

Chapter 5

Philippines

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Chapter 5

Philippines

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1. Introduction

The Philippines, an archipelago in South-East Asia consisting of 7,641 islands, was ranked as the ninth-most at-risk country in 2019 in terms of disasters arising from earthquakes, cyclones, floods, droughts, or sea-level rise (Day et al., 2019). It is exposed to an average of 21 typhoons per year and associated disasters such as floods, landslides, and storm surges. It also experiences earthquakes and volcanic eruptions, as well as tsunamis following earthquakes, because it is in the Pacific Ring of Fire. The Philippines is vulnerable to occurrences of prolonged drought due to the El Niño phenomenon and increased rainfall and subsequent flooding due to the La Niña phenomenon.

Around 60% of its 109 million population¹ lives in coastal areas and is vulnerable to climate change-induced disasters. A 2016 report stated that sea surface temperature near the Philippines had been increasing by a range of 0.210°C to 0.250°C per decade from 1981 to 2014. This is higher than the estimated global mean sea surface temperature increase of 0.094°C to 0.154°C for every decade from 1979 to 2012. Moreover, future changes to the climate in response to various emission scenarios have been studied, and the mid-range emission scenario predicts increases in annual mean temperatures ranging from 0.9°C to 1.1°C in the 2020s and 1.8°C to 2.2°C in the 2050s (Villarin et al., 2016). This means that the country will be exposed further to extreme weather events in the coming decades.

The Philippines is considered a lower middle-income country, with a per capita gross national income of \$3,860.97 in 2019. Economic growth performance in the past decade has been robust, with gross domestic product (GDP) increasing at an annual rate of over 6% from 2012 to 2019. The COVID-19 pandemic, however, reversed this trend. The economy contracted for the first time since 1998 by 0.2% in the first quarter of 2020, then by 16.9% in the second quarter (the lowest recorded growth in 39 years), and by 11.5% in the third quarter. This will have devastating impacts on poverty, the estimates of which will be collected in 2021 and released in 2022, which will add to the impacts that the country has been experiencing due to various disasters. Walsh and Hallegatte (2020) estimated that the average annual well-being losses due to disasters in the Philippines is \$3.9 billion per year, more than double the asset losses of \$1.4 billion.

The primary government agency responsible for climate adaptation advocacy is the Climate Change Commission (CCC). It is tasked by Republic Act No. 9729, as amended by Republic Act No. 10174, to coordinate, monitor, and evaluate government programmes on climate change and to ensure the mainstreaming of climate-change concerns in national, sub-national, and sectoral development plans. It is composed of the President as chair, and three commissioners

¹ Based on the official 2020 census, which placed the population of the country at 109,035,343 (Philippine Statistics Authority, 2021).

appointed by the President, one of whom serves as the vice-chair. As a policy authority and science-based agency, the CCC has two supporting bodies: an advisory board and a technical experts panel.

The advisory board is composed of the heads of the following national government agencies: Department of Agriculture, Department of Energy, Department of Environment and Natural Resources (DENR), Department of Education, Department of Foreign Affairs, Department of Health, Department of Information and Communication Technology, Department of the Interior and Local Government, Department of National Defense, Department of Public Works and Highways, Department of Science and Technology, Department of Social Welfare and Development, Department of Trade and Industry, Department of Transportation, National Economic and Development Authority, National Security Council, and Philippine Commission on Women. It also has representatives from associations of sub-national or local governments, including the president of the League of Provinces, president of the League of Cities, president of the League of Municipalities, and president of Liga ng mga Barangay. Finally, it has sectoral representatives, one each from academia, the business sector, and non-governmental organisations, provided that at least one of the sectoral representatives comes from the disaster risk reduction community.

The technical experts panel consists of the country's leading climate scientists and authors on the Intergovernmental Panel on Climate Change (IPCC).

Aside from the CCC, the interagency National Disaster Risk Reduction and Management Council tackles climate-change issues as they relate to disasters. It is chaired by the secretary of the Department of National Defense, who, in turn, is assisted by four vice-chairs: the secretary of the Department of Science and Technology as vice-chair for disaster prevention and mitigation, secretary of the Department of the Interior and Local Government as vice-chair for disaster preparedness, secretary of the Department of Social Work and Development as vice-chair for disaster response, and secretary of the National Economic and Development Authority as vice-chair for rehabilitation and recovery. As the national government agencies have counterparts in the country's administrative regions, this structure is replicated in regional disaster risk reduction and management councils at the regional level. This council also has counterparts at the local government unit (LGU) level but with a slightly different structure; the chair is the sitting local chief executive (i.e. a governor in the case of provincial councils and a mayor in the case of city or municipal councils).

