPP projects to be facilitated by the PPP center include Power Plants, Railroads and Railways, Highway/Roads, Ports, Airports, Transport System, Telecommunications, ICT Systems/ Facilities, Agriculture, Canals, Dams, Irrigation, Water Supply, Solid Waste Management, Education, Tourism Facilities, Industrial and Tourism Estates, Markets, Warehouses, Housing, and Government Buildings.

[76] See: "Design, Monitoring, Evaluation, and Learning for Climate Resilience: A Guidance Paper for the RRSP" (Prepared by ISET, Updated draft March, 2017).

The identification and use of suitable indicators to measure adaptation and resiliency outcomes and attribution achieved by PAPs remains a significant challenge. While agencies do track and report on the implementation outputs of their programs and associated budget allocations, the effectiveness of these programs in delivering and contributing to adaptation and resiliency benefits on the ground are not yet being measured. As part of RRSP preparation, the above-mentioned*Guidance Paper is being* used to address this limitation and provide an operational roadmap.

The overview of existing national M&E frameworks for resilience in the Philippineshighlights several gaps and opportunities for the RRSP. Firstly, the Philippines' CCC is to be commendedfor having already developed a broad framework for RBMES for resilience. [77]The brief analysis suggests that the RBMES is a sound wheel that does not need to be reinvented. The CCC's iterative, more than year-long development process has allowed for the creation of an M&E framework to measure adaptation and mitigation that is aligned with both national policy and cross-scalar needs. There are ample opportunities for the RRSP to complement, support and enhance the RBMES. The RBMES also feeds directly into the Philippines' overarching M&E systems, including the PDP results matrix. A key message from stakeholders is that M&E frameworks are in place, but not always effectively coordinated, harmonized, and used. Reporting is often considered an onerous requirement, quality of reporting may be weak or fragmentary, and little is done with the information that is gathered. As such, it is essential that the RRSP does *not* initiate a parallel or duplicative process for national-level climate resilience M&E. Instead, the RRSP is developing an M&E framework for its own investments in accordance with its own internal requirements and procedures, while ensuring that the program's framework is aligned with the RBMES, and in turn, the PDP. As results frameworks are designed for individual projects/programs, during finalization of RRSP preparation it is inevitable that gaps in the RBMES will be identified. The RBMES includes a wide array of indicators, but it is demonstrated some areas are stronger and/or more complete than others. The RRSP and NCCAP can set up a mechanism to formally expand the RBMES to include indicators which reflect RRSP investments.

2.9 Justification, Main Risks and Risk-Mitigation Strategies

2.9.1 Nature of the Expected Incremental Benefits and Approach to Assessment

Table 26 summarizes the main types of incremental benefits which are expected to arise from RRSP Phase 1, according to the overall impact level and to the 4 main result areas/components. Further detailed preparation of RRSP Phase 1 will provide both quantitative and qualitative dimensions of these expected benefits. The preliminary analysis of the proposed two investment subprojects discussed above provides more detailed assessment of the benefits, which also illustrate the types of benefits for other subprojects which will be prepared and reviewed during implementation:

[77] RBMES has been under development for quite some time by the CCC with technical support from the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). This work has been applying an excellent, globally-recognized manual (Spearman & McGray 2011), which utilizes participatory and iterative processes to set measurement and evaluation priorities, build advanced theory of change, select indicators, and determine stakeholder capacity to report on indicators and analyze results.

Table 26: Framework for Assessment of Benefits

Overall and RA/Component	Main types of benefits
Overall Impact Level	Reduction in the loss of life due to climate-related risk; Reduction in the total value of property damage, assets and losses due to climate-related risks; Recovery of internally generated revenues from climate shocks and extreme events for LGUs; and Increased climate resilience of vulnerable population.
1) Strengthened Stakeholder and Institutional Capacities	Operationalized knowledge management systems for climate resilience; enhanced joint resilience convergence and mainstreamed planning and budgetary processes and results; and increased level & quality of prioritized resilience expenditures;
2) Strengthened Ecosystems	Protection & rehabilitation of coastal and forest areas; reduction in damage to flooding & storm surge; use of incentive mechanisms & market-based instruments for ecosystem management;
3) Resilient Infrastructure	Adoption of resilience design standards; increased coverage with risk insurance for Govt. assets; financing of key resilience infrastructure (e.g., roads, flood control);
4) Improved Adaptive Capacities and Livelihoods	Reduction in loss of HH incomes; increased diversity of viable livelihoods. Also, the two identified investment projects are expected to generate tangible benefits to vulnerable HHs, in line with the above benefits

2.9.2 Social and Environmental Assessment

Assessment of environmental and social impacts are not determined until such time when specific activities are described. Feasibility studies are still to be drafted for the four potential investments. As a general approach to safeguards, once the feasibility studies are done, a screening of the potential environmental and social impacts is carried out. Based on the potential impacts the risk of the activity is determined and the appropriate safeguards instrument is prescribed. A list of safeguard instruments is provided in Table 27. Potential projects may include coastal protection structures such as sea walls and dikes, retrofitting of structures to withstand wind and rain, erosion control, relocation of basic services such as schools, hospitals and power plants, etc. These potential activities may have impacts on the physical environment and the community. The early assessment of impacts and the inclusion of mitigation measures in the design of infrastructure components is recommended. This approach of having the impact assessments done upstream of project development, ensures that adverse social and environmental impacts are avoided, reduced or mitigated.

Table 27: Potential Safeguard Instruments

***Environmental Assessment (EA)*:** An instrument that identifies and assesses the potential environmental impacts from a specific investment, analyses alternatives, and designs appropriate mitigation, management, and monitoring measures. ***Sectoral EA*:** An instrument that examines environmental issues and impacts associated with a particular strategy, policy, plan, or program, or with a series of projects for a specific sector (e.g., power, transport, or agriculture); evaluates and compares the impacts (direct, induced and cumulative) against those of alternative options; assesses legal and institutional aspects relevant to the issues and impacts; and recommends broad measures to strengthen environmental management in the sector. ***Regional EA*:** An instrument that examines environmental issues/impacts associated with a particular strategy, policy, plan, or program, or with a series of projects for a particular region (e.g., an urban area, a watershed, or a coastal zone); evaluates and compares the impacts (direct, induced and cumulative) against those of alternative options; assesses legal and institutional aspects relevant to the issues and impacts; and recommends broad measures to strengthen environmental management in the region.

***Environmental Audit*:** An instrument to determine the nature and extent of all potential environmental issues and adverse impacts from an existing facility and to identify appropriate measures to mitigate them.

***Environmental Management Plan (EMP)*:** An instrument that details the measures to be taken during the implementation and operation of a project to eliminate, reduce or offset adverse environmental impacts; and the actions needed to implement these measures.

Environmental and Social Management Frameworks (ESMF): ESMF spells out corporate environmental and social safeguard policy frameworks, institutional arrangements and capacity available to identify and mitigate potential environmental and social safeguards issues and impacts of each subproject.

Other Instruments: Depending on the nature and magnitude of potential impacts, several other instruments such as standard operating procedures, design and construction guidelines, land use planning, environmental permitting procedures, standard EMPs included as part of contractual provisions to protect the environment during construction and operation can be used.

Source: World Bank 2007, Guidelines for Environmental Screening and Classification.

2.9.3 Main Risks and Risk Mitigation Strategies

Whilst a climate resilient development approach is proposed, there are two major risks that the envisioned results would not be achieved. A first risk is that a 'climate-lens' is not adequately or appropriately applied to 'business as usual' development planning. Many of the stakeholders consulted recognized that greater efforts, capacities and resources are needed to: supplement current subjective decisions about risk; rigorously identify and scrutinize options, ranging from hard and soft (eco-based) solutions; greater emphasis on "low regrets" interventions[78]; design for higher safety margins in areas of moderate risk; and explicitly incorporate asset maintenance plans and budgets into infrastructure investment work programs so that well-designed assets are able to effectively operate even when subjected to climate stressors.

A second risk is that agencies (whether NGAs or LGUs) will tend to favor activities with immediately visible results, whereas some adaptation measures (for example non-structural coastal protection measures such as mangrove planting, coral gardening, and similar) may take many years to become established and visibly improve the health of a natural ecosystem. Furthermore, the recently completed *Climate Budget Analysis (National Level)* observed a "disconnect between the budget allocation, the priorities, and the risks"; one stakeholder pointed out that "Climate change is not being used as leverage to increase budget allocations and the economic feasibility remains the key determinant in implementing the design standards wholly or partially".

In summary, Table 28 summarizes the other main risks, together with proposed mitigation measures:

[78]Promoting low regrets investments, i.e. Infrastructure improvements that can be justified even in the face of extreme weather events or climate change impacts.

Table 28: Risks and Risk-Mitigation Measures

Risk	Risk Mitigation Measures	Risk Rating
Inadequate capacity to develop PAPs that contribute to resilience outcomes.	Key to developing PAPs that contribute to resilience outcomes is first identifying the resilience outcomes that are most important, and that PAPs should contribute to. Through the development of the results chain and results framework, training was provided to NGA and LGU representatives on determining resilience outcomes. Use of criteria for screening PAPs for the RRSP, for example the efficacy criteria, will help to ensure that as PAPs are being developed in order to respond to the climate risks. The adaptation policy pathways tool was introduced as a tool for assisting in the development of strategies of adaptation and resilience. Government staff was trained on the use of the tool, and it was applied during the process of selecting provincial level climate resilience investments.	Moderate
Results from M&E are not used to improve the design and implementation of resilience PAPs.	The development of a results framework for the RRSP and embedding this in the M&E systems of the participating NGAs and LGUs is important for helping to ensure that the results of implementation of resilience PAPs are used as inputs (positive feedback) in the design of resilience interventions. Government staff participated in training on the M&E system, and is leading the development of the M&E operational manual.	Moderate
Participation of NGAs and LGUs in the program is low.	The program includes incentives for NGA participation in the program through reflecting RRSP as a budget line item in NGA budgets. The incentive for LGU participation is in the cost-sharing arrangements that are a feature of the program. Additionally, RRSP builds on existing systems of government, in order to improve the mainstreaming of the program within government.	Low
Finance required for resilience investments does not materialize.	Reflecting RRSP as a budget line item in the NGA budgets helps to ensure that there would be funding through the GAA for resilience investments. The budget for RRSP also helps the government to plan and coordinate funding (private, ODA) for resilience.	Moderate

ANNEXES

Annex 1: Project Preparation Grant Request

PILOT PROGRAM FOR CLIMATE RESILIENCE **Project/Program Preparation Grant Request[79]**			
1. **Country/Region**:	Philippines	2. **CIF Project ID#**:	(Trustee will assign ID)
3. **Project Name:**	Risk Resiliency and Sustainability Program		
4. **Tentative Funding Request (in USDmillion total) for Project[80] at the time of SPCR submission (concept stage):**	396.62		
5. **Preparation Grant Request (in USDmillion):**	*US $5 million for the preparation of four projects.*		
6. **National Project Focal Point**:	Undersecretary Anna Teh, Department of Environment and Natural Resources		
7. **National Implementing Agency (project/program):**	Department of Environment and Natural Resources (DENR)		
8. **MDB PPCR Focal Point and Project/Program Task Team Leader (TTL)**:	*Headquarters-PPCR Focal Point:*Kanta Kumari Rigaud ADB Focal Point: Preety Bhandari, pbhandari@ADB.org	*TTL:* *World Bank:* Maurice Andres Rawlins *ADB*: Xianfu Lu	

9. **Description of activities covered by the preparation grant:**

The grant is being requested for the preparation of the following sub-projects:

1) Enhancing Climate Information Services for Decision-Making
2) Enhancing coastal protection in selected areas of the Philippines
3) Integrated Water Resources Management Project
4) Social Enterprise Development, Entrepreneurship and Innovation.

The grant will be used to undertake technical studies including feasibility studies required for the preparation of the projects. Additional consultations, with national and provincial governments are also needed for the preparation of the projects. Specific activities will include:

1. Baseline assessment of climate information needs in target provinces;
2. Benefits analysis of climate information to different sectors;
3. Data collection;
4. Technical analysis of options for enhancing water storage and availability, and mitigating flooding;
5. Feasibility studies, including cost and benefit analyses;
6. Stakeholder workshops.

10. **Outputs:**

Deliverable	**Timeline**
(a) Detailed project proposals for the four sub-projects	February, 2018 – May, 2019

[79]A separate template needs to be presented for each project and program preparation grant request listed in the SPCR.
[80]Including the preparation grant request.

11. **Budget (indicative):**	
Expenditures[81]	**Amount (USD)** - estimates
Enhancing Climate Information Services for Decision-Making	US $750,000
Enhancing coastal protection in selected areas of the Philippines	US $1.5 million
Integrated Water Resources Management Project	US $1.5 million
Social Enterprise Development, Entrepreneurship and Innovation.	US $1.25 million
Total Cost	**US $5 million**
Other contributions:	
• Government	Staff time in kind
• MDB	TBC
• Private Sector	TBC
• Others (please specify)	TBC
12. **Timeframe** (tentative) Development of project proposals between February 2018 and May, 2019 Submission of pre-appraisal document for PPCR Sub-Committee Approval: TBC Expected Board/MDB Management[82] approval date: TBC	
13. **Other Partners involved in project design and implementation**[83]: TBC	
14. **If applicable, explanation for why the grant is MDB executed:** MDBs will prepare the project documents in consultation with the Philippine government.	
15. **Implementation Arrangements** (incl. procurement of goods and services)**:**MDBs will use their standard procurement procedures.	

[81] These expenditure categories may be adjusted during project preparation according to emerging needs.
[82] In some cases activities will not require MDB Board approval
[83]Other local, national and international partners expected to be involved in design and implementation of the project.

Annex 2: Results Frameworks

PHILIPPINES RRSP: THEORY OF CHANGE, EMERGING RESULTS CHAIN AND RESULTS FRAMEWORK[84]

Figure 1 illustrates the theory of change (ToC) and underlying results chain (or roadmap) for addressing key components of the climate change challenges (see Chapter 1) and for enhancing risk resilience in the Philippines. The ToC addresses the following key questions, in line with the core RRSP goal of enhanced resilience of target communities and households in prioritized landscapes of the Philippines: Resilience of what? Resilience to what? Resilience for whom? Resilience through what? The planning process/perspective goes counterclockwise in Figure 1, based on the following design logic: What priority outcomes are required to generate the envisioned changes/impacts? What priority outputs are need to generate the required outcomes? And what inputs/activities are required to generate the required outputs? The core message of this ToC is that there are strategic, complementary and synergistic linkages between and within each of the boxes which need to be effectively activated and coordinated. Accordingly, this ToC and underlying results chain provides the foundation for the results framework outlined below.

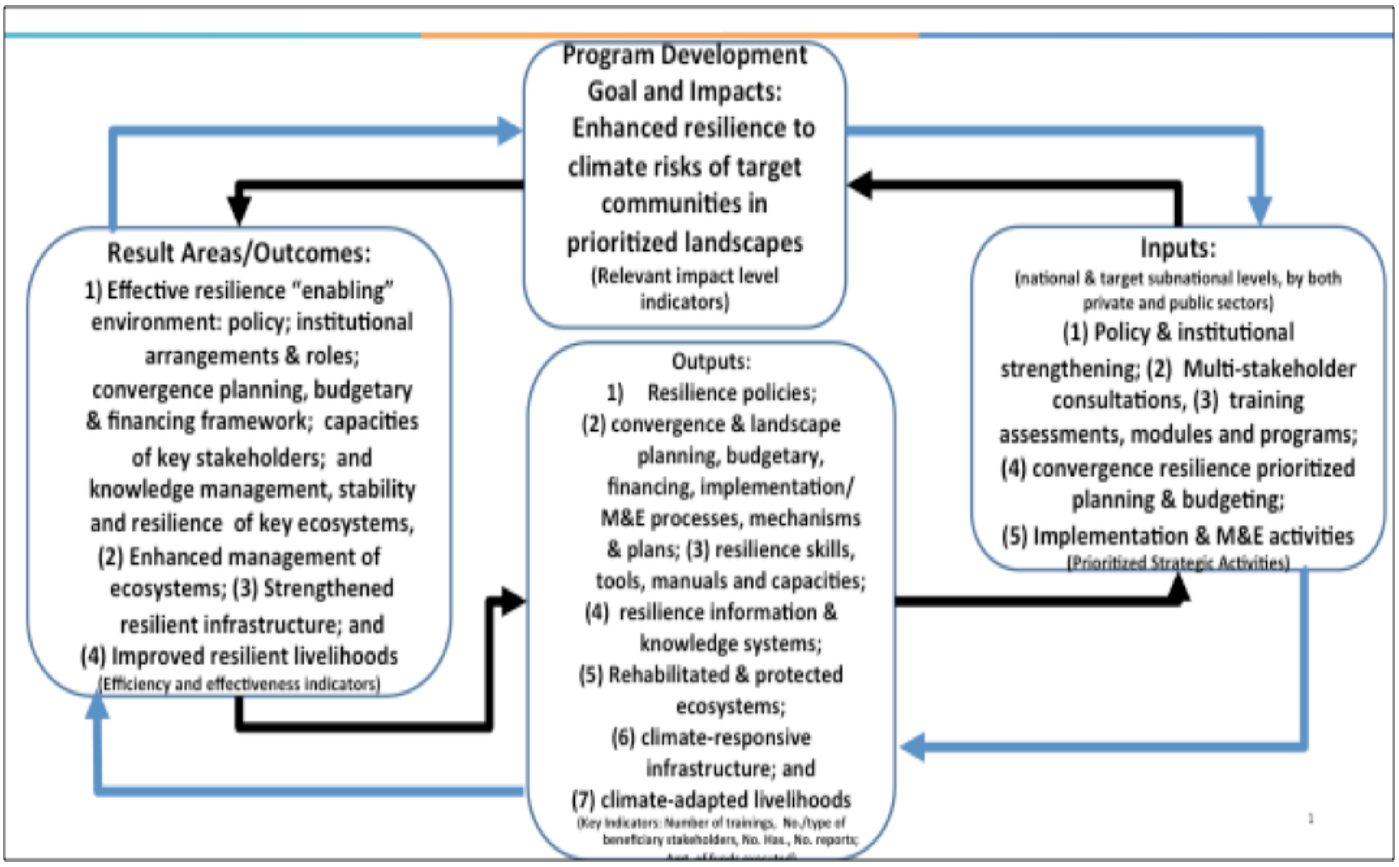


Figure 19: Theory of Change and Supporting Results Chain

[84]Driven by strategic goals (at PDP level), key risk-resilience constraints and the RRSP Theory of Change (see Figure 1)

Results Framework for RRSP Phase 1

PDP Strategies and Outcomes and NCCAP Strategic Priorities (with respect to climate resilience)[85]	Key Constraints/Issues and Strategic Results (Impacts and Outcomes)	Indicators (Impact and Outcome Levels)	Baseline (2017, or other relevant year)	Targets (To be determined/TBD, based on available targets and results of the baseline survey)			Responsible Institution(s) (Implementation & Reporting) (in line with inst'al roles and mandates)
				By end-2018	**By end-2019**	**By end-2022**	
PDP: (i) Individuals and communities will be more resilient (p.48); (ii) Ensuring ecological integrity and clean and healthy environment (chapt. 20); NCCAP Strategic Priorities (P): Enhanced adaptive capacities of communities, resilience of natural ecosystems, and sustainability of built environment to CC (7th P)	Overall Key Constraints/Issues: Over the past four years, climate-induced changes and disasters are imposing a high and growing burden on the economy and socio-economic well-being of large numbers of the Filipino population (e.g., costing the economy about 0.3% of GDP, . estimated damage for Typhoon Haiyan was about P571 billion; the regular NDRRM Fund for 2017 falls short by Php 5.8 billion for priority post disaster needs from Typhoons Nona, Ferdie, Lawin and Nina; a 1°C increase in growing season night-time temperature in the Philippines can cause a loss of rice yield and biomass by 10%; thus, posing a potential risk to food security and livelihoods). Various studies also highlight the sizeable non-economic impacts of climate change (e.g., rural population which experienced annual extreme weather events, especially in Mindanao, suffered losses of belongings, death of family members, increased hardship, famine and hunger, and loss of livelihood and income). **A. RRSP Overall Program Development Goal:** Enhanced resilience of target communities to climate risks [86] in prioritized landscapes. [87] **Critical assumptions:** There are sufficient and appropriate incentives, innovations and capacities in the program to leverage national agency and LGU commitment and the required resources to participate in the RRSP. There are sound and agreed strategic and operational framework(s) and coordination processes between NGAs and PLGUs The provincial government is the critical node for driving and sustaining local-level climate resilience.						
	Impacts: A.1: Reduction in the	Impact Indicators: **A.1:** No. and % reduction in	TBD	TBD	TBD	TBD	DND/OCD and LGUs

[85] To the extent possible, these statements/excerpts from the PDP and NCCAP guide the proposed results for RRSP, hence highlight important linkages in terms of RRSP helping to operationalize the PDP and NCCAP with respect to climate resilience.

[86] Climate risks refer to: flooding, landslides, storm surges, sea level rise (SLR) and drought/El Nino, which form part of extreme events and expected to escalate in frequency and intensity).

[87] Landscape prioritization criteria include: presence of multiple climate hazards; poverty incidence; area-based planning (SAAD; MRB; SIAD and critical watersheds);

	loss of life due to climate-related risk	the loss of life due to climate-related risk					
	A.2: Reduction in the total value of property damage, assets and losses due to climate-related risks	A.2: % reduction in the total value of property damage, assets and losses due to climate-related risks	TBD	TBD	TBD	TBD	DND/OCD and LGUs
	A.3: Recovery internally generated revenues from climate shocks and extreme events for LGUs.	A.3: % recovery of LGU revenues after 2 years	TBD	TBD	TBD	TBD	DILG/LGUs and DOF/BILG
	A.4: Increased climate resilience of vulnerable population	A.4 Risk Resilience Index (measured in % terms, with higher % reflecting higher degree of resilience). (Under preparation by NEDA)	TBD	TBD	TBD	TBD	NEDA-ANRES

Key Issues/Constraints: Since the Climate Change Act was passed in 2009, the Philippines has had numerous initiatives to ensure integration of climate information and adaptation in all government plans and programs (e.g., CC expenditure tagging; program convergence budgeting; enhancement of the CLUP process to include climate change and other natural hazards; training of LGUs and their partners on the LCCAP preparation; amendment of the CC Act to earmark Php1 billion annually for local adaptation projects; and the creation of the NDRRM Fund). The Department of Finance (DOF) also embarked in developing tools for disaster risk financing and insurance. The GSIS and PCIC offered LGU insurance and crop insurance, respectively. However, there seems to low uptake of the program to date.

Despite these efforts, there is fragmented response of agencies and local governments due, to the following factors:

- On convergence, the mechanism and policy is still not institutionalized horizontally among national agencies, and vertically with LGUs;
- Access to climate information translated into understandable language for adaptation planning is difficult at the national, and more so at subnational level;
- Limited number of technical experts contributing to weak institutional capacity for making reliable climate projections and risk impact modeling;
- Access to adaptation financing is limited due to information gaps on the types of financing available and weak capacity to develop proposals, especially at sub-national level;
- Limited capacity to conduct robust risk and vulnerability assessments;
- Limited information and studies on potential impacts of projected climate changes and associated risks; and
- No effective method or tool for measuring resilience in being studied or developed

B.1: Result Area 1 Objective: Strengthened and effective enabling environment for climate change adaptation and risk management at national and subnational levels.

Critical assumptions: There is sufficient and growing political commitment and incentives and technical and institutional capacities to enhance the policy, institutional and expenditure enabling environment to promote climate resilience at national & subnational levels (regional, proial, municipal)

PDP: i) Strengthen inter-agency bodies that serve as	Outcomes: B.1.1: Increased CC resilient	Outcome Indicators: B.1.1: Amount					CCC/DOF/DBM

venues for improving policy making and implementation of CC & DRRM; ii) Increased water sufficiency; Enhanced knowledge and capacity development CCAM-DRR Roadmap: Outcome Area 4: Enhanced knowledge, access to information and institutional capacities	investments at national and subnational level	and % increase of CC resilient investments at national and subnational level (with initial focus at the Provincial level) Note: M&E system for RRSP will need to unpack this exp. monitoring by strategic theme and agency.	TBC (Tin) (for 2017, CCET document)	TBD	TBD	TBD	(i) DA/LGUs DENR-NWRB DENR-CES DENR/DA/LGUs CCC/NDRRMC/LGUs CCC/DTI/LGUs DOE/DPWH/DENR & DOST DOST/CHED
PDP:(Chapter 20) Ensuring Ecological Integrity, Clean and Healthy Environment; > Subsector Outcome 3: Adaptive capacities and resilience of ecosystems increased; > Strategy: Strengthen existing inter-agency bodies that serve as venues for improving policy making and implementation of CC and DRRM (p. 328) NCCAP: Improved means of implementation of strategic programs (SPs) warrants effective convergence workplan, budgetary planning and coordination among national agencies and to be organized according to thematic programs; pg.50	B.1.2**:** CCAM-DRR national agencies, in consultation with LGUs, formulated, approved and implement annual joint planning and budgeting, and using convergence mechanisms in priority regions and provinces	B.1.2: Status (Y or N) H, M, L) of CCAM-DRR national agencies in implementing annual joint planning and budgeting starting 2018	2017: PCB guidance document prepared (in 2016) and approved (2017). No joint planning or PCB as part of the CCAM process; "business as usual"	N: no joint planning bec. of transition year and recent establishment of CCAM	Y: CCAM-DRR already has started planning for FY 2019 budget (as part of PCB)	Planned for each budget year	DBM and DILG DENR-CCS and CCC

PDP: Chapter 20, Subsector Outcome 3 > Strategies: Develop, maintain, and ensure the accessibility of climate and geospatial information and services. (p. 329) > Develop a data protocol to facilitate access and sharing of available scientific researches and studies, geospatial information, and climate projection. (p. 329) <u>NCCAP</u>: SP #7 Ultimate Outcome: Enhanced adaptive capacity of communities, resilience of natural ecosystems, and sustainability of built environment to climate change (pg. 122)	B.1.3: Formulation, approval and operationalizatio n of a national and regional CC knowledge management system for climate resilience	B.1.3: Status of formulation (Y or N), approval (Y or N), and operationalization (H, M, L) of a national and regional CC knowledge management system for climate resilience	None (in 2017)	CCC started to develop data base of climate knowledge info system; approval target and launching in 2018;	Will depend on progress during 2018	Formulated, approved and fully operational	CCC/DOST-PAGASA
	B.1.4: Mainstreamed NGA and LGU tong-, medium-, and annual term plans and budgets with climate change adaptation objectives, relevant indicators and targets	B.1.4: No. and extent of mainstreaming (H, M, L) of NGA and LGU long-, medium- and annual term plans and budgets with climate change adaptation objectives &relevant indicators and targets	2017 (TBC for main departments: DA, DENR, DPWH, HLUB and PLGUs	TBD (for each of the main departments)	At least partial mainstreaming (for the main departments	100%: Full operationaliza tion	For NGAs: NEDA For LGUs: DILG

		LGU- PDPFP CLUP, CDP, ATP					
		B.1.4.1: for DENR: (NEP for 2018)	2017 (TBC)	TBD	At least partial mainstreaming	100%: Full operationalization	DENR/Office of Secretary
		Cont.: Same for each of the other key depts/actors: DA, DPWH, HLUB & PLGUs	2017 (TBC)	TBD	At least partial mainstreaming	100%: Full operationalization	For each of the Departments

Key Issues / Contraints: (summarize issues)
Ecosystems provide key services that are important to ecosystem and community resilience. Mangroves, coral reefs, rock flats and seagrasses are critical in absorbing the energy from storm surges; however, these resources also are overexploited and at risk of being depleted, thus compromising their ability to protect coastal communities. In the uplands, the same situation is happening to forests where, over the years, large tracks are converted to other economic uses and most often without the accompanying appropriate land use allocation and management. There are existing government, donor supported, and private sector investments in protecting and rehabilitating critical ecosystems with varying results. Financing for community-based initiatives and the incentive systems for co-management continue to be a challenge to scale-up protection and rehabilitation efforts, especially considering the high cost of reconstruction from climate-related disasters.

B.2: Result Area 2 Objective: Enhanced management, stability & resilience of ecosystems (with focus on coastal, forest, peri-urban areas)

Critical Assumption(s):
NGAs will redesign its existing flagship PPAs to integrate appropriate interventions in climate and disaster ecosystem resilience and will devote priority to continued support of ecosystem reslience in their future PPAs/budgets.

PDP: Chapter 20, Subsector Outcome 1 > Strategy: intensify sustainable management of natural resources through the adoption of ridge-to-reef approach and SIAD (p.323)	Outcomes: B.2.1: Increased area of coastal and forest ecosystems protected and rehabilitated in prioritized landscapes	Outcome Indicators: B.2.1: No. of has. and % increase of area of coastal and forest ecosystems protected and rehabilitated in prioritized landscapes	**TBD**	TBD	TBD	TBD	See below
Adaptive capacities and resilience of		B.2.1.1: For Forestry (DENR, from NEP)					Forestry: DENR-FMB

ecosystems increased; NCCAP: Ecosystem and environmental stability SP #3 Enhanced resilience and stability of natural systems and communities (pg. 86) CCAM-DRR Roadmap: Ensured Adequate Supply of Clean Air, Water and Other Natural Resources		No. of Has. of Open & degraded/denuded areas rehabilitated (with focus on protected areas)	284,089 (2016)	TBD	TBD	TBD	
		B.2.1.2: for Coastal areas (has. of mangrove and coral areas)	TBD	TBD	TBD	TBD	Coastal: DA-BFAR And DENR-FMB
	B.2.2: Reduction in damage and in exposure toflooding and storm surge of vulnerable communities in priority areas	B.2.2: Reduced value of damage and has. of exposure toflooding and storm surge of vulnerable communities in priority areas	TBD	TBD	TBD	TBD	DND-OCD (for coordination); DENR-FMB (for forestry) and DPWH for flood control
PDP: Ensuring ecological integrity, clean and healthy environment (Chapt. 20, SS outcome 3)	B.2.3: Formulation, approval & Implementation of incentive mechanisms (e.g., cost sharing) and market-based instruments for enhanced ecosystem-based management in priority LGUs	B.2.3: No. of formulated (Y or N)approved (Y or N) and implemented (H, M, L) incentive mechanisms and market-based instruments for enhanced ecosystem-based management in	TBD	TBD	TBD	TBD	DENR, DOF, DBM in close collaboration with CCAM-DRR cluster

		priority LGUs					
PDP: Chapter 19, Subsector Outcome 2 >Implement strategic infrastructure for the water resources sector (p. 304); NCCAP: SP #2 Immediate Outcome # 2 Sustainability of water supply and access to safe and affordable water ensured (pg. 79)	B.2.4: Expanded supply of potable water and improved household access to quality water in water-stressed and rural drought-prone areas	B.2.4.1: Status of institutional action plan for expanded access to quality water supply and in water- stressed and rural drought-prone areas B.2.4.2: % of HHs with access to potable water in water- stressed and rural drought-prone areas	TBD	TBD	TBD	TBD	DENR-NWRB and DILG/PLGUs
Key Issues/Contraints: The Philippines is one of the most vulnerable countries in the world. It sits in a region with particularly harsh weather patterns and rapidly rising sea levels. An annual average of 20 tropical storms make landfall in the Philippines. In recent years, those storms have been worse in their effects. Sea levels are expected to rise at 10.2 cm every 10 years, which is a rate three times greater than the world average; The adverse effects of climate change are particularly harmful to the Philippines due to challenging development issues. The country lacks the financial resources to implement technology that could protect the country. It is signicantly underinvesting in physical infrastructure, with its public sector infrastructure budget consistently below 3% of GDP (below an international benchmark). Less than a quarter of the roads are paved. Also, key infrastructure does not meet appropriate resilience standards in vulnerable areas. **B.3 Result Area 3 Objective: Reduced vulnerability of physical assets through prioritized protective and resilient infrastructure in target landscapes.** **Critical assumptions:** National government (and its relevant Departments/agencies), in close collaboration with PLGUs, will continue to prioritize infrastructure development to 2022, and to adopt, implement and track the appropriate improved standards to meet resilience requirements; there will be sound prioritization of infrastructure requirements, backed by adequate funding for both capital and recurrent expenditures.							
PDP: Chapter 19, Subsector Outcome 2 (p. 301)NCCAP: SP #6 Sustainable energy Ultimate Outcome: Successful transitions toward a	Outcomes: B.3.1: National and LGUs adoption of climate resilience design standards (2015 Design Guidelines, Criteria and Standards and other existing	Outcome Indicators: B.3.1.1: No. of. NGAs and LGUs adopting climate resilience standards (DPWH, 2015);	TBD	TBD	TBD	TBD	DPWH, in close collaboration with DILG/PLGUs

climate-smart development (p.112) Immediate Outcome 4 Energy systems and infrastructures climate-proofed, rehabilitated and improved (p. 120). CCAM-DRRRoadmap: Increased Resilience of Critical Infrastructure	legislation and guidelines)	Main types of infrastructure include: roads, bridges, rails, flood control, hospitals, schools					
	B.3.2 Increased coverage of disaster risk insurance for Government assets (both national and local), especially those in high risk areas;	B.3.2: % of Government assets (national and subnational levels) which are covered by risk insurance	TBD	TBD	TBD	TBD	DOF-IFG
NCCAP SP #6, Output Area # 3.2 Innovative financing mechanisms developed and promoted (pg. 119)	B.3.3: Increased financing of resilient infrastructures which are serving concentrations of vulnerable population (such as roads, urban rails, bridges, evacuation centers, schools, hospitals, flood control, rainwater collectors, etc.)	B.3.3: Amount and % increase of financing of resilient infrastructures which are serving concentrations of vulnerable population (such as roads, urban rails, bridges, evacuation centers, schools, hospitals, flood control, rainwater collectors, etc.)	TBD	TBD	TBD	TBD	DOF/DENR/DPWH, in close collaboration with DILG/PLGUs
	B.3.4: Reduction in damage and	B.3.4.1: Percent reduction of value	TBD	TBD	TBD	TBD	Damage: DPWH/DENR, in close

	vulnerability todrought, flooding and storm surge of vulnerable communities in priority areas	of damage (% of areas prone to damage; H, M, L) todrought, flooding and storm surge of vulnerable communities in priority areas B.3.4.2: Percent of reduction of vulnerability index in priority areas (note: confirm existence of this index)					collaboration with DILG/PLGUs Vulnerability: DILG/PLGUs, HLURB
PDP: Chapter 15 >Legislative agenda includes "LGU Property Insurance Bill" Rationale: Amends RA 656 (Property Insurance Law) to make it mandatory for all LGUs to insure its properties (e.g., buildings, roads, bridges, plants, machineries and equipment)] p. 242	B.3.5: Increased coverage of risk insurance for infrastructure	B.3.5: Percent increase of risk insurance coverage for major infrastructure (roads, rails, bridges, evacuation centers, schools, hospitals, flood control, rainwater collectors)	TBD	TBD	TBD	TBD	DOF/DPWH, in close collaboration with DILG/PLGUs
Key Issues/Contraints: Communities most vulnerable to climate change in the country are usually residing in marginal areas in the uplands, coasts, and peri-urban areas. These communities also are mostly informal settlers and belong to the poorest sector of Philippine society. 2015 data show that 99.5% of business establishments in the country belong to the micro, small and medium enterprises (MSME) category. Of these, micro enterprises comprise 89.9 percent. Of the 10.5 million informal sector operators surveyed, 41.3 percent are in agriculture and forestry, 7.2 percent in fishing, 44.9 percent in services (e.g., 29.6 percent in wholesale and retaid trade, 9.9 percent in transport, and the rest in other service sectors), 6.6 percent in other industries. Studies also showed that women home-based operators comprise 7-9 million doing own-account, piece-rate works in both rural and urban areas. The informal sector operates outside labor laws and regulations, and without social protection. MSMEs and informal sector operators are most constrained to adapt to climate change due to limited access to financing general but more so when their economic activities are affected by extreme events. They have							

generally low productivity, limited ability to develop new products and expand operation, low human resource capacities, low technological capacities, insufficient access to energy and water, and operate without social protection. These constraints make it more difficult for start-ups associated with climate resilient entrepreneurship and innovations in agriculture for climate insecure farmers and fishers.

B.4: <u>Result Area 4 Objective</u>: Increased adaptive and coping capacities through sustainable and resilient livelihoods of vulnerable agricultural, fishing, and upland communities in target provinces.

Critical assumption(s):

National and provincial governments provide the enabling "environment" for promoting inclusive, diversified and viable livelihood enterprises (inlcuding PPPs) for climate resilient initiatives, especially in key sectors (i.e., agric., fisheries, SMEs, forestry) which involve vulnerable populations.

<u>PDP:</u> Chapter 8 Sector Outcome A Subsector Outcome 1; Chapter 8 Sector Outcome B Subsector Outcomes 3 and 4; Chapter 8 Sector Outcome B Subsector Outcome1; <u>NCCAP: SP #5</u> Immediate Outcome #1 Climate-resilient, eco-efficient and environment-friendly industries and services developed, promoted and sustained. (pg. 99); Immediate Outcome #2	<u>Outcomes</u>: B.4.1: Reduction in loss of HH income due to climate events in target communities	<u>Outcome Indicators</u>: B.4.1.1: % of HHs which experience loss of income due to climate events in target communities B.4.1.2: % of HHs which recover their loss of income due to climate events in target communities within 2 years	TBD	TBD	TBD	TBD	OCD, in close collaboration with DA, DSWD, the PSA, and with DILG/PLGUs

Sustainable livelihood and jobs created from climate-smart industries and services (pg. 105) CCAM-DRR Roadmap: Increased Resilience of Vulnerable Communities							
PDP: Expanding economic opportunities in agriculture, forestry and fisheries (Chapter 8); Reducing vulnerability of individuals and families (Chapter 11); NCCAP: Enhanced food security; Climate smart industries and services; Develop facilities for adaptation by families, including risk transfer mechanisms (RTM)	B.4.2: Increased diversity of viable livelihoods linked to the markets (and incomes) (especially those not dependent on the natural resources of vulnerable target groups)	B.4.2: (i) Percentage of total household incomes derived from major livelihoods (as proxy measure for HH livelihood divesificaiton); (ii) No. and % increase of HH engaged in viable alternative livelihood initiatives	TBD	TBD	TBD	TBD	**DSWD, in close collaboration with DTI, DENR, DA**
	B.4.3: Improved access to enterprise support facilities, financing and social protection support	B.4.3: No. and % of HHs with improved access to enterprise support facilities, risk insurance coverage, financing and social protection support, with focus on MSME and informal sectors	TBD	TBD	TBD	TBD	DTI-MSME, in close collaboration with DSWD, DENR, DA, DOF

Appendix 2.1: Results Framework for Investment Sub-Project 1

Components and subcomponents	Intermediate Outcome Indicators	Output Indicators	Activities
Component 1: Analysis of Climate Information Needs			
Baseline assessment of climate information needs	No. of PDIPs, and AIPs that include climate information services	No. of baseline assessment survey reports developed	i. Stakeholder mapping and analysis of producers and users of climate information ii. Survey among users of climate information availability and accessibility
Benefits analysis of climate information		No. of sectors for which the benefits of climate information services have been assessed No. of persons trained on assessing benefits of climate information	i. Economic analysis of the benefits of climate information provision for different sectors ii. Capacity building on assessing benefits of climate information
Plan for enhancing climate information services		No. of MOU signed by all relevant parties No. of plans developed for enhancing climate information services	i. Development of MOU to guide convergent planning for climate information services ii. Participatory development of plan for climate services iii. Capacity building on climate information plan development
Component 2: Production of Climate Information			
Hazard, Risk and Vulnerability Mapping	No. of PDPFPs, CLUPs and CDPs updated with new climate information	No. of climate hazard maps developed No. of climate risk maps developed No. of vulnerability maps developed Proportion of provinces with climate information maps	i. Training on GIS-based mapping ii. Participatory map development at city, municipal and barangay scales
Climate Impact Modeling		No. of sectors for which climate impacts have been assessed	i. Training for undertaking climate impact modeling ii. Climate impact modeling iii. Dissemination of results of climate impact modeling
Weather Infrastructure Enhancement	No. of PDIPs and AIPs that include O&M for weather infrastructure	No. of automated weather stations established and operational	i. Survey and mapping of weather infrastructure to identify gaps in coverage ii. Update weather infrastructure investment plan developed in 2016 under the

			Philippines Climate Change Adaptation Project (PhilCCAP) iii. Implement weather infrastructure
Climate Information Knowledge Management	No. of RDIPs that include O&M for regional centres	No. of regional centres established and operational	i. Establishment of regional centres for climate information
Component 3: Capacity development on use of information			
Capacity development	No. of PDPFPs, CLUPs and CDPs updated with new climate information	No. of persons trained	i. Baseline assessment of capacity, and capacity needs assessment ii. Capacity development workshops. The content of these workshops to be determined by the needs assessment.

