



Building Local Resilience in Asia and the Pacific

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INTRODUCTION

Increasing climate shocks and stresses require adaptation solutions that deliver at scale.

Countries in Asia and the Pacific region are highly exposed to the damaging impacts of climate change. Prolonged heat waves, sea-level rise, changes in rainfall patterns, and increases in the intensity and frequency of extreme weather events are having major impacts on countries' social and economic developments as natural and physical assets are being destroyed, livelihoods of millions of people have been compromised, food and water security have been depleted, and people's health have been affected. The other global trends, such as rapid and unplanned urbanization, degradation of ecosystem, biodiversity loss, increased social inequalities, and COVID-19 pandemic have compounded the challenges of climate change. Looking ahead, climate change is projected to further alter the frequency, intensity, extent, duration, and timing of extreme weather events, and induce shifts in the long-term average climate. Estimates for the Asia and the Pacific region show that growth will be significantly impacted by climate change. Without climate action, the gross domestic product in the region could decrease by as much as 3.3% by 2050 and 10% by 2100, relative to the base case.¹ There is hence a clear and immediate need for climate adaptation solutions in the region that can be implemented at scale.

Adverse impacts of climate change are largely manifested at the subnational and local levels. The underlying drivers of vulnerability are inherently context-specific.² Poor and disadvantaged group of people are more susceptible to the impacts of climate change as they typically rely on fewer and

¹ Lee M, Villaruel M, and Gasper R. 2016. *Effects of Temperature Shocks on Economic Growth and Welfare in Asia*. ADB Economics Working Paper Series. Manila.

² Mfitumukiza et al. 2020. *Scaling Local and Community-based Adaptation*. Background Paper. Global Commission on Adaptation

more vulnerable assets and basic services, and their livelihoods depend on climate sensitive sectors (such as agriculture, fisheries). They have limited access to climate information, do not have adequate knowledge and capacity to implement adaptation measures, and are often left out from formal decision-making processes. All these increase their vulnerability to climate impacts. Also, women and men are impacted differently by climate change, as women typically lack equal coping capacity due to pre-existing gender inequalities. Thus, climate impacts are not just a biophysical phenomenon and thus cannot be addressed solely through top down technical solutions. Social, economic and political dimensions of local vulnerability play a critical role in climate risks and shaping adaptation solutions. It is hence important to ensure that adaptation solutions at the local level adequately capture granular knowledge on historic and observed changes in weather patterns and their impacts on people, assets, and livelihoods; and how such impacts interact with existing social norms, such as women's social and productive role in the community. It also requires understanding of practices and resources deployed by local communities to deal with climate shocks and stresses, and how such practices can be strengthened and scaled up. The COVID-19 pandemic, with its disproportionate impact on poor and vulnerable people, has further highlighted the need for building local resilience. Research shows that the feasibility and effectiveness of adaptation solution depend on how well the issues of climate risks and social inequalities were addressed through integrated, and multi-sectoral resilience solutions.³

Enabling decentralized decision-making for adaptation in Asia and the Pacific. Over the years climate adaptation has gained momentum in the global climate governance architecture. It is a multi-dimensional and multi-sectoral issue requiring attention of multiple actors. There is an increasing recognition that adaptation solutions at all levels are critical, as emphasized in the Paris Agreement 2015.⁴ Accordingly many countries in the Asia and the Pacific region have made progress in devolving

³ IPCC, 2022: *Climate Change 2022: Climate Change 2022: Impacts, Adaptation and Vulnerability. Summary for Policymakers.*

⁴ The Paris Agreement 2015 states that "adaptation is a global challenge faced by all with local, subnational, national, regional and international dimensions" (Article 7.2)

responsibilities related to adaptation and resilience building to subnational and local governments through adoption of climate change and disaster risk management-related legislation and institutions, which typically mirror the process of decentralization in the country. While several countries in the region have made progress in devolving responsibilities related to resilience building to subnational and local governments through adoption of climate change and disaster risk management-related legislation and policies, actual implementation on the ground remains limited. Studies that used data from a large panel of countries have shown that fiscal decentralization leads to a smaller number of disaster-related deaths and that relatively more decentralized countries fare better when disasters strike in terms of their effects on the population (Martinez-Vazquez 2021).

The most important climate action achievement in the Asia and the Pacific region has been the reduction of loss of life from extreme weather events. This is largely due to long years of investments in end-to-end early warning systems which starts from improved forecasting of weather data to dissemination of early warning at the local level. The success in early warning clearly shows that investment in resilience pays. It also highlights the need for local actions to ensure early warning effectively reaches the population and that there is sufficient capacity at the local level to interpret the warning and take actions at household, community and local level. This requires strengthening of institutional systems from national to local level, enhancing the relationship between national, sub-national and local governments, and ensuring resources are available at the local level to take adaptation-related actions, which meets the needs of the local population.

This paper discusses (i) policy and institutional frameworks that are supportive of local resilience in the decentralized settings, (ii) roles and responsibilities of subnational governments, (iii) major challenges and gaps, and (iv) policy recommendations to enhance local resilience through two country cases in Asia and the Pacific region, namely Nepal and the Philippines. The policy recommendations are generally

applicable to most developing countries in the region, including both country cases presented here. The policy recommendations are hence provided at the end after discussing both country cases.