Those responsible for implementing infrastructure projects for climate-change adaptation include the Department of Energy, Department of Information and Communication Technology, Department of Public Works and Highways, Department of Transportation, Local Water Utilities Administration, and National Irrigation Administration. Depending on the type of project, implementation efforts are complemented or spearheaded by other agencies, such as the CCC, DENR, Department of Science and Technology, or Department of Trade and Industry.

2. Financing Infrastructure for Climate-Change Adaptation

The Philippines uses the following definitions of climate-change adaptation and adaptation responses for the purposes of climate-change expenditure tagging in the government budget. Climate-change adaptation is a response that intends to reduce the vulnerability of humans or natural systems to the impacts of climate change and climate-related risks by maintaining or increasing adaptive capacity and resilience. Responses include:

- (i) **Measures that address the drivers of vulnerability.** Vulnerability is the degree to which people or systems are susceptible to the adverse effects of climate change but are unable to cope with them. It depends both on the exposure to the climate hazard and the sensitivity and coping capacity of the people and systems. Vulnerability can be addressed by reduced exposure (e.g. shifting populations or assets to less risky areas through zoning regulations) or by increasing coping capacity (e.g. well-targeted poverty reduction, income and livelihood diversification, health programmes, and dissemination of climate-risk information).
- (ii) **Measures that directly confront climate-change impacts.** These types of expenditures directly address the impacts or potential impacts of climate-change variability such as construction of infrastructure that incorporates climate-change risks in the design; or programmes, activities, and projects implemented to minimise impacts from climate-change risks.
- (iii) **Measures that build resilience to current and future climate risks.** Building resilience means increasing the capacity of the social or ecological system to reach or to maintain an acceptable level of functioning while undergoing changes. Expenditures in this category include reducing land degradation, developing reforestation programmes, upgrading roads to climate-resilient design standards, using climate-resilient crop varieties or farming techniques, installing effective early-warning systems, and other investments specifically designed to respond to projected climate changes and variability (Government of the Philippines, DBM, CCC, and DILG, 2015).

Of particular interest to the Philippines are adaptive measures fit for coastal systems and low-lying areas and with the potential to make coastal resources more adaptive to accelerated sea-level rise. The *Philippines' Initial National Communication on Climate Change* that was submitted per the United Nations Framework Convention on Climate Change (UNFCCC) identified six adaptive measures related to accelerated sea-level rise: (i) selecting coastal protection measures informed by comprehensive cost–benefit analyses, (ii) long-term planning using the perspective of coastal zone management, (iii) tying up disaster mitigation and preparedness with climate-change issues, (iv) establishing and enforcing policies and regulations on human settlements and construction, (v) including climate-change measures in the integrated coastal zone management programme, and (vi) developing an information and education campaign (Cruz et al., 2017).

The types of infrastructure for climate-change adaptation in the Philippines so far cover green buildings, green construction, sustainable transport, renewable energy, energy-efficiency enhancements, waste management (including recycling), and sustainable water use. The topic of infrastructure for climate-change adaptation in the Philippines also covers cross-cutting topics such as standards, information systems, and technological tools.

Energy and transport sectors are covered because in the Philippines, data show that projected greenhouse gas emissions will be dominated by the energy and transport sectors due to expected population and economic growth. Effective mitigation and adaptation therefore entail early and vigorous actions to curb these emissions.

Moreover, in the country's nationally determined contribution (NDC) submitted to the UNFCCC in 2021, five major economic sectors were identified as priorities – agriculture, waste, industry, transport, and energy (Government of the Philippines, 2021). In the waste sector, the government means solid waste management facilities, recycling facilities, and liquid waste management facilities. All types of infrastructure for climate-change adaptation are present in the agriculture and industry sectors.

As disaster preparedness and climate-change adaptation are intertwined, infrastructure projects on disaster resilience-building are also seen as adaptation projects. These include construction, rehabilitation, and retrofitting of resilient evacuation centres; construction of shore protection infrastructure; and flood-control projects.

The basic laws on climate-change measures, including mainstreaming climate-change adaptation, are Republic Act No. 9729 (Climate Change Act of 2009) and Republic Act No. 10174 amending Republic Act No. 9729. Pursuant to Republic Act No. 9729, the CCC formulated the *National Framework Strategy on Climate Change (NSFCC) 2010–2022*, which is a road map for a national programme on climate change (CCC, 2010). The NSFCC frames climate-change planning, research and development, extension services, monitoring of activities, and financing. It was crafted based on climate-change vulnerabilities, specific adaptation needs, and the mitigation potential of the Philippines, and it is based on international agreements.