Appendix 2.2: Results Framework for Investment Sub-Project 2

Components and subcomponents	Outcomes	Outcome Indicators	Activities
Component 1: Institutional strengthening for coastal protection			
Evaluation of coastal flood and erosion mitigation options		No. of LGUs using web-based application for coastal management planning	iii. Analysis of coastal flood and erosion mitigation options. Analysis will include the protection function of green and grey coastal infrastructure, and the benefits of different types of infrastructure. iv. Development of web-based application for evaluating coastal flood and erosion mitigation options. v. Capacity building including the development of knowledge products on undertaking efficacy and benefits analyses for evaluating coastal flood and erosion mitigation options.
Enhancing resilience of existing coastal protection infrastructure	B.3.1: National and LGUs adoption of climate resilience design standards	No. of. NGAs and LGUs adopting climate resilient standards for coastal infrastructure No. of operational manuals for rehabilitating coastal infrastructure developed and approved	iii. Analysis of protection function of coastal infrastructure to inform design standards. iv. Feasibility studies on options for rehabilitating coastal protection infrastructure to enhance resilience. v. Development of operation manual for rehabilitating coastal infrastructure that includes unit cost estimates and operation and maintenance requirements. vi. Updating of design standards for resilient coastal infrastructure.
Coastal resilience planning	B.1.4: Mainstreamed NGA and LGU long-, medium-, and annual term plans and budgets with climate change adaptation objectives, relevant indicators and targets	No. of PDPFPs and CLUPs including coastal resilience plan	iv. Participatory development of coastal resilience plan, drawing on the evaluation of flood mitigation options. v. Capacity building including development of knowledge products, on coastal resilience planning.
Component 2: Priority works for coastal protection			
Implementation of priority coastal protection investments	B.2.1: Increased area of coastal and forest ecosystems protected and rehabilitated in prioritized landscapes	No. of has. and % increase of area of coastal ecosystems protected and rehabilitated in target provinces	iii. Implementation of priority coastal flood and erosion mitigation investments in the target provinces selected pursuant to the climate-informed flood mitigation

	B.2.2: Reduction in damage and in exposure toflooding and storm surge of vulnerable communities in priority areas	Reduction in damages (PHP) and affected area (has) due to flooding and storm surge in target provinces	plan. iv. Upgrading coastal flood mitigation infrastructure to be more climate resilient pursuant to the feasibility study

Appendix 2.3: Results Framework for Investment Sub-Project 3

Components and subcomponents	Outcomes	Outcome Indicators	Activities
Component 1: Institutional Strengthening for Water Resource Management Planning			
Evaluation of options for enhancing water storage and availability, and mitigating flooding.	B.1.4: Mainstreamed NGA and LGU long-, medium-, and annual term plans and budgets with climate change adaptation objectives, relevant indicators and targets		vi. Analysis of options for enhancing water storage and availability. vii. Analysis of options for mitigating flooding. viii. Analysis of options for early warning systems for water shortage/stress and drought, and for flooding. ix. Capacity building including the development of knowledge products on undertaking analyses for evaluating options for enhancing water storage and availability and mitigating flooding.
Enhancing resilience of existing water storage and flood control infrastructure.	B.3.1: National and LGUs adoption of climate resilience design standards	No. of. NGAs and LGUs adopting climate resilient standards for flood infrastructure No. of operational manuals for rehabilitating water storage and flood infrastructure developed and approved	vii. Feasibility studies to determine options for making water storage and flood management infrastructure more climate-resilient. Supporting studies for understanding the impacts of climate on water resources. viii. Development of operational manual for rehabilitating water storage and flood control infrastructure to enhance resilience. ix. Updating existing water resource infrastructure design standards and guidelines where necessary.
Water resource management planning.	B.1.4: Mainstreamed NGA and LGU long-, medium-, and annual term plans and budgets with climate change adaptation objectives, relevant indicators and targets	No. of PDPFPs and CLUPs including water resources management plan Degree of integration of climate change into the Mindanao Development Plan and in the various river basin master plans (Mindanao and Buayan-Malungon master plan, Ranao-Agus mater plan) Status of institutional action plan for expanded access to quality water supply	vi. Development of a strategy for convergence planning in the river basin/ watershed. vii. Apply strategy for participatory development of water resource management plan. viii. Capacity building, including the development of knowledge products, on water resource planning.

		and in water- stressed and rural drought-prone areas	
Component 2: Priority works for water supply management			
Implementing priority measures for enhancing water storage and mitigating flooding	B.1.1: Increased CC resilient investments at national and subnational level B.2.1: Increased area of forest ecosystems protected and rehabilitated in prioritized landscapes B.2.2: Reduction in damage and in exposure toflooding of vulnerable communities in priority areas B.2.4: Expanded supply of potable water and improved household access to quality water in water-stressed and rural drought-prone areas Adoption of climate responsive instruments among vulnerable households, communities, businesses and public sector.	Amount and % increase of CC resilient investments at national and subnational level No. of Has. of open & degraded/denuded areas rehabilitated (with focus on protected areas) Reduction in damages (PHP) and affected area (has) due to flooding in target areas % of HHs with access to potable water in water- stressed and rural drought-prone areas % of target population adopting improved climate responsive instruments to respond to climate variability and climate change	v. Implementation of priority measures for enhancing resilience of water storage facilities, flood management facilities, and early warning systems pursuant to the water resource management plan. vi. Upgrading water storage and flood management infrastructure to be more climate resilient pursuant to the feasibility study in subcomponent 1.2.

Appendix 2.4: Results Framework for Investment Sub-Project 4

The project level results framework is linked to the SPCR Results Framework at the outcomes, which is indicated by the SPCR outcome number indicated in the table below. Some outcomes and indicators are project-specific but contributing to SPCR development objectives and impact.

Components and Subcomponents	Outcome	Outcome Indicators	Activities
Component 1: Design and develop viable climate resilient social enterprises and market interventions			
1.1 Development of robust policy on financing and institutional environment for social enterprise development and innovation at the national and subnational levels	B.1.1: Increased CC resilient investments at national and subnational level	No. of local policies and budgetary support developed in target LGUs No. of social enterprise (SE) financing mechanisms developed and support services implemented.	• Assessment of policies, institutions and processes to effectively determine *access* (to various types of capital, to livelihood strategies and to decision-making bodies and source of influence), *terms of exchange* between different types of capitals, and *returns* to any given livelihood strategy
1.2 Assessment and setting-up of viable social enterprises along value chains	B.4.2: Increased diversity of viable livelihoods and social enterprises along value chains in target landscapes and communties	No. of sustainable social enterprises created, financed, and strengthened along value chains No. of households and women's groups organized along identified social enterprises Amount of start-up capital investment mobilized from various sources.	• Social preparation and community organizing • Mapping and assessment of livelihood activities in coastal and upland communities for potential SE • Conduct of market study and value chain analyses • SE ideation and business plan development • Assessment and facilitation of SE financing and impact investment opportunities
Component 2: Sustainable livelihood, social entrepreneurship and innovation capacity building			

2.1 SE literacy building	Improved knowledge, skills and performance of target beneficiaries in SE management and business development.	No. and percentage of targeted households and community organizations provided with new skills and knowledge in various aspects of SE management and business development. No. and percentage of target women beneficiaries trained and actively involved in SE. No. of SEs with management systems in place.	• Assessment of skills, knowledge and capacities on SE • Development and implementation of training programs on business development and management, product development, marketing, logistics, distribution, booking and audit, reporting, business networking, business registration and tax requirements.
2.2 Implementation of organizational development and SE literacy	Improved business performance of identified SEs along the value chain	No. and percentage of SE members supporting organizational values and appropriateness of organizational changes.	• Conduct of organizational analysis • Formulation and implementation of OD plan
Component 3: Business development and sustainability			
3.1 Partnership building with SE networks and impact investors	Increased income of targeted household beneficiaries of sustainable livelihood and social enterprise development.	Percentage increase in income of household beneficiaries of SE No. of private sector and social entrepreneur partnerships mobilized	• Membership in SE networks • Promotional activities to attract impact investors and social entrepreneur partners
3.2 Developing new markets and linkages		Percentage increase in SE production and market penetration	• Participation in trade fairs, "go *negosyo*" seminars, and other SE network activities • Preparation and dissemination of SE knowledge products
3.3 Testing of new approaches and products to demonstrate viability and finance scalable solutions for sustainability		No. of new products developed and market tested	• Market testing and demonstration of new and innovative products • Conduct of market study for new products
3.4 Facilitating access to financing and investment capital, savings mobilization, and insurance	B.4.3: Improved access to enterprise support facilities, financing and social protection support	B.4.3: No. and % of HHs with improved access to enterprise support facilities, risk insurance coverage, financing and social protection support, with focus on SE and informal sectors	• Creating opportunity for women's enterprises and empowerment in priority landscapes and provinces • Formulation of SE business expansion plan

		No. and percentage of women beneficiaries with improved access to enterprise support facilities, financing and social protection No. and amount of financing support mobilized for SE expansion, including credit and impact investments.	• Presentation of SE business expansion plan to potential investors, financing institutions, and partners.
Component 4: Defining and measuring social and community resilience impacts			
4.1 Participatory development of desired social enterprise resilience indicators	B.4.1: Reduction in loss of HH income due to climate events in target communities	No. of target SE members reporting reduced income losses due to project interventions	• Community workshops and consultations to identify and build consensus on SE performance and resilience indicators • Preparation of SE Performance Monitoring Plan • Conduct of socio-economic baseline information of communities
4.2 Development and implementation of community-based SE monitoring and reporting		No. of community-based M&E conducted No. and quality of monitoring reports	• Creation and training of SE M&E committee in the data collection, processing, analysis and reporting. • Conduct of regular monitoring based on agreed frequency and methods

Annex 3: Stakeholder Participation and Consultation

Appendix 3.1 Summary of Missions and National Consultation

Table 29: Summary of RRSP Missions and NGA Consultations

Activities	Highlights/ Agreements
November 23-27, 2015 Joint Scoping Mission The general objective of the joint scoping mission was to assist the Philippines, as a new pilot country, in putting in place a clear process for developing the country's Strategic Program for Climate Resilience, as a first step in its participation to the PPCR. The mission supported the preparation of a proposal by the Government identifying the activities, processes, and institutional arrangements towards developing the country's SPCR.	The mission met with key stakeholders from the government, civil society organizations, academe, and development partners. The consultations focused on introducing the PPCR process and how it could support the development of the RRSP into the overall strategic framework on climate adaptation and resiliency. • The CSOs and the academeshared their programs and portfolios and view on what would be the conducive policies and implementation arrangements are needed to ensure the success of the Program. The various partners provided important recommendations in further developing the vision of the Government to enhance the risk resiliency of the country. In particular, they identified the availability, access and dissemination of knowledge as key in decision making, as well as monitoring and evaluation. They also signified their interest and look forward to more discussions on how both the public and private sectors can increase the impact of their work to improve climate adaptation and risk resiliency. • Development Partners (DPs) expressed overall support to the Government's objective of institutionalizing a more programmatic approach to planning, investment, prioritization and budgeting to improve climate resilience and reducing climate risks. Further, DPs emphasized the importance of conducive policy frame conditions as implementation will be at the level of LGU and local communities. The new project proposals for river basin management was seen as a potential collaboration for the definition of criteria for selection and the forging of LGU alliances that cover contiguous natural boundaries like coastal zones and watersheds spanning different LGU jurisdictions. • Sector agencies from the CCAM Cluster expressed their support to the Government's direction. They shared their experiences and ongoing initiatives that could foster convergence such as the plan of DOST to expand their LIDAR project to cover watersheds for the purpose of flood mitigation. The issue of M&E was discussed, cautioning against the tendency of development partner agencies to have their own set of indicators and the gap of having a standardized system. There was an emphasis on the need for collaboration to avoid duplication and for organizations to find their niche in the overall implementation framework. • Oversight agencies DBM and NEDA expressed their overall support in pursuing the vision mentioned above. It is also envisaged that DOF, will play a role in providing oversight support to program development and linking to the wider financing agenda of the Government on climate change adaptation, complementing work being done disaster risk and response financing. While the CCC was consulted prior to the mission, due to their organization of the Climate Consciousness Week, budget hearings, and departure to the UNFCCC COP 21, the mission was unable to meet with CCC officials. Both the mission team and the Government emphasized the importance of further engagement with CCC beyond the mission and moving forward towards the implementation of the preparation process. **Agreements** • The Government, the WB and ADB teams agreed that the development of the RRSP that constituted the SPCR would follow the five complementary building

	blocks: - Business case and knowledge for the RRSP: to include the development of the technical, socio-economic, and policy-based rationale for a national program that enables risk-informed planning, budgeting, prioritization, and implementation; - Scope, content, and approach: to include the development of criteria and tools to formulate the scope, content, and approach of the RRSP; - Execution processes and modalities: to include the development of institutional and operational mechanisms and procedures to translate plans and budgets into implementable actions and initiate program roll-out; - Monitoring, evaluation, and reporting: to include the development of the system to track, report, monitor and evaluate RRSP results and allow feedback and learning; and - Consultative and Engagement Process: to include securing inclusive cross-sector, cross-level dialogue and/or consensus across key stakeholders to prepare and implement the RRSP. • DENR, as focal point of the PPCR, lead agency of the SPCR, and chair of the Cabinet Cluster, in coordination with the World Bank, finalized the development of the preparation of the proposal for $1.5 million in grant financing from the PPCR. DENR circulated the final draft proposal to the Cabinet Cluster and MDBs then submitted the endorsed proposal to the PPCR Committee • Once the SPCR proposal approved by the PPCR, full work plan for the implementation of the preparation process finalized by end of January 2016 and a February Technical Mission to confirm the work plan and design for the RRSP/ SPCR.
January 15, 2016 Approval of the Philippine SPCR proposal	• A grant is made available by the CIF-PPCR sub- committee to the Philippines, as a new pilot country, to help the Government develop its SPCR with the support of the Multilateral Development Banks (MDBs) particularly the World Bank as the Agency Lead working in coordination with ADB.
February 04-12, 2016 **Work Planning Technical Mission** The main objective of the mission was to assist the Government in the preparation details and work plan for the development of the RRSP, building on the outcomes of the November 2015 joint scoping mission, the recent approval of the preparation grant by the PPCR Committee, the progress made by the Government, lessons learned and national and global good practices, and consultations across stakeholders.	• The Mission included a workshop with working sessions on each of the five blocks to: (1) review a first stocktaking of existing policies, programs, studies, guidelines, data, and tools relevant for the selection, design, implementation, monitoring and evaluation of investments for building climate adaptation and resilience in support of the RRSP; and (2) identify gaps that need to be addressed to develop and operationalize the program. The workshop included representation from oversight agencies (including CCC and NEDA), NGAs (including DPWH, DA, DENR, and DOST), civil society organizations, academe and research institutions, and the private sector. The workshop consisted of a working session to firm up the preliminary stocktaking analysis and identify gaps for which the RRSP could aim to address in its development and implementation. The participants of the stocktaking workshop provided valuable inputs that fed into the expansion of the stocktaking into an analytical synthesis report to be leveraged in the formulation of the RRSP development process. • These collective consultations and meetings build on the dynamic initiated as part of the Government's climate budgeting efforts. A meeting with DBM and CCC senior leadership provided the vision of building from the results of climate budgeting, the RRP, towards the RRSP. The DBM highlighted the need to join the CCAM meetings, so as to help align the RRSP to the budget. • A meeting with NEDA, DENR, and CCC further reiterated the importance of the inclusion of the RRSP and its elements within the upcoming formulation of the PDP and PIP as well as other national planning frameworks, such as a potential update to the National Climate Change Action Plan. The overall timeline of the preparation process was discussed, including the importance of taking into account the Government calendar.

	• As a result of the consultations, the work plan for each of the building blocks has been elaborated **Agreements:** • An analytical follow-up to the stocktaking exercise finalized that fed into RRSP formulation. • Overall work plan for the PPCR grant with specific TORs finalized and procurement processes initiated • Final implementation arrangements confirmed by DENR on behalf of the CC CCAM. This included the (1) Establishment of RRSP Steering Committee and Inter-Agency Technical Working Group needed through a CCAM Resolution; and (2) formal establishment of Inter-Agency Technical Working Group and Program Development Unit.
July 11-15, 2016 Technical Planning and Support Mission The mission aimed to work with the Department of Environment and Natural Resources (DENR) to review the work plan and next steps in the development of the Risk Resiliency and Sustainability Program (RRSP) and work with the Department of Budget and Management (DBM) and CCC, in consultation with NEDA, the Department of Finance (DOF), and Department of Interior and Local Government (DILG), on the continued engagement on the Climate Budgeting Programmatic Technical Assistance	• **Institutional Arrangement for RRSP development.** Government, under DENR coordination, has continued to progress with the development of the RRSP with an inter-agency technical working group (TWG) which provides technical support and oversight to the program development process. A Program Development Unit has been formed to support the day to day work of the technical working group. • **Scope of the technical and analytical work for the RRSP preparation.** The mission team and the inter-agency TWG confirmed the scope of the technical and analytical work and related Terms of reference that are planned to support the development of the five building blocks under the PPCR grant: (1) Business case and knowledge; (2) Scope, content, and approach; (3) Execution processes and modalities; (4) Monitoring, evaluation, and reporting; and (5) Consultative Process. • **Convergence Initiative.** DENR and CCC led a meeting on July 14th to discuss the Government's overall convergence agenda for reducing climate risks. The meeting was chaired by DENR, co-led by CCC, included NEDA and DOF, and was supported jointly by the World Bank and GIZ. The meeting noted the need to clarify the scope of the envisioned convergence initiative, specifically on the implementation and investment. The meeting concluded that there was need to clarify how the shared CCAM vision to build off of the experiences and lessons learned from the Risk Resiliency Program (RRP), from the Government's current convergence program, into developing the RRSP, a more evidence-based and coherent climate adaptation and resiliency investment program, the proposed RRSP, fits in the eight-point agenda. **Agreements:** • The mission team and inter-agency TWG confirmed the need to ensure strong alignment with the priorities put forward by the new administration. In particular, it was agreed that DENR would coordinate with NEDA and other agencies to confirm the process (type of inputs, timing, roles and responsibilities) to ensure that the vision of the RRSP is reflected in the 2017-2022 PDP and PIP. • DENR and CCC to convene the CCAM as soon as possible to provide certainty and direction of the overall RRSP Development work plan • The mission team and DENR agreed to finalize the procurement of consultants to support the DENR Program Development Unit and Inter-Agency TWG and quickly expand the composition of the inter-agency TWG to include DILG, NDRRMC-OCD, and DOST-PAGASA.
November 11, 2016	• DENR's Secretary Lopez issued Special Order No. 2016-685 constituting the RRSP Technical Working Group composed of 11 agencies headed by DENR and co-chaired by NEDA. The 11 agencies are DA, DBM, DENR, DILG, DOE, DOF, DPWH, DND-OCD, CCC, NEDA, PAGASA

November 21 to December 02, 2016 Technical Planning and Support Mission on RRSP and Climate Budgeting Most of the activities aimed to work with DENR and the TWG of the RRSP to review the outputs of the technical work, and review the work plan and plan the next steps in the development of RRSP.	• **High-level round table discussion** to examine the status of some of the key aspects of implementing the country's agenda on climate resiliency together with DBM, in consultation with DOF, NEDA, DOST PAGASA, DPWH and DENR. • **DBM confirmed the use of the climate budgeting process in the budget preparation for FY18,** including the RRP under the program convergence budgeting. DBM and CCC to make use of climate budget analysis to inform upstream agency planning through continued dialogue on climate response priorities led by the CCC and the NGAs. • **DOF confirmed the strategy for technical support from the Bank RRSP TA on financing for climate resilience and adaptation**. DOF confirmed technical support focused on the mapping and matching of corresponding financing strategies using two approaches: (1) Mapping and matching the corresponding financial sources based on 4 RRSP components: (2) Mapping and matching the corresponding financial sources based on 3 PAPs categories: (a) existing interventions that are well planned and designed but need to be scaled up; (b) interventions that currently exist but need to be enhanced; (c) interventions that do not exist but would need to be initiated/scaled up • **M&E Mission.** The ISET's team consulted with various groups and the TWG on options to integrate resilience and develop results frameworks building on existing processes to avoiding duplication of work done by other agencies on a national-level adaptation M&E framework (CCC and GIZ). Recommendation by the mission team that in the absence of standardized or universal indicators or metric for resilience, it is essential to identify an overall strategy before crafting an appropriate M&E framework. • **DENR Core Group.** Agreement of DENR and WB to convene a working group/core group within DENR to ensure complementation and alignment of the RRSP with DENR ongoing projects, activities and programs and provide technical inputs and guidance in the technical analyses and outputs of the consultants, amongst others
November 23, 2017 TWG Meeting	• TWG reviewed and discussed the draft RRSP Concept Note including the rationale for a National Program and confirmed their support for the vision and approach of the RRSP espoused in the RRSP draft Concept Note. • Select sites for the case studies for economic analyses of potential investment options undertaken to support development of the Program; • TWG recommended the development of a roll-out plan that would identify areas that are eligible for the initial phase of the program which is a systematic and objective process for site identification considers existing priority areas of the government, and other criteria for example climate risk, welfare status, capacity and implementation readiness criteria.
December 2016- January 2017	• Head of agencies of the 10 TWG agencies officially designated representatives (Director/ Senior Technical Staff) to the RSSP TWG. • TWG agencies provided written response to a set of questions on developing the M and E for RRSP.
February 6, 2017 Meeting of the DENR Core Group	• Discussion on the RRSP Concept Paper with the DENR Core Group and initial results of gap analysis (FASPS, CCS, PPS, MGB, ERDB, RBCO, FMS, EMB-CCD and FMB) • Agreement to include NAMRIA and NWRB in the Core Group
February 8-10 2017 TWG Consultation Workshop Aimed to review and finalize the TWG inputs to	• Presentation and discussion of RRSP Concept Note, Inception Report and work plan with TWG member agencies. TWG recommended inclusion of roadmap of the CCAM and integration of the DRR (NDRRMC Strategic Action Plan) as major paradigm and framework into the Concept Note. • Presentation and break out groups on the following paper: Knowledge and

the RRSP Concept Note, work plan and technical papers	Institutions, Finance Gap Paper, Focus and Prioritization Technical Paper, Implementation Guidance Note, Tracking and M&E Analytical Note and Technical Note for Financing RRSP. • On the Prioritization criteria, it was agreed to overlay geologic hazards among with identified technical climate hazards and recommended that this is presented in the CCAM-DRR TWG workshop in Clark, Pampanga • Agreement on the meeting and feedback protocols
February 14-15, 2017 **Workshop on Economic Analysis with NGAs**	• Deltares, the one of the firms assisting GoP for developing the RRSP, demonstrated with representatives from various NGAs, the use of various approaches to conduct an economic analysis that considers uncertainties, complexity of the system, and data availability. • There was appreciation on that changing conditions like climate change require more long term planning as well as large scale collaboration across sectors and landscapes.
February 16-17, 2017 CCAM TWG Workshop	• The RRSP's prioritization approach and its initial 21 top vulnerable provinces were presented and adopted by the CCAM TWG workshop in preparation for the CCAM Road Map and Framework and Guidance Document for 2018
Feb 17, 2017 **Meeting with DBM**	• Discussion on the concept of RRSP as continuation and expansion of the RRP. RRSP to address gaps of the current system and building capacity how to plan and spend programmatically; USec Pascua emphasized to involve DILG, as delivery on the ground is crucial.
March 7, 2017 **Meeting of DENR Core Group**	• Discussion on the development of the RRSP implementation arrangements/ delivery mechanism: Agreement for an oversight agency (DBM), high level steering committee (CCAM-DRR), secretariat (DBM) and implementing agencies, the TA team was advised to also focus on the design, systems, and procedures for field offices. • RBCO recommended the use of the completed river basin master plans as baseline for intervention. Ilog-Hilabangan Masterplan, prepared in 2014 with the local farmers, consultants, stakeholders, and regional agencies and endorsed to NEDA, can be used as baseline for the Negros Island Region. The masterplan is composed of on-going and proposed projects which has the same thematic areas, employed CC Vulnerability Assessment, implementation and financing plan • DENR USec. Marlo Mendoza emphasized the vulnerability maps should be updated and overlay with all of the hazards. The DENR together with DOST-PAGASA identified approximately 20 indicators (typhoon, drought, topography, presence of volcano, earthquake, flooding, elevation, slope, etc.) to identify environmentally critical areas and projects to address foundational issues
March 6-16, 2017 **Consultation Mission** The consultation mission was part of the delivery mechanism/ implementation arrangement for RRSP for the development of the roll-out plan for RRSP. The mission also resulted to more refined prioritization criteria for site selection for the RRSP.	• The mission consulted with various agencies and organizations both in national and provincial level such as Climate Change Commission, NEDA, DILG (BLGD, BLGS, LDPD, LGA), DBM, Civil Society (ICIS, Aksyon Klima, WWF, DRR-Net Philippines, Center for Disaster Preparedness), DAF – Climate Change Unit (Adaptation & Mitigation Initiative in Agriculture and Fisheries, AMIA), League of Municipalities, League of Provinces, League of Cities, NIR Regional Offices (NEDA, DILG, DBM, DA), Neg. Oriental DENR (PENRO and CENRO), PPDO, Budget Officer, Agricultural Officer, PAMB Tanon Strait & PMB Twin Lakes, Siliman University, PENAGMANNAKI (NGO). • The main discussion of the consultations was the planning for the effective implementation and coordination of climate resilience investment from the national to local and local to national as well as roles and responsibilities of each key agencies complementing each other in coordinating, implementing and monitoring the investment projects, and how to maximize the use of credible climate information to provide substantial contribution to climate issues.

	• The importance of convergence planning, budgeting and implementation among LGUs, Provincial/ Regional and National as key to effectively deal with resilience investments was highlighted, supported by research and advisory services from academe, CSO and private sector in development planning.
March 16, 2017 TWG Meeting **Discussion on the strategic options for implementation arrangements**	• TWG affirmed that option on "Planning for climate resilience from the bottom-up", DENR citing importance of localized planning, DPWH emphasized the importance of strengthening the partnership of NGAs with LGUs however NEDA noted that it is important that LGUs, planners, NGAs, and other stakeholders understand the existing the mainstreaming CCA and DRR guidelines and tools, • Discussion on centralized clearinghouse for climate information to support the program should go beyond generating and distribution of climate information and put equal emphasis on the interpretation and analysis of the climate information. • The DOF expressed its support to RRSP but wanted to clarify how the what are identified projects and programs under the RRSP that DOF will support
May 8-12, 2017 GOP and PPCR Joint Progress Mission The mission aimed to confirm the progress of the RRSP development, and make, as needed, adjustments to the work plan and discuss and confirm the design, financing and implementation of the RRSP.	• Over the three-week period of the mission, the mission team held consultations with national government agencies, local government units, development partners supporting work on climate change in the Philippines, civil society, academia and government financial institutions (GSIS, Land bank) to validate key aspects of the design and content of the RRSP, namely the geographic focus, results framework, implementing arrangements, and financing arrangements. The development of the RRSP is timely as the government at national and local levels are finalizing their medium-term investment plans, and there is therefore opportunity for the RRSP to influence the prioritization of investments (programs, projects and activities) that can help deliver climate resilience benefits. • Meeting with oversight agencies DOF, NEDA and DBM and Office Cabinet Secretary to discuss and solicit inputs on the implementation arrangements and relationship of the RRSP to the CCAM Cabinet Cluster • The priority sites were confirmed at the level of the TWG and the DENR. • TWG workshop on developing a results framework for RSSP conducted.
TWG Meetings May 9, 2017 To discuss the findings of the technical mission which covers gap analysis, the delivery mechanisms as refers to the proposed implementation arrangements, financing arrangement, site prioritization and the M&E framework for RRSP	• Discussion and confirmation of proposed implementing arrangements with a National Steering Committee led by DENR, DBM, NEDA, DILG, CCC with supporting Program Management Unit housed at DENR. The CCAM exercises policy oversight. • **Geographical Prioritization and Proposed Convergence Sites**. The TWG recommended to include one model site in Luzon (either Masbate and/or Sorsogon) in addition to the eight proposed sites. Masbate showed high risk to climate risks and high poverty incidence but not a convergence area for the priority programs of DENR and DA. • Recommendation to include in the criteria for selection of roll out sites the presence or absence of investments in areas that are also vulnerable to CC. These can be on-going programs in the PCB and investments tagged in the CCET • Discussion and confirmation on the process of prioritizing resilience investment for RRSP • Confirmation of process and timeline for quality enhancement review of technical and analytical inputs. • Revision of Results Framework • **RRSP as separate line item in the budget.** Insertion of RRSP as a separate line item in the budget is not feasible for FY18 but can be proposed for FY19. This will be classified as line item under agencies that are part of the program • The TWG agreed that the Third Joint PPCR Mission would be held in August 2017, the specific dates to be confirmed. The main objective of this mission

	would be to review and discuss the draft SCPR document. An interim technical mission must take place and focus on the further development of the SPCR draft program document as a basis for its finalization and basis for mobilizing financing from the WB, ADB, and others.
May 20- July 2017 **Development of Matrix of Resilience Investments**	• Series of consultation meetings with government agencies DA, PAGASA, HLURB, DOE, DPWH, DILG on categorizing existing CCA investments and identifying proposed resilience investments for RRSP • Series of consultation meetings with DENR (FMB, BMB and NWRB) on categorizing existing CCA investments and identifying proposed resilience investments for RRSP
June 1, 2017 June 6, 2017 **Meetings with Climate Change Commission**	• Meeting of DENR (USec Ana Teh) and new Climate Change Commission Leadership (Sec. Victorio) on the nature and objectives of the RRSP; • Meeting of DENR (USec and Director CCS and Director FASPS) and CCC (Office of the Secretary, Implementation Oversight Division and Policy and Research Development Division) and the RRSP TA team to update the CCC on the progress of RRSP • RRSP is seen as a mechanism for convergence across sectors and between the NGAs and LGUs. CCC agreed it can be a good avenue for convergence planning, budgeting and implementation. RRSP developed studies/notes corresponding to the five building blocks and this can be used to supplement the updating of the NCCAP. • Clarification of the nature of RRSP- Director Domingo emphasized that RRSP is still in the preparation phase, not solely for DENR but a cluster program, and not exclusive to WB funding. Issues of financing were also discussed and clarified • The DENR sought the active participation of the Commission in the RRSP TWG and the Program Management Committee. Agreement is that DED Rommel Cuenca, CCC, will consult the management regarding the appointment of representative.
July 12, 2017 **RRSP Presentation in the Meeting of the Cabinet Cluster on CCAM-DRR**	• Presentation of the RRSP to the cabinet cluster, agencies expressed appreciation of the RRSP as a proposed framework for resilience; geographical prioritization and alignment with the PDP. • NEDA advised to avoid duplication of existing processes (M&E, Investment Project Prioritization), ensure investment that are not BAU; DOST recommended inclusion of earthquakes into the risk; CabSec advised to include the national human security framework together with the PDP. The NSC and NEDA conducted consultations on this and this was approved by the President. NSC has also a very strong program on environmental security. • The presentation elicit discussion on the CCAM road map, action plans, performance and project roadmap. At the end of the meeting, there is a consensus to create a TWG for the framework/ roadmap plan to be headed by the USec Cui, Presidential Management Staff. The existing RRSP TWG can be used and expanded to support the process

July 18, 2017 **TWG Meeting**	• Discussion on the Phased Approach of the RRSP- The importance of a roll-out scheme as a means to "learning-by-doing" will enable to produce usable products (implementing arrangements, operations manual, guidelines) to help strengthen the RRP, and are expected to be refined over the course of the coming planning and budget cycles. • Presentation on further work on the Focus and Prioritization • Presentation of the output of the consultation meetings with NGAs to develop the Matrix of Potential Resilience Investment • Discussion on the Expert review process for the SPCR-RR

August 7-25, 2017 Technical Mission	• The mission team met with Secretaries of DBM, DENR, CCC to share progress on the RRSP development, and confirm their leadership on and commitment to the RRSP. • DBM affirmed the commitment in responding to climate change through prioritizing the budgetary allocations and to tracking the budget allocation for expenditures responsive to climate change. • DENR affirmed their leadership role in the RRSP and the confirmed the selection of the 10 priority provinces of the program • CCC leadership advised that the RRSP development consider critically the work that was being undertaken by the CCC, and ensure that there is alignment with the activities being led by the CCC such as the comprehensive capacity building for LGUs in using climate information in their planning in partnership with state universities and colleges (SUCs) and updating of the NCCAP. CCC noted three key areas for further work in helping to improve the government's actions on climate change: Quantitative impacts of climate change on different sectors; Development of risk sharing and risk transfer tools and Improving multi hazard risk early warning systems. • Discussion with DOF-IFG on the range of possible incentive options for NGAs and local government for adaptation and resiliency, such as tax incentives and tax breaks. As the Secretariat for the Peoples Survival Fund, the DOF is working on the improving the criteria and the process for accessing the fund. Related to this is DOF's need for criteria to help them assess whether projects proposed to DOF for funding are addressing resilience • The mission conducted consultations with national government agencies and development partners (ADB, DFAT, GIZ, UNDP, WB, JICA, FAO) • Meetings with DILG-LGA to discuss the development of a resiliency scorecard for LGUs and the scope for alignment with the RRSP. Agreement is that he RRSP team and the LGA will continue to work together on the development of the scorecard and the RRSP results framework to ensure alignment of the initiatives. • Meeting of the RRSP Program Management Committee (now Program Advisory Board-DENR, DBM, NEDA, DOF, DILG and CCC) to discuss updates on the on-going development of the CCAM-DRR Cluster Road Map and the RRSP. • The mission discussed and confirmed that the RRSP would be incorporated in the CCAM-DRR roadmap for 2018-2022. The target date for finalizing the CCAM-DRR roadmap is being finalized, however it was confirmed that the cluster is aiming to complete the roadmap by the fourth quarter of 2017. • Discussion with DENR USec Teh and DENR CCS on to provide updates on progress on RRSP and complementation of RRSP with the CCAM DRR Road map. Agreement that the DENR Climate Change Service (CCS) would work closely with the RRSP Technical Assistance team to ensure that (I) the timelines for completion of the roadmap and RRSP are aligned, and that (ii) the RRSP is well-integrated into the roadmap. • Meeting with DENR Undersecretary for Planning and Policy Service, USec Leones to provide updates on progress on RRSP • Further consultation meetings with NGAs and LGUs to select and prioritize resilience investment options (NWRB and PAGASA) • Meeting with DILG-LGA, Linking LCCAP and RRSP • Agreement to have consultation meetings with NEDA to refine the draft Results Framework; and • Formulation of the First Draft SPCR document

August 23, 2017 DENR Core Group Meeting	• The purpose of the DENR Core group meeting was to update the DENR offices on (I) the development of the RRSP; **(ii)** resilience investments under the RRSP as the results of the regional consultations; (iii) operational elements of RRSP; (iv) implementing arrangements and incentives through incremental financing and cost-sharing arrangements; and (v) update on timeline for completing the RRSP. • The confirmed the proposed implementing arrangements, and agreed that the development of the narrative of the implementing arrangements should be simplified and supported with a clear diagram. The TA team acknowledge this point and agreed to revise the implementation guidelines document accordingly. • The meeting confirmed the importance of incentives for LGUs to participate in the program, and agreed with the proposal of cost-sharing with agencies. • DENR noted that a key area for support was on the identification of criteria that could help them (I) better design programs and projects to better continue to resilience; (ii) better assess how programs and projects contribute to resilience. • DENR confirmed that the Department is in the process of working on its programs and projects for FY2019 implementation, and were confident that the timing of the development of the RRSP was in line with their preparations for the FY2019 budget.

