The Resilient and Green Human Settlements Framework

UN-HABITAT

Building Climate Resiliency through Urban Plans and Designs

Supported by:

Federal Ministry for the Environment, Nature Conservation and Nuclear Safety

IKI INTERNATIONAL CLIMATE INITIATIVE

based on a decision of the German Bundestag

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Contents

Abbreviations

ADB	Asian Development Bank
CCA	Climate change adaptation
CCAM-DRR	Climate Change Adaptation, Mitigation, and Disaster Risk Reduction
CCC	Climate Change Commission
CDRA	Climate and Disaster Risk Assessment
CDP	Comprehensive Development Plan
CHED	Commission on Higher Education
CLUP	Comprehensive Land Use Plan
DA	Department of Agriculture
DBM	Department of Budget and Management
DENR	Department of Environment and Natural Resources
DepEd	Department of Education
DHSUD	Department of Human Settlements and Urban Development
DICT	Department of Information and Communications Technology
DILG	Department of the Interior and Local Government
DOE	Department of Energy
DOF	Department of Finance
DOH	Department of Health
DOLE	Department of Labor and Employment
DOST	Department of Science and Technology
DOT	Department of Tourism
DOTr	Department of Transportation
DPWH	Department of Public Works and Highways
DRR	Disaster risk reduction
DRRM	Disaster risk reduction and management
DRRMH	Disaster Risk Reduction & Management in Health
DSWD	Department of Social Welfare and Development
DTI	Department of Trade and Industry
EBA	Ecosystem-based adaptation
FI	Financial institution
FLUP	Forest Land Use Plan
GHG	Greenhouse gas
HOAs	Homeowners associations
ICMP	Integrated Coastal Management Plan
ISFs	Informal settler families
IPs	Indigenous peoples
JMC	Joint Memorandum Circular
KRAs	Key Result Areas
KSAs	Key shelter agencies
LCCAP	Local Climate Change Action Plan
LDRRMF	Local Disaster Risk Reduction and Management Fund
LGU	Local government unit
LUZIS	Land Use and Zoning Information System

Abbreviations

MEL	Monitoring, Evaluation, and Learning
MGB	Mines and Geosciences Bureau
MSMEs	Micro, small, and medium-sized enterprises
NBS	Nature-based solutions
NCA	Natural Capital Accounting
NCCAP	National Climate Change Action Plan
NCIP	National Commission on Indigenous Peoples
NDC	Nationally Determined Contribution
NCRMF	National Climate Risk Management Framework
NDRRMF	National Disaster Risk Reduction and Management Framework
NDRRMP	National Disaster Risk Reduction and Management Plan
NEDA	National Economic and Development Authority
NFSCC	National Framework Strategy on Climate Change
NGAs	National government agencies
NGO	Non-government organization
NHUDSP	National Housing and Urban Development Sector Plan
NSS	National Spatial Strategy
NUDHF	National Urban Development and Housing Framework
NUP	National Urban Policy
NYC	National Youth Commission
OCD	Office of Civil Defense
PAP4SCP	Philippine Action Plan for Sustainable Consumption and Production
PBSAP	Philippine Biodiversity Strategy and Action Plan
PCW	Philippine Commission on Women
PDP	Philippine Development Plan
PNUA	Philippine New Urban Agenda
PPAs	Programs, projects, and activities
PPFP / PDPFP	Provincial Physical Framework Plan / Provincial Development and Physical Framework Plan
PPP	Public-private partnerships
PSF	People's Survival Fund
RGHSF	Resilient and Green Human Settlements Framework
RSDF	Regional Spatial Development Framework
SDGs	Sustainable Development Goals
TESDA	Technical Education and Skills Development Authority
UPD	Urban planning and design
WB	World Bank

Figures

Tables

Preface

Human settlements are of extreme importance to achieve a sustainable Philippines. Viewed as a system comprised of physical, natural, and social elements, human settlements must be resilient to disasters and the impacts of climate change.