The CCC detailed the NSFCC through the *National Climate Change Action Plan (NCCAP) 2011–2028*, which is an action plan detailing government actions for the short, medium, and long term under seven thematic outcomes: food security, water sufficiency, ecological and environmental stability, human security, climate-smart industries and services, sustainable energy, and knowledge and capacity development (CCC, 2011). The NCCAP also serves as the basis of the different climate reports that the Philippines communicates to international bodies, such as its NDC.

Another law that is enhancing climate-change adaptation is Republic Act No. 10121 (Philippine Disaster Risk Reduction and Management Act of 2010). Among the policies under the law are building the resilience of local communities to disasters, including climate-change impacts, and mainstreaming disaster-risk reduction and climate change in development processes. In accordance with this law, the *National Disaster Risk Reduction and Management Plan, 2011–2028* is being implemented through projects and activities under four mutually reinforcing themes – disaster preparedness, disaster response, disaster prevention and mitigation, and disaster rehabilitation and recovery (Government of the Philippines, 2012).

Both the Climate Change Act, as amended, and the Disaster Risk Reduction and Management Act are instruments for mainstreaming climate-change adaptation. The Climate Change Act requires LGUs to prepare local climate-change action plans, and the Disaster Risk Reduction and Management Act requires LGUs to prepare local disaster risk reduction and management plans.

Since climate-smart industries and services are a thematic priority under the NCCAP, strategies related to the promotion, development, and sustainability of climate change-resilient, eco-efficient, and environment-friendly industries and services – as well as sustainable towns and cities – necessitate green design for infrastructure. There is also a current proposal to develop standards for climate-smart buildings, which would be aligned with existing international standards. There is also a proposal to develop and implement standards for climate-smart hospitals.

Another relevant law is Republic Act No. 9153 (Renewable Energy Act of 2008), as it supports green initiatives in the energy sector. It offers incentives to renewable energy projects such as income tax holidays for the first 7 years of commercial operation; duty-free importation of machinery, equipment, and material; special tax rates on facilities and equipment; and 0% value-added tax rates.

The Philippines officially acceded to the Paris Agreement when former President Rodrigo Duterte signed the Instrument of Accession in February 2017, and the Senate ratified the signing in March 2017. Before the Paris Agreement was declared in December 2015, the government submitted its intended NDC in October 2015. It expressed an intention to undertake a 70% reduction in greenhouse gas emissions from its 2000 level by 2030, but this is conditional on external support. The Paris Agreement requests countries to communicate by 2020 a new NDC and to do so every 5 years thereafter. On 15 April 2021, the Philippines submitted its first NDC, committing to ‘a projected [greenhouse gas] emissions reduction and avoidance of 75%, of which 2.71% is unconditional² and 72.29% is conditional³’ (Government of the Philippines, 2021:4).

3. Climate-Change Adaptation Finance

The financing of infrastructure for climate-change adaptation is mostly through the government budget. The Philippines also accesses various international finance sources. There are also private sector initiatives, which take the form of financial intermediary programmes and activities by non-governmental organisations set up by the business sector.

3.1. Government Financing and Budgeting

The government is practicing climate-change expenditure tagging in national agency budgets and LGU budgets, where the tags are for climate-change adaptation and mitigation. There are also funds dedicated to climate-change adaptation, such as the People’s Survival Fund. The National Disaster Risk Reduction and Management Fund and local disaster risk reduction and management funds are also sources since some resiliency measures can be considered adaptation responses.