• **TWG meeting**, August 23, 2017 a. Operational elements of RRSP: Implementing arrangements and Incentives through incremental financing and cost-sharing arrangements. b. Results of the regional consultations. d. Update on timeline for completing the RRSP.	• The meeting clarified that RRSP is not a program or project, but rather a framework for helping to improve and operationalize the RRP. The value added of RRSP was confirmed as – the budgetary alignment, technical support to the identification and development of resilience interventions, as well as strengthening local level resilience planning and implementation. • The meeting agreed that the proposed RRSP process would build in the existing process, and in going forward, there needs to be clear articulation of how the ICC process fits into the operational cycle proposed for RRSP. The meeting agreed that a fund flow diagram would be helpful for helping stakeholders to understand the operational cycle. • RRSP is a systematic way of filtering programs/projects for adaptation and resilience at both the national and sub-national level. The meeting confirmed that an implementation guidance note would be developed to clarify the institutional arrangements, and to detail the implementing arrangements. • Update on timeline for completing the RRSP: Peer review process of RRSP-SPCR document. Three experts were shortlisted by DENR from a list provided by the CIF. DENR proposed to have a local expert review and the TOR is being developed. The local review will be on Sept 1-22 and Independent expert review on October 4-6; Regional consultation and Deepening Exercise will be conducted in Sarangani (September 4-8) and Sorsogon (September 11-15) and Final RRSP (SPCR) for CIF endorsement + Note- November 25, 2017
<u>October 18-25, 2017 GoP and PPCR Joint Mission</u> Consultation with stakeholders on the draft SPCR.	• **RRSP TWG Meeting.** Discussion on the draft SPCR document with focus on the Delivery Model and Operational Cycle, Proposed Results Framework, Proposed Resilience Investments, RRSP Investment/ Project Cost Estimates. • On the proposed resilience investment. NEDA noted that there is a prioritization tool being developed under the GCF Readiness Program and recommended that integration of the tool to be used in the prioritization of resilience investments under the RRSP. DENR noted that there are several prioritization tools developed by government, e.g., DOF for PSF, DENR for GCF, etc. suggested that the government develop a mechanism and venue for the prioritization tools to be accessed and improved by government through various programs, and find a way to operationalize this in a dynamic way. • **Agreements:** Financing and implementation. In view of the differences in the planning and budget cycle calendars of LGUs and NGAs, consider developing two separate but parallel tracks – one for LGU-initiated projects and one for NGA-initiated projects – and differentiate the operational processes to be integrated into the SPCR document • **Agreements:** On the Draft Results Framework. NEDA to confirm the consistency of the draft Results Framework in the SPCR document with the PDP Results Matrix in terms of form and format and indicators at the outcome level 2. NGAs to confirm consistency of the Results Framework at the output level with their respective agency Results Matrices

	• **Agreements-** The TWG agreed to review and provide comments on the draft SPCR document and be integrated into the document prior to finalization along with relevant suggestions during the mission. • **Validation Meeting with PLGUs, RDCs and Leagues.** In the RRSP It was also suggested to strengthen the relationship of NGAs and LGUs in order to have better coordination and information sharing, gathering accurate data at the LGU level. There should also clear set up for the scheme when NGA going to RDC to LGU and NGA going directly to LGU vice versa. • Remaining fund for the RRSP preparation is planned to be allotted for the feasibility studies of the prioritized investments for the phased approach of RRSP. • **Advisory Board Meeting** DBM recommended review of the composition and roles of the NPAB. NEDA and DBM as co-chair of the NPAB does not have the technical capacity to review CC programs. • On the Criteria for RRSP Sub-Projects Post submission of the SPCR, review LGU basic requirements (seal of local governance ad LCCAP) to participate in the RRSP. • Agreement: The Government thru the DENR as a CIF-PPCR focal agency, will submit the Final SPCR document to PPCR Secretariat on November 06 2017 • Agreements on the time of review and feedback of the SPCR document before DENR submits it to PPCR on November 6, 2017

Table 30: List of Stakeholders participating in the preparation phase of RRSP

Name	Gender	Institution	Stakeholder Classification
Joint Scoping Mission November 23-27, 2015			
Manuel Gerochi	Male	Department of Environment and Natural Resources (DENR)	Government
Edwin Domingo	Male	DENR	Government
Lourdes Ferrer	Female	DENR	Government
Maricel Deloria	Female	Department of Social Welfare and Development (DSWD)	Government
Ken Adriane Aracon	Male	Department of Science and Technology (DOST)- Project NOAH	Government
Gladys Mae Chang	Female	DOST- Philippine Council for Industry, Energy and Emerging Technology Research and Development (DOST-PCIEERD)	Government
Ryan Viado	Male	DOST-PCIEERD	Government
Rosalina de Guzman	Female	Philippine Atmospheric, Geophysical and Astronomical Administration (DOST-PAGASA)	Government
Joy Juanite	Female	Department of the Interior and Local Government (DILG)	Government
Myra Vega	Female	DILG	Government
Carlos Magnaye	Male	Department of Agriculture (DA)	Government
Mary Joy Vergara	Female	DA	Government
Bremundo Valencia	Male	Department Agrarian Reform (DAR)	Government
Oshean Gaonito	Male	Metropolitan Manila Development Authority (MMDA)	Government
Alejandro Soliven	Male	Department of Public Works and Highways (DPWH)	Government
Claudios Gabinete	Male	Oscar M. Lopez Center (OML Center) Science for Climate Resilient Communities	Private non-profit Organization
Bennette Grace Majulit	Female	Philippine Council for Evangelical Church-PHIL- Relief and Development Services (PCEC-PHILRADS)	Religious Group
Cynthia Rogel	Female	Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA)	Academe and Research Institute
Feline Lansiyan	Female	SEARCA	Academe and Research Institute
Maria Celeste Cediz	Female	SEARCA	Academe and Research Institute
Feline Lansiyan	Female	University of the Philippines-Los Banos (UPLB)	Academe
Grace Sumalpong	Female	Siliman University (SU)	Academe
Nathaniel Marquez	Male	Asian NGO Coalition for Agrarian Reform and Rural Development (ANGOC)	Non-government Organization (NGO)
Ria Lambino	Female	World Widelife Fund for Nature (WWF)	NGO
Cristophe Blanchot	Male	Agence Française de Développement (AFD)	Development Partners (DP)
Thirdy Espero	Male	AFD	DP
Leonie Claeman	Female	AFD	DP
Bernd Markus Liss	Male	The Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ)	DP
Agnes Balota	Female	GIZ	DP
Bianca Gutierrez	Female	GIZ	DP

Roslyn Arayata	Female	British Embassy	DP
Cristophe Crepin	Male	World Bank	DP
Leo Paat	Male	World Bank	DP
Carol Fegueroa	Female	World Bank	DP
Jella Villanueva	Female	World Bank	DP
Ashraf El-Arini	Male	World Bank	DP
Cinzia Losenno	Female	Asian Development Bank	DP
Ancha Srinivasan	Male	Asian Development Bank	DP
Vilo Farrofo	Male	Asian Development Bank	DP
Rudolph Freuoudorfer	Male	Asian Development Bank	DP
Moira Enerva	Female	Asian Development Bank	DP
February 04-12, 2106 Technical Mission including Feb. 09 Planning Workshop to Design the RRSP			
Louise Alcalde	Female	Aksyon Klima Pilipinas	Civil Society
Maria Celeste Cadiz	Female	SEARCA	Academe and Research Institute
Bessie Burgos	Female	SEARCA	Academe and Research Institution
Gay Perez	Male	University of the Philippines- Institute of Environmental Science and Meteorology	Academe
Zenaida Sumalde	Female	UPLB College of Economics and Management	Academe
Alessandro Manilay	Male	UPLB CEM	Academe
Mary Jean Caleda	Female	Ateneo School of Government	Academe
Aurma Manlangit	Femae	Ateneo School of Government	Academe
Joy Camille Baldo	Female	International Council for Local Environmental Initiatives (ICLEI)	NGO
Johannah Camille Jordan	Female	ICLEI	NGO
Kairos Dela Cruz	Male	International Climate Science Coalition	
Rosa Perez	Female	Manila Observatory	Research Institute
Perlyn Pulhin	Female	OML Center Science for Climate Resilient Communities	Private non-profit Organization
Perpi Tiongson	Female	OML Center Science for Climate Resilient Communities	Private non-profit Organization
Ricky Mina	Male	Energy Development Corporation	Private Sector
Helena Gaddi	Female	Climate Change Commission (CCC)	Government
Romell Antonio Cuenca	Male	CCC	Government
Ma. Lourdes Ferrer	Female	DENR	Government
Jonas Leones	Male	DENR	Government
Edwin Domingo	Male	DENR	Government
Angela Mamuyac	Female	DILG	Government
Vivien Esquivel	Female	DOST-PAGASA	Government
Mary Ann Suansing	Female	Department of Public Works and Highways	Government
Sonny Domingo	Male	National Economic and Development Authority	Government
Laura Pascua	Female	Department of Budget and Management (DBM)	Government
John Narag	Male	Department of Finance (DOF)	Government
April 28 Technical Working Group Meeting			
Marlon Obugado	Male	Department of National Defense- Office of the Civil Defense (DND-OCD)	Government
Amelita Micu	Female	DSWD	Government
Melle Lambon	Female	DAR	Government
Thelma Cinco	Female	PAGASA	Government

Edwin Domingo	Male	DENR	Government
Carlos Magnaye	Male	DA	Government
Paul Montano	Male	DILG	Government
Mylene Rivera	Female	Housing and Urban Development Coordinating Council (HUDCC)	Government
Oshean Gaonito	Male	MMDA	Government
Marieta Quejado	Female	Department of Energy (DOE)	Government
June 17, 2016 DENR Working Group Meeting			
Edwin Domingo	Male	Foreign-Assisted and Special Projects Service (FASPS)	Government
Araceli Oredina	Female	Climate Change Service (CCS)	Government
Mary Grace Maniquiz	Female	River Basin Control Office (RBCO)	Government
Rachell Abenir	Female	Biodiversity Management Bureau (BMB)	Government
Carmela Taguian	Female	Ecosystems Research and Development Bureau (ERDB)	Government
Evellyn Nillosan	Female	Financial Management Bureau (FMS)	Government
Liza Manzano	Female	Mines and Geosciences Bureau (MGB)	Government
Eugene Joycis	Male	Forest Management Bureau (FMB)	Government
July 11-15, 2016 Work Planning and Technical Mission			
Jonas Leones	Male	DENR	Government
Lourdes Ferrer	Female	DENR-Policy and Planning Service (PPS)	Government
Edwin Domingo	Male	DENR-FASPS	Government
Eddie Abugan	Male	DENR-FASPS	Government
Eda Soriano	Male	DENR-FASPS	Government
Elenida Basug	Female	DENR-CCS	Government
Araceli Oredina	Female	DENR-CCS	Government
Rommel Cuenca	Male	CCC	Government
Sandee Recabar	Female	CCC	Government
Maricar Palaña	Female	CCC	Government
Ma. Rosalia Agsalup	Female	CCC	Government
Stella Laureano	Female	DOF	Government
Donalyn Minimo	Female	DOF	Government
Paola Matanguihan	Female	DOF	Government
Armylene Posada	Female	DA	Government
Lenard Guevarra	Male	DA	Government
Edwin Domingo	Male	DENR-FASPS	Government
Ariane Balbedina	Female	DENR-FMB	Government
Alejandrino Sibuena	Male	DENR-FMB	Government
Timothy Dizon	Male	DENR-ERDB	Government
Liza Manzan	Female	DENR-MGB	Government
Donna Gordove	Female	DENR-RBCO	Government
Carmelita Passe	Female	DENR-EMB	Government
Wilson Henson	Male	DENR-PPS	Government
William Sese	Male	NEDA- Regional Development Staff	Government
Mylene Rivera	Female	HUDCC	Government
Kathleen Capiroso	Female	NEDA-ANRES	Government
Nikka Mae Loreto	Female	NEDA-Public Investment Staff	Government
Kevin Manzano	Male	NEDA- Infrastructure Staff	Government
Bianca Gutierez	Female	GIZ	DP
Bernd-Markus Liss	Male	GIZ	DP
Cristophe Crepin	Male	WB	DP
Gerry Parco	Male	WB	DP
Carol Figueroa	Female	WB	DP

Jella Roxas	Female	WB	DP
Ulf Narloch	Male	WB	DP
September 02, 2016 TWG Meeting			
Kelvin Mamitag	Male	DPWH	Government
Marlon Obligado	Male	DNDN-OCD	Government
Thelma Cinco	Female	PAGASA	Government
Theresa Lim	Female	CCC	Government
Kristine Villano	Female	NEDA-RDS	Government
William Sese	Male	NEDA-RDS	Government
Julius Casabal	Male	NEDA-ANRES	Government
Jejomar Balaw-ing	Male	DILG	Government
Junaib Karim	Male	DBM	Government
Vanessa Mendoza	Female	DBM	Government
Armylene Posada	Female	DA- Policy and Planning	Government
Reichelle Celorica	Female	DA- Policy and Planning	Government
Edwarrd Maghirang	Male	HUDCC	Government
Eddie Abugan	Male	DENR-FASPS	Government
Raquel Bacud	Male	DENR-BMB	Government
Mark de Claro	Male	DENR-FMB	Government
Regina Eugenio	Female	DENR-EMB	Government
Timothy Dizon	Male	DENR-ERDB	Government
Mary Grace Maniquiz	Female	DENR-RBCO	Government
Ray Villones	Male	DENR-MGB	Government
Joseph Bautista	Male	DENR-PPS	Government
Jella Roxas	Female	WB	DP
November 21-25, 2016 Technical Support Mission			
Laura Pascua	Female	DBM	Government
Ted Terrena	Male	DBM	Government
Janet Macapagal	Male	DBM	Government
Zita Cruz	Female	DBM	Government
Vanessa Mendoza	Female	DBM	Government
Virginia Medrano	Female	DBM	Government
Leila Rusina	Female	DBM	Government
Rolando Toledo	Male	DBM	Government
Andrea Labudahon	Female	DBM	Government
Marie Valbuena	Female	DILG	Government
Dona Minimo	Female	DOF	Government
Paola Matanguihan	Female	DOF	Government
Stella Laureano	Female	DOF	Government
Reichelle Celorico	Female	DA	Government
Mariane Poblete	Female	DA	Government
Alejandro Soliven	Male	DPWH	Government
Mercedita Sombilla	Female	NEDA	Government
William Sese	Male	NEDA- RDS	Government
Calixto Mansilin	Male	NEDA	Government
Nikka Mae Loreto	Female	NEDA	Government
Emma Ulep	Female	Housing and Land Use Urban Regulatory Board (HLURB)	Government
Joel Lasam	Male	DILG	Government
Herminiana San Juan	Female	DAR	Government
Amihan Mabalay	Female	DAR	Government
Acmad Calaca	Male	DAR	Government
Mark Villar	Male	DPWH	Government

Ernesto Aldan	Male	DPWH	Government
Alejandro Soliven	Male	DPWH	Government
Michelle Alpasan	Female	DPWH	Government
Ricardo Jalad	Male	DND-OCD	Government
Marlo Mendoza	Male	DENR	Government
Analiza Rebuelta-Teh	Female	DENR	Government
Edwin Domingo	Male	DENR-FASPS	Government
Eddie Abugan	Male	DENR-FASPS	Government
Edna Maguigad	Female	DENR-FASPS (RRSP Unit)	Government
Henry Adornado	Male	DENR-ERDB	Government
Theresa Legazpi	Female	DENR-CCS	Government
Imelda Matubis	Female	DENR-CCS	Government
Maricel Tadle	Female	DENR-PPS	Government
Rita Flordeliz	Female	DENR-PPS	Government
Lilian Rollan	Female	DENR-MGB	Government
Edna Nuestro	Female	DENR-FMB	Government
Maria Obdulia Palanca	Female	Government Service and Insurance System	Government
Marlyn Lazano	Female	City Government of Navotas	Government
Henry Lagasca	Male	City Government of Quezon	Government
Catherine Hartigan- Go	Female	OML Center Science for Climate Resilient Communities	Private non-profit Organization
Arianna Lim	Female	OML Center Science for Climate Resilient Communities	Private non-profit Organization
Joy Baldo	Female	ICLEI	NGO
Cristophe Crepin	Male	WB	DP
Maurice Rawlins	Male	WB	DP
Jella Villanueva	Female	WB	DP
Carol Figueroa	Female	WB	DP
Leonard Leung	Male	ADB	DP
Jiang Feng Chang	Male	ADB	DP
February 07-09, 2017 RRSP TWG Consultation Workshop			
Rommel Abesamis	Male	DENR	Government
Edwin Domingo	Male	DENR-FASPS	Government
Eddie Abugan	Male	DENR-FASPS	Government
Eda Soriano	Female	DENR-FASPS	Government
Edna Maguigad	Female	DENR-FASPS (RRSP Unit)	Government
Elenida Basug	Female	DENR-CCS	Government
Araceli Oredina	Female	DENR-CCS	Government
Carmelita Passe	Female	DENR-EMB	Government
Jesus Tamang	Male	DOE-Energy Policy and Planning Bureau	Government
Letty Abella	Female	DOE-Energy Policy and Planning Bureau	Government
Jason Villegas	Male	DOE-Energy Policy and Planning Bureau	Government
Vanessa Mendoza	Female	DBM	Government
Felecitas Calubayan	Female	DBM	Government
Armylene Posada	Female	DA	Government
Alejandro Soliven	Male	DPWH	Government
Allen Fortes	Male	DND-OCD	Government
Peter Fraginal	Male	HLURB	Government
Gerry Parco	Male	WB	DP
March 07-16, 2017 Roll-out Technical Mission			
Marlo Mendoza	Female	DENR	Government
Edwin Domingo	Male	DENR-FASPS	Government
Eddie Abugan	Male	DENR FASPS	Government

Eda Soriano	Female	DENR-FASPS	Government
Edna Maguigad	Female	DENR-FASPS (RRSP Unit)	Government
Remedios Evangelista	Female	DENR-FMB	Government
Nilda Patriga	Female	DENR-FMB	Government
Armida Andres	Female	DENR-BMB	Government
Rachell Abenir	Female	DENR-BMB	Government
Jim Padin	Male	DENR-ERDB	Government
Michelle Mendoza	Female	DENR-MGB	Government
Angelita Fontanilla	Male	DENR-FMS	Government
Araceli Oradina	Female	DENR-CCS	Government
Mary Grace Maniquiz	Female	DENR-RBCO	Government
Anna Liza Bonagua	Female	DILG	Government
Kristine Dianes	Female	DILG	Government
Maria Angela Mamuyac	Female	DILG	Government
Vanessa Mendoza	Female	DBM	Government
Andria Labudahon	Female	DBM	Government
Rosemarie del Rosario	Female	DPWH	Government
Alejandro Soliven	Male	DPWH	Government
Mary Cris Utod	Female	DPWH	Government
Leonila Mercaado	Female	DPWH	Government
Merciditas Sombilla	Female	NEDA-ANRES	Government
Kathleen Capiroso	Female	NEDA-ANRES	Government
Julius Casabal	Male	NEDA-ANRES	Government
William Sese	Male	NEDA-RDS	Government
Armylene Posada	Female	DA	Government
Reichelle Celerico	Female	DA	Government
Donalyn Minimo	Female	DOF	Government
Paola Matanguihan	Female	DOF	Government
Allen Fortes	Male	DND-OCD	Government
Edna Juanillo	Female	PAGASA	Government
Bidan Fontanilla	Male	DENR Negros Island Region (DENR-NIR)	Government
Wendel Pangaral	Male	DENR-NIR (Region 7)	Government
Youghan Navarro	Female	DILG-NIR (Region 7)	Government
Hershe Pausa	Female	DILG- NIR (Region 7)	Government
Wilmon dela Cruz	Male	DA-NIR (Region 7)	Government
Leo Labe	Male	Negros Oriental Province	Government
Mae Valencia	Female	Negros Oriental Province	Government
Judith Alpueno	Female	Negros Oriental Province	Government
Alona Rubia	Female	Negros Oriental Province	Government
Arthur Alcala	Male	Siliman University	Academe
Janet Estacion	Female	Siliman University	Academe
Apolinario Carinio	Male	PENAMANNAKI	Civil Society-NGO
Fer Ramirez	Female	Foundation of Philippine Environment	Civil Society-NGO
Luz Baskinos	Female	WWF	NGO
Eric Buduan	Male	Philippine Tropical Forest Conservation Foundation (PTFCF)	DP
April 24-28, 2017 Technical Mission and Consultation at Caraga Region			
Lourdes Ferrer	Female	DENR-PPS	Government
Wilson Henson	Male	DENR-PPS	Government
Edwin Domingo	Male	DENR-FASPS	Government
Eddie Abugan	Male	DENR-FASPS	Government
Eda Soriano	Female	DENR- FASPS	Government
Edna Maguigad	Female	DENR-FASPS (RRSP Unit)	Government

Araceli Oredina	Female	DENR-CCS	Government
Armylene Posada	Female	DA	Government
Evelyn Castro	Female	DILG	Government
Karl Abalos	Male	DILG	Government
Jenifer Galoport	Female	DILG	Government
Angela Mamuyac	Female	DILG	Government
Donalyn Minimo	Female	DOF	Government
Paola Matanguihan	Female	DOF	Government
Allen Fortes	Male	DND-OCD	Government
Alajandro Soliven	Male	DPWH	Government
Michael Alpasan	Male	DPWH	Government
Peter Fraginal	Male	HLURB	Government
Maurice Rawlins	Male	WB	DP
Regional Development Council Meeting in Caraga Region (April 26, 2017)			
Mary Kathleen Po	Female	DENR- Region 13	Government
Romel Ambrosiomo	Male	DENR- Region 13	Government
Jonathan Budlai	Male	DENR- Region 13	Government
Charlie Fabre	Male	DENR-Region 13	Government
Ricky Sanchez	Male	DBM- Region 13	Government
Abel Wagao	Male	DA- Region 13	Government
Concepcion Paquen	Female	Surigao Chamber of Commerce	Private Sector
Metchel Verona	Female	Surigao Chamber of Commerce	Private Sector
Roy Kantuna	Male	NEDA-Region 13	Government
Emmanuel Gidacan	Male	NEDA-Region 13	Government
Provincial Consultation for Surigao del Norte, Surigao del Sur and Dinagat Provinces (April 27-28, 2017)			
Patricia Mante	Female	Province of Surigao del Norte (PSDN)-Planning Office	Government
Alma Arciga	Female	PSDN-Environment Office	Government
Joel Carbonilla	Male	PSDN-Environment Office	Government
Luis Gonzaga	Male	PSDN-Environment Office	Government
Gemma Entendez	Female	PSDN- Agriculture Office	Government
Zeraida Piramida	Female	PSDN-Agriculture Office	Government
Janeth Galigao	Female	PSDN- Engineer Office	Government
Gilbert Galvadores	Male	PSDN- Disaster Risk Reduction Office	Government
Marilyn Pono	Female	PSDN-Disaster Risk Reduction Office	Government
Imelda Cotiangco	Female	PSDN-Budget Office	Government
Celestina Pono	Female	PSDN- Budget Office	Government
Floro Ortega	Male	Province of Surigao del Sur (PSDS)-Environment Office	Government
Roseanne Rebuyon	Female	PSDS-Environment Office	Government
Cheryl Paganpan	Female	PSDS- Environment Office	Government
Thelma Alcoberes	Female	PSDS-Environment Office	Government
Mae Sauro	Female	PSDS-Environment Office	Government
Ralph Hector Lina	Male	PSDS-Environment Office	Government
Maria Rebecca Bacud	Female	PSDS-Agriculture Office	Government
Esmeraldo Odtohan	Female	PSDS-Agriculture Office	Government
Eleunesto Dumagan	Male	PSDS-Engineer Office	Government
Carolina Tidalgo	Female	PSDS-Planning Office	Government
Delia Abelardo	Female	PSDS-Budget Office	Government
Myrla Padayhag	Female	PSDS-Budget Office	Government
Jospeh Leo Oconer	Male	Province of Dinagat Island (PDI)-Environment Office	Government
Zacrias Valez	Male	PDI-Environment Office	Government

Mary Ann Dawisan	Female	PDI-Budget Office	Government
Fe Consuelo Bontanas	Female	PDI-Engineer Office	Government
Gaudencio Macabales	Male	PDI-Planning Office	Government
Manuel Foronda	Male	PDI-Planning Office	Government
Oswaldo Borja	Male	PDI- Agriculture Office	Government
Marieta Samsom	Female	Surigao City Budget Office	Government
Rachel Sapid	Female	DENR-PDI	Government
Mary Grace Lurabia	Female	DENR-PDI	Government
Glendel Adlawon	Male	DENR-PSDS	Government
Jay Montaner	Male	DENR-Surigao City Environment Office	Government
Jun Mark Bernandez	Male	DENR-Lianga LGU Environment	Government
Racquel Pahayac	Female	DENR-PDI	Government
Daisy Cojare	Female	DENR-PSDS	Government
Bernardo Sedero	Male	DENR-PSDN	Government
Dahlia Bernal	Female	DENR-PSDN	Government
Herzon Gallego	Male	DENR-Region 13	Government
May 02 and 04, 2017 Focus Group Meetings			
Edwin Domingo	Male	DENR-FASPS	Government
Eddie Abugan	Male	DENR-FASPS	Government
Eda Soriano	Female	DENR-FASPS	Government
Elenida Basug	Female	DENR-CCS	Government
William Sese	Male	NEDA-RDS	Government
Alejandro Soliven	Male	DPWH	Government
Paola Matanguihan	Female	DOF	Government
Ibani Padao	Male	HLURB	Government
Armylene Posada	Female	DA	Government
Allen Fortes	Male	DND-OCD	Government
Mary Grace Maniquiz	Female	DENR-RBCO	Government
Angelita Meniado	Female	DENR-BMB	Government
Sabrio Lazerna	Male	DENR-MGB	Government
Remedios Evangelista	Female	DENR-FMS	Government
Nilda Patica	Female	DENR-FMS	Government
Timothy Dizon	Male	DENR-ERDB	Government
Raul Magabo	Male	DENR- National Mapping and Resource Information Authority (NAMRIA)	Government
Rijaldia Santos	Female	DENR-NAMRIA	Government
Antonio Dano	Male	DENR-RBCO	Government
Rochelle Lucero	Female	DENR-RBCO	Government
Araceli Oredina	Female	DENR-CCS	Government
Rachelle Abenir	Female	DENR-BMB	Government
Lourdes Ferrer	Female	DENR-PPS	Government
Jesusa Roque	Female	DENR-National Water Resources Board (NWRB)	Government
May 09-12, 2017 Technical Consultation Mission			
Analiza Rebuelta-Teh	Female	DENR	Government
Jonas Leones	Male	DENR	Government
Corazon Davis	Female	DENR	Government
Lourdes Ferrer	Female	DENR	Government
Elenida Basug	Female	DENR-CCS	Government
Araceli Oredina	Female	DENR-CCS	Government
Eddie Abugan	Male	DENR-FASPS	Government
Eda Soriano	Female	DENR-FASPS	Government

April Leyga	Female	DENR-PPS	Government
Emma Ulep	Female	HLURB	Government
Allen Fortes	Male	DND-OCD	Government
Paola Matanguihan	Female	DOF	Government
Cecilia Abogado	Female	DBM	Government
Felicitas Calubayan	Female	DBM	Government
Alejandro Soliven	Male	DPWH	Government
Armylene Posada	Female	DA	Government
Emma Ulep	Female	HLURB	Government
Ibani Padao	Male	HLURB	Government
Peter Fraginal	Male	HLURB	Government
Kathleen Coballes	Female	NEDA	Government
Diane Llanto	Female	NEDA	Government
Dorothy Bantasan	Female	NEDA	Government
Jenifer Galorport	Female	DILG	Government
Thelma Cinco	Female	PAGASA	Government
Edel Garingan	Female	FPE	Civil Society-NGO
Danica Supnet	Female	ICSC	Civil Society-NGO
Janssen Martinez	Male	ICSC	Civil Society-NGO
Maria Fellizar Cagay	Female	Center for Disaster Preparedness	Civil Society-NGO
Jose Bernardo Gochoco	Male	ICLEI	Civil Society-NGO
Agustin Arcenas	Male	UP School of Economics	Academe
Carlo Garcia	Female	Miriam College- Environmental Studies	Academe
Loui Parungao	Male	Miriam College	Academe
Prudencio Calado	Male	Land Bank of the Philippines	Government Financial Ins. (GFIs)
Leopoldo Casio	Male	Government Service Insurance System	GFI
Kriszin Enriquez	Female	Ateneo School of Government	Academe
Eric Buduan	Male	PTFCF	Civil Society-NGO
Margot Thierry	Female	AFD	DP
Bianca Gutierez	Female	GIZ	DP
Maria Zita Toribio	Female	USAID	DP
Randy Vinluan	Male	USAID	DP
Floradema Eleazar	Female	UNDP	DP
Morito Francisco	Male	Australian Government	DP
Cristophe Crepin	Male	WB	DP
Gerry Parco	Male	WB	DP
Maurice Rawlins	Male	WB	DP
Carol Figueroa	Female	WB	DP
Jella Villanueva	Female	WB	DP
Leonard Leung	Male	ADB	DP
Valerie Pacera	Female	ADB	DP
Giff Paraba	Female	Province of Sarangani- Environment Office	Government
Eunice Lazaniez	Female	Province of Srangani-Planning Office	Government
Antonio Acharon	Male	Province of Sarangani-DRR Office	Government
Grabriel Guevaci	Male	League of Cities of the Philippines	Government
Alvin Asis	Male	League of Cities of the Philippines	Government
Ramil Masukat	Male	Autonomous Region in Muslim Mindanao	Government
Judith Alpuerto	Female	Province of Negros Oriental-Planning Office	Government
Merdeja Gonzalve	Female	Province of Negros Oriental-Planning Office	Government
Lucena Amaro	Female	Province of Negros Oriental-Environment	Government
July 25, 2017 Regional Development Council Meeting in Region 8			
Eda Soriano	Female	DENR-FASPS	Government

Edna Maguigad	Female	DENR-FASPS (RRSP Unit)	Government
Antonio Lucero	Male	DPWH Region 8	Government
Meylene Rosales	Female	NEDA Region 8	Government
Mario Ian Mosquisa	Male	Private Sector Representative RDC 8	Private Sector
Ivy Hijana	Female	DENR Region 8	Government
Salvacion Factor	Female	DENR Region 8	Government
Angelita Obedencia	Female	DPWH Region 8	Government
Merle Zaldua	Female	DPWH Region 8	Government
Leonilo Jumagdao	Male	DPWH Region 8	Government
Jason Fabillar	Male	DA Regional Field Office Region 8	Government
Absal Abah	Male	DBM Region 8	Government
Arturo Salazar	Male	DENR Region 8	Government
Ma. Teresa Legaspi	Female	DENR- CCS	Government
July 26-, 2017 Negros Oriental and Western Samar Consultation Workshop			
Viernov Grefalde	Male	DENR NIR	Government
Eduardo Inting	Male	DENR	Government
Grace Gravoso	Female	DENR Province of Samar	Government
Elizabeth Baclano	Female	DENR	Government
Fernando Delos Santos Jr	Male	DENR Catbalogan City	Government
Elpidio Cabahit Jr	Male	DENR Santa Rita Samar	Government
Myla Dacles	Female	DENR Catbalogan City	Government
Fernando Alonzo	Male	Provincial Government of Samar	Government
Virginia Hilvano	Female	Provincial Government of Samar	Government
Emilio Cebu, PhD	Male	Provincial Government of Samar	Government
Myrgie Ko	Female	Provincial Government of Samar	Government
Errol Espina	Male	Provincial Government of Samar	Government
Divina Mate	Female	Provincial Government of Samar	Government
Manuel Torrevillas III	Male	Provincial Government of Samar	Government
Judith Alpuerto	Female	Provincial Government of Negros Oriental	Government
Lucena Amaro	Female	Provincial Government of Negros Oriental	Government
Marichu Alpuerto	Female	Provincial Government of Negros Oriental	Government
Mae Valencia	Female	Provincial Government of Negros Oriental	Government
Vivian Solomon	Female	Provincial Government of Negros Oriental	Government
Adrian Sedillo	Male	Provincial Government of Negros Oriental	Government
Matthew Velasco	Male	DPWH Central Office	Government
Apolinario Cariño	Male	PENAGMANNAKI	Civil Society-NGO
Eduardo Mangaoang	Male	Visayas State University	Academe
Jose Mabulay Jr	Male	Catbalogan Water District	Private Sector
Thelma Cinco	Female	DOST-PAGASA	Government
Edna Juanillo	Female	DOST-PAGASA	Government
Leonilla Silla	Female	DENR Province of Samar	Government
Azel Jabinar	Female	DENR Province of Samar	Government
July 31, 2017 Regional Development Council Meeting in Region 5			
Eda Soriano	Female	DENR-FASPS	Government
Edna Maguigad	Female	DENR-FASPS (RRSP Unit)	Government
Antonio Pasano	Male	DILG Region 5	Government
Mary Kathleen Bonto	Female	HLURB Region 5	Government
Roberto Sheen	Male	DENR Region 5	Government
Kert Dimaunahan	Male	DENR Region 5	Government
Imelda Baltazar	Female	DENR Region 5	Government
Marieta Andes	Female	DENR Region 5- Finance Office	Government
Jerry Arena	Male	DA Region 5	Government

Marry Grace Sinahonan	Female	DA Region 5	Government
AbnesTolentino	Female	NEDA Region 5	Government
Jude Galino	Male	NEDA Region 5	Government
Ester Vargas	Female	DPWH Region 5	Government
Jella Roxas	Female	WB	DP
August 01-03, 2017 Consultation Workshop with Provinces of Masbate and Sorsogon, Region 5			
Adonis Dilao	Male	Province of Masbate- Environment Office	Government
Jonel Orteza	Male	Province of Masbate-Agriculture Office	Government
Merien Esber	Female	Province of Masbate- DRR Office	Government
Fay Almaro	Female	Province of Masbate-Budget Office	Government
Maribeth Fruto	Female	Province of Sorsogon-Environment Office	Government
Riza Daydon	Female	Province of Sorsogon-Planning Office	Government
Cynthia Pilapil	Female	Province of Sorsogon-Budget Office	Government
Monina de Jesus	Female	Province of Sorsogon-Budget Office	Government
Gines Deniega	Male	Province of Sorsogon-Agriculture Office	Government
Mila Lacson	Female	Province of Sorsogon-Engineer Office	Government
Ariel Doctama	Male	Province of Sorsogon-DRR Office	Government
Ronnel Sopsop	Male	DENR-Sorsogon (Environment Office)	Government
Ma. Fe Reganit	Female	DENR-Sorsogon (Environment Office)	Government
Judy Doma	Female	DENR-Sorosgon (Planning Office)	Government
Estrelita Encinares	Female	DENR Sorsogon (Budget Office)	Government
Marissa Laurio	Female	DENR-Masbate (Planning Office)	Government
Eva Aban	Female	DENR-Masbate (Budget Office)	Government
Glenn Lupango	Male	DENR-Masbate (CC Focal)	Government
Tito Migo	Male	DENR-Masbate (Environment Office)	Government
Jerry Arena	Male	DENR Region 5	Government
Jubemay Mangalino	Female	NEDA Region 5	Government
Thelma Cinco	Female	PAGASA	Government
Edna Juanillo	Female	PAGASA	Government
Matthew Velasco	Male	DPWH	Government
Joji Orbase	Male	Bicol Consortium for Development Initiatives	Civil Society-NGO
Gerry Parco	Male	WB	DP
Jella Roxas	Female	WB	DP
August 14-25, Joint Progress Mission			
Analiza Rebuelta-Teh	Female	DENR	Government
Edwin Domingo	Male	DENR-FASPS	Government
Eddie Abugan	Male	DENR-FASPS	Government
Eda Soriano	Female	DENR-FASPS	Government
Nora Diaz	Female	HLURB	Government
Judi Anne Felipe	Female	DA	Government
Armylene Posada	Female	DA	Government
Edna Juanillo	Female	PAGASA	Government
Benjamin Diokno	Male	DBM	Government
Katrina Bianca Remoto	Female	DBM	Government
Andria Labudahon	Female	DBM	Government
Roy Cimatu	Male	DENR	Government
Mario F. Chan	Male	DENR	Government
Elenida Basug	Female	DENR	Government
Silvestre Barrameda Jr.	Male	DILG-LGA	Government
Emmanuel de Guzman	Male	CCC	Government
Paola Alvarez	Female	DOF	Government
Paola Mantanguihan	Female	DOF	Government
Donalyn Minimo	Female	DOF	Government

Jonas Leones	Male	DENR	Government
Carlos Magnaye	Male	DA	Government
Armylene Posada	Female	DA	Government
Judi Anne Felipe	Female	DA	Government
Nieva Natural	Female	DA	Government
Ara Cherise Salcedo	Female	DPWH	Government
Kristine Villarino	Female	NEDA	Government
Julius Casabal	Male	NEDA	Government
Jejomar Balaw-ing	Male	DILG	Government
Robi de Ceracia	Male	DND-OCD	Government
Carmencita Bamus	Female	DOE	Government
Letty Abella	Female	DOE	Government
Ross Glyne Aquino	Female	DOF	Government
Rommel Cuenca	Male	CCC	Government
Amelia Supetran	Female	CCC	Government
Al Dominguez	Male	DENR-NWRB	Government
Jesusa Roque	Female	DENR-NWRB	Government
Carmelita Passe	Female	DENR-EMB	Government
Angelita Meniado	Female	DENR-BMB	Government
Rachel Abenir	Female	DENR-BMB	Government
Rachelle Abuel	Female	DENR-BMB	Government
Nery Alba	Female	DENR-ERDB	Government
Michelle Mendoza	Female	DENR-MGB	Government
Emma Castillo	Female	DENR-FMB	Government
Marita Sarmiento	Female	DENR-NAMRIA	Government
Paulina Bernabe	Female	DENR-NAMRIA	Government
Pinky de Chavez	Female	DENR-NAMRIA	Government
Rochelle Lucero	Female	DENR-RBCO	Government
Lourdes Ferrer	Female	DENR-PPS	Government
Wilson Henson	Male	DENR-PPS	Government
Ermelita Mendoza	Female	DENR-Land Management Bureau (LMB)	Government
Nora Diaz	Female	HLURB	Government
Digna Pacis	Female	DENR	Government
Imelda Matubis	Female	DENR-CCS	Government
Araceli Oredina	Female	DENR-CCS	Government
Maybelle Mangubos	Female	DENR-FMS	Government
Francisco Morito	Male	DFAT	DP
Maria Zita Toribio	Female	USAID B+Wiser	DP
Ancha Srinivasan	Male	ADB	DP
Imee Manal	Female	UNDP	DP
Klaus Schmitt	Male	GIZ	DP
Bjoern Surborg	Male	GIZ	DP
Jose Andres Canivel	Male	PTFCF	DP
Jim Hancock	Male	FAO	DP
Erika Inoue	Female	JICA	DP
Kessy Reyes	Male	JICA	DP
Gerry Parco	Male	WB	DP
Carol Figueroa-Geron	Female	WB	DP
Maurice Rawlins	Male	WB	DP
Doug Forno	Male	WB	DP
Jella Roxas	Female	WB	DP
Elisea Gozun	Female	WB	DP
Mary Joy de Leon	Female	DBM	Government

Maria Cecilla Socorro Abogado	Female	DBM	Government
Vilma Gorospe	Female	DBM	Government
Kat Capiroso-Coballes	Female	NEDA	Government
Roald Ray Taperla	Male	NEDA	Government
Guia Theresa Eguia	Female	NEDA	Government
Thelma Vecina	Female	DILG-LGA	Government
Kristine Villarina	Female	NEDA	Government
Resi Marinas	Female	CCC	Government
Kristina Delfin	Female	DILG-LGA	Government
Kelvin Mendoza	Male	DILG-LGA	Government
Sally Jumalon	Female	DILG-LGA	Government
Thelma Cinco	Female	DOST-PAGASA	Government
Joseph Basconcillo	Male	DOST-PAGASA	Government
Edna Maguigad	Female	DENR-FASPS (RRSP Unit)	Government
Yesmeen Frani	Female	DENR-FASPS (RRSP Unit)	Government
Agnes Manahan	Female	DENR-FASPS (RRSP Unit)	Government
September 04-08, 2017 Consultation Workshop with Sarangani Province of Region 12			
Eddie Abugan	Male	DENR-FASPS	Government
Eda Soriano	Female	DENR-FASPS	Government
Edna Maguigad	Female	DENR-FASPS (RRSP Unit)	Government
Mel Matubis	Female	DENR-CCS	Government
Rolando Tubales	Male	Provincial Environment Office	Government
Lorna Tadiaman	Female	Provincial Environment Office	Government
Joji Lasalita	Female	Provincial Planning Office	Government
Jonathan Duhaylungsod	Male	Provincial Agriculture Office	Government
Quirino Dimamay	Male	Provincial Agriculture Office	Government
Antonio Acharon	Male	Provincial DRR Office	Government
Benjamin Alangca	Male	DENR Region 12	Government
Mama Samaon	Male	DENR Provincial Environment Office	Government
Ma. Karen Cariga	Female	DENR Provincial Environment Office	Government
Calil Bantuas	Male	DENR Community Environment Office	Government
Maria Elvira Lumayag	Female	DENR-Community Environment Office	Government
Thelma Cinco	Female	PAGASA	Government
Edna Juanillo	Female	PAGASA	Government
Bema Tajones	Female	PAGASA Region 5	Government
Matthew Velasco	Male	DPWH	Government
Jaime Namocatcat	Male	Mindanao State University	Academe
Gerry Parco	Male	WB	DP
Jella Villanueva	Female	WB	DP
September 11-14, 2017 Consultation Workshop with Sorsogon Province of Region 5			
Maribeth Fruto	Female	Provincial Government of Sorsogon	Government
Riza Daymon	Female	Provincial Government of Sorsogon	Government
Cynthia Pilapil	Female	Provincial Government of Sorsogon	Government
Monina De Jesus	Female	Provincial Government of Sorsogon	Government
Gines Deniega	Male	Provincial Government of Sorsogon	Government
Milagros Lacson	Female	Provincial Government of Sorsogon	Government
Ronnel Sopsop	Male	DENR Sorsogon	Government
Ma Fe Reganit	Female	DENR Sorsogon	Government
Judy Doma	Female	DENR Sorsogon	Government
Estrelita Encinares	Female	DENR Sorsogon	Government
Shirley Bolaños	Female	Coastal Core, Inc.	CSO-NGO