The resilience of human settlements rests on their ability to resist, absorb, accommodate, recover from, adapt to, and transform in the face of shocks and stresses constantly challenging people's growth and survival. A changing climate, large-scale crises, and manmade disasters require a shift from the traditional development process towards a **more resilient and green development pathway**.

The pandemic, in particular, has highlighted and compounded existing inefficiencies, inequities, and injustices in our settlement systems and placed setbacks in an already difficult path to sustainability. Nonetheless, returning to old, unsustainable socioeconomic development routes is unconscionable. Instead, we must harness the learnings and opportunities towards building back better.

Now is a more suitable time to adopt a resilient and green recovery perspective, with strategies that trigger positive and integrated economic, social, and environmental impacts. The key to achieving this is ensuring settlement-scale actions are aligned with national goals for resilience and recovery, guided by well-defined resilience outcomes, and supported by enabling policies and programs. It requires structural changes alongside incremental adjustments, undertaken through coordinated multi-stakeholder effort.

When these measures are undertaken, resilient and green human settlements will function not only to protect communities from systemic shocks, but help them thrive and inspire them to pursue social justice and collective well-being.

Executive Summary

The Resilient and Green Human Settlements Framework or RGHSF is a national policy that helps structure the way human settlements are viewed in the Philippines, particularly through the lens of climate change and disaster resilience. It provides guidance on using green development and a resilience-driven perspective to assess, develop, manage, and evaluate settlements and their component parts when needed. It aims to be a helpful reference in human settlements development in pursuit of safe, inclusive, resilient, and sustainable communities.

The RGHSF is grounded on key policies relative to climate and disaster resilience and the development of human settlements. These include the Department of Human Settlements and Urban Development (DHSUD) Act, the Philippine New Urban Agenda (PNUA), the National Urban Development and Housing Framework (NUDHF), the National Disaster Risk Reduction and Management Framework (NDRRMF) and National Disaster Risk Reduction and Management Plan (NDRRMP), the National Framework Strategy on Climate Change (NFSCC) and National Climate Change Action Plan (NCCAP), and the Bayanihan to Heal as One Act, among others.

The RGHSF takes off from the understanding of human settlement as a system composed of physical, spatial, functional, and organizational elements that support the function of living and sustaining life. A systems perspective is critical to understand how settlements function and are challenged. Philippine settlements face myriad challenges relating to capacity, land use, access to shelter and services, connectivity, equity and justice, informality, economy, climate change impacts, and most recently, health crises. This calls for planning that considers the complex nature of hazards and risks faced by the country and how these exacerbate and amplify longstanding development issues in our human settlements. In light of this, the Philippine government has invited the reimagining of our human settlements framework into one that delivers sustained socioeconomic recovery anchored on resilient and green development.

The RGHSF also emphasizes resilience as the ability of a system, community, or society exposed to hazards to **resist**, **absorb**, **accommodate**, **adapt to**, **transform**, and **recover** from the effects of a hazard in a timely and efficient manner, including the preservation and restoration of its essential basic structures and functions through risk management. The RGHSF focuses on these abilities and how they are intended to manifest in human settlements.

- **Resist**

  When known shocks or stresses occur, the settlement will not collapse, incur damage, or have its development sectors negatively affected, because its elements are designed to bear the full brunt of incoming hazards.

- **Absorb**

  A settlement can receive the negative effects of hazards. While it cannot control the hazards' magnitude, it can manage the effects by implementing hazard-specific positive actions that minimize or limit losses.

- **Accommodate**

  A settlement can make room for or control expected hazard impacts so that it will not be negatively affected. By deliberately allowing and incorporating the hazard into its spaces and functions, a settlement may be able to not only avoid losses, but even positively thrive.

- **Recover**

  A settlement can, in a timely manner, address negative effects and losses from shocks or disasters, and regain stability through building back better using resilience-building strategies.