NEPAL: CLIMATE AND DISASTER RISK CONTEXT

Nepal with its diverse geographical, geological, meteorological, and socio-economic setting has been rated as a country vulnerable to the impacts of climate change. The Second Nationally Determined Contribution starts by emphasizing that “Nepal is among the most vulnerable countries to climate change”, due to its “fragile topography, climate-sensitive livelihoods of the people and their limited adaptive capacity”.⁵ The Climate Risk Country Profile Nepal of the World Bank and ADB identifies variety of such risks which are driven by rising temperatures and the subsequent changes of ecosystems, biodiversity and agricultural production systems. Floods, landslides, epidemics and fires have been identified as the most devastating climate-induced disasters occurring in Nepal.⁶ Due to climate change, warming in Nepal is projected to be above global average, and changes of the temperature are likely to become more volatile. “Natural hazards such as drought, heatwave, river flooding, and glacial lake outburst flooding are all projected to intensify over the 21st century, and the number of people annually affected by river flooding could more than double by 2030”.⁷ Studies show that Nepal might lose 2.2% of annual gross domestic product due to climate change by 2050.⁸

NEPAL: POLICY AND INSTITUTIONAL FRAMEWORKS SUPPORTIVE OF LOCAL RESILIENCE IN THE DECENTRALIZED SETTINGS

For more than two decades climate change related policies have been part of the country’s strategies for social and economic development, with the first National Conservation Strategy approved in

⁵ Government of Nepal. 2020. *Second Nationally Determined Contribution (NDC)*. Kathmandu

⁶ Government of Nepal. 2021. *Vulnerability and Risk Assessment and Identifying Adaptation Options: Summary for Policy Makers*. Kathmandu.

⁷ World Bank and Asia Development Bank. 2021. *Climate Risk Country Profile Nepal*. Washington DC and Manila.

⁸ Ahmed, M. and Suphachalasai, S. 2014. *Assessing the costs of climate change and adaptation in South Asia*. Asian Development Bank, Manila.

1988.⁹ According to the Third National Communication (to the United Nations Framework Convention on Climate Change), the *Environment Protection Act 2019* and its *2020 Regulations* are “the overarching policy and legal instruments for climate change management” in the country (footnote 6). The *2019 National Climate Change Policy*¹⁰ is the most recent policy document which broadly outlines working priorities for eight sectoral clusters; these are expected to be integrated into the plans of concerned agencies at national, provincial and local levels. The policy furthermore directs the formation of a Council for policy coordination and an Inter-ministerial Coordination Committee at the national level.

Within the national administration, the lead agency for climate change issues is the Ministry of Forestry and Environment with its Climate Change Management Division.¹¹ The provinces have their own Ministry of Forestry and Environment (MOFE) which deals with climate change issues. Provinces have started climate-change budgeting, i.e., they indicate whether budget allocations have direct or indirect benefits on climate change or are seen as “neutral”. For the FY2021, Gandaki Province has shown the highest direct benefits to climate change (48.5% of the budget), while Bagmati has the least direct climate benefit (4.3%).¹² This indicates increased awareness of the need to build climate change considerations into public spending, and potentially allows the federal level to track the compliance of the provinces with national climate change policies. Little information is available about institutional arrangements at the local level, i.e., for the administrations of the rural and urban municipalities. Many local governments have developed *Local Disaster and Climate Risk Management Plans* and/or *Disaster Preparedness and Response Plans* adopting the guidelines provided by the federal government. Ministry of Federal Affairs and General Administration, with support from U.S Agency for International Development, has issued a *Disaster Risk Management Localization Manual* for building DRM capacity at the local level.

⁹ See Tables 2-16 and 2-17 in GON 2021 with a list of relevant policies and legal instruments.

¹⁰ Government of Nepal. 2019. *National Climate Change Policy 2019*. Kathmandu.

¹¹ Furthermore, there is a *Disaster Management Division* in the Ministry of Home Affairs and a *Disaster Management Unit* in the Ministry of Federal Affairs and General Administration. Disaster management is usually seen as part of adapting to climate change.

¹² The Asia Foundation. 2021. *Planning and Budgeting in the Provinces of Federal Nepal - A Comparative Analysis*. Kathmandu.

NEPAL: ROLES AND RESPONSIBILITIES OF THE SUBNATIONAL GOVERNMENTS (SNGS) IN CLIMATE CHANGE RELATED FUNCTIONS.

The 2019 *Environment Protection Act* emphasizes the role of the federal government in setting standards and formulating policies regarding environmental protection and climate change management. All three levels are authorized to formulate and implement climate change adaptation plans at their respective levels which shall give priority to “women, persons with disabilities, children, senior citizens and economically indigent communities who are more vulnerable to effects of climate change and the inhabitants of those geographical areas that have become more vulnerable to climate change” (Article 24.2).

Nepal’s 2019 *Vulnerability and Risks Assessment* underlined that “adaptation is a place and context-specific process, with no single approach to risk reduction that is applicable in all settings” (footnote 6). It is this localized and specific nature of meaningful adaptation measures which provides unique space and scope for the engagement and creativity of SNGs.¹³ The assignment of climate change related functions and responsibilities¹⁴ is outlined in several Schedules of the Constitution (see Table 1). Besides exclusive functions assigned to each level, there is a wide range of concurrent functions cutting across two and even three levels of the political-administrative set-up. Article 58 of the Constitution gives residual functions exclusively to the federal level. According to the Third National Communication, a “good part of climate change policies and interventions are now entrusted to provincial and local government through constitutional arrangements” (footnote 6). While this is correct in principle, it can be argued that a high degree of ambiguity remains in the legal arrangements.