Mervin Murillo	Male	DENR	Government
Yole Palmiano	Female	NEDA Region 5	Government
Felisa Dondonilla	Female	Provincial Government of Sorsogon	Government
Jubemay Mangalino	Female	NEDA Region 5	Government
Elvy Gualvez	Female	Municipality of Juban	Government
Ariane Atole	Female	Municipality of Irosin	Government
Vicente Repolles	Male	DPWH Region 5	Government
Matthew Velasco	Male	DPWH	Government
Edna Juanillo	Female	DOST-PAGASA	Government
Thelma Cinco	Female	DOST-PAGASA	Government
Corazon Ditarro	Female	DA	Government
Armylene Posada	Female	DA	Government
Judi Anne Felipe	Female	DA	Government
Ranie Desabayla	Male	Municipality of Juban	Government
Pobleo Florece	Male	USAID B+Wiser	DP
Eda Soriano	Female	DENR-FASPS	Government
Yesmeen Frani	Female	DENR-FASPS (RRSP Unit)	Government
Agnes Manahan	Female	DENR-FASPS (RRSP Unit)	Government
October 18-25, 2017 GoP and PPCR Final Joint Mission for RRSP Preparatory Phase			
Analiza Rebuelta-Teh	Female	DENR	Government
Corazon Davis	Female	DENR	Government
Edwin Domingo	Male	DENR-FASPS	Government
Eddie Abugan	Male	DENR-FASPS	Government
Eda Soriano	Female	DENR-FASPS	Government
Mercedita Sombilla	Female	NEDA-ANRES	Government
William Sese	Male	NEDA-RDS	Government
Diane Llanto	Female	NEDA	Government
Nikka Mae Loreto	Female	NEDA-Public Investment Staff	Government
Jessica Mandi	Female	NEDA-Infrastructure Staff	Government
Laura Pascua	Female	DBM	Government
Nelgie Ann Belesario	Female	DENR	
Virginia Medrano	Female	DBM	Government
Ma. Cecilia Abogado	Female	DBM	Government
Dianne Sulleza	Female	DOF	Government
Donalyn Minimo	Female	DOF	Government
Alejandro Soliven	Male	DPWH	Government
Jenifer Galorport	Female	DILG	Government
Sealtiel Patiño	Female	CCC	Government
Riza Daymon	Female	Province of Sorsogon- Planning Office	Government
Joji Lasalita	Female	Province of Sordogon-Planning Office	Government
Efren Carreon	Male	Regional Development Council (NEDA Region 7)	Government
Agnes Tolentino	Female	Regional Development Council (NEDA Region 5)	Government
Meylene Rosales	Female	Regional Development Council (NEDA Region 8)	Government
Samuel Malayao	Male	DENR Region 13	Government
Nestor Canda	Male	DENR Region 7	Government
Roberto Sheen	Male	DENR Region 5	Government
Eugenia Bautista	Female	DENR Region 8	Government
Maria Angela Garcia	Female	League of Municipalities	Government
Vicente Cuazon	Male	League of Municipalities	Government
Angelica Sanchez	Female	League of Provinces	Government

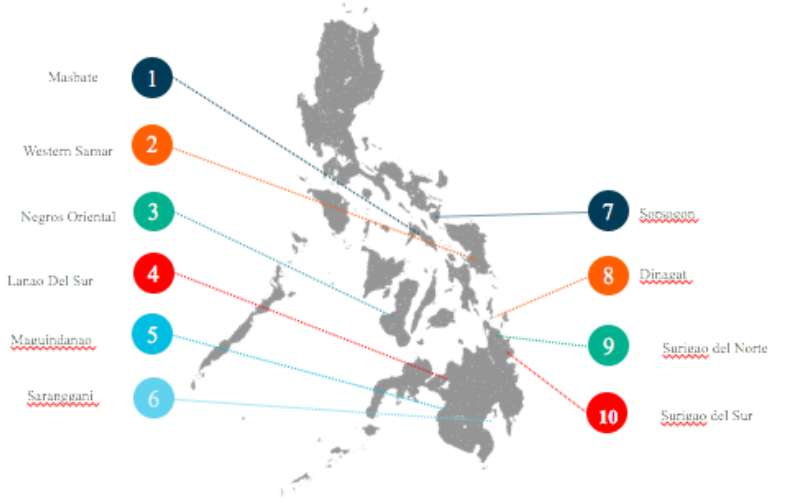
Maurice Rawlins	Male	WB	DP
Gerry Parco	Male	WB	DP
Carol Figueroa	Female	WB	DP
Jella Roxas	Female	WB	DP
Valerie Pacardo	Female	ADB	DP
Maria Lynn Melosantos	Female	PHIVOLCS-DOST	Government
Maria Corazon Japson	Female	DOTr	Government
Mary Cris Utod	Female	DPWH	Government
Kira Gutierrez	Female	DOF	Government
Consolacion Crisostomo	Female	DENR-EMB	Government
Carlos Magnayae	Male	DA	Government
Judi Anne Felipe	Female	DA	Government
Angelica Natividad	Female	DOF	Government
Dianne Solleza	Female	DOF	Government
Mary Jane Alvarez	Female	NEDA	Government
Kristine Villarino	Female	NEDA	Government
Jimmy Benavenle	Male	DBM	Government
Maria Cecilia Socorro Abogado	Female	DBM	Government
Kathleen Anne Coballes	Female	NEDA-ANRES	Government
Marcelino Villafuerte	Male	DOST-PAGASA	Government
Carlos Bernardo Abad Santos	Male	NEDA	Government
Rosemarie Del Rosario	Female	DPWH	Government
Dolores Hipolito	Female	DPWH	Government
Leonora Galar	Female	DPWH	Government
Mikka Angelique Padilla	Female	DPWH	Government
Crissa Rica Espiritu	Female	DPWH	Government
Ara Salcedo	Female	DPWH	Government

Appendix 3.2 Summary of Regional Consultations

Background

Implementation of the RRSP is designed as a "learn-through -doing" approach both at the level of the implementers (LGUs and NGAs) and at the national level. The period for the first phase for RRSP, 2019-2022 aligns with the national planning process of the country (PDP), and is strategic for ensuring the results of the RRSP can contribute to the Philippine Development Plan 2017-2022. To facilitate this learning process and to accelerate the scaling-up of a portfolio of subprojects, it is proposed that in the first phase, a particular focus be given to a limited and representative number of highly vulnerable provinces. Subsequently, within the province, implementation will also focus to the most vulnerable areas and investments needed to reduce vulnerability and increase climate resiliency in these areas.

The RRSP proposes 10 priority provinces for 2019-2022 selected using three criteria: presence of single or multiple hazards; 2015 high to very high poverty incidence; and convergence area of at least two government agencies. The climate hazards included in the criteria are regional winds (25 year and 100 year return period), flooding, drought, rain-induced landslide, coastal flooding and storm surge. Five of the these provinces, namely Negros Oriental, Western Samar, Sarangani, Maguindanao and Lanao del Sur, were selected due to very high climate risks, poverty incidence, and priority DENR and DA programs in these provinces. Three provinces – Surigao del Norte, Surigao del Sur and Dinagat, were selected by DENR because these are critical watersheds affected by mining operations and as such may potentially exacerbate the impacts of climate risks and poverty incidence. Eleven government agencies have also committed to provide special assistance to these provinces. Two provinces in the Region 5 Bicol region – Masbate and Sorsogon – are also found to be highly susceptible to climate risks and have high poverty incidence, but are not priority provinces of DENR and DA. However, the TWG recommended inclusion of these provinces to demonstrate new convergence areas for planning, budgeting and monitoring. Below is an illustration of the 10 RRSP priority provinces:



After the prioritization of 10 provinces were confirmed by the TWG, the next step was the consultation meetings with the 6 Regional Development Councils covering the 10 prioritized provinces: Region 5 (Masbate and Sorsogon), Region 7 (Negros Oriental), CARAGA (Surigao Del Norte, Surigao Del Sur, Dinagat) Region 8 (Samar) Region 12/ Soccsksargen (Saranggani) and Autonomous Region of Muslim Mindanao, ARMM (Maguindanao and Lanao del Sur) and the provincial consultation workshops.

The first RDC meeting and provincial consultation workshop were held in the Negros Island Region in March 2017 as part of the Roll-out Plan Preparation Technical Mission but did not include the identification of potential investments. Negros Island Region was dissolved by Executive Order No. 38 (August 7, 2017) and reverted back the Province of Negros Oriental to Central Visayas, Region 7. A meeting with RDC 7 will be scheduled in 2018 same with RDCs of Region 12 and ARMM. Consultations in Mindanao except that for Sarangani, were deferred due to the armed conflict in Marawi and imposition of martial law. These consultations are targeted to happen by next year, 2018.

Eightprovincial consultation workshops on Identifying Key Risks and Potential Resilience Investment were completed and a second consultation or "deep dive" were undertaken with 2 provinces – Sorsogon and Sarangani. The purpose of the deep dive is to enhance the analysis of climate change impacts and as well as the process of identifying adaptation investments, including costing and quantifying its benefits. This is based on the assumption that there will be more data available to support the process and stakeholders will have the opportunity to discuss directly with sectoral experts during the workshop.

To date, the following are the completed regional and provincial consultations in 2017:

Date and Venue	**Activity and Participants**
March 13, 2017 DENR NIR Office, Bacolod City	**Meeting with Select Members of the NIR RDC: NEDA, DILG, DBM & DA** Discussion on the RRSP and various aspects of the roll-out plan; Solicited views and experiences on convergence planning, budgeting, and monitoring at the regional level.
March 14, 2017 PENRO Dumaguete City	**Consultation meeting with Provincial Stakeholders on RRSP Roll out Plan** DENR Neg. Oriental PENRO & CENRO Negros Or. Provincial Governor, PPDO, Budget Officer, Provincial Agriculture PAMB Tañon Strait & PMB Twin Lakes; Siliman University; PENAGMANNAKI (NGO)
April 26, 2017 DENR CARAGA Regional Office	**Meeting with RDC members: NEDA, DBM, DA,DILG, DENR; Surigao Chamber of Commerce** Discussion on convergence planning and budgeting at the local level, inputs on the implementation arrangements of the RRSP and existing climate resilient PAPS and the Regional Development Investment Plan
July 25, 2017 DENR Regional Office, Tacloban City	**Meeting with RDC members: NEDA, DENR, DA, DPWH, DILG, CSO/ Private Sector** Discussion on convergence planning and budgeting at the local level, inputs on the implementation arrangements of the RRSP and existing climate resilient PAPS and the Regional Development Investment Plan
July 31, 2017 DENR Regional Office, Legazpi City	Meeting with RDC members DA, DBM, DENR, DILG, DPWH, HLURB and NEDA Discussion on convergence planning and budgeting at the local level, inputs on the implementation arrangements of the RRSP and existing climate resilient PAPS and the Regional Development Investment Plan
April 27-29, 2017 Surigao City	**Provincial consultation workshops on Identifying Key Risks and Potential Resilience Investment for Surigao Del Norte, Surigao Del Sur and Dinagat** LGU: Provincial Environment and Natural Resource, Provincial Planning and Development Office, Provincial Budget Office, Provincial Agriculturist , Provincial Engineers Office, Provincial Disaster Risk Reduction and

	Management Officer; DENR: Regional Office, PENRO and CENRO office (Planning); CSOs, State Universities and Research institutions, Regional PAGASA
July 26-28, 2017 , Cebu City	**Provincial consultation workshops on Identifying Key Risks and Potential Resilience Investment for Negros Occidental and Samar** LGUs: Provincial Environment and Natural Resource, Planning and Development Office, Budget Office , Agriculture Office , Engineers Office Disaster Risk Reduction and Management Officer; DENR Regional Technical Officers; PENRO and CENRO office (Planning); CSOs, State Universities and Research institutions, Local Water Districts TWG agencies as experts: PAGASA and DPWH
August 1-3, 2017 Legazpi City	**Provincial Workshop on Identifying Key Risks and Potential Resilience Investment for Sorsogon and Masbate** LGUs: Provincial Environment and Natural Resource, Planning and Development Office, Budget Office , Agriculture Office , Engineers Office Disaster Risk Reduction and Management Officer; DENR Regional Technical Officers; PENRO and CENRO office (Planning); CSOs, State Universities and Research institutions, Regional NEDA and DPWH TWG national agencies as experts: PAGASA and DPWH
September 4-8, 2017 Davao City	**Provincial Workshop on Identifying Key Risks and Potential Resilience Investment for Saranggani** LGUs: Provincial Environment and Natural Resource, Planning and Development Office, Budget Office , Agriculture Office , Engineers Office Disaster Risk Reduction and Management Officer, Indigenous Peoples' Mandatory Representative; DENR Regional Technical Officers; PENRO and CENRO office (Planning); State Universities and Research institutions, CSOs Regional PAGASA National agencies as experts (TWG Members): PAGASA and DPWH
September 12-15, 2017 Legazpi City	**Sorsogon Deepening Workshop** Provincial LGUs: Provincial Environment and Natural Resource, Planning and Development Office, Budget Office , Agriculture Office , Engineers Office Disaster Risk Reduction and Management Officer; DENR Regional Technical Officers; Municipal LGUs Planning Offices of Juban and Irosin PENRO and CENRO office (Planning); CSOs, State Universities and Research institutions, local experts; Regional NEDA, DA and DPWH; National agencies as experts (TWG members) : PAGASA, DA and DPWH

Objectives

The series of regional and provincial consultations in the priority provinces and regions were conducted to ensure that development of the RRSP builds on existing procedures, guidelines and knowledge at the regional and provincial level. The consultations provided the venue to update and consult with regional and local stakeholders on the RRSP development; Discuss ideas and solicit inputs for implementation framework and arrangement; and determine potential resilience investments to address major climate risks based on rapid appraisal economic assessment.

Methodology

The regional consultations used focused group discussions while the provincial consultation workshops were a mix of input sessions, workshops, critiquing of experts and plenary discussions. The provinces were required to bring to the workshop the these plans, where available: Provincial Development and Physical Framework Plan; Provincial Disaster Risk Reduction and Management Plan; Provincial

Development Investment Plan; Local Climate Change Action Plan; and Climate and Disaster Risk Assessment.

The provincial workshops on Identifying Key Risks and Potential Resilience Investment has 3 modules:

Module 1: Climate and Non-climate Risks and Consequences. The input session is provided by PAGASA, simplifying basic concepts on climatology and explaining historical tracks of tropical cyclones which crossed the selected province then illustrating observed climate trends in the country in terms of rainfall, temperature, and extreme events. The presentation also provided an overview of how climate projections were modelled, the climate models used, and the downscaling of these projections to the provincial level. PAGASA explains how to utilize the Climate Risk Matrix (CLIRAM) and plot the potential impacts of the changes in rainfall and temperature to the provinces and the potential adaptation options these provinces may take. These input is followed by 3 workshops on: 1. *Identification of current key climate risks and impacts; 2. Identification of potential impacts and adaptation options from project change changes and 3. Mapping provincial climate hazards, adaptation programs and projects*. Each province accomplished three tasks. First, the participants identified climate hazards in their respective province, the frequency of such hazard, the affected areas, corresponding impacts, and the adaptation plans, programs, and activities (PPAs) that the province has implemented in response to such hazards. Second, the participants filled out a CLIRAM for each province, identifying how changes in temperature and rainfall would potentially impact the province and the potential adaptation options to address such impacts. Third, the participants were given a base map of their province, complete with municipal boundaries, river systems, and major road network, and they indicated on the map the key climate hazards, and the adaptation programs and projects of national agencies, local governments, and partners. The results are presented in plenary presentation and local and national experts are invited to provide feedback and inputs.

Module 2: Validation and Prioritization of Key Resilience Investments. National and local experts from government, academe and CSOsshare experiences in local CC adaptation actions. These inputs and guidance are used in the nextworkshop on *Validation of major programs / investments to address the identified impacts.*The results of the workshop are then presented in plenary for comments and enhancement. This is followed by an input session on Approaches to *Assessing Adaptation Pathways for Investments under Climate Uncertainty: Dynamic Adaptive Policy Pathways Approach and 2 workshops on Qualitative assessment of investment options*

Module 3: Implementation Arrangements. In this module, the objective is to get specific proposals and comments on the RRSP proposed implementation arrangements at both the national and local levels. An input session on *the Options for RRSP implementation arrangements* is given followed by a workshop on their proposed local implementation arrangements. In the workshop, participants discuss current implementation arrangement of programs and projects within municipalities & cities, provincial-municipality/city, inter-LGU arrangement, and national government and local government arrangements. Participants are also asked to identify roles of the provincial development councils, regional development councils, and other special multi-sectoral bodies or councils.

Given the progress made in the development of the RRSP, **a deepening exercise** for the provincial climate change impacts and resilience investment portfolios identification linked with planned results was needed. Thus, the second round of provincial consultations followed a "deep dive" design for 3 days, with the following modules:

Module 1: Deepening of the CC Impact Analysis and Resilience Investments-Participants reviewed climate change impacts and adaptation options previously identified, but this time with direct discussion and input from sectoral experts- agriculture, infrastructure, climate, water and forestry. Second is the

review and enhancement the climate change impacts, adaptation options and cost estimates with sectoral experts' advise, then a review and enhancement of the adaptation pathways analysis and investment portfolio. At the end of this module, completed tables are the following: *Table 1: Enhanced current risks and impacts; Table 2: Enhanced Projected CC impacts and adaptation options; Table 3: Enhance classification of local adaptation PAPs and estimated costs; Table 4: Revised assessment and prioritization of investments and Table 5: Enhanced investment portfolio.*

Module 2: Provincial Climate Resiliency Results Framework-This module starts off with an input session on the concept of Results-based strategy formulation. This is followed by five workshops on: 1. Formulating Provincial resilience goal and objective where participants will have identified initial climate resiliency goals and objectives aligned with their LCCAP or CDP and then agree on a set of resilience goals and objectives for their province (*Table 6. Provincial resiliency goals and objectives*); 2. Formulation of outcomes and identification of outcome indicators, where participants will identify the results at the impact and outcome levels. Once the outcomes are identified, the participants will be divided into 2 groups and assigned outcomes to work on. The small group will then identify the indicators for the assigned outcomes. (*Table 7. Impacts, outcomes and associated indicators)*. In workshop 3, the participants in their small group discuss and identify the associated outputs and output indicators to their assigned outcomes,and at the end of this workshop*Table 8. Outputs and output indicators* is completed.

Results of the Consultation

Below are summary of key consultation meetings at the regional and provincial level.

Regional Development Council Consultation Meeting

	RDC Consultation Meetings		
	Region VIII	**Region V**	**CARAGA Region**
	Tacloban City | July 25, 2017	**Legaspi City | July 31, 2017**	**Butuan City I 26 April 2017**
Agenda	**DA, DBM, DENR, NEDA, DPWH and Private Sector/CSO**	**DA, DBM, DENR, DILG, DPWH, HLURB and NEDA**	**DA, DBM, DENR, DILG, NEDA; Surigao Chamber of Commerce**

Site Prioritization	• What are the criteria used for site selection and why is Western Samar included as highly-vulnerable given that all provinces in the island are high-risk areas?
	  ○ The criteria for site selection are: climate risk, poverty, 1) presence of multiple climate hazards, 2) poverty incidence and 3) convergence of programs/priorities of at least two (2) government agencies.
	• It was recommended by RDC to include the whole Samar Island and not just Western Samar and to consider an ecosystem-based approach in site selection because it goes beyond political boundaries
		• What are the criteria used for site selection because Camarines Sur has a higher poverty incidence than Masbate, Although the former is more fragile as it is composed of islets?
		  ○ The criteria for site selection are: climate risk, poverty, 1) presence of multiple climate hazards, 2) poverty incidence and 3) convergence of programs/priorities of at least two (2) government agencies.
		• It was recommended to include DENR-MGB maps as part of the reference documents
			• Criteria for selection discussed and accepted: CARAGA as priority area of DENR as a SIAD area, a multi-agency approach where different agencies coordinate in implementing programs for the selected sites. For CARAGA, 14 agencies collaborate on implementing programs on identified SIAD sites and have committed PhP 3.9 billion for such joint undertaking for 2017.

Implementation Arrangement	• Regional Development Council for policies (as per NEDA); specify the role in planning, budgeting, implementation and M&E	• Regional Monitoring Office for M&E using the Provincial and City/Municipal indicators and for projects to be monitored in terms of physical output and financial	• M and E aspect of the RDP is institutionalized as NEDA has a Regional Project Monitoring and Evaluation Committee under the RDC and takes charge of monitoring

	• Regional Project Monitoring Committee as affiliate committee of RDC for Monitoring and Evaluation • Program Steering Unit in the Regional Offices of DENR for administrative and communication support • RRSP-TWG to provide technical support • Private sectors and civil societies convergence with Regional Office and DENR	status • LGU and PSA convergence for data banking • DND-OCD-NDRRMC inclusion in the National RRSP-TWG	projects that LGUs are implementing. • The committee communicates the findings of the activity to the representatives of the LGU, as well as the funding agency, through an exit conference. The findings are then forwarded to the RDC, which, in turn, can convene the implementing agency, the proponent, and the contractor to determine the best way to resolve any concern regarding the implementation of the project.
Convergence Program	• Yolanda Rehabilitation (RDC-LGU)	• National Convergence Initiative (DA-DENR) • Tourism Infrastructure Program (DOT-DPWH) o Agreement must be established at the secretary level and cascaded to the provincial government; Policy is top-down while planning is bottom-up	Flood control projects, DPWH is a coordinating with PAGASA on flood occurrence and weather forecasting, especially for the case of the Agusan provinces, which are prone to flooding
Climate Resilient PPAs	• Investment priorities on formulating CLUP and PDPFP for LGUs recognizing their difficulty in completing the plans due to lack of manpower and low absorptive capacity	• There is no climate resilient project in the Regional Development Plan as LGUs were not able to recognize and plan projects as climate resilient • HLURB through HLURB Technical Assistance Program assists LGUs in formulating CLUP using the enhanced guidelines • For DPWH, climate resilience standards have been included in the 2017-2022 Performance Governance System. The RDC has pushed for the strict compliance of these standards	NEDA collaborated with DENR and DA on a separate chapter on agriculture and fisheries and this chapter includes programs which incorporated resilience strategy. DA Training of farmers to use weather data from automated weather stations (AWSs) in farm operations and even in marketing; Region was a site for the weather index-based insurance NEDA Regional Office asked if projects (PAPs) would emanate from the municipal level or would come from a menu of investments? How RRSP can be linked to the PSF?

			DENR shared that the region has PhP 405 million under the National Greening Program. Watershed catchment sites in mining areas were used to identify SIAD sites while the Green Economy Models have livelihood and ecotourism components. Climate resilient measures in SIAD sites, such as organic farming protocols, are utilized to rehabilitate degraded sites
Regional Development Investment Plan	• RDIP is currently being formulated, targeted to finish one month after the workshop on August	• RDIP can accommodate projects enrolled in RRSP. This needs to be submitted before the budget call to the NEDA Region V for review and approval	• RDIP to be formulated in June 2017 • Vision on climate resilience, is in the Regional Development Plan. Some LGUs and local communities have started to adaptation programs and reducing vulnerability. These projects have tapped the People's Survival Fund and the NEDA Regional Office is tasked to evaluate these projects from the LGUs.

Consolidated Expectations and Contributions of Participants across Provinces

Expectations				**Contributions**
Participants/ Workshop	**Planning**	**Budgeting**	**Implementation**	
• Know and fully understand RRSP and risk management • Updates on the existing government work on resiliency	• Identify potential climate risks and incorporate in planning PPAs • Better planning to incorporate Climate Resilience	• Fund source for infrastructure and livelihood projects	• Role of Province, LGUs, and Institutions • Clear implementation guidelines • Benefits of the program to the Province and LGU	• Active participation in the workshop • Knowledge and technical expertise • Provision of documents - NEG, PDPFP (2014-

• Lively and active participation • Clear and doable output during workshops • Commitment from stakeholders	• Community-based initiated projects • Development of priority risk resilient and sustainable program • Resilient Infrastructure • Use of shapefiles from PAGASA • Clear Operational Framework • FY2018 PAPs aligned to RRSP			2019,DRR-CAA enhanced) • RDE Projects • Support the project • Thematic maps • MSU Projects

Table 7.3. Presence of Climate Hazard per Province

Climate Hazard	Masbate	Negros Oriental	Samar	Sarangani	Sorsogon	Surigao DS	Surigao DN	Dinagat
Drought	present	present		present				present
Flash flood		present						
Flooding	present	present		present	present	present	Present	
Rain-induced Landslide		present		present	present	present		present
Storm Surge	present	present			present	present		
Strong winds due to typhoon	present							Present
Typhoon					present			present

Projected Changes in Seasonal Rainfall and Temperature in the Mid-21st Century (2036-2065) for different Provinces relative to 1971-2000

Projected changes in seasonal rainfall in the mid-21st Century (2036-2065) for **Masbate** relative to 1971-2000

Season	Scenario	Range	Projected Change		Projected seasonal rainfall amount (mm)	Information about patterns of change	Potential impacts	Adaptation option
			Percent (%)	Rainfall amount (mm)				
December-January-February (DJF) Observed baseline = 510 mm	Moderate Emission (RCP 4.5)	Lower Bound	-39.7	-202.4	307.8	drought	increase in dengue, diarrhea, and other water-borne diseases	riverbank stabilization/ protection
		Median	7.5	38.1	548.3	minimal		
		Upper Bound	18	91.6	601.8	flooding	scarcity of basic food	backyard gardening
	High Emission (RCP 8.5)	Lower Bound	-7.5	-38.2	472	drought	grassland fire	drought assistance varieties
		Median	4.3	22.2	532.4	minimal		
		Upper Bound	23.5	119.7	629.9	flooding	water contamination/ damage to aqua livelihood	sea wall and riverbank stabilization
March-April-May (MAM)	Moderate Emission (RCP 4.5)	Lower Bound	-41	-102.9	147.8	significant reduction (drastic)	continuous decrease in water supply; scarcity of food/agri products; grassland fire; damage to plantation; wilting of dieback causing death/ mortality of established tree plantations	backyard farming; increase supply of water from irrigation system; small water impounding projects
		Median	6.4	16.1	266.8	minimal increase (no impact)		strict implementation of regulation covering FLGMA

		Upper Bound	15.7	39.4	290.1	slight increase will not cause flooding		introduce tree species which are drought resistant
Observed baseline = 251 mm	High Emission (RCP 8.5)	Lower Bound	-26.3	-65.9	184.8	slight reduction	continuous decrease in water for domestic use and livestock	
		Median	7.1	17.7	268.4	minimal increase (no impact)		
		Upper Bound	17.1	43	293.7	slight increase		
June-July-August (JJA) Observed baseline =569 mm	Moderate Emission (RCP 4.5)	Lower Bound	-53.5	-304.8	264.6	Drought	scarcity of basic commodities; out migration; decrease income; effects on health	urban gardening; distribution of resistant variety; distribution of water pump
		Median	-14.4	-82.1	487.3	Less amount of rainfall	low productivity in agriculture	distribution of resistant varieties
		Upper Bound	-4.5	-25.8	543.6	Minimal change	less damage	
	High Emission (RCP 8.5)	Lower Bound	-26.1	-148.4	421	Minimal change	less damage	
		Median	-8	-45.8	523.6	Minimal change	less damage	
		Upper Bound	6.3	35.8	605.2	flooding	water-borne diseases; water contamination; damage to aquaculture and livelihood	
September-October-November (SON) Observed baseline = 739 mm	Moderate Emission (RCP 4.5)	Lower Bound	-47.2	-348.9	390.4	drastic decrease in rainfall	low productivity of crops, livestock, and fisheries; shortage of food; effect on health; occurrence of major pest or infestation	establishment of SWIP, SFR, and installation of STW; adopt drought-resistant varieties for crops; adopt new cropping pattern; conduct and intensify research and development activities

		Median	-6.4	-47.4	691.9	minimal decrease		
		Upper Bound	1.5	10.7	750	minimal increase		
	High Emission (RCP 8.5)	Lower Bound	-18.6	-137.4	601.9	minimal decrease		
		Median	-5.1	-37.8	701.5	minimal decrease		
		Upper Bound	11.4	84.5	823.8	minimal increase		

Projected changes in seasonal temperature in the mid-21st Century (2036-2065) for **Masbate** relative to 1971-2000

Season	**Scenario**	**Range**	**Projected Change**		**Potential impacts**	**Adaptation option**
			Change in °C	**Projected seasonal mean temperature (°C)**		
December-January-February (DJF) Observed baseline = 26.6 °C	Moderate Emission (RCP 4.5)	Lower Bound	1.0	27.6	Health problems due to high temperature/ water contamination; scarcity of goods; fire/ damage to plantation; coastal habitat will be greatly affected	Stabilization/ protection of river banks; backyard gardening; water pump; drought assistance from government and outside sources
		Median	1.2	27.8		
		Upper Bound	1.6	28.2		
	High Emission (RCP 8.5)	Lower Bound	1.2	27.8		
		Median	1.6	28.2		
		Upper Bound	1.8	28.4		
March-April-May (MAM)	Moderate Emission (RCP 4.5)	Lower Bound	1.0	29.4	continuous decrease in (1) water for domestic use, (2) food production, (3) more occurrence of grassland	(1) increase carbon stocks in watershed areas for water production, (2) production (increase) of
		Median	1.2	29.6		

Observed baseline = 28.4 °C		Upper Bound	1.6	30	fire due to extreme hot weather, (4) survival rate (mortality) of planted seedlings, also cause stunted growth of plantations	drought resistant food crops, trees (indigenous), (3) intercropping; (4) small water impounding; (5) policy review of pasture lands, (6) beach and mangrove rehabilitation
	High Emission (RCP 8.5)	Lower Bound	1.3	29.7		
		Median	1.6	30		
		Upper Bound	1.9	30.3		
June-July-August (JJA)	Moderate Emission (RCP 4.5)	Lower Bound	1.0	29.6	low productivity in agriculture; decrease in income; scarcity of basic commodities	urban gardening; conduct Climate Field School
		Median	1.2	29.8		
		Upper Bound	1.7	30.3		
Observed baseline = 28.6 °C	High Emission (RCP 8.5)	Lower Bound	1.3	29.9	low productivity in agriculture; decrease in income; red tide; increase in out migration	urban gardening; conduct Climate Field School
		Median	1.5	30.1		
		Upper Bound	2.1	30.7		
September-October-November (SON) Observed baseline = 28 °C	Moderate Emission (RCP 4.5)	Lower Bound	1.0	29	effect on health, effect on agriculture and fisheries	information campaign/ awareness; adopt drought resistance varieties; risk and vulnerability assessment at the municipal level; small water impounding;
		Median	1.1	29.1		
		Upper Bound	1.7	29.7		
	High Emission (RCP 8.5)	Lower Bound	1.3	29.3	effect on health, effect on agriculture and fisheries	information campaign/ awareness; adopt drought resistance varieties
		Median	1.4	29.4		
		Upper Bound	2.1	30.1		

Projected changes in seasonal rainfall in the mid-21st Century (2036-2065) for Negros Oriental relative to 1971-2000

Season	Scenario	Range*	Projected Change		Projected Seasonal Rainfall Amount (mm)	Information About the Patterns of Change	Potential Impacts	Adaptation Option
			Percent (%)	Rainfall amount (mm)				
December-January-February (DJF) Observed baseline = 226 mm	Moderate Emission (RCP4.5)	Lower Bound	-52.9	-119.4	106.4	~rainfall reduction of more than 50%	~the decrease can severely affect some sectors of the community (e.g. agriculture and forestry)	~Agriculture (stabilize irrigation canals, SWIP, drip irrigation, soil and water conservation measures, organic farming method, community climate field school, crop insurance, rain water harvesting, provision of alternative livelihood, crop diversification); ~Forestry (eNGP, forest protection, biodiversity conservation education)
		Median	-3.2	-7.3	218.5	~minimal change	~minimal impact	
		Upper Bound	11.9	26.8	252.6	~minimal increase	~minimal impact	
	High Emission (RCP8.5)	Lower Bound	-32.6	-73.7	152.1	~highest possibile future rainfall change during NE monsoon or Amihan reduced to 30%	~decrease of yield production	~protection of watershed/sources
		Median	-0.4	-1.0	224.8	~minimal change	~minimal impact	
		Upper Bound	13.5	30.4	256.2	~minimal change	~minimal impact	

March-April-May (MAM) Observed baseline = 226 mm	Moderate Emission (RCP4.5)	Lower Bound	-45.1	-101.9	124.1	~reduction by 45%	~occurrence of forest fire; ~scarcity of water supply in upland areas	~occurrence of forest fires (eNGP [establishment of fire lines, Bantay Lasang or forest guards], Adopt-a-forest project [community-based], assisted natural forest regeneration); ~security of water supply (IWRM, FFS/CCFS, water recycling, rainwater harvesting)
		Median	-5.5	-12.3	213.7	~minimal change		
		Upper Bound	8.4	19.1	245.1	~minimal change		
	High Emission (RCP8.5)	Lower Bound	-41.8	-94.4	131.6	~reduction by 41%	~low agricultural production	~provision of alternative livelihood
		Median	-7.0	-15.8	210.2	~minimal change		
		Upper Bound	7.3	16.5	242.5	~minimal change		
June-July-August (JJA) Observed baseline = 640 mm	Moderate Emission (RCP4.5)	Lower Bound	-52.0	-332.3	307.2	~reduction by 52%	~agriculture sector mostly affected; ~less rain during the start of rainy season	~massive reforestation; ~SWIP; ~drip irrigation
		Median	-14.6	-93.4	546.1	~minimal change		
		Upper Bound	2.6	16.8	656.3	~minimal change		
	High Emission (RCP8.5)	Lower Bound	-26.2	-167.7	471.8	~reduction by 26%	~decrease in water supply reduced food production	~change of cropping pattern; ~propagation and dispersal of native variety of more climate-resilient crops and animals
		Median	-7.6	-48.4	591.1	~minimal change		
		Upper Bound	6.3	40.0	679.5	~minimal change		

September-October-November (SON) Observed baseline = 637 mm	Moderate Emission (RCP4.5)	Lower Bound	-52.6	-334.8	302.1	~rainfall reduction of more than 50%	~low crop yield/abnormal production	~Agriculture (stabilize irrigation canals, SWIP, drip irrigation, soil and water conservation measures, organic farming method, community climate field school, crop insurance, rain water harvesting, provision of alternative livelihood, crop diversification); ~Forestry (eNGP, forest protection, biodiversity conservation education)
		Median	-14.1	-90.1	546.8	~minimal change	~insignificant impact	
		Upper Bound	-9.9	-63.3	573.6	~minimal change	~insignificant impact	
	High Emission (RCP8.5)	Lower Bound	-31.1	-198.3	438.6	~reduction by 31%	~drought	~Agriculture (stabilize irrigation canals, SWIP, drip irrigation, soil and water conservation measures, organic farming method, community climate field school, crop insurance, rain water harvesting, provision of alternative livelihood, crop diversification); ~Forestry (eNGP, forest protection, biodiversity conservation education)
		Median	-17.2	-109.7	527.2	~minimal change		
		Upper Bound	-0.1	-0.7	636.2	~minimal change		

* upper: 90th percentile; median: 50th percentile; lower: 10th percentile

Projected changes in seasonal rainfall in the mid-21st Century (2036-2065) for **Samar** relative to 1971-2000

Season	Scenario	Range*	Projected Change		Projected Seasonal Rainfall Amount (mm)	Information About the Patterns of Change	Potential Impacts	Adaptation Option
			Percent (%)	Rainfall amount (mm)				
December-January-February (DJF) Observed baseline = 889.5 mm	Moderate Emission (RCP4.5)	Lower Bound	-42.2	-375.1	514.4	~40% reduction of rainfall	~limited water recharge, and unidentified recharge areas, thus cannot cope with the increase of population; ~watershed rehabilitation project directly affected by shortage of water supply, specifically on survival rate of the plantation; ~low rice production leading to increase in price	~water resource and high risk area mapping; ~ridge to reef approach in the Provincial and Municipal Development Planning and Investment Programming; ~ecosystem based rehabilitation and livelihood program; ~capacity building on climate resilient planning and budgeting for LGUs; ~promote and popularize root crops; ~establishment of small-water impounding projects; ~maping out of recharge areas, and prioritizing these areas for reforestation; ~maximizing rain harvesting (conversion of open pit mined-out areas into man-made lakes)
		Median	-2.5	-22.1	867.4	~minimal reduction to no change		~monitoring of agriculture and infrastructure PAPs
		Upper Bound	14.7	130.4	1019.9	~15% increase of rainfall	~increase in rice production; ~damage to infrastructures	~promote and popularize flood-resilient rice variety and other root crops; ~policy setting in construction of infrastructure projects in accordance to the

								standards presscribed by DPWH
	High Emission (RCP8.5)	Lower Bound	-12.7	-113.1	776.4	~minimal reduction to no change		~monitoring of agriculture and infrastructure PAPs
		Median	2.0	18.0	907.5	~minimal reduction to no change		~monitoring of agriculture and infrastructure PAPs
		Upper Bound	29.4	261.2	1150.7	~30% increase of rainfall	~damage to agricultural assets/products; ~low rice production leading to price increase; ~damage to infrastructure	~promote and popularize flood-resilient rice variety and other root crops; ~policy setting in construction of infrastructure projects in accordance to the standards presscribed by DPWH
March-April-May (MAM) Observed baseline = 437 mm	Moderate Emission (RCP4.5)	Lower Bound	-42.3	-185.0	252.0	~significant reduction of rainfall	~low rice production leading to price increase	~rehabilitation, regulatory in IEC activities must be strictly implemented; ~adoption of water efficient technology; ~IEC on RH; ~ ~promote and popularize root crops; ~establishment of small-water impounding projects
		Median	-2.8	-12.3	424.7	~minimal reduction to no change		~monitoring of agriculture and infrastructure PAPs

		Upper Bound	20.6	89.9	526.9	~insignificant; ~20% increase in rainfall	~damage to agricultural assets/products; ~low rice production leading to price increase; ~damage to infrastructure	~promote and popularize flood-resilient rice variety and other root crops; ~policy setting in construction of infrastructure projects in accordance to the standards presscribed by DPWH
	High Emission (RCP8.5)	Lower Bound	-23.6	-103.1	333.9	~significant reduction of rainfall	~low rice production leading to price increase	~promote and popularize root crops; ~establishment of small-water impounding projects
		Median	-0.4	-1.8	435.2	~no change		~monitoring of agriculture and infrastructure PAPs
		Upper Bound	10.2	44.7	481.7	~insignificant; ~10% increase in rainfall	~damage to agricultural assets/products; ~low rice production leading to price increase; ~damage to infrastructure	~promote and popularize flood-resilient rice variety and other root crops; ~policy setting in construction of infrastructure projects in accordance to the standards presscribed by DPWH
June-July-August (JJA) Observed baseline = 599.8 mm	Moderate Emission (RCP4.5)	Lower Bound	-51.7	-310.1	289.7	~significant reduction of rainfall	~low rice production leading to price increase	~promote and popularize root crops; ~establishment of small-water impounding projects
		Median	-16.8	-100.6	499.2	~16% reduction in rainfall	~low rice production leading to price increase	~promote and popularize root crops; ~establishment of small-water impounding projects
		Upper Bound	3.9	23.4	623.2	~minimal reduction to no change		~monitoring of agriculture and infrastructure PAPs

	High Emission (RCP8.5)	Lower Bound	-25.3	-151.7	448.1	~25% reduction in rainfall	~low rice production leading to price increase	~promote and popularize root crops; ~establishment of small-water impounding projects
		Median	-11.1	-66.7	533.1	~11% reduction in rainfall	~low rice production leading to price increase	~promote and popularize root crops; ~establishment of small-water impounding projects
		Upper Bound	4.3	26.1	625.9	~minimal reduction to no change		~monitoring of agriculture and infrastructure PAPs
September-October-November (SON) Observed baseline = 879.4 mm	Moderate Emission (RCP4.5)	Lower Bound	-54.7	-480.7	398.7	~54% reduction in rainfall	~low rice production leading to price increase	~promote and popularize root crops; ~establishment of small-water impounding projects
		Median	-12.7	-111.8	767.6	~12% reduction in rainfall	~low rice production leading to price increase	~promote and popularize root crops; ~establishment of small-water impounding projects
		Upper Bound	-4.6	-40.4	839.0	~minimal reduction to no change		~monitoring of agriculture and infrastructure PAPs
	High Emission (RCP8.5)	Lower Bound	-27.0	-237.3	642.1	~27% reduction in rainfall	~low rice production leading to price increase	~promote and popularize root crops; ~establishment of small-water impounding projects
		Median	-8.2	-71.8	807.6	~minimal reduction to no change		~monitoring of agriculture and infrastructure PAPs
		Upper Bound	1.2	10.9	890.3	~minimal reduction to no change		~monitoring of agriculture and infrastructure PAPs

					Other Information About the Patterns of Change	~40% reduction of rainfall	Other Adaptation Options	~plant flood resilient varieties
						~limited water recharge and unidentified recharge areas		~NGP Project (bamboo and timber)
						~limited recharge areas, thus cannot cope with the increase of population		~40m no builzone policy enforcement
						~socially and environmentally water impounding system establishment		~flood control (DPWH/LGU)
						~watershed rehabilitation program directly affected by shortage of water supply (specifically on survival rate of plantation)		~drainage system (DPWH/LGU)
								~follow infrastructure standards as prescribed by DPWH
								~water resource and high risk area mapping
								~ridge to reef approach in the provincial and municipal development planning and investment programming
								~ecosystem based rehabilitation and livelihood program
								~capacity building and climate resilient planning and budgeting for LGUs
								~rehabilitation, regulatory, and IEC activities must be strictly implemented

								~adoption of water efficient technology
								~IEC on reproductive health
								~maximize rain harvesting (conversation of open pit abandoned mine to man-made lake)

* upper: 90th percentile; median: 50th percentile; lower: 10th percentile

Projected Changes in Seasonal Rainfall in the Mid-21st Century (2036-2065) for **Sarangani** (Agriculture Sector) relative to 1971-2000

Season	Scenario	Range	Projected Change		Projected Rainfall Amount	Information about the pattern	Potential Impacts	Adaptation Options
			%	Rainfall Amount			Agric	Agric
December-January-February (DJF) Observed baseline = 212 mm	Moderate Emission (RCP4.5)	Lower Bound	-24.9	-52.7	159.3	The driest possible future rainfall change during NE monsoon shows a reduction of 25% that could lead to droughts	-reduced production area for rice and corn due to decreased rainfall.	- use drought resistant varieties plant alternate crops like root crops, watermelon
		Median	-0.3	-0.6	211.4	Minimal to no change	no remarkable impact	-
		Upper Bound	19.8	42.0	254.0	Increase of seasonal RR for about 19.8%	-increased planting area for non-irrigated areas.	
	High Emission (RCP8.5)	Lower Bound	-9.4	-20.0	192.0	reduction of 9%	- no observable impact	
		Median	-2.9	-6.1	205.9	Minimal to no change	-do-	
		Upper Bound	12.6	26.7	238.7		- minimal impact to crops on their vegetative stage - on livestock and cattle, there is continous supply of forage. - on inland fishpond....	-plant early maturing rice variety
March-April-May (MAM) Observed baseline = 213 mm	Moderate Emission (RCP4.5)	Lower Bound	-13.0	-27.8	185.2	reduction of 13%	- harvest season for rice and corn; high incidence of pests and diseases	- rehabilitation of communal irrigation systems (#26)
		Median	-4.5	-9.5	203.5	Minimal to no change	-no impact	
		Upper Bound	15.1	32.2	245.2	Increase of seasonal RR for about 15%	- negative impact on harvest season esp. Rice and corn (lodging)	-post harvest facilities should be kept in good condition; WIBCI;
	High Emission (RCP8.5)	Lower Bound	-17.5	-37.4	175.6	reduction of 17%	- water shortage	- construction of rainwater harvesting facilities; SWIP
		Median	-1.1	-2.4	210.6	Minimal to no change	- no impact	-cloudseeding; plant crops requiring less water e.g. Watermelon, squash, etc.