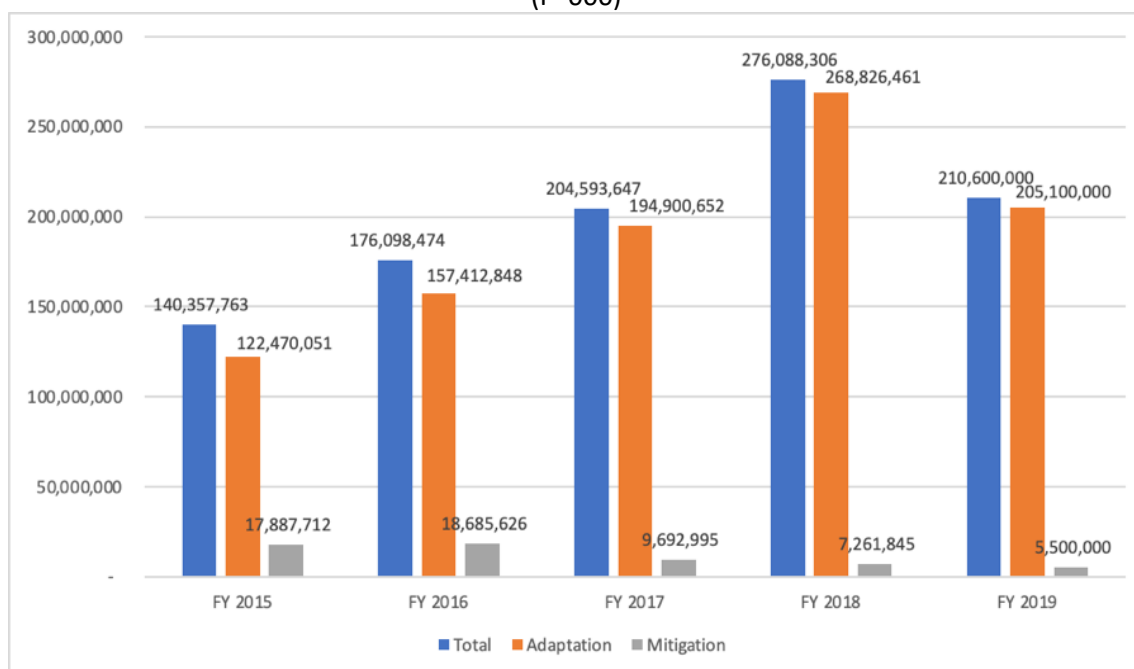
The tagging helps the Philippines understand, assess, and adjust how much of the country’s budget is allocated to climate action. At the national government level, tagging is done by

² ‘Unconditional’ refers to policies and measures that can be undertaken using nationally mobilised resources.

³ ‘Conditional’ refers to policies and measures that require support or the means of implementation under the Paris Agreement.

national government agencies, government-owned and -controlled corporations, and other government institutions (Figure 5.1). At the LGU level, tagging is done by local governments, but not all LGUs have the capacity to do so.

Figure 5.1. National Government Climate-Change Expenditure Tagging, 2015–2019
(P '000)

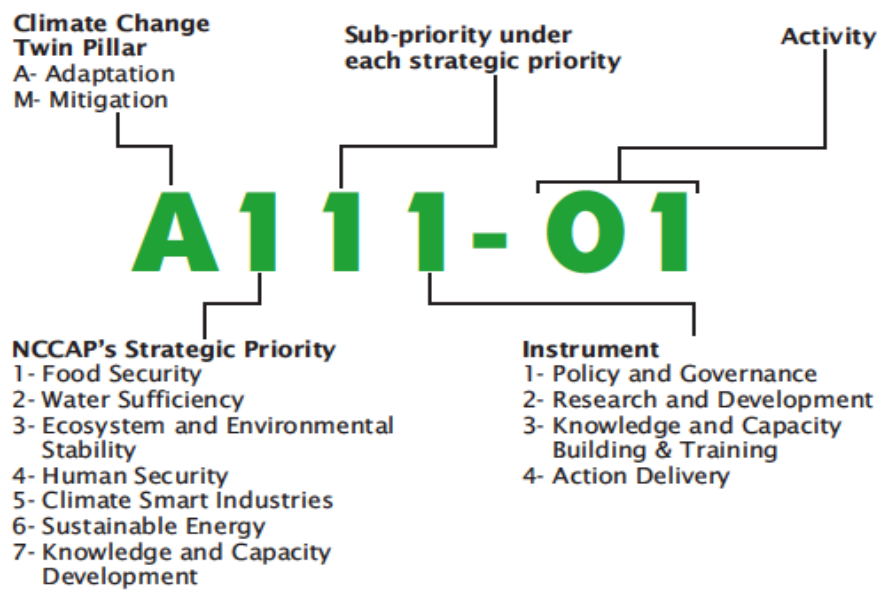


FY = fiscal year.

Source: CCC.

The CCC reported that LGUs tagged, in 2018, P92 billion in climate-change initiatives related to either adaptation or mitigation, and in 2019, P76.1 billion for climate-change adaptation and P2.2 billion for climate-change mitigation (CCC, 2018, 2019). It is not clear, however, how much is for climate-change adaptation infrastructure, because the typology for tagging employs categories in terms of seven outcomes (i.e. food security, water sufficiency, ecosystem and environmental stability, human security, climate-smart industries, sustainable energy, and knowledge and capacity development), which are contained in the NCCAP, and four instruments (i.e. policy and governance, research and development, knowledge and capacity building and training, and action delivery) (Figure 5.2).

Figure 5.2. Typology for Climate-Change Expenditure Tagging



NCCAP = National Climate Change Action Plan.

Source: Government of the Philippines, DBM, and CCC (2020).