Table 1: Assignment of Climate-Change related Functions in the 2015 Constitution of Nepal

13 Ferrazzi, G. and Rohdewohld, R. 2017. *Emerging Practices in Intergovernmental Functional Assignment*. London/New York: Routledge

14 The 2015 Constitution uses the term “power”.

Exclusive Federal Functions (Schedule 5)	Exclusive Provincial Functions (Schedule 6)	Exclusive Local Functions (Schedule 7)	Concurrent Functions between Federal & Provincial Level (Schedule 8)	Concurrent Functions (Federal, provincial, local) (Schedule 9)
<ul style="list-style-type: none"> - Central level mega projects for electricity, irrigation and other projects - Mining, exploration - National and international ecology management, national parks, wildlife - Reserves and wetlands, national forest policy, carbon services - Land use policy, housing development policy, tourism policy, environment adaptation 	<ul style="list-style-type: none"> - Provincial level electricity, irrigation projects, drinking water, transport - Exploration and management of mines - Management of national forest, water resources and ecology within the province - Agriculture and livestock development, factories, industrialization, business, transportation 	<ul style="list-style-type: none"> - Local development projects and programs - Management of local markets, environment conservation and biological diversity - Protection of environment - Local roads, rural roads, agriculture roads, irrigation - Farming and livestock, agriculture production management, livestock health - Drinking water, small electricity projects, alternative energy - Disaster management - Protection of environment - Conservation of Watershed, wetland, wildlife, - Mines and minerals 	<ul style="list-style-type: none"> - Province border rivers, waterways, environment protection, biodiversity - Natural and man-made disaster preparedness, rescue, relief and rehabilitation - Tourism, drinking water and sanitation - Inter-provincial forest, wildlife, birds, mountains, national parks and water uses - Land policy and related legal provisions 	<ul style="list-style-type: none"> - Agriculture - Services like electricity, drinking water, irrigation - Forest, wildlife, birds, water use, environment, ecology and biodiversity - Mines and minerals - Disaster management

Source: Authors' compilation

The ambiguity of the Constitution was partly addressed through an unbundling exercise in 2017.¹⁵ The outcome of this exercise provided the basis for formulating Business Allocation Rules for the national and provincial governments¹⁶ and *2017 Local Government Operation Act (LGOA)*. The LGOA includes detailed listing of local functions and thus adds to the interpretation that the lawmakers want these functions to be discharged by the local governments. Chapter 3, Article 11 of the LGOA mandates local governments “to adopt low carbon and environment-friendly development activities”, and “authority to protect and

¹⁵ Government of Nepal. 2017. *Unbundling/Detailing List of Exclusive and Concurrent Powers of the Federation, the State and the Local Level Provisioned in the Schedule 5,6,7,8,9 of the Constitution of Nepal*. Kathmandu.

¹⁶ *Nepal Government Business Allocation Rules 2017 and Provincial Government Business Allocation Rules 2017*

manage forests (community, rural and urban, religious, leasehold and collaborative), including buffer zone forests, promote private forests, carry out afforestation in open lands, manage forest nurseries, promote greenery at local level, adopt low carbon and environmentally friendly development activities” (footnote 6).

Horizontal and vertical coordination for climate change action: The *2019 Environment Protection Act* creates a national Environmental Protection and Climate Change Management Council which includes the Chief Ministers of all provinces but does not provide for representation by local governments (see Article 32). Functions of the council include for instance (i) formulation of policy for the development of a national system for the control of pollution, management of wastes and protection of national heritages, and (ii) policy guidance to provincial and local governments with regard to environmental protection and climate change.

In the absence of robust sector regulations on horizontal and vertical coordination, the *2020 Intergovernmental Relations Act* offers a number of coordination arenas which can be used by the different levels:

- i. At the national level, as National Coordination Council (NCC) brings together all three levels (federal, provincial and local), and discuss all matters of common interest, formulate policy guidance, and coordinate in the formulation of laws, policy and strategies that affect inter-province and local level. The NCC can also create thematic committees, if needed.
- ii. At the provincial level, a Provincial Coordination Council brings together the provincial government and representatives of the municipalities of the province, and operates along the similar lines as the NCC.
- iii. A District Coordination Committee is expected to coordinate on matters such as infrastructural and development works to be carried out by the federation, the province and the local level.

Local Actions on Climate Change: In 2011, the Government endorsed a framework for the formulation and implementation of so-called Local Adaptation Plans for Action (LAPA). Since then, Government and development partners have been working with municipalities and local communities on identifying local climate change vulnerabilities and integrating adaptation needs into local development planning. The intention was to “develop adaptive plans that better reflect the needs and aspirations of Nepal’s tremendously diverse communities, and the wide range of impacts experienced from climate variability”, and to strengthen decentralized planning and local self-governance.¹⁷ The LAPA process consists of seven steps, from sensitization of communities to developing local adaptation action plans, integrating them into the planning process, and assessing the progress and impact of these adaptation actions for further refinement. Implementing the LAPA approach has been supported by several development partners in conjunction with the Ministry of Forests and Environment and the respective subnational units. For instance, the UK- funded Nepal Climate Change Support Programme – Phase 2 is working with 30 municipalities in three provinces to implement a total of 190 LAPA schemes in a variety of sectors, including irrigation, drinking water and agriculture.¹⁸

NEPAL: KEY CHALLENGES AND GAPS

Inability to internalize policies and strategies. While Nepal has undertaken several diagnostic assessments and prepared several policy documents and legal frameworks for identifying climate change risks and to put in place adequate response strategies and mechanisms at the national level, there are still gaps in internalizing these measures at the local government level. Local governments are yet to fully understand the climate change risks, and locally-adapted response strategies are yet to be formulated.