		Upper Bound	6.7	14.2	227.2		- no impact	
June-July-August (JJA) Observed baseline = 334 mm	Moderate Emission (RCP4.5)	Lower Bound	-22.6	-75.4	258.6	reduction of 22%	- irrigation water shortage; reduction of production area	
		Median	1.5	5.1	339.1	Minimal to no change		
		Upper Bound	29.0	96.7	430.7	The highest possible future rainfall change during the SW Monsoon an increase of 29%. This increase could be detrimental to some sectors of the community, as this season corresponds to the wettest months over the region		
	High Emission (RCP8.5)	Lower Bound	-27.3	-91.3	242.7			
		Median	0.9	2.9	336.9	Minimal to no change		
		Upper Bound	29.6	98.9	432.9	The highest possible future rainfall change during the SW Monsoon an increase of 30%. This increase could be detrimental to some sectors of the community, as this season corresponds to the wettest months over the region		
September-October-November (SON) Observed baseline = 303 mm	Moderate Emission (RCP4.5)	Lower Bound	-31.3	-94.9	208.1	reduction of 31% that could lead to droughts	-for rice and corn, this is suitable time for harvesting	-rehabilitation of communal irrigations systems (#26 existing)
		Median	-10.6	-32.2	270.8	minimal reduction	-conducive for flowering of fruit trees	-establishment of fire breaking using banana or abaca; capacity building on firefighting; procurement of firefighting equipment; construction of watch towers
		Upper Bound	14.1	42.6	345.6	increase by 10%	-no significant impact	
	High Emission	Lower Bound	-26.8	-81.1	221.9	reduction of 31% that could lead to droughts	- reduced water supply for livestock	

	(RCP8.5)						and poultry	
		Median	-3.0	-9.0	294.0	Minimal to no change	- no impact	
		Upper Bound	**5.6**	**16.9**	**319.9**	**minimal increase by 6%**	**- no impact**	

Table 7.4.2 Projected Changes in Seasonal Rainfall in the Mid-21st Century (2036-2065) for Sarangani (Water Sector) relative to 1971-2000

Season	Scenario	Range	Projected Change		Projected Rainfall Amount	Information about the pattern	Potential Impacts	Adaptation Options
			%	Rainfall Amount			Water/Watershed	Water/Watershed
December-January-February (DJF) Observed baseline = 212 mm	Moderate Emission (RCP4.5)	Lower Bound	-24.9	-52.7	159.3	The driest possible future rainfall change during NE monsoon shows a reduction of 25% that could lead to droughts	1. Shortage of Fresh Water 2. Saltwater Intrusion 3. Low survival of plantations 4. Decreased income 5. Potential for Timber Poaching, Kaingin, Charcoal/Fuel wood Gathering	1. Identify and Protect water re-charge areas 2. Installation of Water Impounding Facilities, Rain-water harvesting facilities 3. Intense IEC on the affected areas 4. Monitoring of the most affected areas 5. Foot Patrols and monitoring of the Forested areas/plantations potential to poaching, Kaingin, charcoal/fuelwood gathering 6. Capacity Building of DRRMC and all stakeholders on DRR-CAA/Climate Resiliency, etc. 7. Design and formulate policy to impose the installation of water harvestingdrums in every houses 8. Joint DENR-NWRB-NIA Memorandum to impose NIA and Water Disricts to allocate funds in watershed rehabilitation 9. Encourage participation of Private Sector and IP's in the massive plantation

								establishments
		Median	-0.3	-0.6	211.4	Minimal to no change		
		Upper Bound	19.8	42.0	254.0	Increase of seasonal RR for about 19.8%	1. Beneficial for Recharging of Aquifers and planting/replanting activities	1. Planting/Re-Planting for Forest and Agroforestry Plantations 2. Rainwater Harvesting in Preparation for the Next Season 3. Construct Small Water Impounding System for Barangays Level 4. Construct Large-scale Water impounding system for Municipal Level
	High Emission (RCP8.5)	Lower Bound	-9.4	-20.0	192.0	reduction of 9%	No Significant Impact	1. Monitoring of Drought-Prone areas
		Median	-2.9	-6.1	205.9	Minimal to no change		
		Upper Bound	12.6	26.7	238.7		1. Beneficial for Recharging of Aquifers and planting/replanting activities	1. Planting/Re-Planting for Forest and Agroforestry Plantations 2. Rainwater Harvesting in Preparation for the Next Season 3. Construct Small Water Impounding System for Barangays Level 4. Construct Large-scale Water impounding system for Municipal Level
March-April-May (MAM) Observed baseline = 213 mm	Moderate Emission (RCP4.5)	Lower Bound	-13.0	-27.8	185.2	reduction of 13%	No Significant Impact	1. Monitoring of Drought-Prone areas 2. Financial Support and Alternative Livelihood to the identified affected individuals (Upland farmers/dwellers}
		Median	-4.5	-9.5	203.5	Minimal to no change		
		Upper Bound	15.1	32.2	245.2	Increase of seasonal RR for about 15%	1. Beneficial for Recharging of Aquifers and planting/replanting	1. Planting/Re-Planting for Forest and Agroforestry Plantations

							activities	2. Rainwater Harvesting in Preparation for the Next Season 3. Construct Small Water Impounding System for Barangays Level 4. Construct Large-scale Water impounding system for Municipal Level
	High Emission (RCP8.5)	Lower Bound	-17.5	-37.4	175.6	reduction of 17%	1. Shortage of Fresh Water 2. Saltwater Intrusion 3. Low survival of plantations 4. Decreased income 5. Potential for Timber Poaching, Kaingin, Charcoal/Fuelwood Gathering	1. Identify and Protect water re-charge areas 2. Installation of Water Impounding Facilities, Rain-water harvesting facilities 3. Intense IEC on the affected areas 4. Monitoring of the most affected areas 5. Foot Patrols and monitoring of the Forested areas/plantations potential to poaching, Kaingin, charcoal/fuelwood gathering 6. Emergency Meeting of the Provincial DRRMC and prepare **action plan** 7. Design and formulate policy to impose the installation of water harvestingdrums in every houses
		Median	-1.1	-2.4	210.6	Minimal to no change		
		Upper Bound	6.7	14.2	227.2		No Significant Impact	1. Planting/Re-Planting for Forest and Agroforestry Plantations 2. Rainwater Harvesting in Preparation for the Next Season 3. Construct Small Water Impounding System for

								Barangays Level 4. Construct Large-scale Water impounding system for Municipal Level
June-July-August (JJA) Observed baseline = 334 mm	Moderate Emission (RCP4.5)	Lower Bound	-22.6	-75.4	258.6	reduction of 22%	1. Shortage of Fresh Water 2. Saltwater Intrusion 3. Low survival of plantations 4. Decreased income 5. Potential for Timber Poaching, Kaingin, Charcoal/Fuelwood Gathering	1. Identify and Protect water re-charge areas 2. Installation of Water Impounding Facilities, Rain-water harvesting facilities 3. Intense IEC on the affected areas 4. Monitoring of the most affected areas 5. Foot Patrols and monitoring of the Forested areas/plantations potential to poaching, Kaingin, charcoal/fuelwood gathering 6. Emergency Meeting of the Provincial DRRMC and prepare **action plan** 7. Design and formulate policy to impose the installation of water harvestingdrums in every houses
		Median	1.5	5.1	339.1	Minimal to no change		
		Upper Bound	29.0	96.7	430.7	The highest possible future rainfall change during the SW Monsoon an increase of 29%. This increase could be detrimental to some sectors of the community, as this season corresponds to the wettest months over the region	1. Beneficial for Recharging of Aquifers and planting/replanting activities 2. Potential for Flooding of some low-lying areas	1. Planting/Re-Planting for Forest and Agroforestry Plantations 2. Rainwater Harvesting in Preparation for the Next Season 3. Construct Small Water Impounding System for Barangays Level 4. Construct Large-scale Water impounding system for Municipal Level 5. Installation of Early

								Warning System along major rivers/creeks and flood prone areas 6. Construction of relocation sites for the affected communities/individuals 7. Intensive planting of bamboo along riparian zones 8. Increase targets for plantations especially areas not covered by NGP and involve the participation of private sector
	High Emission (RCP8.5)	Lower Bound	-27.3	-91.3	242.7		1. Shortage of Fresh Water 2. Saltwater Intrusion 3. Low survival of plantations 4. Decreased income 5. Potential for Timber Poaching, Kaingin, Charcoal/Fuelwood Gathering	1. Identify and Protect water re-charge areas 2. Installation of Water Impounding Facilities, Rain-water harvesting facilities 3. Intense IEC on the affected areas 4. Monitoring of the most affected areas 5. Foot Patrols and monitoring of the Forested areas/plantations potential to poaching, Kaingin, charcoal/fuelwood gathering 6. Emergency Meeting of the Provincial DRRMC and prepare **action plan** 7. Design and formulate policy to impose the installation of water harvestingdrums in every houses
		Median	0.9	2.9	336.9	Minimal to no change		
		Upper Bound	29.6	98.9	432.9	The highest possible future rainfall change during the SW Monsoon an increase of 30%. This	1. Beneficial for Recharging of Aquifers and planting/replanting activities	1. Planting/Re-Planting for Forest and Agroforestry Plantations 2. Rainwater Harvesting in

						increase could be detrimental to some sectors of the community, as this season corresponds to the wettest months over the region		Preparation for the Next Season 3. Construct Small Water Impounding System for Barangays Level 4. Construct Large-scale Water impounding system for Municipal Level 5. Installation of Early Warning System along major rivers/creeks and flood prone areas 6. Construction of relocation sites for the affected communities/individuals 7. Intensive planting of bamboo along riparian zones 8. Increase targets for plantations especially areas not covered by NGP and involve the participation of private sector
September-October-November (SON) Observed baseline = 303 mm	Moderate Emission (RCP4.5)	Lower Bound	-31.3	-94.9	208.1	reduction of 31% that could lead to droughts	1. Shortage of Fresh Water 2. Saltwater Intrusion 3. Low survival of plantations 4. Decreased income 5. Potential for Timber Poaching, Kaingin, Charcoal/Fuelwood Gathering	1. Identify and Protect water re-charge areas 2. Installation of Water Impounding Facilities, Rain-water harvesting facilities 3. Intense IEC on the affected areas 4. Monitoring of the most affected areas 5. Foot Patrols and monitoring of the Forested areas/plantations potential to poaching, Kaingin, charcoal/fuelwood gathering 6. Emergency Meeting of the Provincial DRRMC and prepare **action plan** 7. Design and formulate

								policy to impose the installation of water harvestingdrums in every houses
		Median	-10.6	-32.2	270.8	minimal reduction		
		Upper Bound	14.1	42.6	345.6	inrease by 10%	No Significant Impact	1. Planting/Re-Planting for Forest and Agroforestry Plantations 2. Rainwater Harvesting in Preparation for the Next Season 3. Construct Small Water Impounding System for Barangays Level 4. Construct Large-scale Water impounding system for Municipal Level
	High Emission (RCP8.5)	Lower Bound	-26.8	-81.1	221.9	reduction of 31% that could lead to droughts	1. Shortage of Fresh Water 2. Saltwater Intrusion 3. Low survival of plantations 4. Decreased income 5. Potential for Timber Poaching, Kaingin, Charcoal/Fuelwood Gathering	1. Identify and Protect water re-charge areas 2. Installation of Water Impounding Facilities, Rain-water harvesting facilities 3. Intense IEC on the affected areas 4. Monitoring of the most affected areas 5. Foot Patrols and monitoring of the Forested areas/plantations potential to poaching, Kaingin, charcoal/fuelwood gathering 6. Emergency Meeting of the Provincial DRRMC and prepare **action plan** 7. Design and formulate policy to impose the installation of water harvestingdrums in every houses
		Median	-3.0	-9.0	294.0	Minimal to no change		

		Upper Bound	5.6	16.9	319.9	minimal increase by 6%	No Significant Impact	1. Planting/Re-Planting for Forest and Agroforestry Plantations 2. Rainwater Harvesting in Preparation for the Next Season 3. Construct Small Water Impounding System for Barangays Level 4. Construct Large-scale Water impounding system for Municipal Level

Table 7.4.3. Projected Changes in Seasonal Rainfall in the Mid-21st Century (2036-2065) for **Sarangani** (Lifeline Services) relative to 1971-2000

Season	**Scenario**	**Range**	**Projected Change**		**Projected Rainfall Amount**	**Information about the pattern**	**Potential Impacts**	**Adaptation Options**
			%	**Rainfall Amount**			**Lifeline Serv.**	**Lifeline Serv.**
December-January-February (DJF) Observed baseline = 212 mm	Moderate Emission (RCP4.5)	Lower Bound	-24.9	-52.7	159.3	The driest possible future rainfall change during NE monsoon shows a reduction of 25% that could lead to droughts	- Water table drawdown	- Rainfall harvesting - Construction of man-made reservoir - Favorable for dewatering of subsoil
		Median	-0.3	-0.6	211.4	Minimal to no change		
		Upper Bound	19.8	42.0	254.0	Increase of seasonal RR for about 19.8%		
	High Emission (RCP8.5)	Lower Bound	-9.4	-20.0	192.0	reduction of 9%	- Water table drawdown	- Rainfall harvesting - Construction of man-made reservoir - Favorable for dewatering of subsoil
		Median	-2.9	-6.1	205.9	Minimal to no change		
		Upper Bound	12.6	26.7	238.7			
March-April-May (MAM) Observed baseline = 213	Moderate Emission (RCP4.5)	Lower Bound	-13.0	-27.8	185.2	reduction of 13%	no impact	
		Median	-4.5	-9.5	203.5	Minimal to no change		
		Upper Bound	15.1	32.2	245.2	Increase of seasonal RR for about 15%		

mm	High Emission (RCP8.5)	Lower Bound	-17.5	-37.4	175.6	reduction of 17%	no impact	
		Median	-1.1	-2.4	210.6	Minimal to no change		
		Upper Bound	6.7	14.2	227.2			
June-July-August (JJA) Observed baseline = 334 mm	Moderate Emission (RCP4.5)	Lower Bound	-22.6	-75.4	258.6	reduction of 22%		- Ample time for maintenance and construction of flood control structures and bridges.
		Median	1.5	5.1	339.1	Minimal to no change		
		Upper Bound	29.0	96.7	430.7	The highest possible future rainfall change during the SW Monsoon an increase of 29%. This increase could be detrimental to some sectors of the community, as this season corresponds to the wettest months over the region	- Scoured shoulder, subbase and base courses - Blocked roadways - Eroded slopes - Washed out gravel roads - Damage in infrastructures (unpassable bridges) - Channel shifting - Occurrence of potholes - Branching of main tributaries - Less working days for construction of infrastructures	- Follow DPWH Design Guidelines, Criteria and Standards and National Structural Code of the Philippines. - Bioengineering practices - Provision of rock fall barriers - Concreting of shoulder - Construction of dikes - Upgrading from earth bridge approaches to riprap - Dredging at the downstream and making use of spoils - Upgrading of gravel roads - Permanent resettlement for affected families - Climate-resilient evacuation centers, hospitals - Implementation of Disaster Preparedness Program - Insurance of government-owned

								buildings - Resources Mapping
	High Emission (RCP8.5)	Lower Bound	-27.3	-91.3	242.7			- Ample time for maintenance and construction of flood control structures and bridges.
		Median	0.9	2.9	336.9	Minimal to no change		
		Upper Bound	29.6	98.9	432.9	The highest possible future rainfall change during the SW Monsoon an increase of 30%. This increase could be detrimental to some sectors of the community, as this season corresponds to the wettest months over the region	- Scoured shoulder, subbase and base courses - Blocked roadways - Eroded slopes - Washed out gravel roads - Damage in infrastructures (unpassable bridges) - Channel shifting - Occurrence of potholes - Branching of main tributaries - Less working days for construction of infrastructures	- Follow DPWH Design Guidelines, Criteria and Standards and National Structural Code of the Philippines. - Bioengineering practices - Provision of rock fall barriers - Concreting of shoulder - Construction of dikes - Upgrading from earth bridge approaches to riprap - Dredging at the downstream and making use of spoils - Upgrading of gravel roads - Permanent resettlement for affected families - Climate-resilient evacuation centers, hospitals - Implementation of Disaster Preparedness Program - Insurance of government-owned buildings - Resources Mapping
September-	Moderate	Lower	-	-94.9	208.1	reduction of 31% that	no impact	

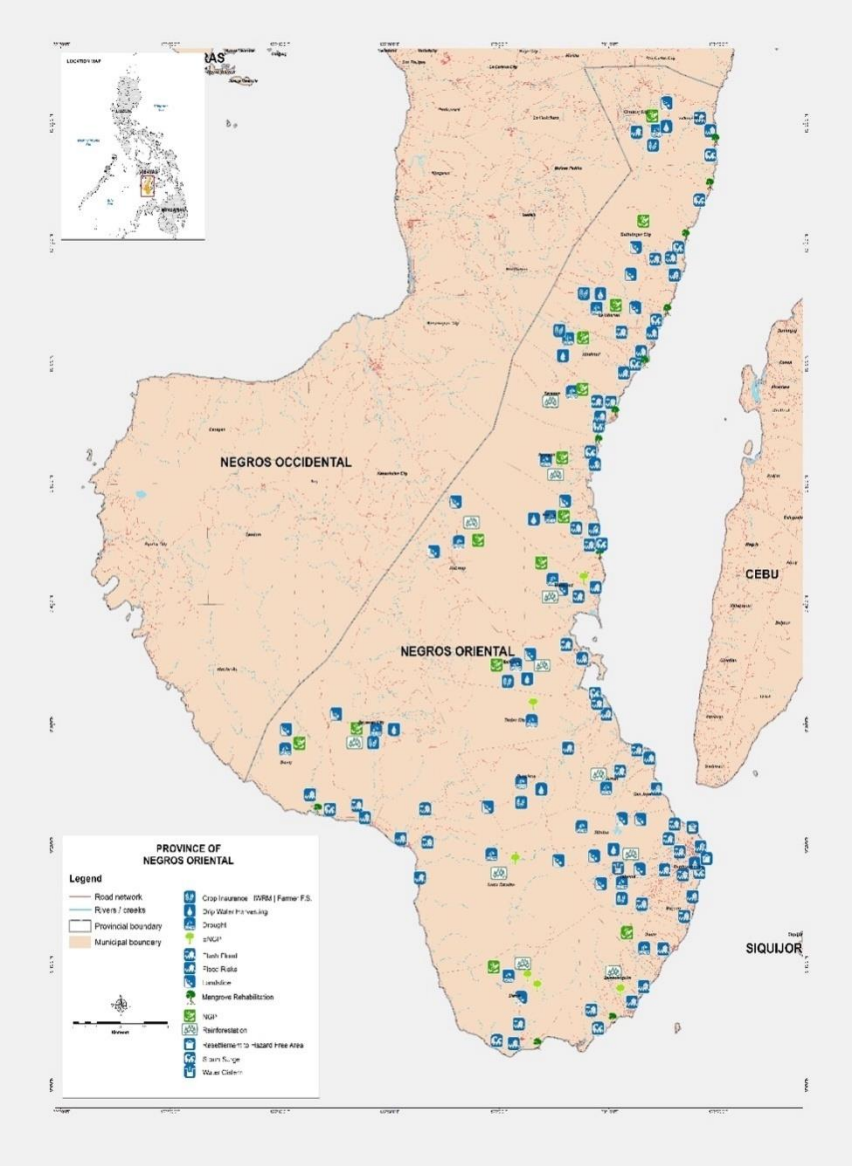
October-November (SON) Observed baseline = 303 mm	Emission (RCP4.5)	Bound	31.3			could lead to droughts		
		Median	-10.6	-32.2	270.8	minimal reduction		
		Upper Bound	14.1	42.6	345.6	increase by 10%		
	High Emission (RCP8.5)	Lower Bound	-26.8	-81.1	221.9	reduction of 31% that could lead to droughts	no impact	
		Median	-3.0	-9.0	294.0	Minimal to no change		
		Upper Bound	5.6	16.9	319.9	minimal increase by 6%		

Table 7.5. Projected Changes in Seasonal Rainfall in the Mid-21st Century (2036-2065) for Sorsogon relative to 1971-2000

Season	Scenario	Range*	Projected Change		Projected Seasonal Rainfall Amount (mm)	Information about patterns of change	Potential Impacts	Adaptation Option
			Percent (%)	Rainfall amount (mm)				
DJF Observed baseline = 958	Moderate Emission (RCP 4.5)	Lower Bound	-39.8	-381.4	576.7	significant reduction of rainfall	favorable to infra	
		Median	7.2	69.1	1027.2	minimal increase	no remarkable impact	
		Upper Bound	16	153	1111.1	increase		
	High Emission (RCP 8.5)	Lower Bound	-6.4	-60.9	897.2	minimal decrease		
		Median	11.1	106.2	1064.3	minimal increase		
		Upper Bound	22.6	216.2	1174.3	23% increase in rainfall	flooding maybe aggravated	construct/consolidate climate resilient drainage systems
MAM Observes baseline = 428	Moderate Emission (RCP 4.5)	Lower Bound	-39.6	-169.3	258.6	40% reduction in rainfall will cause drought; forest fire occurrence	decrease will cause damage to reforestation; increase in forest fire occurrence induced by humans; will cause coral bleaching; potential impact to aquaculture	adapt species which are drought tolerant; establish fire line; establish SWIS; during rainy season, practice rain harvesting; establishment of saline tilapia nursery and hatchery

		Median	4.3	18.5	446.4			
		Upper Bound	14.2	60.8	488.7	10% increase in rainfall ; not significant		policy on water rationing
	High Emission (RCP 8.5)	Lower Bound	-15.6	-66.8	361.1	15% reduction in rainfall; not significant		water impounding facilities/man made lake
		Median	7.3	31.1	459	10% reduction in rainfall; not significant		
		Upper Bound	18.3	78.4	506.3	20% increase in rainfall ; positive impact to forest and crops	positive impact to forestry and agriculture	cloud seedings to induce rain
JJA Observed baseline = 660 mm	Moderate Emission (RCP 4.5)	Lower Bound	-53.8	-355.2	304.8	significant decrease of more than 50%	potential impacts to rice production because JJA flowering stage of palay, potential impact to aquaculture	distribution of drought tolerance varieties, SSIP, intensified implementation of alternative wetting and drying, intensified pest monitoring and surveillance; dispense fingerlings to replenish projected production loss, plant drought-resistant forage for animal feed, production of diversified integrated crop management farming system, promotion of water-saving technologies (controlled irrigation, hydroponics, rainwater harvesting)
		Median	-10.4	-68.9	591.1	insignificant (minimal to no change)		
		Upper Bound	-5.5	-36.4	624	insignificant (minimal to no change)		
	High Emission	Lower Bound	-27	-178.6	481.8	insignificant (minimal to no change)		

	(RCP 8.5)	Median	-12.3	-81.4	579	insignificant (minimal to no change)		
		Upper Bound	3.3	22.1	682.1	insignificant (minimal to no change)		
SON Observed baseline = 974 mm	Moderate Emission (RCP 4.5)	Lower Bound	-42.9	-417.5	556.1	substantial reduction of rainfall	positive effect for harvesting season; possible production of water source supply	water purifying facility, provision of Rain Water Collection tank, Massive IEC on water conservation, Automated Weather Station, Early Warning System
		Median	-4.6	-45	928.6	minimal to no change		
		Upper Bound	1.1	10.3	983.9	minimal to no change		
	High Emission (RCP 8.5)	Lower Bound	-16.3	-159.1	814.5	minimal to no change		
		Median	-2.6	-25.5	948.1	minimal to no change		
		Upper Bound	8.7	84.7	1058.3	minimal to no change		



Map of Current and Potential Risks and PPAs in **Negros Oriental**

Provincial Climate Resilience Investments per Key Investment Areas

Province	Expected Damage Reduction (Rate: -5 to +5, +5=highest)								
	Agricultural Production	Livelihood	Exposure to drought	Flood Exposure	Landslide/ coastal erosion Exposure	Exposure to Storm Surge	Sedimentation	Ecosystem & Biodiversity	Water Sufficiency
Masbate	3.18	3.73	3.73	4.27	4.18	4.09	3.73	3.91	
Negros Oriental	4.30	4.74					4.39	3.70	
Samar	2.71	3.21		3.43	3.36	2.17	3.43	3.93	

Classification of Provincial Climate Resilience Investments

Province	Amount ('000 PHP)		
	Existing program or project for scaling-up	Existing program or project that need to be redesigned to include climate information	New program or project
Masbate	231,650.00	198,850.00	28,000.00
Negros Oriental	194,240.00	50,800.00	1,000.00
Samar	3,463,620.00	930,200.00	3,608,950.00
Sarangani	999,830.70	11,000.00	29,060,083.34
Sorsogon	231,650.00	198,850.00	28,000.00
Total	5,120,990.70	1,389,700.00	32,726,033.34

Qualitative assessment of investments options per Province

Sarangani	3.44	2.70		1.81	1.74	0.88	1.26	2.35	
Sorsogon	4.30	4.74		3.70	3.52	2.41	2.89	3.19	3.59

Province	Amount (‘000 PHP)			
	Protective and Resilient Infrastructure	Ecosystem Rehabilitation & Protection	Sustainable & Resilient Livelihoods	Capacity Building, Information & Knowledge Management
Masbate	420,000.00	1,500.00	5,250.00	31,750.00
Negros Oriental	15,770.00	209,400.00	20,870.00	-
Samar	6,240,770.00	1,236,500.00	306,700.00	218,800.00
Sarangani	6,648,915.00	23,148,259.04	262,590.00	11,150.00
Sorsogon	3,370.00	97,135.00	35,125.00	24,450.00
Total	13,328,825.00	24,692,794.04	630,535.00	286,150.00

Adaptation pathways of Provinces

Adaptation pathways of Masbate

Adaptation Pathway	Actual Cost ('000 PHP)	Rated Cost	Benefits	Benefit Cost Ratio
Pathway 1 Risk and Vulnerability Assessments, Impact Study and FLUP and CLUP Formulation	28,000,000	5	5	1
Pathway 2 Ecosystem Management Program	199,950,000	4	4	1

Adaptation pathways of Negros Oriental

Adaptation Pathway		Actual Cost ('000 PHP)	Rated Cost	Benefits	Benefit Cost Ratio
Pathway 1	**Research and Development**	450	0	5	0
	Forest Management	59000	0	5	0
	Water Sufficiency	201300	0	5	0
	Climate Smart Agriculture	47000	0	5	0
	Capacity Building	0	0	5	0
	Policy	0	0	5	0

Adaptation pathways of Samar

Adaptation Pathway		Actual Cost ('000 PHP)	Rated Cost	Benefits	Benefit Cost Ratio
Pathway 1	**Flood Control Program**	3,584,000.00	3.25	5.00	1.54
Pathway 2	**Provincial Integrated Water**	1,382,000.00	2.00	5.00	2.50

	Service Development				
Pathway 3	**M&P of NGP 2011-2017 Established Plantation**	0.00	2.50	4.50	1.80
Pathway 4	**Bamboo Riverbank Rehabilitation in Critical Watershed**	0.00	2.50	4.50	1.80
Pathway 5	**Forest Protection in Climate Vulnerable Upland and Coastal Areas**	0.00	2.33	3.67	1.57
Pathway 6	**Capacity Building**	0.00	3.00	5.00	1.67

Adaptation pathways of Sarangani

Risk	Adaptation Pathway	Actual Cost ('000 PHP)	Rated Cost	Bene fits	Benefit Cost Ratio
Drought and Rain-induced Landslide	**Portfolio 1 SAAD, FFS, Seed bank and Task Force**	273,450	5	4	1
	Portfolio 2 Rehab of CIS, SWIS/SWIP, planting at recharge areas	121,500	3	3	1
	Portfolio 3 Repair and rehabilitation of slopes	5,534,250	4	5	1
	Portfolio 4 Restoration of river networks	1,500,000	2	2	1
Riverine Flooding	**Portfolio 1 BRMB**	8,477,341	3	4	1
	Portfolio 2 Lun Padidu Watershed	832,225	3	4	1
	Portfolio 3 CLAMINDA	143,414	3	4	1
Coastal Flooding	**Portfolio 1 Assessment of Existing MPAs**	3,000	4	5	1
	Portfolio 2 Restoration/Rehabilitation of Mangrove ares, seagrass beds, coral reefs, estuaries and beach forest	72,841	4	5	1
	Portfolio 3 Installation of Coastal Breakwater tetrapods	20,000	4	5	1

Adaptation pathways of Sorsogon

Adaptation Pathway	Actual Cost ('000 PHP)	Rated Cost	Benefits	Benefit Cost Ratio
Pathway 1 SWIS, Rain-water harvesting and Man-made Lake	375	2	3	1
Pathway 2 SWIS, Rain-water harvesting and Dam construction	375	2	3	2

Institutional Arrangements per Province

Organization	Negros Oriental and Samar	Sarangani	Sorsogon	Masbate	CARAGA (Surigao DS, Surigao DN, Dinagat)*
RDC	Coordination mechanism Evaluator Monitoring Support Support development Planning Technical assistance Technical support (On-Demand)	Assist in fund sourcing and fund flow Provide guidelines	Assist in fund sourcing Review of PPAs to ensure alignment to regional and provincial projects, goals, and objectives		At the national level, Office of Civil Defense should be included in the proposed arrangements since the Climate Fund is lodged at the Provincial Disaster Risk Management Office -Inclusion of CCC in the National Steering Committee. -provincial governments, can provide engineering, equipment, and other support to municipalities that lack capacity to implement CC programs
Province	Co-manager Implementer Identification of priority projects Monitoring and Evaluation Fund sourcing Translate policy (national) to development plans Review of budgets Technical assistance	Convenor Implementer Governor as chair of the PMO of different projects PPDO as immediate head of the PMO	DENR-PENRO head of RRSP secretariat Issuing of EO Facilitates Joint Planning	Issuance of EO Heads the planning Technical Assistance Focal for the MLGU	
Municipality or City	Beneficiary Co-implementor Manpower resources	Beneficiary	Identification and prioritization of PPAs Implementor		
Barangay	Facilitation of barangay-level participation and implementation				
Community-based Organizations	Consultation Identification and prioritization of PAPs				
River basin management council, and water management council	River basin planning				
NGOs and CSOs	Third-party monitoring Capacity development partner				
Waters Districts and	Identification of PAPs				

Other GOCCs	Policy support Coordinating system				
Academe	Research and development Project partner				

- In the CARAGA provincial workshop there was no workshop on implementation arrangements.