3.2. People's Survival Fund

Republic Act No. 10174 established the People's Survival Fund to support LGU and community climate-adaptation actions. The law allotted an opening balance of P1 billion for the fund in the General Appropriations Act and provided a balance of the fund from all sources of not less than P1 billion thereafter. Under the law, the allotment for the People's Survival Fund may be augmented through donations, endowments, grants, and contributions.

The adaptation projects that can be supported by the fund include adaptation activities concerning ecosystems; improvements on the monitoring of vector-borne diseases triggered by climate change; forecasting and early-warning systems; support of institutional development; strengthening or establishing regional centres and information networks; guarantees for risk insurance for farmers, agricultural workers, and other stakeholders; and community adaptation support programmes by local organisations accredited by the CCC. Projects approved as of 2019 include:

- (i) Siargao Climate Field School for Farmers and Fisherfolk (Del Carmen municipality in Surigao del Norte Province),
- (ii) Disaster Risk Reduction and Mechanism Response as a Coping Mechanism to Resiliency (Lanuza municipality in Surigao del Sur Province),
- (iii) Promoting Resiliency and a Climate-Informed Gerona (Gerona municipality in Tarlac Province),
- (iv) Building Resilience through Community-Based Ecological Farming (San Francisco municipality on Camotes Island, Cebu Province),

- (v) Saub Watershed Ecosystem Rehabilitation and Flood Risk Reduction for Increased Resilience (Sarangani Province), and
- (vi) Establishment and Sustainable Management of River Ecosystem (Kitcharao municipality in Agusan del Norte Province).

The annual utilisation of the fund is not immediately available, but it was reported that a monitoring and evaluation system is currently being developed to enable online proposal submission and tracking (CCC–Office of the Deputy Executive Director, 2019). Nevertheless, figures from the CCC show that the People’s Survival Fund had earmarked 31% of funds for approved projects and 1% for project development grants; 68% of funds remained for 2019.

3.3. National Disaster Risk Reduction and Management Fund

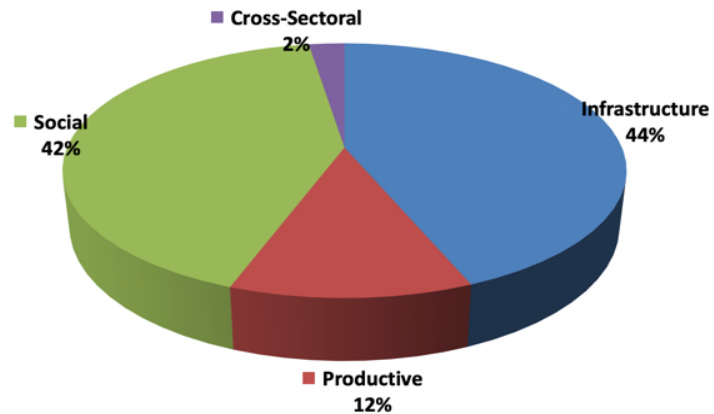
The National Disaster Risk Reduction and Management Fund was created by Republic Act No. 10121 to support activities pertaining to emergency relief and response, disaster preparedness, post-disaster rehabilitation and recovery, and disaster prevention and mitigation. Of the annual amount allocated, 30% is allotted through the Quick Response Fund, a stand-by fund for relief and recovery programmes in communities or areas stricken by disasters, calamities, epidemics, or complex emergencies. The remaining 70% is for preparedness, prevention and mitigation, and rehabilitation and recovery.

To the extent that some projects funded by the National Disaster Risk Reduction and Management Fund are for building back better (in the case of post-disaster rehabilitation programmes) or for pre-disaster resilience building, the fund can be considered another source of financing infrastructure for climate-change adaptation. The fund administrator, the Office of Civil Defense, however, does not categorise which projects can be strictly considered infrastructure climate-change adaptation projects.

From 2016 to 13 November 2020, P103 billion was released for disaster risk reduction and management projects. Figure 5.3 shows the breakdown by sector, and Figure 5.4 shows the breakdown by project type.