¹⁷ Peniston, B. 2013. Stocktaking Paper: A Review of Nepal’s Local Adaptation Plans of Action; in: Khumbu, Nepal: Local Adaptation Plan of Action. Kathmandu: USAID.

¹⁸ Government of Nepal. *Nepal Climate Change Support Programme – Phase 2. Quarterly Newsletter – Vol 1*. Kathmandu.

They require knowledge solutions, capacity development support, and financial and technological resources to put such strategies into practice.

Ambiguities and overlapping functions. In the context of Nepal, having clarity about the respective roles and responsibilities of different government levels under the multi-level governance system is of enormous importance in view of the relatively recent transition of the country from a unitary to a federal structure, with three levels of government (federal, provincial, and local) as per the 2015 Constitution of Nepal. These governments are expected to work together in the spirit of “cooperative federalism”. Despite considerable achievements, the shift to a new legislative and institutional framework for intergovernmental relations is still “work in progress” (ADB, forthcoming). While policy making and setting up regulatory frameworks seem to be the prerogative of the national (federal) level, jurisdictional clarity is missing in many other areas. For instance, as per Schedule 9, issues such as agriculture, drinking water, irrigation, environment, or ecology and biodiversity are defined as concurrent functions involving all three levels. Environment protection and biodiversity are defined both as concurrent functions (between federal and provincial levels, under Schedule 8), and exclusive local functions (Schedule 7). Further, while new or amended sector laws have detailed the assignment of functions to different levels of government, in some cases, these sector laws allow federal ministries to delegate their functions to SNGs, which has added another degree of complexity to the functional assignment situation of local governments. Since provincial and local governments have the right to formulate their own laws (often based on national model laws), they have created many responsibilities at their respective levels, sometimes overlapping and duplicating those of other levels.

Inadequate capacity development support. On the broader issue of climate change, significant support and capacity development at the local level seems to be missing. For instance, the main support program for local governance (funded by the Government and several development partners such as the United Nations Development Programme and Government of United Kingdom), the Provincial and Local

Governance Support Program (PLGSP) is silent about climate change issues. Under the PLGSP, Provincial Centres for Good Governance are expected to provide capacity development and advisory services to both provincial and local governments. The tentative menu of its services does mention a few issues relevant for climate change management (such as land use, zoning, urban planning, solid waste management, energy systems, and disaster management)¹⁹ but considering that the Provincial Centres for Good Governance are still being established in the provinces with limited access to human and financial resources, it is unlikely that they are in a position already to provide tangible support in these issues.

Paucity of data. To identify and design appropriate local level climate change adaptation investments that benefit the poor and ensure that local service delivery is resilient to the impacts of climate change, subnational governments SNGs' actions need to be informed by a robust understanding of climate risk in their jurisdiction. Like in many cases, Nepal too has the challenges of climate data not being available to decision-makers, and SNGs not having a simple and user-friendly data management system. In many cases, the connections between climate information users and providers remain weak or non-existent and, where climate information is available, providers of such information often do not fully understand the contexts in which decisions are being made (Vaughan and Dessai, 2014).

Inadequate resources. A significant proportion of the financial resources of local authorities should derive from local taxes, fees, and charges to cover at least part of the costs of the services they need to provide. Assignment of substantive own-source revenue powers to SNGs are seen as important for achieving local involvement and accountability, with local politicians forced to demonstrate effective use of revenues raised locally. Assignment of own source revenue generating authorities as well as collection remain weak in many SNGs in Nepal. SNGs therefore rely on central transfers, which are inadequate to meet all climate-resilient infrastructure needs. Given the devolution of functional responsibilities for climate

¹⁹ Government of Nepal. 2019. Provincial and Local Governance Support Programme 2019 - 2023. Kathmandu.

change adaptation to SNGs, they need to be adequately funded through fiscal decentralization systems that allow for structured and predictable financing for adaptation at the local level. Though fiscal decentralization framework in Nepal includes formula-based transfers, the objectivity and equity of allocations to SNGs need to be strengthened. Also, SNGs have restricted mandates to borrow. (within the threshold and subject to approval of central finance ministry). SNGs, therefore often tend to neglect climate financing needs, and the infrastructure built are also not resilient to climate change. Importantly, SNGs in Nepal suffer from inadequate and unskilled human resources, which has paralyzed SNGs in developing and implementing climate resilient actions. Further, the SNGs do not have adequate and appropriate technologies, and their operations are yet to be fully digitized, which adds to the inefficiencies.

Ineffective coordination. Improved responses to climate change challenges at the local level will require effective coordination both horizontally—across key departments, agencies, and sectors (including non-state actors)—and vertically—from local government and grassroots community groups, through to national-level ministries. Effective coordination and collaboration among different entities remains a barrier in Nepal for effective action.