Annex 4: Climate risk maps, information and tables

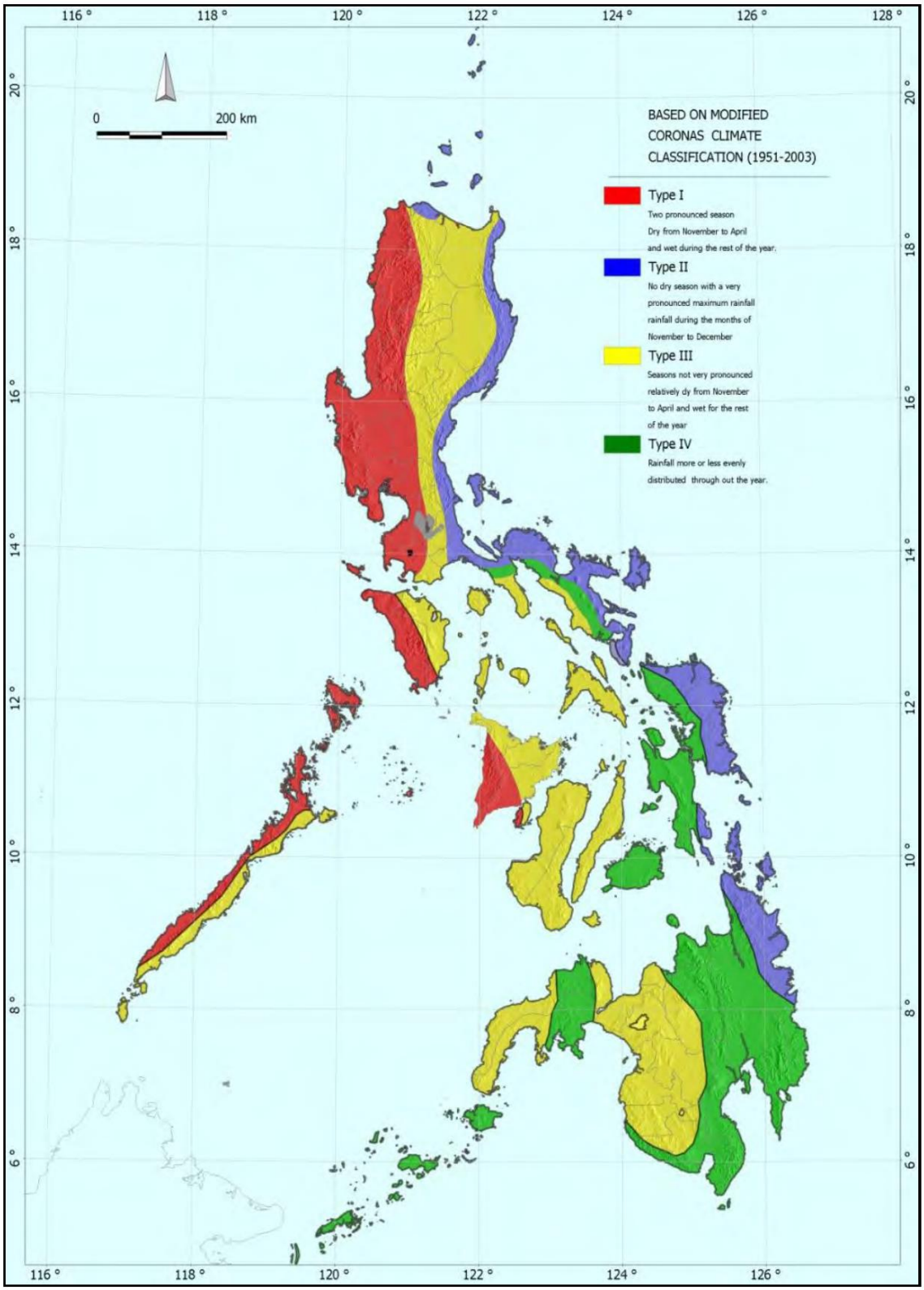


Figure 20: Climate zones across the Philippines

Source: PAGASA, 2011

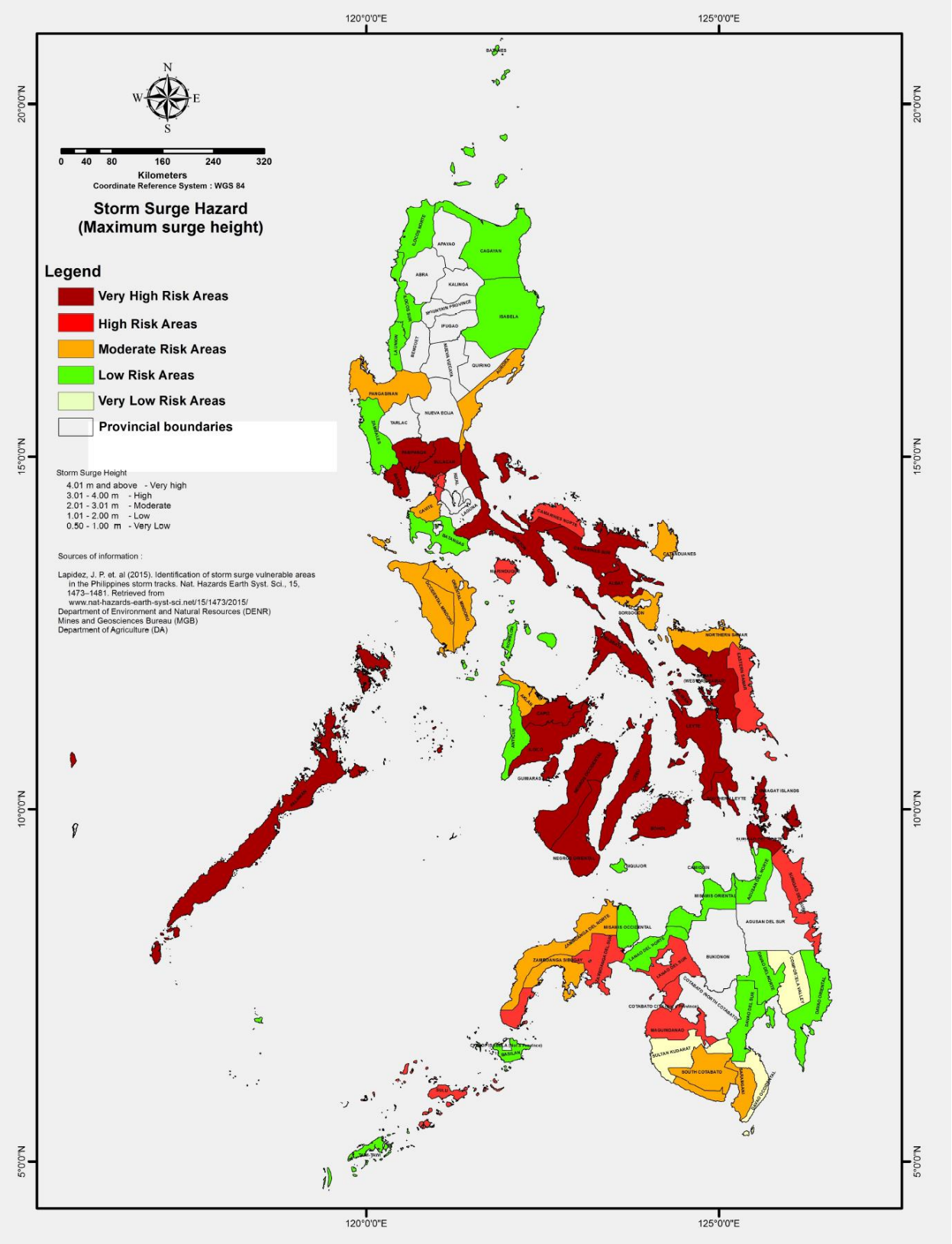


Figure 21: Storm Surge Risk Map Philippines

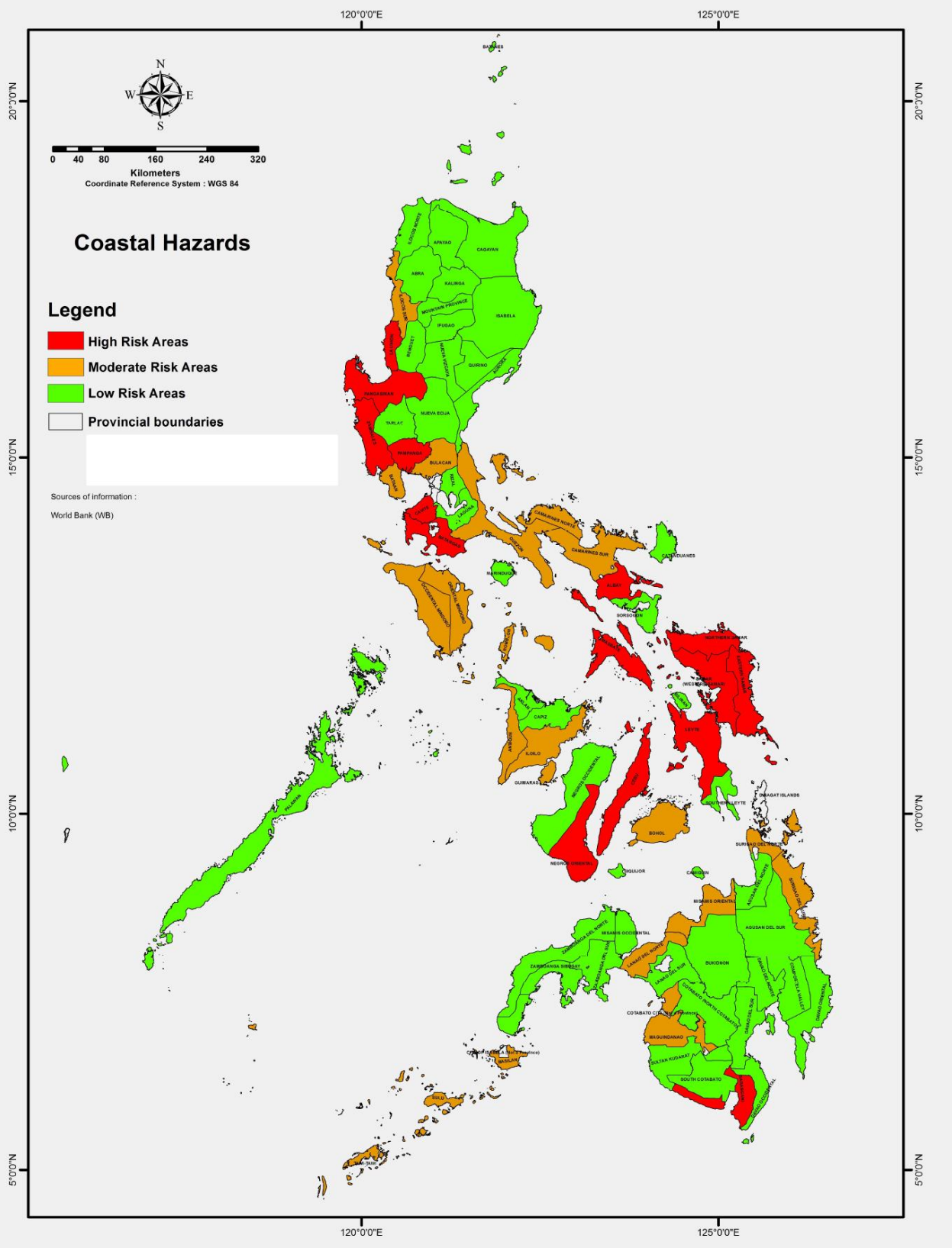


Figure 22: Coastal Hazards Map Philippines

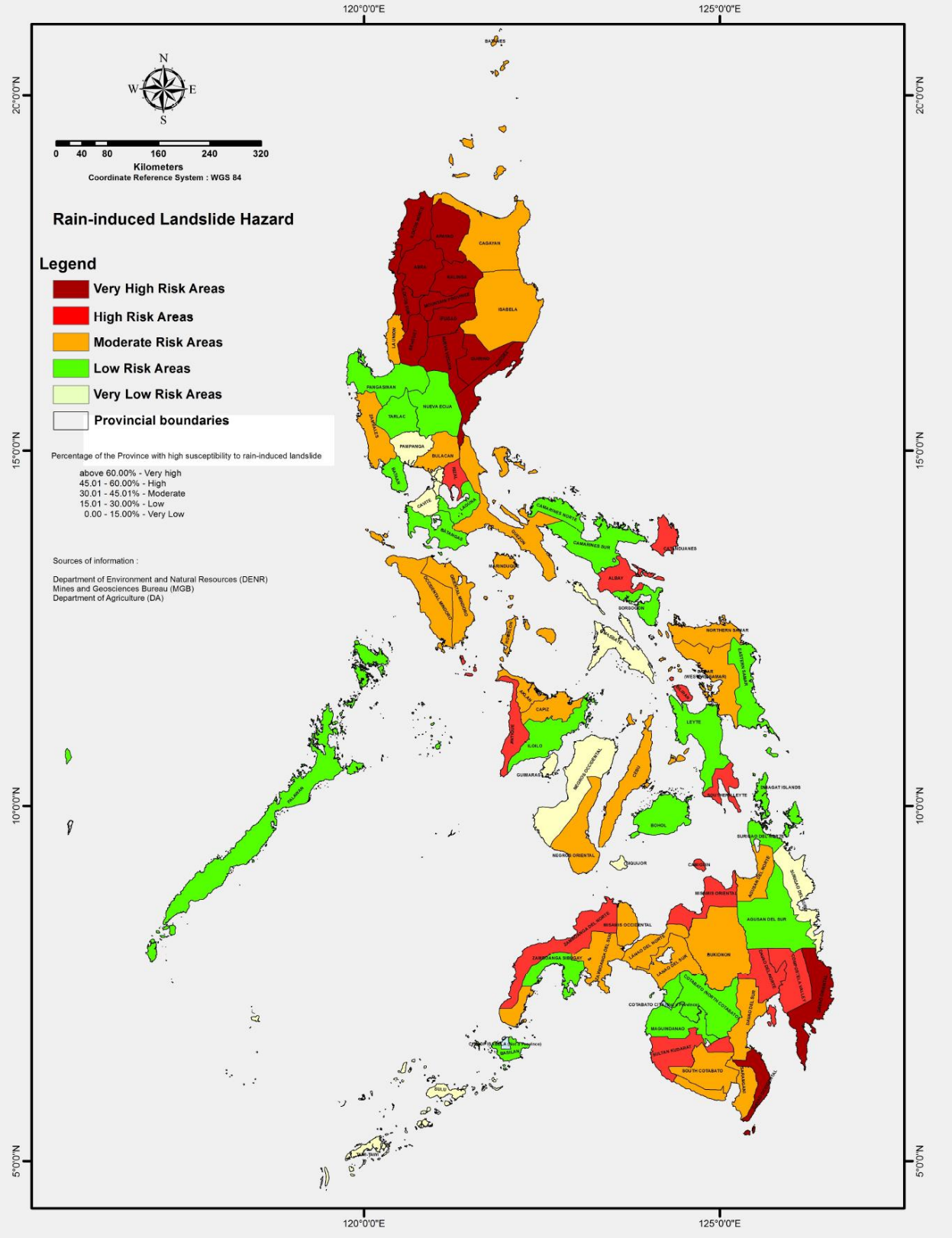


Figure 23: Rainfall-induced landslide hazards in the Philippines

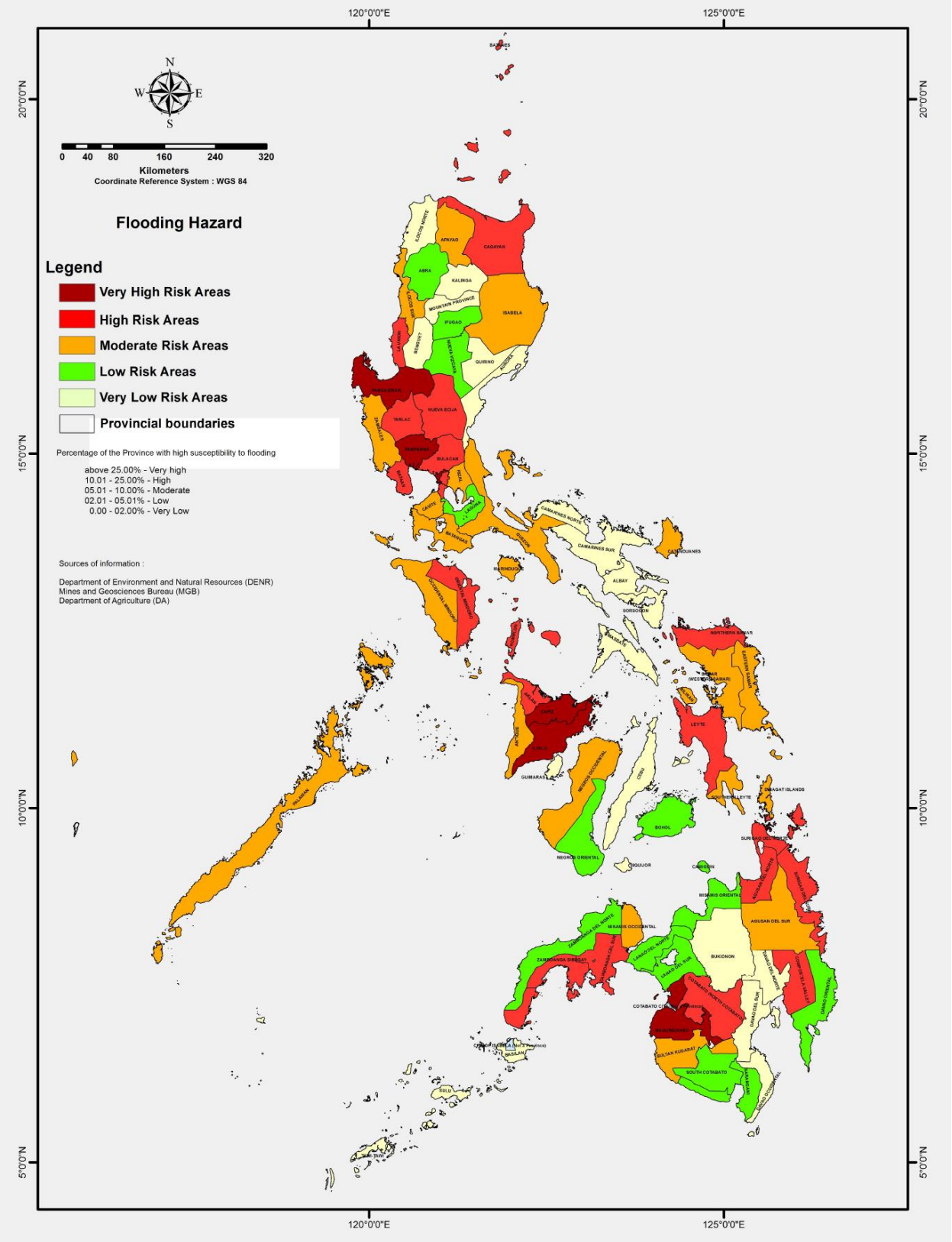


Figure 24: Flood Hazard Philippines

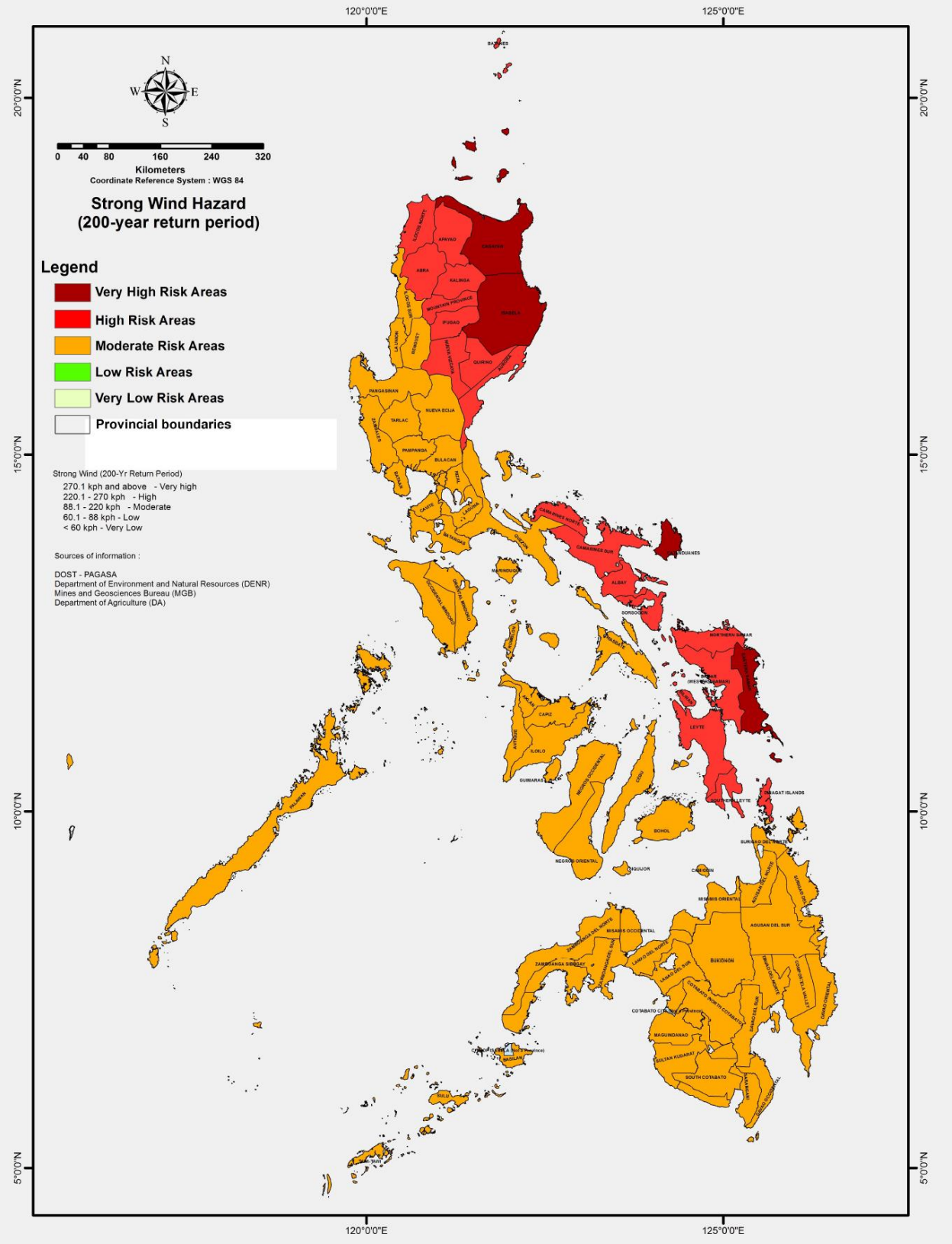


Figure 25: Strong Winds Hazard Philippines

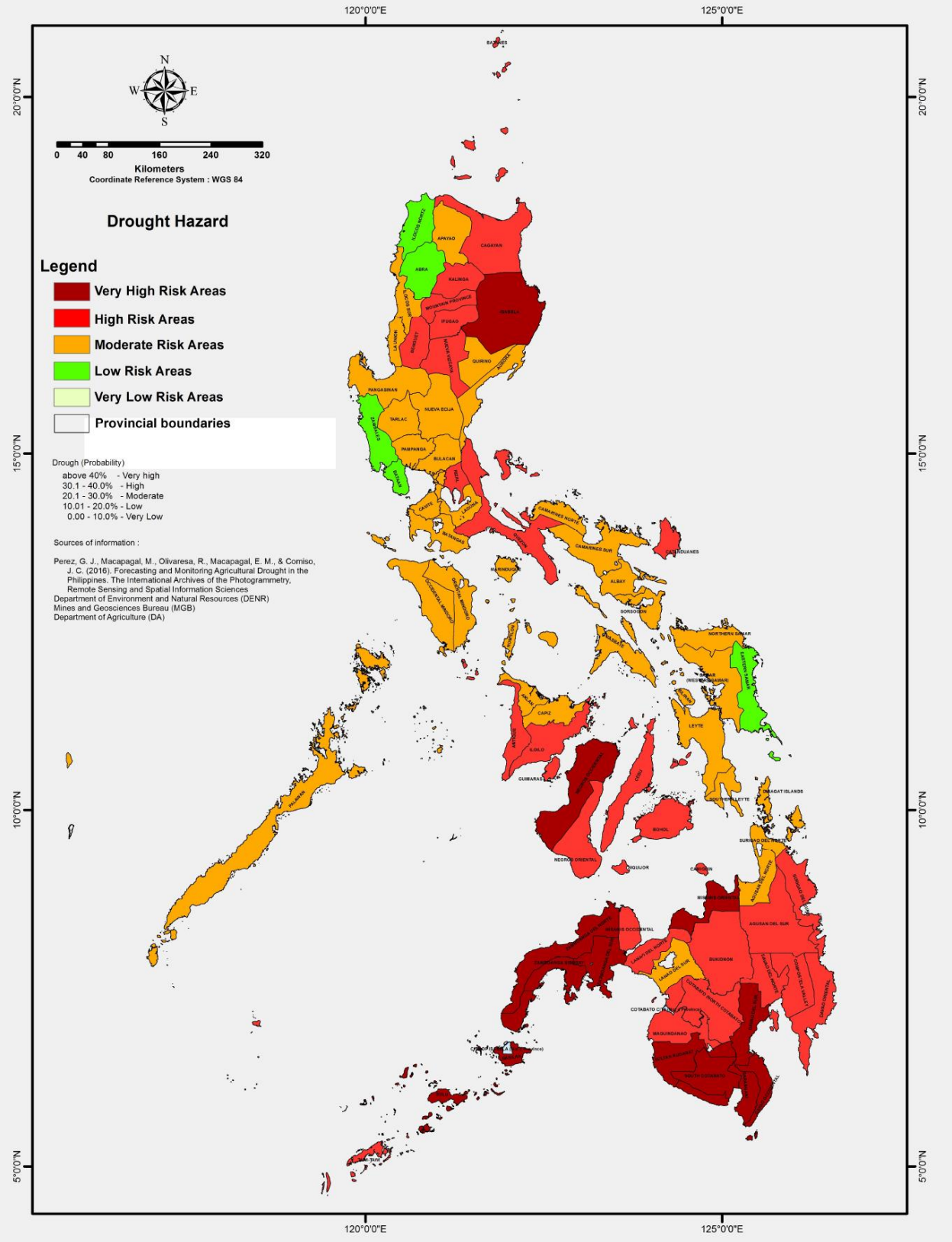


Figure 26: Drought Hazard Philippines

Table 31: Damage to agricultural commodities due to typhoons, floods, and droughts in the Philippines between 2000 and 2010 (USD million)

Year	Rice	Corn	HVCC	Veg	Coconut	Abaca	Sugar-cane	Tobacco	Fish	Livestock	Total
2000	36.09	1.30	7.97	2.05	1.07	1.23	0.92	0.92	8.10	0.18	59.84
2001	15.79	10.71	7.04	1.28	0.00	0.01	1.45	-	5.01	1.86	43.14
2002	10.62	6.40	2.23	0.24	0.00	-	-	-	2.47	0.31	22.27
2003	24.36	31.29	7.83	2.29	0.02	0.01	-	-	4.46	0.90	71.16
2004	30.30	25.63	20.62	13.17	7.84	0.31	-	2.54	34.01	0.78	135.19
2005	35.26	44.40	0.59	0.36	-	-	-	-	0.11	0.01	80.73
2006	66.28	22.97	61.94	4.54	21.74	6.36	-	5.37	21.06	4.35	214.62
2007	40.78	60.30	8.16	3.85	0.00	-	-	-	1.92	0.06	115.07
2008	112.75	40.60	51.32	-	25.48	0.28	0.81	-	70.87	5.52	307.63
2009	500.47	29.76	52.57	-	-	1.35	-	0.10	33.53	1.85	619.62
2010	344.91	188.13	24.56	-	-	-	-	-	6.71	0.62	564.94
Total	1,217.61	461.50	244.82	27.77	56.14	9.53	3.19	8.93	188.26	16.45	2,234.21

Source: Israel and Briones (2013)

Table 32: Damage to agricultural facilities and irrigation infrastructure due to typhoons, floods, and droughts in the Philippines, 2000-2010 (USD million)

Year	Agricultural Facilities	Irrigation
2000	0.01	0.01
2001	17.26	17.26
2002	0.61	0.61
2003	0.22	0.22
2004	11.35	11.35
2005	-	-
2006	25.09	25.09
2007	0.11	0.11
2008	41.94	38.16
2009	4.09	80.93
2010	1.73	29.59
Total	**102.39**	**203.31**

Table 33: Mapping high-level outcomes from the RBMES and PDP 2017 - 2022 onto the RRSP

RRSP	RBMES	PDP 2017 - 2022

RRSP	RBMES	PDP 2017 - 2022
Component 1: Reducing Exposure to Hazards through Ecosystem Stability and Resilience	**Ecosystem & Environmental Stability | Human Security** Enhanced adaptive capacity of communities, resilience of natural ecosystems and sustainability of built environment to climate change	• Safety and security against natural and man-made disasters, especially for the poor, improved • Ecological integrity ensured and socio-economic conditions of resource-based communities improved
Component 2: Reducing Assets Vulnerability through Protective and Resilient Infrastructure	**Water sufficiency** Enhanced adaptive capacity of communities, resilience of natural ecosystems and sustainability of built environment to climate change	• Citizen-centered, innovative, clean, efficient, effective, and inclusive delivery of public goods and services • Consumer welfare improved; market efficiency improved
Component 3: Increasing Coping Capacity through Sustainable and Resilient Livelihoods	**Climate-Smart Industries and Services | Sustainable Energy** Successful transition towards climate-smart development **Food security** Enhanced CC resilience of agriculture and fisheries production and distribution systems Enhanced resilience of agricultural and fishing communities from climate change	• Expand economic opportunities in agriculture, forestry, and fisheries • Increase access to economic opportunities by small farmers and fisher folk • Nutrition and health for all improved; lifelong learning opportunities for all ensured; income-earning ability increased • Promote Philippine culture and values • Building socioeconomic resiliency of individuals, families, and communities • Vulnerability of individuals, families, and communities reduced
Component 4: Increasing Knowledge, Information and Institutional Capacities to Respond to Risks	**Knowledge and Capacity Development** Successful transition towards climate-smart development (ultimate outcome) Enhanced knowledge on and capacity to address climate change (intermediate outcome) Knowledge on the science of CC enhanced; Capacity of CC adaptation and mitigation at the national and local levels enhanced; CC KM established and accessible to all sectors at the national and local level (immediate outcome)	• Promoted and accelerated technology adoption; Stimulated innovation • Supportive and strategic fiscal sector achieved • Resilient monetary and financial sector achieved • External trade policies which provide opportunities for growth and linkage to global value chains implemented

Annex 5: RRSP Program Cost and Financing Tables

Table 34: RRSP Phase 1 Costs (Breakdown according to NGA and LGU implementation and funding) *

Result Areas (and by implementation & financing responsibility)	NGAs	LGUs	Total Costs (2018-2022) Ph. B(US$ M)	% of Total
1) Strengthened and effective enabling environment at national and subnational levels				
2) Enhanced management of ecosystems in coastal, forest, peri-urban landscapes				
3) Reduced vulnerability of physical assets through prioritized protective and resilient infrastructure				
4) Increased adaptive and coping capacity through sustainable and resilient livelihoods of vulnerable agricultural, fishing, and upland communities				
Total Costs (PHP)				

* Will include the costs of the proposed four investment projects cited above.

Note: other detailed cost tables will be included.

Annex 6: List of key background/ input documents

1. Knowledge and Institutions Gap Analysis Note
2. Focus and Technical Prioritization Gap Analysis Note
3. Institutional and Implementing Arrangements Gap Analysis Note
4. Monitoring and Evaluation Note
5. Economic analysis under uncertainty: methodology note
6. Economic analysis under uncertainty: Cebu case study
7. Economic analysis under uncertainty: Tacloban case study
8. Economic analysis under uncertainty: Laguna de Bay case study
9. Economic analysis under uncertainty: National case study
10. Monitoring and Evaluation Guidance Note
11. Financing Options Notes
12. RRSP Design Approach and Recommendations report
13. Climate Budget Analysis 2015: Selected LGUs
14. Climate Budget Analysis 2015: Selected NGAs
15. Climate Budget Analysis 2016: Selected LGUs
16. Climate Budget Analysis 2016: Selected NGAs

Annex 7: Table of CC programs in the Philippines

Table 35: List of climate change tagged programs and projects in the Philippines with 2018 budget included.

Agency	Sub-Agency/ Unit	Program/ Project	Budget
Department of Agrarian Reform (DAR)	Office of the Secretary	Climate Resilient Farm Productivity Support	602,547.00
Department of Agriculture (DA)	Office of the Secretary	General management and supervision	5,796.00
Department of Agriculture (DA)	Office of the Secretary	Planning and policy formulation for soil and water resources conservation, management and development (BSWM)	118,488.00
Department of Agriculture (DA)	Office of the Secretary	Coordination of agricultural research (BAR)	7,636.00
Department of Agriculture (DA)	Office of the Secretary	Information and Communication Technology (ICT) management support	15,253.00
Department of Agriculture (DA)	Office of the Secretary	Development of organizational policies, plans and procedures	188,116.00
Department of Agriculture (DA)	Office of the Secretary	Operation and maintenance of the integrated laboratories	105,931.00
Department of Agriculture (DA)	Office of the Secretary	PSS on the National Rice Program	1,102,989.00
Department of Agriculture (DA)	Office of the Secretary	PSS on the National Livestock Program	93,021.00
Department of Agriculture (DA)	Office of the Secretary	PSS on the National Corn Program	435,981.00
Department of Agriculture (DA)	Office of the Secretary	PSS on the National High-Value Crops Development Program	822,464.00
Department of Agriculture (DA)	Office of the Secretary	PSS on the Promotion and Development of Organic Agriculture Program	122,465.00
Department of Agriculture (DA)	Office of the Secretary	Other production support services activities	4,000.00
Department of Agriculture (DA)	Office of the Secretary	ESETS on the National Rice Program	850,781.00
Department of Agriculture (DA)	Office of the Secretary	ESETS on the National Livestock Program	20,402.00
Department of Agriculture (DA)	Office of the Secretary	ESETS on the National Corn Program	44,232.00
Department of Agriculture (DA)	Office of the Secretary	ESETS on the National High-Value Crops Development Program	105,133.00
Department of Agriculture (DA)	Office of the Secretary	ESETS on the Promotion and Development of Organic Agriculture Program	197,158.00
Department of Agriculture (DA)	Office of the Secretary	Other extension support, education and training services activities	110,488.00
Department of Agriculture (DA)	Office of the Secretary	R&D on the National Rice Program	409,584.00
Department of Agriculture (DA)	Office of the Secretary	R&D on the National Livestock Program	13,711.00

Department of Agriculture (DA)	Office of the Secretary	R&D on the National Corn Program	77,335.00
Department of Agriculture (DA)	Office of the Secretary	R&D on the National High-Value Crops Development Program	126,624.00
Department of Agriculture (DA)	Office of the Secretary	R&D on the Promotion and Development of Organic Agriculture Program	65,639.00
Department of Agriculture (DA)	Office of the Secretary	Other research and development activities	513,709.00
Department of Agriculture (DA)	Office of the Secretary	Provision of Agricultural Equipment and Facilities (PAEF) on the National Rice Program	1,050,730.00
Department of Agriculture (DA)	Office of the Secretary	PAEF on the National Livestock Program	240,293.00
Department of Agriculture (DA)	Office of the Secretary	PAEF on the National Corn Program	461,437.00
Department of Agriculture (DA)	Office of the Secretary	PAEF on the National High-Value Crops Development Program	248,776.00
Department of Agriculture (DA)	Office of the Secretary	PAEF on the Promotion and Development of Organic Agriculture Program	249,629.00
Department of Agriculture (DA)	Office of the Secretary	INS on the National Rice Program	1,967,160.00
Department of Agriculture (DA)	Office of the Secretary	INS on the National Corn Program	366,070.00
Department of Agriculture (DA)	Office of the Secretary	INS on the National High-Value Crops Development Program	154,550.00
Department of Agriculture (DA)	Office of the Secretary	Other Water Resources Projects	32,257.00
Department of Agriculture (DA)	Office of the Secretary	INS on the Promotion and Development of Organic Agriculture	95,567.00
Department of Agriculture (DA)	Office of the Secretary	Repair/Rehabilitation and Construction of Farm- to- Market Roads in the Designated Key Production Areas	2,595,800.00
Department of Agriculture (DA)	Office of the Secretary	Formulation, monitoring and evaluation of agricultural and fishery policies, plans and programs	65,642.00
Department of Agriculture (DA)	Office of the Secretary	Agriculture and fishery standards	10,154.00
Department of Agriculture (DA)	Office of the Secretary	Philippine Rural Development Program	7,912,275.00
Department of Agriculture (DA)	Bureau of Fisheries and Aquatic Resources	Research and development	175,806.00
Department of Agriculture (DA)	Bureau of Fisheries and Aquatic Resources	Monitoring, control and surveillance	12,441.00
Department of Agriculture (DA)	Bureau of Fisheries and Aquatic Resources	Coastal and inland fisheries resource management	400,731.00
Department of Agriculture (DA)	Philippine Carabao Center	General Management and Supervision	6,000.00
Department of Agriculture (DA)	Philippine Carabao Center	Intensification of the National Upgrading Program	179,471.00
Department of Agriculture (DA)	Philippine Carabao Center	Research for Development	61,802.00

Department of Agriculture (DA)	Philippine Carabao Center	Animal Genetic Resource Conservation and Utilization	36,998.00
Department of Agriculture (DA)	Philippine Center for Post-Harvest Development and Mechanization	Extension Support, Education and Training Services	80,915.00
Department of Agriculture (DA)	Philippine Center for Post-Harvest Development and Mechanization	Research and Development	4,923.00
Department of Agriculture (DA)	Philippine Council for Agriculture and Fisheries	Development and Coordination of Agriculture and Fishery Policies	190.00
Department of Environment and Natural Resources (DENR)	Office of the Secretary	Data Management including Systems Development and Maintenance	443,128.00
Department of Environment and Natural Resources (DENR)	Office of the Secretary	Production and Dissemination of Technical and Popular Materials in the Conservation and Development of Natural Resources and Environmental Education, including an Encyclopedia on Biodiversity	16,920.00
Department of Environment and Natural Resources (DENR)	Office of the Secretary	Conduct of Special Studies, Design and Development in Support of Forestry, Mining and Environmental Management Operations, including Climate Change Resilience	223,146.00
Department of Environment and Natural Resources (DENR)	Office of the Secretary	Formulation and Monitoring of ENR Sector Policies, Plans, Programs and Projects	174,240.00
Department of Environment and Natural Resources (DENR)	Office of the Secretary	Natural Resources management arrangement/agreement and permit issuance	646,518.00
Department of Environment and Natural Resources (DENR)	Office of the Secretary	Protected areas development and management	605,008.00
Department of Environment and Natural Resources (DENR)	Office of the Secretary	Protection and conservation of wildlife	31,008.00
Department of Environment and Natural Resources (DENR)	Office of the Secretary	Management of Coastal and Marine Resources/Areas	102,492.00
Department of Environment and Natural Resources (DENR)	Office of the Secretary	Development, Updating and Implementation of the Operational Plan for the Manila Bay Coastal Management Strategy pursuant to SC Decision under GR No. 171947-48	80,000.00
Department of Environment and Natural Resources (DENR)	Office of the Secretary	Soil Conservation and Watershed Management including River Basin Management and Development	250,000.00
Department of Environment and Natural Resources (DENR)	Office of the Secretary	Integrated Natural Resources and Environmental Management Project (INREMP)	1,338,109.00
Department of Environment and Natural Resources (DENR)	Office of the Secretary	Forestland Management Project	1,260,595.00

Department of Environment and Natural Resources (DENR)	Office of the Secretary	Natural Resources Assessment	4,570.00
Department of Environment and Natural Resources (DENR)	Environmental Management Bureau	Implementation of clean air regulations	41,786.00
Department of Environment and Natural Resources (DENR)	Environmental Management Bureau	Implementation of clean water regulations	116,637.00
Department of Environment and Natural Resources (DENR)	Mines and Geo-Sciences Bureau	Geological Assessment for Risk Reduction and Resiliency	332,320.00
Department of Environment and Natural Resources (DENR)	National Mapping and Resource Information Authority	Topographic Base Mapping and Geodetic Surveys	342,817.00
Department of Environment and Natural Resources (DENR)	National Mapping and Resource Information Authority	Resource Assessment and Mapping	37,933.00
Department of Environment and Natural Resources (DENR)	National Water Resources Board	Water Resources Supply and Demand Assessment	37,900.00
Department of Environment and Natural Resources (DENR)	Palawan Council for Sustainable Development Staff	Advocacy, Communications and Education	1,829.00
Department of Environment and Natural Resources (DENR)	Palawan Council for Sustainable Development Staff	ECAN Zoning	7,211.00
Department of Environment and Natural Resources (DENR)	Palawan Council for Sustainable Development Staff	Wildlife and Cave Management	17,438.00
Department of Finance (DOF)	Office of the Secretary	Support to the People's Survival Fund	3,460.00
Department of Foreign Affairs (DFA)	Technical Cooperation Council of the Philippines	Coordination and Conduct of Economic and Technical Skills Training Programs and Services for Developing and Least Developed Countries	1,700.00
Department of the Interior and Local Government (DILG)	Local Government Academy	Development and implementation of capacity development programs for LGU and DILG LG-sector personnel	76,000.00
Department of Information and Communications Technology	Office of the Secretary	ICT Systems and Infostructure Development	301,000.00
Department of Labor and Employment (DOLE)	Office of the Secretary	Livelihood and Emergency Employment	992,337.00
Department of Labor and Employment (DOLE)	Philippine Overseas Employment Administration	POEA Building Renovation Phase 4 - Fifth, Sixth and Lower Ground Floor	138,903.00
Department of National Defense (DND)	Office of Civil Defense	Empowering Sectors on DRRM for Resiliency	290,775.00
Department of National Defense (DND)	Philippine Navy (Naval Forces)	General management and supervision	2,859.00

Department of Public Works and Highways (DPWH)	Office of the Secretary	Feasibility Study / Preliminary and Detailed Engineering	7,220,522.00
Department of Public Works and Highways (DPWH)	Office of the Secretary	Construction / Rehabilitation of Buildings	4,908,137.00
Department of Public Works and Highways (DPWH)	Office of the Secretary	Construction / Rehabilitation of Flood Control Structures	1,036,500.00
Department of Public Works and Highways (DPWH)	Office of the Secretary	Construction / Rehabilitation of Flood Control Structures	1,134,880.00
Department of Public Works and Highways (DPWH)	Office of the Secretary	Construction / Rehabilitation of Drainage/ Protection Works	654,000.00
Department of Public Works and Highways (DPWH)	Office of the Secretary	Construction / Rehabilitation of Drainage/ Protection Works	480,750.00
Department of Public Works and Highways (DPWH)	Office of the Secretary	Construction / Rehabilitation of Water Supply Systems	2,030,206.00
Department of Public Works and Highways (DPWH)	Office of the Secretary	Construction / Rehabilitation of Water Supply Systems	516,178.00
Department of Public Works and Highways (DPWH)	Office of the Secretary	Construction/ Rehabilitation of Water Supply/ Septage and Sewerage/ Rain Water Collector Systems	1,150,000.00
Department of Public Works and Highways (DPWH)	Office of the Secretary	Rehabilitation/ Reconstruction/ Upgrading of Damaged Paved Roads, Primary Roads	6,599,048.00
Department of Public Works and Highways (DPWH)	Office of the Secretary	Rehabilitation/ Reconstruction/ Upgrading of Damaged Paved Roads, Secondary Roads	7,761,292.00
Department of Public Works and Highways (DPWH)	Office of the Secretary	Rehabilitation/ Reconstruction/ Upgrading of Damaged Paved Roads, Tertiary Roads	6,323,002.00
Department of Public Works and Highways (DPWH)	Office of the Secretary	Rehabilitation / Reconstruction of Roads with Slips, Slope Collapse and Landslide, Primary Roads	3,413,819.00
Department of Public Works and Highways (DPWH)	Office of the Secretary	Rehabilitation / Reconstruction of Roads with Slips, Slope Collapse and Landslide, Secondary Roads	9,079,488.00
Department of Public Works and Highways (DPWH)	Office of the Secretary	Rehabilitation / Reconstruction of Roads with Slips, Slope Collapse and Landslide, Tertiary Roads	6,025,335.00
Department of Public Works and Highways (DPWH)	Office of the Secretary	Construction / Upgrading / Rehabilitation of Drainage along National Roads, Primary Roads	1,960,833.00
Department of Public Works and Highways (DPWH)	Office of the Secretary	Construction / Upgrading / Rehabilitation of Drainage along National Roads, Secondary Roads	2,396,194.00
Department of Public Works and Highways (DPWH)	Office of the Secretary	Construction / Upgrading / Rehabilitation of Drainage along National Roads, Tertiary Roads	1,529,326.00