Figure 5.3. National Disaster Risk Reduction and Management Fund by Sector, 2016–2020
(P)

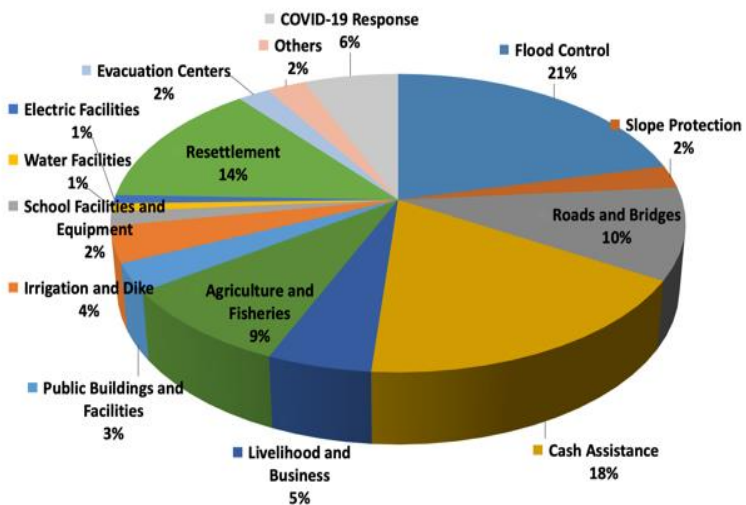
SECTOR	AMOUNT
Infrastructure	45,173,211,879.71
Productive	12,122,952,124.13
Social	43,332,869,125.81
Cross-Sectoral	2,503,683,431.27
TOTAL	103,132,716,560.00



Note: As of 13 November 2020.
Source: Office of Civil Defense.

Figure 5.4. National Disaster Risk Reduction and Management Fund by Project, 2016–2020
(P)

PROJECT TYPE	AMOUNT
Flood Control	21,824,309,930.55
Slope Protection	2,551,212,819.00
Roads/Bridges	10,255,709,047.09
Cash Assistance	18,251,882,570.00
Livelihood and Business	5,242,802,163.98
Agriculture and Fisheries	9,168,234,569.75
Public Buildings and Facilities	3,141,920,546.58
Irrigation/Dike	4,013,595,199.40
School Facilities and Equipment	1,597,049,444.57
Water Facilities	902,253,940.45
Electric Facilities	951,588,426.73
Resettlement	14,110,421,845.86
Evacuation Centers	2,139,508,942.00
Others	2,620,911,468.24
COVID-19 Response	6,361,315,646.00
TOTAL	103,132,716,560.00



Note: As of 13 November 2020.
Source: Office of Civil Defense.

The National Disaster Risk Reduction and Management Fund, however, does not capture the total national government investment on disaster risk reduction and management. There are disaster risk reduction projects implemented by government line agencies that are funded under their regular agency budgets. These include those related to early-warning systems, flood-control projects, and other resiliency-building projects. Some of these are captured in the climate-change expenditure tagging system described previously.

3.4. Local Disaster Risk Reduction and Management Funds

At the LGU level, the Local Disaster Risk Reduction and Management Fund of each LGU complements national government financing for disaster risk reduction and management, some of which can be considered adaptation responses as argued earlier. As directed by Republic Act No. 10121, LGUs should set aside not less than 5% of their revenues from regular sources for their funds, 30% of which are for the stand-by Quick Response Fund for relief and immediate response activities in times of disasters, and 70% for disaster preparedness, prevention and mitigation, and rehabilitation and recovery.

Currently, there are no aggregate data on Local Disaster Risk Reduction and Management Fund utilisation from the 1,715 LGUs in the country (i.e. 81 provinces, 146 cities, and 1,488 municipalities), but the Commission on Audit includes these funds in its annual audit of each LGU.

3.5. International Climate Finance

International climate finance sources being tapped by the Philippines thus far include the Climate Investment Funds (CIFs), Green Climate Fund (GCF), and Global Environmental Facility (GEF). Potential additional sources being explored include the Adaptation Fund, through a regional project proposed by the United Nations Development Programme (UNDP) and the Joint Crediting Mechanism (JCM) with Japan.

The CIFs aim to bridge the financing and learning gap in international climate-change agreements. They consist of two distinct funds: the Clean Technology Fund, which provides financing for demonstration, deployment, and transfer of low-carbon technologies, and the Strategic Climate Fund, which aims to provide financing to pilot new approaches with potential for scaling up, especially by helping more vulnerable countries adapt their development programmes to confront the impacts of climate change. The CIFs are considered additional existing official development assistance from multilateral development banks, and the World Bank acts as the trustee.

The Philippines is accessing both the Clean Technology Fund and Strategic Climate Fund. Under the Clean Technology Fund, the Philippines is focussing on low-carbon public transport systems and renewable energy generation (Table 5.1). The Strategic Climate Fund is implementing the Pilot Program for Climate Resilience, and the Philippines is currently in the process of accessing the programme through a project on risk resiliency and sustainability.