THE PHILIPPINES: CLIMATE AND DISASTER RISK CONTEXT

The Philippines faces high disaster risk, and these are projected to intensify. Up to 60% of the total land area is exposed to multiple hazards, and 74% of the population is vulnerable to disasters.²⁰ Tropical cyclones account for about three-quarters of recorded deaths and two-thirds of damage, but the country is also exposed to drought, floods, landslides, earthquakes, tsunamis, and volcanic eruptions. Urban areas, with high levels of exposure and vulnerability to natural hazards are particularly at risk, with extreme weather events impacting the lives, livelihoods, and assets of millions of people in the country, as witnessed during Typhoon Ketsana in 2009 which submerged large areas of Metropolitan Manila, and Typhoon

²⁰ World Bank. [Climate Change Knowledge Portal: Philippines](#).

Haiyan in 2013 which devastated the coastal city of Tacloban in Leyte Province. Of the 146 cities in the country, 88 are in coastal areas and thereby exposed to a range of coastal hazards; and 46 have very high exposure to floods.

The hazard patterns are changing due to climate change. Observed temperatures show a warming trend since the mid-20th century, with average annual mean temperature increasing by approximately 0.6°C and a significant increase in hot days and warm nights. Average temperatures are projected to increase in the future.²¹ Rainfall projections show a drying trend but also the likelihood of localized extreme precipitation such as “wet spots.”²² The projected increase in the intensity of tropical cyclones is also expected to be accompanied by larger storm surges and larger wind-driven waves. Sea level has risen by nearly double the global average rate for some parts of the country in recent years, and these trends are projected to continue. The potential compound impact of sea level rise and storm surges on low-lying coastal cities would be significant. A recent mapping of the spatial extent of the impact of storm surges on the Manila coastline shows potential flooding inundation to elevations of 4–6 meters over very large areas and subsequent probabilities of damage to assets.²³

THE PHILIPPINES: POLICY AND INSTITUTIONAL FRAMEWORKS SUPPORTIVE OF LOCAL RESILIENCE IN THE DECENTRALIZED SETTINGS

The Philippines has dedicated laws on climate change and DRM. The *2009 Republic Act No. 9729* on Mainstreaming Climate Change into Government Policy (known as the *Climate Change Act of 2009*)

²¹ ADB and World Bank. 2021. Climate Risk Country Profile: The Philippines

²² DOST-PAGASA, Manila Observatory and Ateneo de Manila University. 2021. Philippine Climate Extremes Report 2020: Observed and Projected Climate Extremes in the Philippines to Support Informed Decisions on Climate change Adaptation and Risk Management. Philippine Atmospheric, Geophysical and Astronomical Services Administration, Quezon City, Philippines. 145 pp.

²³ J. Tablazon et al. 2015. Probabilistic Storm Surge Inundation Maps for Metro Manila Based on Philippine Public Storm Warning Signals. *Natural Hazards and Earth System Sciences*. 15. pp. 557–70.

articulates to “systematically integrate the concept of climate change in various phases of policy formulation, development plans, poverty reduction strategies and other development tools and techniques by all government agencies”. The *Act* establishes the Climate Change Commission, as the sole policy-making body of the government, tasked to coordinate, monitor and evaluate the programs and action plans of the government relating to climate change.²⁴ It however does not create any climate change-related institutional set-up at the local level. The Act also does not seek to establish climate change as a separate sector but an integral part of the development process through an integrated approach.

The *2010 Republic Act No. 10121 on National Disaster Risk Reduction and Management Act* (known as *NDRRM Act*), aims to “mainstream disaster risk reduction in development processes such as policy formulation, socio-economic development, planning, budgeting, and governance, particularly in environment, agriculture, water, energy, health, education, poverty reduction, land-use and urban planning, and public infrastructure and housing, among others”. The *NDRRM Act* mandated the creation of the NDRRM Council to oversee the implementation of the law. In addition, it also decentralized DRM and mandated that LGUs create a Local Disaster Risk Reduction Management Office, which is responsible for planning and implementing DRM programs. It created local level cross-sectoral institutional structures – City and Municipal Disaster Risk Reduction and Management Councils, with the mandate to review Local Disaster Risk Reduction and Management Plans to facilitate integration of disaster risk reduction measures into the local *Comprehensive Development Plan (CDP)*²⁵ and *Comprehensive Land-Use Plan (CLUP)*.²⁶ The *NDRRM Act* also allocates earmarked resources for DRM within the system.²⁷

²⁴ The Philippines. 2009. Republic Act No. 9729, *An Act Mainstreaming Climate Change Into Government Policy Formulations, Establishing The Framework Strategy And Program On Climate Change, Creating For This Purpose The Climate Change Commission, And For Other Purposes*.

²⁵ The Comprehensive Development Plan (CDP) is a medium-term sectoral plan of the local government. Covering six years, the CDP outlines “how” the local government will develop the land allocated for different uses through priority programs, projects, and activities. The CDP covers five development sectors: physical (or environmental), institutional, economic, social and infrastructure.

²⁶ The CLUP is a long-term spatial plan that supposedly guides the locational dimension of sectoral plans and programs.

²⁷ Government of Philippines. 2010. *Republic Act No. 10121*. Manila.