Department of Public Works and Highways (DPWH)	Office of the Secretary	Replacement of Bridges (Temporary to Permanent)	127,000.00
Department of Public Works and Highways (DPWH)	Office of the Secretary	Replacement of Permanent Weak Bridges	4,596,652.00
Department of Public Works and Highways (DPWH)	Office of the Secretary	Retrofitting/ Strengthening of Permanent Bridges	4,959,275.00
Department of Public Works and Highways (DPWH)	Office of the Secretary	Rehabilitation/ Major Repair of Permanent Bridges	3,635,832.00
Department of Public Works and Highways (DPWH)	Office of the Secretary	Widening of Permanent Bridges	21,623,437.00
Department of Public Works and Highways (DPWH)	Office of the Secretary	Construction of New Bridges	1,825,907.00
Department of Public Works and Highways (DPWH)	Office of the Secretary	Construction/ Maintenance of Flood Mitigation Structures and Drainage Systems	95,236,398.00
Department of Public Works and Highways (DPWH)	Office of the Secretary	Construction/ Rehabilitation of Flood Mitigation Facilities within Major River Basins and Principal Rivers	24,357,135.00
Department of Public Works and Highways (DPWH)	Office of the Secretary	Flood Risk Management Project (FRIMP) in Cagayan, Tagoloan and Imus Rivers, JICA, PH - P253	1,987,084.00
Department of Public Works and Highways (DPWH)	Office of the Secretary	Pasig - Marikina River Channel Improvement Project, Phase III, Pasig - Marikina River, NCR, JICA, PH - P252	800,000.00
Department of Public Works and Highways (DPWH)	Office of the Secretary	Integrated Disaster Risk Reduction and Climate Change Adaptation Measures in the Low Lying Areas of Pampanga Bay, Pampanga (Korea - EDCF)	1,291,305.00
Department of Public Works and Highways (DPWH)	Office of the Secretary	Flood Risk Management Project for Cagayan de Oro River (JICA, PH - P259)	2,318,754.00
Department of Science and Technology (DOST)	Office of the Secretary	Support to the harmonized national S&T agenda	885,000.00
Department of Science and Technology (DOST)	Philippine Atmospheric, Geophysical and Astronomical Services Administration	Typhoon and weather warning, including marine and aviation forecasting and operation of meteorological communication and regional forecast center	96,642.00
Department of Science and Technology (DOST)	Philippine Atmospheric, Geophysical and Astronomical Services Administration	Climate data management, agrometeorological and climate change research and development	112,875.00
Department of Science and Technology (DOST)	Philippine Atmospheric, Geophysical and Astronomical Services Administration	Observation, measurement, recording and reporting of atmospheric, geophysical and astronomical data, including the operation and maintenance of automated	684,433.00

		observational data from surface and upper-air observation network	
Department of Science and Technology (DOST)	Philippine Atmospheric, Geophysical and Astronomical Services Administration	Operation of upgraded meteorological satellite receiving and processing systems	4,400.00
Department of Science and Technology (DOST)	Philippine Atmospheric, Geophysical and Astronomical Services Administration	Flood forecasting and hydro-meteorological services	21,389.00
Department of Science and Technology (DOST)	Philippine Atmospheric, Geophysical and Astronomical Services Administration	Operation and maintenance of the flood forecasting and warning system for dam operation	14,305.00
Department of Science and Technology (DOST)	Philippine Atmospheric, Geophysical and Astronomical Services Administration	Research on Atmospheric, Geophysical and Allied Sciences	469,906.00
Department of Science and Technology (DOST)	Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development	Development, integration and coordination of the National Research System for the AANR Sector	35,056.00
Department of Science and Technology (DOST)	Philippine Council for Health Research and Development	Development, Integration, Management and Coordination of the National Health Research System for Health and Related Fields	60,000.00
Department of Science and Technology (DOST)	Philippine Institute of Volcanology and Seismology	Operations and development of volcano monitoring and warning systems	69,930.00
Department of Science and Technology (DOST)	Philippine Institute of Volcanology and Seismology	Operations and development of tsunami monitoring and warning systems	10,030.00
Department of Science and Technology (DOST)	Philippine Institute of Volcanology and Seismology	Rehabilitation of Volcano Observatories and Construction of Seismic Vaults and Housing for Volcano Monitoring and Unmanned Seismic Stations for Earthquake Monitoring - Rehabilitation of volcano monitoring stations	9,000.00
Department of Science and Technology (DOST)	Philippine Institute of Volcanology and Seismology	Rehabilitation of Volcano Observatories and Construction of Seismic Vaults and Housing for Volcano Monitoring and Unmanned Seismic Stations for Earthquake Monitoring - Construction of seismic vaults and housing for volcano monitoring	11,500.00

Department of Science and Technology (DOST)	Philippine Institute of Volcanology and Seismology	Rehabilitation of Volcano Observatories and Construction of Seismic Vaults and Housing for Volcano Monitoring and Unmanned Seismic Stations for Earthquake Monitoring - Construction of unmanned seismic stations for earthquake monitoring	9,300.00
Department of Science and Technology (DOST)	Philippine Institute of Volcanology and Seismology	Rehabilitation of Earthquake Monitoring Stations	17,500.00
Department of Science and Technology (DOST)	Philippine Institute of Volcanology and Seismology	Enhancement of Volcano, Earthquake and Tsunami Warning Systems for Disaster Risk Reduction in the Philippines- Counterpart Fund for JICA Grant Aid Project	7,000.00
Department of Science and Technology (DOST)	Philippine Institute of Volcanology and Seismology	Volcanological, Seismological and geophysical instrumentation research and development	10,550.00
Department of Science and Technology (DOST)	Philippine Institute of Volcanology and Seismology	Volcanic, earthquake and tsunami hazard mapping and risk assessment	4,278.00
Department of Science and Technology (DOST)	Philippine Institute of Volcanology and Seismology	Geo-scientific research and development and prediction studies on volcanic systems, earthquakes and tsunami	25,490.00
Department of Science and Technology (DOST)	Philippine Institute of Volcanology and Seismology	DYNASLOPE: Development of Site - Specific Threshold for Deep-seated Landslides and Slope Failures	37,133.00
Department of Science and Technology (DOST)	Philippine Institute of Volcanology and Seismology	Information, education and communication activities for the promotion of disaster preparedness and risk reduction	9,930.00
Department of Science and Technology (DOST)	Philippine Institute of Volcanology and Seismology	REDAS:Capacity-building of Philippine Local Communities on the use of REDAS Software	4,700.00
Department of Social Welfare and Development (DSWD)	Office of the Secretary	Disaster response and rehabilitation program	2,146,516.00
Department of Tourism (DOT)	National Parks Development Committee	Development, beautification, preservation and maintenance of the Rizal Park and satellite parks	2,000.00
Department of Transportation	Philippine Coast Guard	Enforce laws, rules and regulations for the protection of marine environment	9,932.00
National Economic and Development Authority (NEDA)	Philippine Statistics Authority	Establishment of Philippine Economic - Environmental and Natural Resources Accounts (PEENRA) unit towards the compilation of Green GDP of the Philippines	5,954.00
Other Executive Offices	Climate Change Commission	Community liaison	12,292.00

Other Executive Offices	Housing and Urban Development Coordinating Council	Technical Advisory Services for LGUs in Shelter Planning	5,000.00
Other Executive Offices	National Anti-Poverty Commission	Formulation, prototyping and monitoring of policies, plans and programs and inter-agency and inter-stakeholder coordination platforms	2,350.00
Other Executive Offices	National Anti-Poverty Commission	Support to consultative and convergence platforms	37,270.00
Other Executive Offices	Pasig River Rehabilitation Commission	Rehabilitation and Development of San Juan River (Brgy. Salapan to Batis, San Juan City)	52,585.00
Other Executive Offices	Pasig River Rehabilitation Commission	Rehabilitation and Development of Estero dela Reina (City of Manila)	8,514.00
Other Executive Offices	Pasig River Rehabilitation Commission	Rehabilitation and Development of Estero de Kabulusan (City of Manila)	12,903.00
Other Executive Offices	Pasig River Rehabilitation Commission	Rehabilitation and Development of Estero de Magdalena (City of Manila)	17,490.00
Other Executive Offices	Pasig River Rehabilitation Commission	Rehabilitation and Development of Estero de Valencia Phase 3 (City of Manila)	8,349.00
Other Executive Offices	Pasig River Rehabilitation Commission	Rehabilitation and Development of Estero de Pandacan Phase 2 (City of Manila)	11,237.00
Other Executive Offices	National Youth Commission	Formulate policies and coordinate implementation of Youth Development Programs	600.00
Other Executive Offices	Technical Education and Skills Development Authority	Promotion, Development and Implementation of Quality Technical Education and Skills Development Programs	156,354.00
Budgetary Support to Government Corporations	National Irrigation Administration	Climate Change Adaption Works - MARIIS	51,900.00
Budgetary Support to Government Corporations	National Irrigation Administration	Climate Change Adaption Works - UPRIIS	45,000.00
Budgetary Support to Government Corporations	National Irrigation Administration	Climate Change Adaptation Works (NIS)	549,500.00
Budgetary Support to Government Corporations	National Irrigation Administration	Upgrading/Rehabilitation of NIS Damaged by Typhoon Yolanda	179,981.00
Budgetary Support to Government Corporations	Philippine Crop Insurance Corporation	Agricultural insurance for farmers and fisherfolk under the RSBSA	3,500,000.00
Budgetary Support to Government Corporations	Philippine Rice Research Institute	General management and supervision	120,993.00
Budgetary Support to Government Corporations	Philippine Rice Research Institute	Conduct of regional rice research for development programs for Luzon, Visayas and Mindanao	397,007.00
Budgetary Support to Government Corporations	Philippine Rice Research Institute	Modernizing rice research laboratories	22,000.00
Budgetary Support to Government Corporations	Philippine Rice Research Institute	Acquisition of equipment for the Germplasm building	26,908.00
Budgetary Support to Government Corporations	Philippine Rice Research Institute	Strengthening the Rice Biotechnology Center at PhilRice	191,451.00

Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement along Jacinto St. & Vicinity of R-10 and C-2 Road, Tondo, Manila, District I	10,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement / Maintenance along C.M. Recto Ave. & Vicinity, Manila, District I	8,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement / Maintenance along N. Zamora St. & Vicinity, Tondo, Manila, District I	7,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Improvement & Deepening to the Design Elevation of Estero De Magdalena, Tondo, Manila, District II	12,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Improvement & Deepening to the Design Elevation of Estero de San Lazaro, Tondo, Manila, District II	5,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement / Maintenance along Rizal Avenue & Vicinity, Tondo, Manila, District II	8,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Improvement / Maintenance of Drainage System along Pampanga Street, Rizal Avenue and Vicinities, District III, Sta. Cruz, Manila	10,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Improvement / Maintenance of Estero Dela Reina, District III, Binondo, Manila	15,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Improvement / Maintenance of Drainage System along C.M. Recto and Vicinities, District IV, Sampaloc, Manila	10,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Improvement / Maintenance of Visayan Drainage Main, Dictrict IV, Sampaloc, Manila	15,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Rehabilitation / Improvement and maintenance of drainage system along Taft Ave. and Vicinity, Malate, District V, Manila	20,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Rehabilitation / Improvement and maintenance of Drainage System along Sagrada Familia St. and Vicinity, District V, Manila	15,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Rehabilitation / Improvement and maintenance of Drainage System along Merced St. & Vicinity Paco, District V, Manila	5,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Rehabilitation / Improvement and maintenance of Drainage System along Onyx St. & Vicinity, San Andres Bukid, District V, Manila	5,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Rehabilitation / Improvement and maintenance of Drainage System along San Marcelino St. & Vicinity, District V, Manila	5,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Rehabilitation / Improvement and maintenance of Drainage system at Zone 59 and Vicinity, District VI, Sta.	20,000.00

		Mesa, Manila	
Allocations to Local Government Units	Metropolitan Manila Development Authority	Rehabilitation / Improvement and maintenance of Drainage system at Zone 100 and Vicinity, Punta Sta. Ana, Manila, District VI	15,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement / Rehabilitation along Jesus St. & Vicinity, District VI, Pandacan, Manila	15,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement at Barangay Damayan, District I, Quezon City	10,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement at Barangay Ramon Magsaysay, District I, Quezon City	15,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement along Maximo Viola and Vicinity, Brgy. Balingasa, District I, Quezon City	10,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement and Concreting at Purok 5-A Litex Road, District II, Quezon City	10,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement and Concreting at Sitio Veterans, Barangay Bagong Silangan, District II, Quezon City	10,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement at Barangay Payatas, District II, Quezon City	10,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement at Commonwealth Ave. and Vicinity, District II, Quezon City	20,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement along Dugon St., Brgy. Amihan, District III, Quezon City	5,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Improvement of Lagarian Creek, District III, Quezon City	12,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Improvement of Buwaya Creek, Brgy. Tagumpay, District III, Quezon City	5,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Improvement of Don Jose Creek, Brgy. San Roque, District III, Quezon City	3,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement along South Road and Its Vicinity, Brgy. Bagong Lipunan ng Crame, District IV, Quezon City	10,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Dredging of San Juan River, District IV, Quezon City	10,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement along Kaliraya St., Brgy. Doña Josefa, District IV, Quezon City	5,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Improvement of Gabe Creek, District V, Quezon City	10,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Improvement of Paltok Creek, District V, Quezon City	5,000.00

Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement along Banahaw Street and Vicinity, Barangay Nagkaisang Nayon, District V, Quezon City	10,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement at Barangay North Fairview, District V, Quezon City	25,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement at Barangay Pasong Tamo, District VI, Quezon City	15,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Improvement of Mendez Creek, District VI, Quezon City	10,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement along Congressional Ave. and Vicinity, Brgy. Pasong Tamo District VI, Quezon City	15,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement at BIR Village, Brgy. Sauyo, District VI, Quezon City	10,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Improvement of Catmon - Tonsuya Creek, Malabon City	25,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Improvement of Navotas River, Northbay Blvd. North, Navotas City	25,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement along Tandang Sora Extension Road, Caloocan City	7,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Construction of Reinforced Concrete Box Culvert & Canal along Susano Creek, Caloocan City	6,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement along LD Highway & Vicinity, Caloocan City	10,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Improvement of River Wall along Pasong Malapad Creek, Caloocan City	2,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement along Mabini St., Caloocan City	4,250.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement along Langaray St. and Pampano St. Leading to Tanigue Peripheral Canal, Caloocan City	14,750.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage improvement along Dagat - Dagatan Ave. and Vicinity, Caloocan City	2,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement along Sabalo St. and Vicinity, Caloocan City	2,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement along Rizal Avenue Ext., Caloocan City	2,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Riprapping along Canumay Creek, District I, Valenzuela City	10,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Riprapping along Mayer Steel Creek, District I, Valenzuela City	10,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Riprapping along Dulong Tangke Creek, District I, Valenzuela City	5,000.00

Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement along I. Francisco St., District II, Valenzuela City	12,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Riprapping & Deepening of Parada Creek, District II, Valenzuela City	5,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Riprapping along Marulas Creek, District II, Valenzuela City	5,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Riprapping along Mapulang Lupa Creek, District II, Valenzuela City	3,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Dredging of Maricaban Creek Phase II, Pasay City	10,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Dredging of Libertad Retarding Pond, Pasay City	10,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Dredging of Tripa De Gallina, Pasay City	5,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Dredging of Tripa De Gallina, Brgy. Bangkal, Pio Del Pilar, San Isidro, District I, Makati City	15,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Desilting of Calatagan Creek, District I, Makati City	3,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Dredging / Desilting of Medina Creek (PNR Canal), District I, Makati City	3,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Dredging / Desilting along Sta. Clara Creek, District I, Makati City	4,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Riprapping / Dredging along Makati - Pateros River, District II, Makati City	15,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement along J.P. Rizal Extension, District II, Makati City	5,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Riprapping / Desilting along San Jose Creek Phase II, District II, Makati City	3,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Riprapping / Desilting along Balisampan Creek, District II, Makati City	2,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Desilting along Villanueva Creek, Barangay San Dionisio, District I, Parañaque City	5,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Desilting along Ibayo Creek, Barangay Sto. Niño, District I, Parañaque City	5,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement along Canaynay Road, Barangay San Dionisio Phase II, District II, Parañaque City	10,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement along E.M. Factor St., Barangay Dongalo, District I, Parañaque City	5,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Improvement along Villanueva Creek, Barangay BF Homes, District II, Parañaque City	10,000.00

Allocations to Local Government Units	Metropolitan Manila Development Authority	Rehabilitation of Riprap Wall and Desilting along Tributaries of Sapang Buwaya Creek, Barangay UPS IV, District II, Parañaque City	7,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Rehabilitation of Riprap Wall and Desilting along Moonwalk-Merville Creek, Barangay Moonwalk, Parañaque City	8,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Improvement along Pasong Baca Creek, Barangay Talon V, Las Piñas City	5,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement along Canaynay Road, Barangay Manuyo Dos, Las Piñas City	5,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Rehabilitation of Riprap and Desilting along tributaries of Naga Creek, Barangay Talon Dos, Las Piñas City	5,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Improvement along Zapote River, Barangay Zapote, Las Piñas City	10,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Improvement along Bayanan River, Barangay Bayanan, Muntinlupa City	8,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Improvement along Tunasan River, Barangay Tunasan, Muntinlupa City	7,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement at Manggahan Esporlas, Soldiers Hills, Brgy. Putatan, Muntinlupa City	3,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement at Makati Compound, NIA Road, Brgy. Putatan, Muntinlupa City	5,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement at Villa Carolina 2, Brgy. Tunasan, Muntinlupa City	3,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Construction of Drainage (RCBC) along Kabayani Road, Brgy. Malanday, Marikina City	15,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Construction of Drainage (RCBC) along Malaya St., Brgy. Malanday, Marikina City	15,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Improvement of Drainage System in the vicinity of Kabayani Road, Brgy. Malanday, Marikina City	10,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Improvement of Drainage System in the vicinity of Malaya St., Brgy. Malanday, Marikina City	10,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Desilting of Sumulong Interceptor, Marikina City	20,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Dredging / Riprapping along Champaca Creek, Phase II, Brgy. Fortune, Marikina City	10,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Construction of drainage along Iwahig St., Brgy. Tumana, Marikina City	15,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Construction of Drainage Along Kalamansi St., Brgy. Tumana,	15,000.00

		Marikina City	
Allocations to Local Government Units	Metropolitan Manila Development Authority	Dredging / Riprapping along Bonanza Creek Tributary, Phase III, Brgy. Fortune, Marikina City	10,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Desilting of Bayan - Bayanan Interceptor, Marikina City	20,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Dredging / Riprapping along Pinagkatdan Creek, Brgy. Pinagbuhatan, Pasig City	20,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Construction of Bridge (RCBC) along San Agustin Creek., Brgy. Malinao, Pasig City	10,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Desilting of San Agustin RCBC, Brgy. Malinao, Pasig City	10,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Improvement of Creek Bed and Bank Protection along Lanuza Creek, Brgy. San Antonio, Pasig City	10,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Desilting and Improvement of Creek Bed along San Agustin Creek, Brgy. Malinao, Pasig City	10,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Improvement of Creek Bed and Bank Protection along Hakbangan Creek, Brgy. Dela Paz, Pasig City	10,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Dredging / Riprapping along Mahabang Ilog Creek, Brgy. Maybunga, Pasig City	10,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Construction of Bridge (RCBC) along Mahabang Ilog Creek, Brgy. Maybunga, Pasig City	10,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Rehabilitation of Drainage system, Brgy. Sta. Ana, Pateros	5,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage and Road Improvement, Brgy. Martinez, Pateros	5,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement, Brgy. San Roque, Pateros	5,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement, Brgy. Palingon, Taguig City	5,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Desilting of Hagonoy River, Taguig City	10,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Bank Improvement of Hagonoy River, Taguig City	5,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Construction of Floodgate and Pumping Station at Bagumbayan, Taguig City	15,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Rehabilitation of Maricaban Creek, Taguig City	15,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Rehabilitation of Pinagsama Creek, Taguig City	10,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement at Brgy. Fort Bonifacio, Taguig City	5,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement at Brgy. South Signal, Taguig City	5,000.00

Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement at Brgy. Central Bicutan, Taguig City	5,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement at Brgy. Upper Bicutan, Taguig City	5,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement at Brgy. Central Signal Bicutan, Taguig City	5,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement at Brgy. Kabayanan, San Juan City	5,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement at Brgy. Batis, San Juan City	5,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement at Brgy. Tibagan, San Juan City	5,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Rehabilitation of T. Claudio Creek, San Juan City	5,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement at Brgy. Salapan, San Juan City	5,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Rehabilitation of Salapan Creek, San Juan City	10,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Rehabilitation of Buayang Bato Creek, Mandaluyong City	10,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Rehabilitation of Maytunas Creek, Mandaluyong City	10,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Rehabilitation of Maysilo Creek, Mandaluyong City	5,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Rehabilitation of Buhangin Creek, Mandaluyong City	10,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement at Brgy. Bagong Silang, Mandaluyong City	5,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement at Daang Bakal, Mandaluyong City	5,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Drainage Improvement at Brgy. Adddition Hills, Mandaluyong City	4,000.00
Allocations to Local Government Units	Metropolitan Manila Development Authority	Construction of Floodgate, Brgy. Old Zaniga, Mandaluyong City	1,000.00
			268,826,461.00
Development Partner	**Sector or Practice**	**Project Title**	**Indicative Amount**
The Worldbank Group	ENR GP	Philippine Climate Change Adaptation Project (PhilCCAP)	USD 4,970,000.00
The Worldbank Group	ENR GP	Climate Change Public Expenditure Review	-
The Worldbank Group	Water GP	Metro Manila Flood Management-Phase 1	-
The Worldbank Group	Transport & ICT GP	Local Roads program linked to the national	-
The Worldbank Group	Transport & ICT GP	National Roads program with DPWH	-
The Worldbank Group	Water GP	Follow on to the Participatory Irrigation Development Project (PIDP)	-
The Worldbank Group	ENR GP	Phil-WAVES	-

The Worldbank Group	Social, Urban, Rural and Resilience GP	Reducing Vulnerability to Natural Disasters	-
The Worldbank Group	ENR GP	Aligning Plans and Strengthening Implementation of Climate Change PAPs	-
The Worldbank Group	ENR GP	PROFOR The role of forests in reducing poverty and enhancing climate resilience	-
The Worldbank Group	ENR GP	Mainstream Climate Change in the Budget and Investment Programing Process	-
The Worldbank Group	ENR GP	Mainstreaming Climate Change Priorities in the Budgeting Process	-
The Worldbank Group	Social, Urban, Rural and Resilience GP	Programmatic AAA on Metro Manila Development	-
The Worldbank Group	Transport and ICT GP	Programmatic AAA for Transport	-
The Worldbank Group	Finance & Markets GP	Philippines: Disaster Risk Financing	-
Asian Development Bank	-	Mindanao River Basin Flood Contro: Tagum-Libuganon River Basin (Agusan del Sur, Compostela, Davao del Norte) Masterplan and feasibility study	USD 114.58
Asian Development Bank	-	Mindanao River Basin Flood Contro: Agus River Basin (Lanao del Norte and Sur) Masterplan and feasibility study	-
Asian Development Bank	-	Mindanao River Basin Flood Contro Buayan-Malungon River Basin (South Central Mindanao)	-
GIZ	BMUB	Support to the Philippines in shaping and implementing the international climate regime (SupportCCC II)	-
GIZ	BMUB	Forest and climate protection project in Panay	-
GIZ	BMUB	Implementation of the Sulu-Sulawesi Marine Ecoregion (SSME) trilateral action plan	-
GIZ	BMUB	Protected area management enhancement in the Philippines	-
GIZ	BMUB	Preparation of a national REDD+ mechanism for greenhouse gas reduction and conservation of biodiversity in the Philippines	-
GIZ	-	Strengthening the implementation of NCCAP	-
USAID	-	The Water Security for Resilient Economic Growth and Stability (Be Secure) Project in the Philippines	-
USAID	-	Philippines Biodiversity and Watersheds Improved for Stronger Economy and Ecosystem Resilience (B+Wiser) Program	-

USAID	-	Municipal Waste Recycling Program (MWRP) to Reduce Plastics Pollution of the Oceans - Philippines, Sri Lanka, and Vietnam	-
JICA	-	Forestland Management Project	-
JICA	-	Improvement of Water Supply System in Metropolitan Cebu Water District	-
JICA	-	Project for Enhancing Solid Waste Management in Davao City	-
UN Habitat	-	Building Climate Resiliency Through Urban Plans and Designs	EUR 2.055 M
UNDP	-	Project ReBUILD: Resilience Capacity Building for Cities and Municipalities to Reduce Disaster Risks from Climate Change and Natural Hazards (Phase 1) (2015)	USD 1,227,272.00
UNDP	-	Strengthening Coordination for Effective Environmental Management Project (STREEM) (2013)	USD 475,000.00
Australian Govt - DFAT	-	Disaster and Climate Risks Management Initiative	AUD 43,000,000.00

Annex 8: Expert Review Feedback

Appendix 8.1 Independent Review of the Strategic Program for Climate Resilience of the Philippines

Reviewer: Syed Tahir Qadri
Date of Review Completion:

Introduction

The draft Risk, Resiliency and Sustainability Program (RRSP), which represents the Philippines SPCR, is a very well drafted, comprehensive document, and highlights all relevant aspects of climate change, its implications, vulnerabilities of various ecosystems at the sector, national, sub-national, local and community level, to provide a firm basis for a national strategy. Being grounded in updated climate change policies and programs such as RRP and institutions such as CCC and others, it has the potential to serve as a national program and strategy for climate action. However, it is still work in progress and therefore incomplete in certain respects. Since the proposed investments, cost estimates of each investment proposal and related public consultation, environmental and social aspects, and possible financing sources, highlighted in the Review Section below, are yet to be finalized, it will need some more work to make it suitable for presentation to international development partners. As presented, the draft RRSP promotes a bottom up and top down approach for the national government agencies (NGAs) and the Local Government Units (LGUs) as well as the regional institutions, identifies priority areas most vulnerable to climate change impacts and recommends an approach that may be adopted to address them. The background reports that contributed to the draft RRSP provide excellent assessment of key issues and challenges and make recommendations to appropriately deal with climate change impacts through adaptation interventions for enhanced resilience. Once completed, the document would serve as an appropriate strategic framework for sustainable response to climate change and enhanced resilience funded through national budgetary allocations as well as support by international development partners, including PPCR.

The following PPCR Independent Review has been conducted in accordance with the guidance provided in the August 2015 Operational Guidelines for New Pilot Countries and Stakeholders (Operational Guidelines and other relevant CIF/PPCR guidance documents).

PART I: Setting the context (from the reviewers overall understanding of the SPCR document)

- **Overall objective of the SPCR**

The objective of the PPCR is to pilot and demonstrate ways to integrate climate risk and resilience into core development planning, whiles complementing other ongoing activities. The draft RRSP, which represents the SPCR for the Philippines, is a much broader strategy document with the development objective to strengthen (i) key multi-stakeholder institutional capacities to address effectively climate change risks and disasters, and (ii) climate change resiliency of strategic ecosystems, priority infrastructure assets, and livelihoods of vulnerable groups and communities in prioritized landscapes.[88] The draft RRSP builds on the existing efforts in the country to better respond to climate change through enhancing resilience and adaptive capacity, and address the key barriers and constraints to effective planning, budgeting, and implementing adaptation and resilience interventions, so as to accelerate the transfer of transformative benefits of climate resilience and sustainable socio-economic development to the targeted sectors and areas. *The overall objective of the RRSP therefore appears to be consistent with PPCR objectives.*

[88] Prioritized landscapes include (i) 18 Major River Basins; (ii) Department of Environment and Natural Resources (DENR) Sustainable Integrated Area Development (SIAD) sites; (iii)10 DA Special Areas for Agricultural Development (SAAD) and food security; (iv) Areas with high poverty incidence and high flooding susceptibility; and (v) DENR's Green Economy Model Pilot Areas.

- **Brief description of proposed sub-projects**

Description of proposed sub-projects in the draft RRSP follows the four Result Areas based on Theory of Change. The four Result Areas and the corresponding areas of focus and/or investment projects under each are described below:

1:Strengthened and effective RRSP "enabling" environment at national and target subnational levels, with a focus on policy; institutional arrangements & roles; convergence planning, budgetary & financing framework; capacities of key stakeholders; and knowledge management systems and learning. The areas of focus under this area (i) *Strengthening climate information services – production and use of information; (ii) Prioritization criteria and screening tools for Climate Change (CC) investments* to aid the National Government Agencies (NGAs) and Local Government Units (LGUs) in designing and selecting investments that are efficacious in addressing climate hazards, are efficient in terms of their cost-effectiveness, and that generate benefits in addition to adaptation and resilience;

2: Enhanced management, stability and resilience of key ecosystems in target areas (coastal, forest, peri-urban) resulting in reduced exposure to critical hazards through strengthened and prioritized ecosystem stability and resilience. Under this Result Area, theInvestment *Project, Risk-informed coastal zone management aims to* reduce the risk of coastal flooding in targeted areas of the Philippines. The project will develop an approach for evaluating options – grey and nature-based – for coastal flood mitigation in the Philippines, as an input to coastal planning and management. The project comprises two components: 1: Institutional strengthening for coastal flood mitigation, encompassing (i) approach for evaluating coastal flood mitigation options; (ii) feasibility studies to determine options for making coastal infrastructure more climate resilient; (iii) development of operational manual for climate-informed coastal flood mitigation strategies; (iv) development of flood mitigation plan, drawing on the evaluation of flood mitigation options; and (v) develop web-based application for evaluating options for coastal flood mitigation; and 2: Priority works for coastal flood mitigation, encompassing (i) carrying out priority coastal flood mitigation investments in the target provinces selected pursuant to the climate-informed flood mitigation plan: and (ii) upgrading coastal flood mitigation infrastructure to be more climate resilient pursuant to the feasibility study.
3: Reduced vulnerability of physical assets through prioritized protective and resilient infrastructure which will help reduce the vulnerability of physical assets through prioritized protective and resilient infrastructure,[89] at the national and local levels. In this Result Area, the *Risk-informed flood control management project aims to* reduce the risk of flooding in targeted areas of the Philippines. It comprises two components: 1: Institutional Strengthening for flood risk reduction encompassing (i) climate-informed flood risk reduction plan and include optimal flood risk reduction strategies under climate uncertainty; (ii) feasibility studies to determine options for making flood management infrastructure more climate resilient; and (iii) development of operational manual for climate-informed flood risk reduction strategies; and 2: Priority works for flood risk reduction encompasses (i) priority flood risk reduction investments in the target provinces selected pursuant to the climate-informed flood risk reduction plan; and (ii) upgrading critical flood management infrastructure to be more climate resilient pursuant to the feasibility study/ies.

4: Increased adaptive and coping capacities through sustainable and resilient livelihoods of vulnerable agricultural, fishing, and upland communities and community-based enterprises of agricultural, fishing, and low-income peri-urban communities. Under this Result Area, a *Risk-Informed Water Resources Management project is envisaged and comprises* two components: 1: Institutional Strengthening for

[89] Key infrastructure is expected to include: water impounding structures; embankments and flood protection structures; roads (including inland evacuation roads) and shelters, dams, irrigations, power infrastructure, rain water harvesting infrastructure, water supply systems; sanitation systems; sewerage, ports, airport, health care facilities, school buildings; hazard resilient housing; resilient rural connectivity; early warning systems).

Water Resources Planning, encompassing (i) climate-informed water resources catchment plan. This plan would consider the province's flood management plan, as flood water can be stored and used productively for irrigation; (ii) feasibility studies to determine options for making water resources infrastructure more climate-resilient, this includes any necessary studies for understanding the impacts of climate on water resources; and (iii) development of operational manual for climate-informed water resources planning; and 2: Priority works for water supply management, encompassing (i) carrying out priority water supply management investments in the target provinces selected pursuant to the climate-informed water resources plan; and (ii) upgrading water supply infrastructure to be more climate resilient pursuant to the feasibility study/ies.

The institutional arrangements, roles and delivery model/operational cycle for implementing RRSP are based on the following guiding principles:

viii. Build on and strengthen existing institutional roles and arrangements, tailored to the requirements of mainstreaming and scaling-up a climate change "lens" and the priority programs, activities and projects (PAPs), through RRSP;

ix. Recognize that institutional arrangements may vary in different parts of the country, subject to, for example, coordination arrangements though Water Quality Management Agencies (WQMAs), River Basin Councils, Regional Councils;

x. Ensure a sound balance in the roles of the NGAs and LGUs while recognizing that the thrust of a results-oriented implementation of RRSP is to promote a decentralized approach to generating and sustaining climate resilience results;

xi. Ensure clear roles/mandates: NGAs will focus more on ensuring coherent and consistent policies, strategies and sound, scalable, and sustainable financing mechanisms; local level entities/LGUs will focus on ensuring their PAPs reflect priority resilience interventions which are addressing their climate change threats and priorities, and on efficient and effective implementation;

xii. Use and strengthen existing planning and budgetary mechanisms and tools, at the national and LGUs levels (e.g., medium term expenditure plan; annual budgetary plans, with a strong convergence dimension; Public Investment Plans (PIPs); National Climate Change Action Plan (NCCAP); Local Climate Change Action Plans (LCCAPs); Climate Change Expenditure Tagging (CCET); Local CCET; Climate and Disaster Risk Assessment (CIDRA); CMPs; Community Land Use Plans (CLUPs);

xiii. Adopt and activate the preferred delivery model/option, with RRSP being developed as a national program supporting climate resilience-related investments in key sector agencies (e.g., from among DENR, Department of Public Works and Highways (DPWH), Department of Agriculture (DA), Department of Interior and Local Government (DILG), Department of Science and Technology (DOST) and Department of Agricultural Research (DAR). The modality of delivery under this preferred option would require the strengthening of partnership with LGUs for implementation of interventions.

xiv. Formulate the delivery processes and modalities, taking into account relevant lessons and multi-stakeholder feedback.

<u>Part II</u>: General criteria: The *SPCR complies with the general criteria indicated in the TORs* [90] *(Please provide here an extensive discussion how the SPCR meets the following criteria)*

A. Takes into account country capacity to implement the plan

A comprehensive gap analysis on knowledge, climate risks, and related aspects was carried out as part of the RRSP development. Recommendations have been made in the RRSP to address the gaps and ensure effective design of projects/subprojects and implementation. The analysis identifies a need for

[90] Each criterion is assessed in 3 colors: green = met the criteria; yellow = need for some additional work;red = did not meet the criteria yet.

deepening scientific knowledge to assess climate risks and determine impacts, and increasing access to climate information. National agencies such as Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) and National Mapping and Resource Information Authority (NAMRIA), for instance, have been reliable when it comes to specific information on climatic conditions—temperature, rainfall, humidity—as well as the hazards that the country faces. Not all the information that is needed are available even from these agencies at the ecosystem level (both on national and regional levels) to understand the impact of climate change. The analysis points out the need to convert scientific knowledge to "usable" and disaggregated/localized information that national government agencies (NGAs) and local government units (LGUs) can use in planning and designing relevant climate resilience programs. The draft RRSP proposes to strengthen the technical capacity of key NGAs and LGUs to engage in effective assessment, analysis, monitoring of and planning for climate resilience. It also proposes a well-designed monitoring and evaluation system that can track how program, projects and activities (PPAs) are contributing to the outcomes of the priority areas in the national climate change action plan (NCCAP), while at the same time keeping track of the outputs and impacts envisioned under the PPAs.

B. Developed on the basis of sound technical assessments	
The draft RRSP has been developed on the basis sound technical assessment with specific reference to climate change risks and the vulnerability of various agroecological zones, including coastal areas, rural, urban and peri-urban areas to changes in climate and the implications thereof. A number of analytical studies and technical assessments were conducted as part of the RRSP preparation under phase 1. These among others include Gap Analysis; Focus and Prioritization Technical Paper; Monitoring and Evaluation Guidance Note. In the preparation of the RRSP, three case studies were produced using an approach for economic analysis under uncertainty, and demonstrated the utility of approaches such as these in helping to identify strategies for adaptation that consider efficacy, efficiency, and the range of possible climate impacts. A case study was produced at the national level focusing on water security using this type of analysis, and further work will be undertaken through the RRSP to inform other sectors. These assessments, inter alia, incorporated institutional aspects of design and implementation, where appropriate and relevant to RRSP. The M&E assessment pointed out that the country is well advanced in formulating relevant, critical climate policy at the national level and developing associated frameworks for measurement. It states that the key gaps in national climate change-related M&E frameworks involve the operationalization, data analysis, and knowledge management (KM). Operationalization is challenging partly due to a lack of resources and capacity at the sub-national/LGU level to monitor and report results.	

C. Demonstrates how it will initiate transformative impact	
Following up on the Government of the Philippines' recognition that climate change (CC) is an overarching sustainable development and social equity issue, it has expressed a strong commitment to developing and implementing a comprehensive climate change policy, strategies, institutional reform agenda and priority investments. The Climate Change Act of 2009 (Republic Act 9729) requires all Government agencies and institutions to systematically integrate the concept of climate change in key phases of their policy formulation, development plans, poverty reduction strategies, budgetary proposals and other development tools and processes. The National Framework Strategy on Climate Change in 2010 defined the overall objectives and the scientific evidence base for climate action. The National Climate Change Action Plan (NCCAP) of 2011 provided a long-term roadmap for climate action for achieving its two ultimate outcomes (i) enhanced adaptive capacity of communities, resilience of natural ecosystems, and sustainability of built environment to climate change; and (ii) successful transition towards green growth.	

The NCCAP provided a long-term roadmap for climate action for achieving its two ultimate outcomes (i) enhanced adaptive capacity of communities, resilience of natural ecosystems, and sustainability of built environment to climate change; and (ii) successful transition towards green growth. As formulated, the RRSP builds on these commitments and existing efforts in the country to better respond climate change through enhancing resilience and adaptive capacity, and to address the key barriers and constraints to effective planning, budgeting, and implementing adaptation and resilience interventions, so as to accelerate the transfer of transformative benefits of climate resilience and sustainable socio-economic development to the targeted sectors and areas. More specifically, through the RRSP, there would be: (i) enhanced alignment of budget and activity planning with specific and measurable indicators of the extent to which climate related risk reduction and resiliency objectives are being met; (ii) enhanced quality of design and implementation of activities (including convergence,local participation and sustainability of investments); and (iii) increased volume of financing for adaptation activities/investments, including mainstreaming of adaptation elements into regular programs, activities and projects. In this context, the Climate Budget Brief has enabled the Government to more effectively identify, plan, budget, monitor, and report its climate response. Although limited to analyses of the allocation of CC expenditures, the Brief analyzes the alignment of NGA climate expenditures with NCCAP priorities to inform technical budget hearings (TBHs) and support climate budget preparation for subsequent fiscal years.