Table 5.1. Clean Technology Fund Projects in the Philippines

Project	Funding (\$ million)	Co-financing (\$ million)	Multilateral Development Bank
Cebu Bus Rapid Transit Project	25.00	203.50	International Bank for Reconstruction and Development
Market Transformation through Introduction of Energy-Efficient Electric Vehicles Project	8.38	399.00	Asian Development Bank
Philippines Manila BRT	23.90	85.51	International Bank for Reconstruction and Development
Renewable Energy Accelerator Program	25.09	476.90	International Finance Corporation
Renewable Energy Development	44.00	516.00	International Bank for Reconstruction and Development
Sustainable Energy Finance Program	0.77	76.95	International Finance Corporation

Source: Climate Investment Funds, Philippines, <https://www.climateinvestmentfunds.org/country/philippines>.

The GCF is a stand-alone multilateral financing facility created by the UNFCCC to support low-emission (i.e. mitigation) and climate-resilience (i.e. adaptation) projects and programmes in developing countries. The support can be in the form of grants, loans (concessional), equity, and guarantees. The CCC is the National Designated Authority for the Philippines, and the Land Bank of the Philippines, a government financing institution, has been accredited by the GCF as the country's first direct access entity. The CCC ensures that all project proposals are aligned with the country's development objectives and issues the no-objection letter for funding proposals. It also nominates direct access entities for accreditation by the GCF. The CCC also nominated the Development Bank of the Philippines, another government financing institution, and the Foundation for the Philippine Environment, a non-governmental organisation, as direct access entities. The Land Bank of the Philippines facilitates the fund flow by signing a legal instrument called the Funded Activity Agreement with the GCF. The direct access entity should ensure that when a project or programme moves into the implementation period, the funds are transferred against agreed criteria and the GCF's fiduciary standards. Moreover, it should monitor and evaluate the projects or programmes until they are closed and exit the GCF portfolio.

In December 2019, the GCF Board approved the project, Multi-Hazard Impact-Based Forecasting and Early Warning System, for the Philippines. The primary executing entity for the project is the Department of Science and Technology–Philippine Atmospheric Geophysical and Astronomical Services Administration, and the co-executing entities are DENR–Mines and Geosciences Bureau; Department of the Interior and Local Government; Office of Civil Defense; Tuguegarao City LGU; Legazpi City LGU; Leyte LGU; New Bataan LGU; Davao de Oro LGU; and the World Food Programme.

The GEF is an independently operating financial organisation that provides grants for projects in six main areas: biodiversity, climate change (mitigation and adaptation), chemicals and waste, international waters, land degradation, and sustainable forest management/REDD+. ⁴ The overall focal point for the GEF in the Philippines is DENR, and the focal point agency for climate change-related projects is the CCC. According to the CCC, the ongoing projects under the GEF are:

- (i) Development of Renewable Energy Applications Mainstreaming and Market Sustainability Project (by the Department of Energy),
- (ii) Promotion of Low-Carbon Urban Transport System in the Philippines (by the Department of Transportation), and
- (iii) Global Partnership for Improving the Food Cold Chain in the Philippines (by DENR).

To date, the Philippines has benefited from \$674,603,274 from the GEF (Table 5.2).

Table 5.2. Access to the Global Environment Facility by the Philippines

Fund	Project Type	Number of Projects	Total Financing (\$)	Total Co-Financing (\$)
GEF	National	59	251,221,015	3,023,411,702
GEF	Regional/Global	61	416,079,720	2,708,783,155
GEF-SCCF	National	2	6,024,000	66,700,000
GEF-SCCF	Regional/Global	1	1,278,539	3,350,000
Grand Total			674,603,274	5,802,244,857

GEF = Global Environment Facility, SCCF = Special Climate Change Fund.

Source: GEF, Philippines, <https://www.thegef.org/country/philippines>

The Adaptation Fund is a facility that derives its main income from the Clean Development Mechanism under the Kyoto Protocol and finances projects that help vulnerable communities in developing countries build resilience and adapt to climate change. It is an emission reduction crediting system that allows developing countries to earn one emission reduction credit for every tonne of carbon dioxide emissions reduced and then to sell these to industrialised countries to help them meet a part of their emission reduction targets under the Kyoto Protocol. The Philippine project, Harnessing the Water–Energy–Food Nexus to Address and Adapt to Climate Change Impacts in Tawi-Tawi, is in the pipeline of the Adaptation Fund.

The Japan Fund for the JCM is a single-donor trust fund managed by the Asian Development Bank. It provides grants and technical assistance to projects utilising the JCM. The JCM is a bilateral, project-based, carbon-offset crediting mechanism initiated by the Government of

⁴ REDD+ denotes actions on reducing emissions from deforestation and forest degradation and the role of conservation, sustainable management of forests, and enhancement of forest carbon stocks in developing countries.