The *NDRRM Act 2010* also stipulates the establishment of Local Disaster Risk Reduction and Management Fund (LDRRMF) that are intended to be used for the entire range of DRM activities. The *Act* also mandates that local governments set aside not less than 5% of their estimated regular income for the LDRRMF (for DRM activities), including but not limited to pre-disaster preparedness, post-disaster activities and payment of calamity insurance premiums. It further provides that 30% of the LDRRMF shall be allocated as a quick response fund (or stand-by fund) for disaster relief and recovery programs. The remaining 70% may be used for prevention and mitigation, emergency preparedness and reconstruction and rehabilitation.²⁸ Furthermore, the law also mandates that the unspent LDRRMF in any given year shall be accrued to a special trust fund that will be solely dedicated to disaster risk reduction and management activities. The provision of the LDRRMF is a good example for allocating government funding for dedicated DRR activities and for providing a specific, predictable, and secure levels of funding for these activities.²⁹

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Both the *Climate Change Act, 2009* and *NDRRM Act, 2010* are based on policy objectives that aim to integrate DRM and CCA into development planning and budgeting processes, including local development processes. Compared to climate change, DRM has a stronger institutional presence at the local level through the Local Disaster Risk Reduction and Management Office and Local Disaster Risk Reduction and Management Councils. However, in many cases due to fiscal limitations, the LGUs are not able to hire permanent positions for such office and DRM personnel assignments remain “ad hoc and temporary”.³¹

²⁸ The disaster prevention and mitigation activities include, among others, (i) construction of dams and embankments to eliminate flood risks, (ii) land use regulations that do not permit any settlement in high risk zones, (iii) application of seismic engineering designs, (iv) application of engineering techniques and hazard-resilient construction and improved environmental policies, (v) conduct of risk assessment and vulnerability analysis, and (vi) development of early warning system and disaster response system.

²⁹ Kellett, Jan *et al.* 2014. *Financing Disaster Risk Reduction: Towards a Coherent and Comprehensive Approach*. London: ODI.

³⁰ OECD. 2013. *Disaster Risk Financing in APEC Economies: Practices and Challenges*. OECD.

³¹ OECD. 2020. *Common Ground Between the Paris Agreement and the Sendai Framework: Climate Change Adaptation and Disaster Risk Reduction*. Paris

The 1991 Republic Act 7160 (known as the *Local Government Code 1991*)³² mandates all cities and municipalities to prepare *CLUP* and *CDP*. All LGUs are required to undertake climate and disaster risk assessments to mainstream climate and disaster risks in the *CDPs* and *CLUPs*. These assessments also serve as the basis for the preparation of *Local Disaster Risk Reduction and Management Plan (LDRRMP)* and the *Local Climate Change Action Plan (LCCAP)*. Further, it is mandated that development plans and spatial plans of lower levels shall be integrated with those of higher-level governments. The integration however remains weak.

THE PHILIPPINES: ROLES AND RESPONSIBILITIES OF THE SUBNATIONAL GOVERNMENTS (SNGS) IN CLIMATE CHANGE RELATED FUNCTIONS.

The *Local Government Code 1991* decentralized power to three sub-national government tiers³³ to make them self-reliant, effectively link policies and programs to local priorities, and improve efficiency in resource allocation. Further, it sought to widen the decision-making space by encouraging active participation of local stakeholders. The decentralized sub-national units, therefore, have the responsibility to deliver basic services, including land use planning, solid waste disposal, water supply and wastewater management, flood control, environmental management and pollution control, social welfare, health services, and repair and maintenance of infrastructure. These functions are related to managing exposure and vulnerabilities to climate and disaster risks, and particularly responding to the needs of poor and vulnerable people. LGUs are however not fully autonomous, and their capacity to build resilience is dependent on the wider enabling environment created by the national government, including legislation outlining the roles and responsibilities across different tiers of government, institutional and coordination

³² In 1991, the Republic act No. 7160 was enacted into law, transferring control and responsibility of delivering basic services to local government units (LGU). <https://www.officialgazette.gov.ph/1991/10/10/republic-act-no-7160/>

³³ The subnational tiers refer to (a) provinces and independent cities (highly urbanized areas); (b) the municipalities and component cities (urban but smaller than independent cities); and (c) the barangays.

set-up, distribution of resources, and planning and budgeting processes. Further, an additional clause in the *Local Government Code* allows a “higher level of local government (up to and including the national government) to provide or augment the authority over any of these services in the event that LGUs are not capable of”.³⁴ Without any clear parameter on what is defined as “inadequate”, (footnote 29) this creates confusion and affects the capacity to implement urban resilience measures, even if policy objectives of planning for resilience are in place.

In the Philippines, devolution is supported by increased financial transfers from national government, and authority to LGUs to raise local revenues (i.e., taxes, fees, and charges). LGUs may also contract loans or float bonds and enter into public–private partnership arrangements to tap the private sector in financing capital-intensive projects. The LGUs are largely autonomous in allocating local funds for investment projects, and prioritizing, designing, and appraising such projects. Close to 40% of revenues of LGUs come from the internal revenue allotment, which is the LGU’s share of revenues from the national government. As per the *Local Government Code, 1991*, each LGU shall appropriate in its annual budget no less than 20% of its annual Internal Revenue Allotment for development projects (Development Fund), which shall be utilized to finance the LGUs' priority development projects, as embodied in their approved local development plans, which should be harmonized with the Regional Development Plan and the Philippine Development Plan. Such projects could include resilience building measures.