D. Provides for Prioritization of investments, capturing of lessons learned, M&E, and links to the PPCR results framework	
The draft RRSP provides for prioritization of investments based on agreed criteria, and lessons learned in implementation of past climate change related programs, projects and activities. Based on the Focus and Prioritization review, the minimum site prioritization criteria have been proposed and include (i) high susceptibility or exposure to single or multiple climate hazards; (ii) high poverty incidence; and (iii) government priority. The lessons of central importance , which have been taken into account in the design of RRSP, cover three key topics namely (i) strengthening the planning, execution, and financing frameworks for adapting to and mitigating climate change effects; (ii) enhancing leadership and accountability through strengthened monitoring, evaluation, and review of climate change policies and activities; and (iii) building capacities of strategic stakeholder entities (at central and local levels) regarding their roles and effectiveness in managing change with respect to adaptation and mitigation of climate change "shocks"). The lessons resulting from the World Bank-supported Climate Change Adaptation Project (PhilCCAP), Yolanda Typhoon recovery and rehabilitation interventions and those derived from the experiences of 28 countries which are participating in the PPCR were taken into account in the preparation of the draft RRSP. The M&E Guidance Note, developed under the RRSP preparation phase, suggested that the RRSP complement, support and enhance the Results Based Monitoring and Evaluation System (RBMES) developed by Climate Change Commission (CCC) and widely accepted as a broad framework for resilience monitoring. The M&E system for RRSP will ensure that the indicators for both the Results Framework (RF) and the M&E system are strongly aligned with the relevant resilience/ecological indicators of the RBMES. The RRSP has therefore decided to develop an M&E framework for its own investments in accordance with its own internal requirements and procedures, while ensuring that the program's framework is aligned with the RBMES, and in turn, the Philippines Development Program (PDP). While not directly adopting the PPCR M&E Results Framework, the draft RRSP does include a Results Framework linked to each Result Area (1st column) showing OUTCOME INDICATOR(2nd column) at national and target subnational levels, OUTPUTS (3rd	

column) at national and target subnational levels, and Activities (last column). *Note: With reference to the* PPCR Core Indicators, in *Section* 3.2.3 of *the* Design, Monitoring, Evaluation, and Learning for Climate Resilience: A Guidance Paper for the Philippines (one of the Background Assessment Reports produced under Phase 1), it is stated that *"At time of writing, PPCR had funded the first phase of RRSP, but future funding is uncertain at best and it may not be required to report against its core indicators going forward." This is followed by* ***Table 1.*** *PPCR core indicators overview, highlighting the Five PPCR Core Indicators and corresponding Data Sources and Methodology. Since there are no project/subproject specific investments, it is difficult to determine the relevance of this Table to the RRSP.*	

A. Has been proposed with sufficient Stakeholder consultation and stakeholder engagement	
The RRSP preparation process is Government-owned, led by a Technical Working Group (TWG) with DENR as the Chair, and a set of oversight and line departments as members of the working group. TWG members included: National Economic and Development Authority (NEDA); Department of Finance (DOF); Department of Budget and Management (DBM); Climate Change Commission (CCC); Department of Agriculture (DOA); Department of Science and Technology Philippine Atmospheric Geophysical and Astronomical Services Division (DOST-PAGASA); Department of Public Works and Highways (DPWH); Department of National Defense (DND); Department of the Interior and Local Government (DILG); Department of Energy (DOE); and Housing and Land Use Regulatory Board (HLURB). Regional consultations were undertaken with local government representatives of eight provinces in the Philippines, and with regional development councils of the respective provinces for their inputs on RRSP design, including priorities for CC adaptation and resilience investments.[91] The final version of the RRSP has benefitted from external independent peer review, and public consultation. *However, public consultation undertaken as part of the preparation process needs to be documented in the draft RRSP as it is not available in the current draft.*	

B. Adequately addresses social and environmental issues, including gender	
Social and environmental issues, including gender is yet to be discussed in the draft RRSP. There is a note to the effect that this section is "To be completed (overall and by result area)."	

C. Supports new investments or funding additional to on-going/planned MDB investments	
New investments discussed in the draft RRSP follow each of the 4 Result Areas. The description of each of these investment proposals with specific reference to cost estimates or financing options needs further refinement. The document makes no reference to funding new investments additional to ongoing/planned MDB investments. The draft RRSP needs to include a section on investment proposals, cost estimates, and financing plan with indicative sources of funding, domestic or ODA, such as CIF, GCF, GEF, AF and possible bilateral donors.	

D. Takes into account institutional arrangements and coordination	
To better coordinate the climate response, the Government strengthened institutional arrangements for planning and delivering climate action by establishing the Climate Change Commission (CCC). It is supported by climate change offices and focal points of key NGAs and LGUs to implement	

[91]Provinces included: Surigao del Norte, Surigao del Sur, Dinagat, Masbate, Sorsogon, Negros Oriental, Western Samar, and Sarangani. Regional development councils consulted included regions of Caraga, Bicol, Eastern Visayas, and Negros.

appropriate climate change strategies and measures. The Cabinet Cluster on Climate Change Adaptation, Mitigation, and Disaster Risk Reduction (CCAM-DRR), a cross-departmental mechanism that includes secretaries of 13 departments and seven (7) executive offices, was created to strengthen the delivery of results of the Key Result Area/KRA 5 corresponding to the government's objectives on climate change adaptation, mitigation and disaster risk reduction.

A key feature of RRSP will involve enhanced inter and intra-institutional coordination, using convergence budgeting as a key tool. Accordingly, Regional Development Councils would play a key role in enhanced coordination (in conjunction with Watershed Councils etc.), based on Local Climate Change Action Plans (LCCAPs) or similar LGU planning & investment instrument (e.g., PCIPs in case of the DA).

The RRSP identifies DENR, consistent with its role under the RRP, having the overall responsibility for leading (at technical level) implementation, including coordination, of the Program, and for reporting, on behalf of the agencies involved in the program, to the CCAM-DRR. The main features of the implementation arrangements and roles will comprise a RRSP Program Advisory Board, a lean Program Support Unit, multi-stakeholder Regional Development Councils, National Government Agencies (NGAs) and Local Government Units (LGUs), which would link with district-level governments and councils. The Sub-projects developed by LGUs, in partnership with NGAs for RRSP support, would need to incorporated into Provincial Investment Plans, and submitted to the appropriate Regional Development Council for review and modification as necessary to facilitate complementation and convergence with other ongoing or planned activities. Upon endorsement by the RDC, the subproject would be submitted to the responsible NGA for technical and financial review and approval. The NGA would annually submit such PAPs to the RRSP-NPAB together with Department of Budget and Management (DBM) Form 20-1E for budget consideration. The NPAB, though it's Program Support Office would undertake a quality review of the sub-project proposals for consistency with RRSP. Such review would not involve further technical, economic or financial review which is the responsibility of the proponent NGA. The NPAB would endorse NGA-RRSP plans and programs (PAPs) to the CCAM for approval and inclusion in the budget[92].

E. Promotes poverty reduction

As stated in the draft RRSP, adaptation actions and resilience measures can contribute to sustainable growth, job creation and poverty reduction. Furthermore, it states that the physical impacts of climate changes can reduce economic growth and make it more difficult to sustainably lift poor people out of poverty. Investing in resilience will benefit the people and sectors most vulnerable to climate change. The draft RRSP recognizes that many of the poor are disproportionally exposed to climate related risks and often have limited means to cope with or adapt to climate change. By 2030, climate shocks could push an additional 0.9 million people back into extreme poverty and reduce the income of the bottom 40 percent by 2.3 percent, thereby representing a constraint to poverty eradication. [93] Reiterating that climate-informed development could prevent many of these impacts, and that activities that conserve water and improve soil quality will enhance water resources management and help alleviate food insecurity. Labor-intensive activities, such as retrofitting infrastructure or ecosystem-based adaptation strategies to account for increased flood risk, will build resilience while increasing employment opportunities. Moreover, the study on Focus and Prioritization, conducted as part of the RRSP preparation, highlighted high poverty incidence as one of the minimum site prioritization criteria.

Recognizing that poor communities have fewer options for coping and rebounding, and can suffer

[92]Current Procedure requires that participating agencies submit their climate PAPs to the TRC for review. Approved PAPs are returned to the agencies to complete DBM form 20-1E for funding before returning these to DENR for consolidation and signature of the DENR secretary and submission to CCAM and subsequent submission to DBM for approval.

[93] Rozenberg, J., & Hallegatte, S. The impacts of climate change on poverty in 2030 and the potential from rapid, inclusive, and climate-informed development. Policy Research Working Paper Series 7483, World Bank.

major setbacks after damage due to climate change impacts, climate change adaptation and enhancing resilience is seen as a priority for poverty reduction in the country. It is in this context that the investment proposal under Result Area 4 focuses on increased adaptive and coping capacity through sustainable and resilient livelihoods given vulnerability of rural poor to major climate change impacts because of their direct dependence on agriculture and natural resources.

F. Sufficiently considers cost effectiveness of proposed investments	

While the draft RRSP has proposed certain investment projects, it does not provide any indication of detailed costs or financing arrangements. The document does provide an overall cost figure of $688,7 million. Corresponding figures for each Result Area is: 1: $65.2 million; 2: $224.6 million; 3: $225.5 million; and 4: $173.4 million. Detailed cost estimates and financing plan for each project/subproject appear to be still under development. Moreover, the draft RRSP also does not include any discussion on cost effectiveness of proposed investments. The statement in the draft RRSP that *"Summary costs are to be updated as cost data are still being collected from NGAs and provinces. Further preparation work will include detailed cost tables showing the costs according to each component, subcomponent, and by year"* indicates that this part of the RRSP is still being completed. Since the costs are in fractions, it is clear that the cost tables may simply need some refinement.

<u>Part III</u>: Compliance with the investment criteria of SPCR

(1) Provide extensive comment on whether the SPCR complies with the following criteria specific for PPCR (see TORs).

A. Climate risk assessment: The SPCR has been developed on the basis of available information on the assessment of the key climate impacts in the country; the vulnerabilities in all relevant sectors, populations and ecosystems; and the economic, social and ecological implications of climate change impacts.	

The draft RRSP has been developed on the basis available information on the assessment of key climate impacts in the country. As documented in the draft RRSP, these, among others, include assessment reports by various international agencies such as the World Bank (2013), WRI (2016), TNC (2017), and various national institutions such as NAMRIA, PAGAS, DENR, and others. This includes projections using regional concentration pathway (RCP) models 4.5 and 8.5 (Cinco 2016); Climate modeling in the Philippines used the Coupled Model Intercomparison Project Phase 3 (CMIP3) model Special Report on Emissions Scenarios (SRES) scenarios to develop its first set of downscaled model projections for the Philippines. The Coupled Model Intercomparison Project Phase 5 (CMIP5) model and Representative Concentration Pathways (RCP) scenarios were also used for climate modeling. The assessments included an assessment of vulnerabilities in all relevant sectors, populations and ecosystems; and the economic, social and ecological implications of climate change impacts. The assessments highlighted the climate change risks and the vulnerability of various agroecological zones, including coastal areas, rural and urban areas to changes in climate and the implications thereof. The assessments concluded that the Philippines is exposed to several climate hazards which are expected to increase in the future; these include flooding, wind damage, drought and coastal erosion.

B. Institutions/ co-ordination: The SPCR specifies the coordination arrangements to address climate change: cross-sectoral; between levels of government; and including other relevant actors (e.g., private sector, civil society, academia, donors, etc).	

Drawing upon the lessons learned through implementation of various climate change adaptation projects and programs, the draft RRSP proposes to work out carefully and agree with key stakeholders the most appropriate institutional coordination arrangements and roles given the cross-cutting nature of

climate change programs/projects. This would also facilitate access to sustainable incentives to participate, at the national and sub-national levels. Strong and effective coordination, together with access to budgetary resources to mainstream climate change interventions, are considered vital. The RRSP has recommended that a central government department take lead in ensuring an adequate level of coordination. This would be coupled with and complemented by a sectoral lead ministry to share the coordination and leadership roles.

Establishing a coordination mechanism between and among development partners and government that will facilitate and clarify the outset the respective roles of development partners is recommended. The government should establish clear guidelines on triggers, protocols, roles and responsibilities, and mandates for such coordination. Development partners may also be included in the clusters as needed to facilitate coordination of policies and implementation of rehabilitation and recovery projects. This would avoid duplication of assistance and support in the affected areas.

C. *Prioritization: The SPCR has adequately prioritized activities taking into account relevant climate/risks and vulnerabilities and development priorities, sectoral policies; ongoing policy reform processes and existing, relevant activities and strategies.*	

The draft RRSP identifies investments in each Result Area which are consistent with relevant climate/risks and vulnerabilities and development priorities, sectoral policies, updated policies and programs and existing, relevant activities and strategies. *More work is needed to strengthen and refine the investment proposals to attract financing both from domestic sources as well as through international assistance.* However, to ensure adaptation investments along the continuum are risk and vulnerability informed and focused, the criteria proposed include (a) *Relevance* to ensure that investment options are risk-informed or based on climate information, in urgent need for adaptation, and focused on target areas and groups most vulnerable to the risk; (b) *Coherence and synergistic* with jointly prepared national, sectoral and local plans on climate resiliency: (c) *Effectiveness*, given thecapacity of an adaptation action to achieve its expressed objectives, coupled with the robustness of the proposed investment; (d) *Efficiency* in terms of costs (including transactions costs) and benefits of reduced impacts or enhanced opportunities; (e) *Feasibility, including* political and financial feasibility, as well as feasibility within a reasonable time frame; and (f) *Sustainability*, which refers to long-term effectiveness of the interventions and the capacity to continue, sustain or maintain the resilience measure technically and financially even after project completion.

D. *Stakeholder engagement/ participation: The SPCR has identified and addressed the needs of highly vulnerable groups.*	

The RRSP preparation process has been Government-owned, led by a Technical Working Group with DENR as the chair, and a set of oversight and line departments as members of the working group. TWG members included: National Economic and Development Authority (NEDA); Department of Finance (DOF); Department of Budget and Management (DBM); Climate Change Commission (CCC); Department of Agriculture (DOA); Department of Science and Technology Philippine Atmospheric Geophysical and Astronomical Services Division (DOST-PAGASA); Department of Public Works and Highways (DPWH); Department of National Defense (DND); Department of the Interior and Local Government (DILG); Department of Energy (DOE); and Housing and Land Use Regulatory Board (HLURB). A key feature of RRSP implementation will involve enhanced inter and intra-institutional coordination, using convergence budgeting as a key tool. Accordingly, Regional Development Councils would play a key role in enhanced coordination (in conjunction with Watershed Councils etc.), based on Local Climate Change Action Plans (LCCAPs) or similar LGU planning & investment instrument (e.g., PCIPs in case of the DA).*Public consultation undertaken as part of the preparation process needs to be documented in the RRSP as it is not available in the current draft.*

(2) Complies with the principles and objectives of PPCR as specified in the design documents and programming modalities.

PPCR principles:

A. Embedded in the broader context of sustainable development
The draft RRSP states that the Government of the Philippines has recognized climate change (CC) as an overarching sustainable development and social equity issue, and has demonstrated strong commitment to developing and implementing in a coordinated manner a comprehensive climate change policy, strategies, institutional reform agenda and priority investments. The RRSP builds on the existing efforts in the country to better respond climate change through enhancing resilience and adaptive capacity, and to address the key barriers and constraints to effective planning, budgeting, and implementing adaptation and resilience interventions, so as to accelerate the transfer of transformative benefits of climate resilience and sustainable socio-economic development to the targeted sectors and areas.
B. Ambitious and innovative in their objectives towards climate resilience
In 2013, the government, as part of the national Convergence Budgeting Program (PCB), formulated a Risk Resiliency Program (RRP), to (i) develop a coordinated government response on climate change adaptation and resilience. The Government strengthened institutional arrangements for planning and delivering climate action by establishing the Climate Change Commission (CCC). It is supported by climate change offices and focal points of key NGAs and LGUs to implement appropriate climate change strategies and measures. The Cabinet Cluster on Climate Change Adaptation, Mitigation, and Disaster Risk Reduction (CCAM-DRR), a cross-departmental mechanism that includes secretaries of 13 departments and seven (7) executive offices, was created to strengthen the delivery of results of the Key Result Area/KRA 5 corresponding to the government's objectives on climate change adaptation, mitigation and disaster risk reduction. The RRP, which serves as the foundation of the draft RRSP, serves as the framework program of the CCAM-DRR to deliver the outcomes of the Philippine Development Plan (PDP), particularly on strengthening the resiliency of natural ecosystems and the adaptive capacity of vulnerable groups and communities to short and long-term risks using a landscape management approach in the 18 major river basins of the country.
C. Strengthen collaboration and complementarity with other development partners and seek to identify other sources of financing
The draft RRSP needs to include a specific section on this subject. As drafted, the RRSP primarily focuses on domestic sources of funding with a passing reference to ODA. As also stated earlier, the draft RRSP needs to include a section on investment proposals, cost estimates, and financing plan with indicative sources of funding, domestic or international development partners, such as CIF, GCF, GEF, AF and possible bilateral donors.
D. Build on existing efforts supporting climate resilience (including NAPAs), taking care not to duplicate
The draft RRSP builds on existing efforts supporting climate resilience. As stated in the 2015 Climate Budget Analysis report, "Acknowledging that climate change is an overarching challenge that cuts across sectors, socioeconomic groups, and geographic boundaries, the Philippines has demonstrated leadership early on through its strong commitment to a comprehensive climate change policy, and institutional financing reform agenda. Furthermore, as also stated earlier, the Climate Change Act of 2009 (Republic Act 9729) requires all Government agencies and institutions to systematically integrate the concept of climate change in key phases of their policy formulation, development plans, poverty reduction strategies, budgetary proposals and other development tools and processes. The National Framework Strategy on Climate Change in 2010 defined the overall objectives and the scientific evidence base for climate action. To better coordinate the climate response, the Government strengthened institutional arrangements for planning and delivering climate action by establishing the

Climate Change Commission (CCC). It is supported by climate change offices and focal points of key NGAs and LGUs to implement appropriate climate change strategies and measures. The Cabinet Cluster on Climate Change Adaptation, Mitigation, and Disaster Risk Reduction (CCAM-DRR), a cross-departmental mechanism that includes secretaries of 13 departments and seven (7) executive offices, was created to strengthen the delivery of results of the Key Result Area/KRA 5 corresponding to the government's objectives on climate change adaptation, mitigation and disaster risk reduction. These institutional arrangements responding to climate change will ensure that there is no duplication of effort.

E. Outline how lessons learned will be captured and widely shared

While the draft RRSP takes account of the past experience and lessons learned in climate change adaptation, resilience and disaster mitigation, it also recognizes that not all the lessons learned and information that is needed are available at the ecosystem level to understand the impact of climate change on natural resources. Moreover, there is a need to convert scientific knowledge to "usable" and disaggregated/localized information that NGAs and LGUs national government agencies and local government units can use in planning and designing relevant climate resilience programs. Studies that link climatic conditions and welfare, and physical deterioration of capital, natural and human resources are generally lacking. More scientific studies need to be conducted and more technical models created, in order to identify and forecast the state and possible impacts of climate change at all levels and across different ecosystems. Given the need to convert scientific knowledge to information that national government agencies and local government units can use in planning and designing programs, the draft RRSP proposes that creation of a modern information system with a storehouse for the accumulated knowledge and an effective information and knowledge dissemination mechanism. Furthermore, the RRSP has an opportunity to set a national example for how to best operationalize M&E, and establish and maintain a KM system. In line with this, one of the RRSP's pillars is "Increasing Knowledge, Information and Institutional Capacities to Respond to Risks."

PPCR Objectives:

Help countries transform to a climate resilient development path, consistent with poverty reduction and sustainable development goals. As a pilot program and supporting learning-by-doing, PPCR implementation ultimately aims to result in an *increased application of knowledge on integration of climate resilience into development.*

A. *Pilot and demonstrate approaches for integration of climate risk and resilience into development policies and planning*

As also stated earlier, the Climate Change Act of 2009 (Republic Act 9729) requires all Government agencies and institutions to systematically integrate the concept of climate change in key phases of their policy formulation, development plans, poverty reduction strategies, budgetary proposals and other development tools and processes. The RRSP builds on the existing efforts in the country to better respond climate change through enhancing resilience and adaptive capacity, and to address the key barriers and constraints to effective planning, budgeting, and implementing adaptation and resilience interventions, so as to accelerate the transfer of transformative benefits of climate resilience and sustainable socio-economic development to the targeted sectors and areas.

B. *Strengthen capacities at the national levels to integrate climate resilience into development planning*

The development objective of the RRSP is closely aligned with the overall goal of the RRP which is to strengthen the resiliency of natural ecosystems and the adaptive capacity of vulnerable groups and communities to short and long-term risks and disasters particularly in the 18 major river basins of the country. Accordingly, the development objective of the RRSP to strengthen (i) key multi-stakeholder institutional capacities to address effectively climate change risks and disasters, and (ii) the climate

change resiliency of strategic ecosystems, priority infrastructure assets, and livelihoods of vulnerable groups and communities in prioritized landscapes. The RRSP clearly articulates the need to strengthen the technical capacity of key national government agencies (NGAs) and local government units (LGUs) to engage in effective monitoring of and planning for climate resilience.

C. Scale-up and leverage climate resilient investment, building on other ongoing initiatives

The enhancement of the planning, budgeting, implementation and operational framework of the RRP through the RRSP, will help ensure appropriate technical and investment options will be funded, delivered on the ground and scaled up to all provinces in the most cost-effective manner. Therefore, the value addition of the RRSP would be the transformation of the CCAM-DRR objectives into a nation-wide program for Climate Adaptation and Disaster Reduction, through which to more efficiently catalyze, direct, and monitor funding and investments in ways that lead to more efficient achievement of measurable outcomes, linked with the NCCAP and convergent-sectoral targets. More specifically, through the RRSP, there would be: (i) enhanced alignment of budget and activity planning with specific and measurable indicators of the extent to which climate related risk reduction and resiliency objectives are being met; (ii) enhanced quality of design and implementation of activities (including convergence,local participation and sustainability of investments); and (iii) increased volume of financing for adaptation activities/investments, including mainstreaming of adaptation elements into regular programs, activities and projects.

Two important requirements are necessary for scaling-up and accelerating the pace of implementing the RRP through the RRSP. First, specific funding needs to be provided in the GAA to catalyze and incentivize NGAs and LGUs to build capacity and undertake specific climate change related investments. Second, cost-sharing mechanisms between NGAs and LGUs are needed to encourage and support LGUs, especially those in vulnerable areas, to focus more on climate adaptation and risk reduction investments, including those that may be more costly, longer term, less visible and/or require greater convergence effort.

D. *Enable learning-by-doing and sharing of lessons at country, regional and global levels*

Investments under Result Area 1 pertaining to strengthened and effective RRSP "enabling" environment at national and target subnational levels, would focus on the key elements encompassing policy, institutional arrangements, roles and responsibilities, convergence planning, budgetary and financing framework, capacities of key stakeholders, and most important, knowledge management systems and learning.The roll-out of the RRSP has been designed to facilitate "learn-through -doing", both at the level of the implementers (LGUs and NGAs), as well as in overall program oversight. To facilitate this learning process and to accelerate the scaling-up of a portfolio of subprojects, a particular focus would be given to a limited and representative number of vulnerable provinces in the initial 3 to 5-year period.[94] This would be specifically designed to strengthen their planning and technical capacity to prioritize, design and implement climate change responsive investments. Dissemination of information and knowledge to reach the intended beneficiaries at both national, regional and local level would be a key element initiative. Development partners technical and financial support in this process would be most helpful if focused on relevant institutions in these provinces and processes to help further develop the tools for refining the approach, methodology, monitoring and impact analyses, knowledge management and information dissemination.

(3) Assessment towards the PPCR results framework

Overall Comments: The RF for every investment proposal under each Result Area needs refinement so that it is consistent, to the extent possible, with the PPCR RF. Thereafter, a consolidated RF needs to be

[94]Ten vulnerable provinces that have been selected by the CCAM-DRR for initial focus include Masbate, Sorsogon, Negros Oriental, Western Samar, Surigao del Norte, Surigao del Sur, Dinagat, Lanao del Sur, Maguindanao and Sarangani.

developed for the RRSP as a whole on the basis of guidance provided in the 2016 March PPCR Monitoring and Reporting Toolkit.

Overall, the reviewer assessed a total of __ criteria and indicators with the following scoring:

16	The criteria and/or indicator has been generally met and there is no need for any revision or larger complement at this stage
4	The criteria and/or indicator is partially met, it is recommended to relook at some of aspects that need further clarification
3	The criteria and/or indicator is partially met and need to be developed [or, at the current stage the criteria is not relevant]

Part III: Conclusions and Recommendations
(The recommendations in this section are based on August 2015 Operational Guidelines for New Pilot Countries and Stakeholders and relevant PPCR Guidance documents listed at the end)

The draft Risk, Resiliency and Sustainability Program (RRSP), which represents the Philippines SPCR, is a very well drafted, comprehensive document, and highlights all relevant aspects of climate change, its implications, vulnerabilities of various ecosystems at the sector, national, sub-national, local and community level, to provide a firm basis for a national strategy. Being grounded in updated climate change policies and programs such as RRP and institutions such as CCC and others, it has the potential to serve as a national program and strategy for climate action. However, it is still work in progress and therefore incomplete in certain respects. Since the proposed investments, cost estimates of each investment proposal and related public consultation, environmental and social aspects, and possible financing sources, highlighted in the Review Section below, are yet to be finalized, it will need some more work to make it suitable for presentation to international development partners. As presented, the draft RRSP promotes a bottom up and top down approach for the national government agencies (NGAs) and the Local Government Units (LGUs) as well as the regional institutions, identifies priority areas most vulnerable to climate change impacts and recommends an approach that may be adopted to address them. The background reports that contributed to the draft RRSP provide excellent assessment of key issues and challenges and make recommendations to appropriately deal with climate change impacts through adaptation interventions for enhanced resilience. Once completed, the document would serve as an appropriate strategic framework for sustainable response to climate change and enhanced resilience funded through national budgetary allocations as well as support by international development partners, including PPCR.

Notwithstanding the quality and comprehensivessness of the draft RRSP, its submission to the PPCR SC for consideration would entail some additional input to bring the document in line with the guidance provided in the August 2015 Operational Guidelines for New Pilot Countries and Stakeholders (Operational Guidelines). In this context, it is important to ensure that the draft SPCR (RRSP) conforms to, as much as possible, to an outline for submission to PPCR SC for consideration (**Annexe 2)** of the Operational Guidelines: Proposed outline of overall topics to be addressed in a SPCR).

While reviewing the draft RRSP, it was clear that there are sections in the document which are certainly consistent with the PPCR requirements. These include the Section on BACKGROUND AND CONTEXT, which corresponds to **Part 1**, Sections 1,2 and 3 - **Country circumstances, Development context and climate risks, and Overview and linkage to existing development plans and programs**,of the SPCR Outline (**Annex 2**) of the Operational Guidelines.

Similarly, while the **participation process** that led to the development of the RRSP, including details and list of meetings and stakeholders consulted, is well articulated. However, it does not demonstrate or

document participation by civil society including women's organizations, private sector, local community groups and indigenous peoples' organizations. Moreover, the list of participants and stakeholder meetings is suggested to be provided in an Annexe.

Rationale for PPCR support is presented in each Result Areas. It is however important that the RRSP, as a comprehensive strategy document, provide a rationale in a consolidated form with reference to (i) where can PPCR program add value?; (ii) what are country main priorities towards climate resilience (e.g. one or two sectors)?; (iii) what and why is PPCR support requested?; (iv) how does this support a shift in approach to development planning and scaled-up action towards climate resilience?; (v) what is the potential cost effectiveness of proposed actions? (vi) how is it sustainable? and (vii) how would social and environmental aspects be addressed for the proposed investments.

Similarly, as currently presented in the draft RRSP, institutional assessment including strengths and weaknesses, is embeded throughout the document. For purposes of submssion to PPCR SC, there needs to be dedicated section on **Institutional Analysis** encompassing(i) list key agencies to address the risks (current set-up; gaps and needs that PPCR will support (cross-sector coordination is of key importance; gender focal point may also be needed); (ii) private sector role and potential to achieve climate resilience; (iii) implementation structure and associated risks of proposed investments for PPCR finance.

There is also a need for a dedicated section on the **Outline of the SPCR/RRSP** which identifies possible investment proposals in the form of an Investment Plan and technical assistance requirements. As indicated in the PPCR Guidelines referred to aboove, theprocess/investment plan will require more than the time span and finance of PPCR alone. Therefore this outline should include a view on phasing of the needed actions and division of labor between PPCR and other actors. In that context, it should be described which of the components are suggested for PPCR finance (as part of long part process), as well as describe how this links with ongoing and/or planned MDB programs. Most of this information is available in the draft RRSP in various sections that needs to be consolidated and developed into an Investment Plan as required. As an addition, a short overview needs to be provided on components financed and implemented by other development partners in the text or in an annexe.

The PPCR Operational Guidelines also require the development of a section describing Proposed Investment Program Components (Part 2). The description summarizes the overall programmatic approach and rationale for components in light of the country's agreed strategic approach to climate resilience. Provide a performance framework with country specific metrics. Since most of this information is available in the draft RRSP's section 2.4 Resilience Investments by Result Area, it this section can be drafted rather easily, using available information in this section of the draft RRSP. However, more detailed descriptions of the components of the programmatic approach shall have to be presented in an annex (3–6-page annex each), encompassing the following topics for each Investment Proposal:

(a) Title
(b) Background
(c) Development and specific objectives
(d) Key indicators and baseline (ensure gender-disaggregation of beneficiaries, other targets)
(e) Anticipated components and activities incl. Learning and Knowledge Management activities)
(f) Institutional Arrangements: options and risks; link and strengthening of cross-sectoral coordination mechanism within the country and support to sectoral climate units (as applicable); interim support structures during project preparation; link with the private sector; gender coordination
(g) Risks

(h) Cost estimates and PPCR and other sources of finance (including MDB resources, other climate finance mechanisms, and counterpart finance)
(i) Results and Performance Framework (PPCR core and co-benefit indicators, including gender indicators at outcome level). (See March 2016 PPCR Monitoring and Reporting Toolkit for guidance.)

Finally, should there be a need for funding for preparation of projects for investment, there would be a need for **Part 3 – Request for Project Preparation Funding**. The request would follow an outline template (**Annexe 3** of the Operational Guidelines: Guidelines for the Approval and Management of PPCR Project and Program Preparation Grants).

Once the revised document (RRSP/SPCR) has been completed, a **Summary of SPCR** in accordance with a template (**Annexe 5** of the Operational Guidelines: Template for Summary of SPCR) should be included prior to submission to PPCR SC.

References

Main document reviewed: SPCR (RRSP), Philippines
Additional documents consulted:

- PPCR Programming and Financing Modalities for the SCF Targeted Program, the PPCR[95] (July 2009)
- PPCR Financing Modalities[96] (June 2010)
- PPCR Design Document[97] (December 2011)
- PPCR Guidance Note for New Pilot Country Engagement (August 2015)
- PPCR Guidance Note for MDBs (August 2015)
- Procedures for the Preparation of Independent Technical Reviews of PPCR and SREP Investment Plans (November 2015)[98]
- Revised PPCR Results Framework[99] (March 2016)

Appendix 8.2 Response Note to Expert Review of Philippines's Draft Strategic Program for Climate Resilience

October 24, 2017

This note provides the Government of the Philippines's response to the expert review of the draft Strategic Program for Climate Resilience (SPCR) document. The expert review is a process that all Pilot Program for Climate Resilience (PPCR) countries undertake, and the purpose of this is to facilitate an external expert in providing guidance to country teams, and helping them to further develop and strengthen the SPCR document. The review usually precedes the submission of a country's draft SCPR document to the PPCR sub-committee meeting, thus providing the country team with sufficient time to incorporate feedback from the review in their draft SPCR. In the case of the Philippines, it is planned that the draft SPCR will be submitted for review at the CIF sub-committee meeting in December, 2017, and on that basis the process of the review was undertaken.

The review of the draft SPCR document was conducted by Mr. Tahir Qadri from October 02 to 08, 2017, and the outcome of the review transmitted to the government through the Department of Environment and

95 https://www-cif.climateinvestmentfunds.org/sites/default/files/meeting-documents/ppcr_programming_and_financing_modalities.pdf
96 https://www-cif.climateinvestmentfunds.org/sites/default/files/meeting-documents/ppcr_financing_modalities_final_0.pdf
97 https://www-cif.climateinvestmentfunds.org/sites/default/files/meeting-documents/ppcr_design_document_final.pdf
98 https://www-cif.climateinvestmentfunds.org/sites/default/files/meeting-documents/procedures_for_the_preparation_of_independent_technical_reviews_of_ppcr_and_srep_investment_plans_0.pdf
99 https://www-cif.climateinvestmentfunds.org/sites/default/files/meeting-documents/revised_ppcr_results_framework_0.pdf

Natural Resources Foreign Assisted Special Projects Service (DENR FASPS) on October 09, 2017.[100] The DENR FASP convened a meeting on October 12, 2017 with Mr. Qadrito discuss the outcome of the review, and to clarify any concerns with the recommendations provided in the review for improving the SPCR document. The review document was subsequently shared with the Technical Working Group (TWG) for the PPCR preparation.

The government has reviewed the expert review document, and has developed responses to the key recommendations; the responses are provided in Table 36.

[100] Mr. Qadir was selected following review of the CVs of several potential peer reviewers by the DENR FASPS team, and was selected based on his extensive experience in the SPCR process, and as well on his experience of working on climate issue in the East Asia region.

Table 36: Responses to recommendations from expert review of Philippines's draft SCPR

Feedback/ Recommendation (Part III)	Responses
While the participation process that led to the development of the RRSP, including details and list of meetings and stakeholders consulted, is well articulated. However, it does not demonstrate or document participation by civil society including women's organizations, private sector, local community groups and indigenous peoples' organizations.	The preparation of the RRSP benefited from extensive participation with representatives of national government agencies including the National Economic and Development Agency (NEDA), Department of Budget and Management (DBM), Department of Finance (DOF), Department of Agriculture (DA), Department of Public Works and Highways (DPWH), Department of Interior and Local Government (DILG), Department of National Defense Office of Civil Defense (DND-OCD), Housing and Land Use Regulatory Board (HLURB), Department of Science and Technology Philippine Atmospheric, Geophysical and Astronomical Services Administration (DOST-PAGASA), Department of Energy (DOE) and Department of Environment and Natural Resources (DENR) representatives of the provincial local government units of Surigao del Norte, Surigao del Sur, Dinagat, Masbate, Sorsogon, Negros Occidental, Sarangani, and Samar; representatives of Regional Development Councils of Caraga, Bicol, Negros, and Soccsksargen; civil societyand development partners including multi-lateral development banks. Minutes of consultation meetings were developed as part of project documentation, and detailed records of participation were kept. **The revision of the draft SCPR document will enhance the description of the participatory process during the RRSP development to better reflect the participation of civil society, private sector, and local community groups including indigenous peoples. A list of meeting and consultation participants by stakeholder type and gender will be added as an annex to the document.**
Rationale for PPCR support is presented in each Result Areas. It is however important that the RRSP, as a comprehensive strategy document, provide a rationale in a consolidated form with reference to (i) where can PPCR program add value?; (ii) what are country main priorities towards climate resilience (e.g. one or two sectors)?; (iii) what and why is PPCR support requested?; (iv) how does this support a shift in approach to development planning and scaled-up action towards climate resilience?; (v) what is the potential cost effectiveness of proposed actions? (vi) how is it sustainable?; and (vii) how would social and environmental aspects be addressed for the proposed investments.	The recommendation for consolidating the rationale for PPCR support is noted and appreciated, as the SPCR preparation team acknowledges that the rationale in the current draft is dispersed in several sections of the document.**A section on "rationale for PPCR support" would be included in the SPCR draft and will expand on: (i) added value of PPCR program; (ii) main country priorities towards climate resilience; (iii) basis for what PPCR support; (iv) the transformational change envisioned through the PPCR support.**
As currently presented in the draft RRSP, institutional assessment including strengths and weaknesses, is embedded throughout the document. For purposes of submission to PPCR SC, there needs to be dedicated section on **Institutional Analysis** encompassing(i) list key agencies to address the risks (current set-up; gaps and needs that PPCR will support (cross-sector coordination is of key importance; gender focal point may also be needed); (ii) private sector role and potential to achieve climate resilience; (iii) implementation structure and associated risks of	The recommendation for including a section on "institutional analysis" is noted and appreciated, as the SPCR preparation team acknowledges that the institutional setup and arrangements are dispersed across several sections of the document. Furthermore, a dedicated section on institutional analysis including the gaps in the institutional arrangements that underpin climate risk management, would strengthen the case for the institutional arrangements proposed in part 2 of the document on the RRSP program. **A section on "institutional analysis" will be added in part 1 of the draft SPCR, and details on the implementation structure for proposed investments would be included in part 2 of the document.**

Feedback/ Recommendation (Part III)	Responses
proposed investments for PPCR finance	**The risk of the proposed investments would be included in the description of the proposed investments, included in part 2 and with full details provided in the annexes.**
There is also a need for a dedicated section on the Outline of the SPCR/RRSP which identifies possible investment proposals in the form of an Investment Plan and technical assistance requirements. As indicated in the PPCR Guidelines referred to above, theprocess/investment plan will require more than the time span and finance of PPCR alone. Therefore this outline should include a view on phasing of the needed actions and division of labor between PPCR and other actors. In that context, it should be described which of the components are suggested for PPCR finance (as part of long part process), as well as describe how this links with ongoing and/or planned MDB programs. Most of this information is available in the draft RRSP in various sections that needs to be consolidated and developed into an Investment Plan as required. As an addition, a short overview needs to be provided on components financed and implemented by other development partners in the text or in an annex. The PPCR Operational Guidelines also require the development of a section describing Proposed Investment Program Components (Part 2). The description summarizes the overall programmatic approach and rationale for components in light of the country's agreed strategic approach to climate resilience. Provide a performance framework with country specific metrics. Since most of this information is available in the draft RRSP's section 2.4 Resilience Investments by Result Area, it this section can be drafted rather easily, using available information in this section of the draft RRSP. However, more detailed descriptions of the components of the programmatic approach shall have to be presented in an annex (3–6-page annex each).	An investment plan that includes investment proposals and technical assistance requirements was not included in the current draft of the SPCR. Four investment project concepts have been included in the current draft in the section of the SPCR draft called Investments by Result Area, and these need to be further developed, and cost and financing information for each project concept included. **An investment plan will be included in the revised SPCR document, and will include: (i) descriptions of the project proposals with full details of the proposals provided in the annexes; (ii) costing of the project proposals; (iii) the proposed financing strategy for the investments including financing sources and strategy for accessing key climate finance like the Green Climate Fund (GCF); (iv) the key results that the projects will contribute to; (v) key risks and risk mitigation strategies of each proposed project; and (vi) social and environment safeguard issues associated with each project. Annex will also include a list of projects and activities supported by development partners, and will indicate the links between the proposed investments and these projects and activities.**
Finally, should there be a need for funding for preparation of projects for investment, there would be a need for **Part 3 – Request for Project Preparation Funding**. The request would follow an outline template (**Annexe 3** of the Operational Guidelines: Guidelines for the Approval and Management of PPCR Project and Program Preparation Grants).	**The template for the request for project preparation funding will be completed.**
Once the revised document (RRSP/SPCR) has been completed, a **Summary of SPCR** in accordance with a template (**Annexe 5** of the Operational Guidelines: Template for Summary of SPCR) should be included prior to submission to PPCR SC.	**The "Summary of the SPCR" template would be completed and included in the SPCR draft.**

Annex 9: List of main references

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