Japan wherein the result of emission reduction from projects is assessed as contributions by both partner countries and Japan. Japan is supposed to contribute low-carbon technologies and implement mitigation actions in host-country JCM projects.

The Philippines entered into a bilateral agreement with Japan for the JCM in 2017. Part of the requirements is to define the methodology for calculation and verification before JCM projects are funded. Methodologies for electricity generation through run-of-river hydropower-generation systems and installation of solar PV systems were approved in 2020.

Reporting and evaluation for the climate-change adaptation projects funded by government funds and international climate funds are shared responsibilities of the CCC, Office of Civil Defense, and DENR. The CCC is mainly responsible for the People's Survival Fund, and the Office of Civil Defense is mainly responsible for the National Disaster Risk Reduction and Management Fund. The CCC and DENR share responsibilities in reporting and evaluating projects funded through the international climate funds.

3.6. Private Sector Initiatives

The private sector is also doing its share in climate-change adaptation. Examples include:

- (i) **Sustainable Energy Finance Program by the Bank of the Philippine Islands.** This programme provides financing to businesses that will invest in technologies that improve energy generation, energy distribution, and energy use and reduce carbon emissions. The types of eligible projects include those related to energy efficiency, renewable energy, and climate-resilient structures. The programme's target client businesses include industries, manufacturing, agri-business, construction, and development of renewable energy plants.
- (ii) **Activities of the Philippine Business for Social Progress.** The Philippine Business for Social Progress has more than 200 private companies as members. Among the projects and activities that the organisation supports are watershed rehabilitation, small water impoundment, and disaster risk reduction and management.
- (iii) **Activities of the Philippine Disaster Resilience Foundation.** The Philippine Disaster Resilience Foundation is an active partner of the government in disaster risk reduction and management and has been coordinating its member-corporations' support for disaster preparedness, business resilience, and continuity planning of small enterprises in their supply chain. It also provides support to communities for response, relief, and recovery efforts in times of disaster.

4. Challenges and Opportunities

A major challenge in optimising infrastructure financing for climate-change adaptation is the difficulty of mainstreaming climate-change adaptation at the LGU level. For instance, the complicated climate finance application of the financing facilities combined with the lack of competence or sophistication of LGUs is hindering them from applying. This is apparent in the previously low application rate in the People's Survival Fund, which the CCC is trying to resolve. One method of flexibility that was introduced is a sub-financing window called the Project

Development Grant, which is 6% of the P1 billion fund. The grant can be used for project preparation and development, such as site-specific risk and vulnerability assessments, benefit analyses, and studies and surveys needed for environmental impact assessments or environmental impact studies. The grant to LGUs for project development is capped at P2 million per LGU and has the condition that grant utilisation must be completed in 1 year.

In the access to both national government funds and international climate finance, LGUs vulnerable to climate change are often at a disadvantage. The LGUs that are most vulnerable are usually lower-income municipalities, which have limited resources for hiring consultants or building their capacity in packaging project proposals. Aside from providing sub-facilities for project development, another possible solution is easing the technical requirements for the submission of proposals. However, this is easier to do for national government funds and more difficult for international climate funds.

Another challenge is how to motivate national government agencies to optimise access to international climate finance. Previous inter-agency discussions focussed more on compliance with international treaties, such as the NDC, and less on how the country can benefit from arrangements like climate finance and carbon offsetting or emission trading schemes. There had also been political tensions in the past, as the signing of the Instrument of Accession to the Paris Agreement was held in abeyance for a few months in 2017 because of the view that the NDC submitted by the Philippines was too high and would stymie economic growth and development. The numerous climate diplomacy travels of government officials were also questioned, leading former President Duterte to restrict bureaucrats' climate change-related travels in 2019.

It is also challenging to motivate greater private sector participation in climate-change adaptation infrastructure financing or implementation. Given the dearth of examples in this area, it seems that the public sector has not yet strategically identified potential synergies with private sector efforts.

However, these challenges can be transformed into opportunities through greater dedication to improvements in access to financing facilities, more vigorous project conceptualisation activities – especially with LGUs that need financing the most – and strategic partnerships with private-sector entities. These activities are short-term investments with a long-term gain. Indeed, the economics of climate-change adaptation infrastructure is about investing in the short term to ensure the survival of humanity and the planet in the long term. It has been claimed that the country stands to lose 6.0% of its GDP annually by 2100 if it disregards climate-change risks, and that if the Philippines invests 0.5% of its GDP by 2020 in climate-change adaptation, it can avert losses of up to 4.0% of its GDP by 2100 (ADB, 2013). This is clearly a long-term, eight-fold gain from a short-term investment.

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