THE PHILIPPINES: KEY CHALLENGES AND GAPS

Increasing urbanization and vulnerabilities. The Philippines is a highly urbanized country, with urban areas varying from large cities to urban barangays, and are homes to a large number of population (as people choose to live in urban areas for the opportunities they present). The urban areas are also

³⁴ Shair-Rosenfield S. 2016. *The Causes and Effects of the Local Government Code in the Philippines: Locked in a Status Quo of Weakly Decentralized Authority?* Journal of Southeast Asian Economies. Vol. 33. No.2 pp 157-71

rapidly expanding, often in unregulated manner and with changing land use resulting in increased disaster risks, such as flooding. While poverty incidence in urban areas have been declining over the years (13.2% in 2015 to 9.3% in 2018³⁵), the number of informal settlers has been increasing. The urban poor are the most impacted due to their vulnerabilities in view of the poor quality housing, inadequate provisions of basic services, reliance on informal livelihoods, and limited access to financial resources. Within the urban poor also, certain groups, such as women-headed households, recent migrants from rural areas, older persons, and people with disabilities are particularly vulnerable. Though increasing number of low-income urban residents have gained awareness of local hazards and have devised approaches to cope with them, many still lack necessary resources and information to effectively manage the risks and are typically left out of decision-making processes.

Ineffective coordination and collaboration. Recognizing that natural hazards impact beyond and across administrative boundaries, and actions in one area may inadvertently increase risk in other areas (for example, deforestation may lead to increased flooding in downstream urban areas), collaboration and coordination across administrative city boundaries becomes critical for building resilience. Many of these issues particularly affect the urban poor who typically live in hazard prone areas. Operation of inter-jurisdictional initiatives to address common problems (e.g., river cleaning and management) have been challenging due to various reasons including difficulties in sharing funds among LGUs and limitations of their authority. Moreover, while provincial governments can serve as quasi-metropolitan arrangements, highly urbanized cities are under their authority. Thus, there are needs for incentives to encourage and enable this coordination and cooperation, particularly where they have different levels of capacity.

Limited institutional capacity and knowledge of LGUs. Despite the technical and capacity development support by national government agencies, such as development of *LGU Guidebook on the*

³⁵ Philippine Statistics Authority (PSA). [Updated 2015 and 2018 Full Year Poverty Statistics](#).

Formulation of Local Climate Change Action Plan, internalizing climate change related laws and actions in local plans, programs, and budgets remains a challenge for many LGUs. Several LGUs are yet to develop LCCAP and LDRRM plans due to limited institutional, technical and financial capacity, and knowledge. Even where the plans have been developed, quality remains low, and how these plans are being used to inform decision-making especially for pro-poor resilience building remain unclear. Apart from the local shelter plan which has an explicit focus on housing of informal poor and thereby builds resilience of the vulnerable population, the CLUP and CDP do not generally adopt participatory approaches to reflect the priorities of the poor and vulnerable population and thereby do not ensure equitable distribution of economic gains.

Data gaps and analysis. While the climate and disaster risk assessment is a powerful tool, the need for regular data collection and updating hazard, exposure and vulnerability related data could be quite demanding for LGUs and would need support in developing databases and use of GIS for analysis. The full implementation of Republic Act No. 11315 or the Community-Based Monitoring System Act, 2019, which envisions the improvement of local data management systems, would help to meet this need.

Inadequate resources. LGUs in the Philippines face the challenge of low own source revenue, hence the reliance on central transfers for public investments. The available resource is often inadequate for climate resilient capital investments. Also, not all LGUs are equally exposed to natural hazards, and LGUs that have high levels of vulnerability often have less resources and are hence unable to comply and fulfill the gaps. To provide long-term financing for LGUs to address climate impacts and build resilience, the *People's Survival Fund* has been established as a dedicated fund. LGUs and CSOs are eligible to submit proposals aiming at climate adaptation such as early warning systems, flood risk management, climate smart agriculture, and water resources management. Despite the availability of the funding, limited number of projects have managed to access the *Fund* primarily due to limited capacity at LGU level to

undertake comprehensive vulnerability assessment and identification of clear adaptation component, which are required for all projects seeking financing from the Fund.

Inefficient budget allocation. While the LDRRMF is intended for programs, projects, and activities designed to achieve climate and disaster resilience, Development Fund (20% set aside from the annual Internal Revenue Allotment) is intended to finance LGUs' priority development projects (as embodied in their approved local development plans). Due to the lack of a harmonized budgeting system, budget allocations have been inefficient. The LDRRMF is based on the LDRRMP (which is approved by the Local Disaster Risk Reduction and Management Council), and the 20% Development Fund is based on the CDP and local development investment program, which are approved by the Local Development Council. While both funds could be combined and used for climate resilient and disaster related projects, as well as expand the scope of these projects for larger coverage, separate projects (under each Fund) are implemented, which not only reduces the scope, but also increases the transactions costs of implementing projects.

POLICY RECOMMENDATIONS

For climate change adaptation to become an integral part of decentralized governance and administration processes, there will need to be a suitable legal and institutional framework and capacity in place. This would entail (i) preparation of new or improved policies, strategies, and guidelines to strengthen linkages between climate-change adaptation and SNGs planning and budgeting; (ii) formal and explicit assignment of adaptation responsibilities in laws and planning guidelines relevant to local administration; (iii) reassessing the assignment of functional expenditure responsibilities for climate change adaptation through legal reforms, which will provide the foundation for channeling finance for adaptation to the local level; and (iv) development of systems, procedures, incentives and tools for integrating climate change adaptation considerations in local planning processes. A gap assessment on legal and institutional framework (to support local climate change adaptation) should be undertaken to identify specific areas that

need to be developed or strengthened and supported. National governments also need to ensure that appropriate frameworks for decentralized governance and administration are in place to facilitate such change. This shift would require adopting new forms of coordination with national and subnational governments, new types of collaboration with adjoining local bodies, new partnerships between local bodies and community groups, new ways for mobilizing resources, and inclusive decision-making processes in order to ensure the benefits reach all citizens in a just and equitable manner.

Strengthening administrative, financial and technical capacity of subnational governments for delivering the adaptation related functions assigned to them is critical. For example, strengthening technical capacity of local governments in undertaking climate risk assessment and analyzing and interpreting the findings of the assessment to inform local adaptation plan and identification of investments will not only increase the number of plans but also improve their quality, and climate-resilient investment decisions. Capacity building interventions will however need to be context specific and targeted according to the varying capacity of subnational governments. Partnerships with local academic institutions, neighboring local governments and CSOs should be encouraged to fill in the gaps. Capacity development and knowledge solutions on climate adaptation to communities also need to be a part of the plans and programs of the subnational governments, so that regular training programs, orientations, and seminars are organized, and relevant knowledge products are developed or sought.

It is important to identify data needs and develop and institutionalize tailor-made data management systems to support subnational governments in the collection and analysis of climate and disaster risk data (hazard including downscaled climate models, exposure and vulnerability data). Information and data on historic and observed changes in weather patterns and their impacts on people, assets, and livelihoods also need to be captured. Undertaking and regularly updating climate risk assessments that incorporate local dimensions (indicators of climate and non-climate drivers of risks and vulnerabilities at the local level), and embedding climate change adaptation in local development plans and

budgets (by making use of climate and vulnerability data to identify adaptation investments) are crucial. With the availability of data, strategic and targeted programs can be developed and implemented, which will have better outcomes.

Improved responses to climate change challenges at the local level will require effective coordination both horizontally—across key departments, agencies, sectors (including non-state actors), and neighboring local governments—and vertically—to national government. Even in cases where detailed expenditure assignments are present and roles and responsibilities are clear, cooperation and collaboration among different entities is crucial as this will not only support coordinated planning but also knowledge exchange. Having designated climate change focal points within various sector departments would facilitate communication and coordination. Such mechanisms will also be designed to support learning between departments or institutions in local and regional governments with lessons from the local level feeding into the national policy process, as well as learning across local authorities in different jurisdictions.

Supporting community empowerment and strengthening demand side of governance is critical to building local resilience. This is important as people most vulnerable to the impacts of climate change can engage in a fair process and receive a fair share of the benefits of adaptation efforts. Establishing community adaptation planning committees and forums for multi-stakeholder dialogues, strengthening awareness, knowledge solutions, and partnerships are some of the interventions required. Civil society organizations could play a major role in demanding appropriate response actions from the government, and to hold the governments to account. This shall be supported under the 'Right to Information' act or climate adaptation related acts and policies that have been put in place.

The inter-governmental fiscal transfer mechanisms need to incorporate climate change adaptation considerations. Specifically, the formulas used by many countries to adjust basic per capita funding levels by including a number of different variables (e.g poverty, geographic features etc) could be

revised to provide greater weighting to SNGs or regions that have experienced or are at higher risk of experiencing adverse climate or disaster events, to ensure that funds are available for implementing adaptation measures prioritized by SNGs. Environmental (green) taxes, fines, and other levies such as urban land value capture can be important for changing behavior and incentivizing pro-resilience actions, as well as raising revenues in many SNGs. Moreover, performance-based grants provide a means for central authorities to reward local government practices, without directly interfering with SNGs devolved responsibilities to define development priorities and projects. Such rewards could be extended to performance related to climate adaptation.

It is important to introduce new incentives or leverage existing incentives to encourage enforcement of regulations (e.g., set-backs, building codes) by subnational governments, private sector and local communities, that contribute to building resilience. Such incentives can help steer development in resilient directions. Also incentives are needed to encourage coordination and cooperating among subnational governments on resilient actions.

CONCLUSION

Integrating climate change adaptation considerations in decentralized governance processes, including institutions, planning, allocation of resources, and coordination, has been identified as a key entry point for scaling up local-level adaptation. Such processes also provide opportunity to increase meaningful participation of poor and vulnerable people in decision-making related to resilience, and ensure that financing for adaption meet local needs. The decentralization of responsibilities for planning and financing of adaptation measures to subnational governments means that local-level adaptation can be implemented at scale beyond targeted interventions that are dictated by central authorities, which are likely to be highly dependent on the national political economy. This potentially makes financing available to subnational governments nationwide—and proportionate to their level of climate risk. Strengthening subnational legal and institutional frameworks, planning, budgeting and

resource management, and coordination mechanisms will thus create an enabling environment for scaling up local climate adaptation actions and thereby pursuing climate resilient sustainable development.

Against this backdrop, the Asian Development Bank (ADB) has developed the Community Resilience Partnership Program (CRPP), which aims to scale up climate adaptation measures at the local level that address the root causes of vulnerability in order to facilitate transformational changes to the lives, livelihoods, and well-being of poor and vulnerable populations in Asia and the Pacific. The CRPP will help make decentralized governance work better, improving its effectiveness in delivering public goods and services needed for resilience building, and give poor and vulnerable people a voice in identifying and implementing adaptation measures, thus promoting procedural and distributive justice. More information on the CRPP can be found [here](#).

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