- **Adapt**

  A settlement can modify its conditions with the central aim of maintaining its integrity or essence (including existing form and function) and maximizing opportunities for the people in the community. It is forward-looking, wherein adjustments are designed and implemented such that they are also suited to new or projected conditions.

- **Transform**

  While related to adaptation, transformation is more focused and more purposive, predicated on an improved understanding of risks and vulnerabilities. It involves changing the fundamental attributes of a settlement and considering the larger natural and socio-economic systems in promoting sustainable development. At its core, transformation entails paradigm shifts.

- **Green Human Settlements**

  In addition to the above resilience abilities, the concept of "green human settlements" is specifically added to ensure that environmental sustainability is core to settlements development. Green human settlements will create opportunities to mitigate greenhouse gas (GHG) emissions and use ecosystem services in settlements development as they address vulnerabilities and risks.

To actualize these concepts, the RGHSF identifies Key Result Areas (KRAs), namely: Resilient Population; Resilient and Green Land-use and Urban Planning; Balanced, Interconnected, and Climate-responsive Sustainable Development; Transformative Multilevel Climate Governance; Blue, Green, and Circular Economy; and Revitalized Housing and Basic Services. The KRAs describe the necessary conditions for development sectors relevant to human settlements, and each KRA contains broad policy approaches, strategies and desired outcomes across resilience abilities. These intend to aid actors in understanding the sectoral and operational dimensions of the framework. The KRAs also correspond to the thematic areas identified in the NUDHF and PNUA, allowing greater policy coherence and seamless implementation.

The RHGSF also identifies enabling actions, based on the resilience abilities and key result areas. This ensures that inputs from all sectors are integrated, taking into consideration existing capacities. These actions also prime government actors for the design of implementation and monitoring tools, capacity development programs, and coordination mechanisms.

Finally, the RHGSF ensures a whole of government approach as will be seen in its implementation strategies, such as developing action plans and reporting protocols for each relevant agency, crafting a mainstreaming guide, developing a mechanism for interagency collaboration, and other key agency and inter-agency tasks needed to effectively operationalize the framework.

Resilient and Green Human Settlements Framework

Vision

Better, Greener, Smarter Urban Systems in a more Inclusive Philippines

To build the adaptive capacities of women and men in their communities, increase the resilience of vulnerable sectors and natural ecosystems to climate change, and optimize mitigation opportunities towards a gender-responsive and rights-based sustainable development.

Urban and Climate Change Policy Anchors

Climate Change Act, NCCAP, NDC, NDRRM Act, NDRRMP, RA 11201, NUDHF, NHUDSP

Result Areas

Resilient Population

- Empowering and safeguarding the vulnerable and disadvantaged
- Capturing the youth dividend as the primary movers of resiliency building
- Engaging local sustainability leaders

Resilient and Green Land-use and Urban Planning

- Risk-based planning and monitoring
- Green urbanism and urban renewal/regeneration
- Data access, management, and standardization to support decision making
- Stakeholder engagement in hazards, vulnerabilities, risk analysis, and capacity assessment process
- Maximizing development opportunities in a changed environment
- CCA/DRR strategies and nature-based solutions/ PPAs in the local plans

Balanced, Interconnected, and Climate-responsive Sustainable Development

- Rural-urban nexus for integrated resilience building
- Ridge-to-reef approach, ecosystem-based adaptation, and urban biodiversity
- Cross-administrative area planning for resilience
- Blue and green infrastructure

Multilevel Climate Governance

- Sufficient governance resources for transformative climate actions
- Available, science-based, and up-to-date decision-making tools
- Participatory, inclusive, and transparent governance towards climate justice
- Harmonized digital assets and infrastructure for resilience building
- Coordinated and devolved climate governance

Blue, Green, and Circular Economy

- City/human settlements scale GHG inventory and targets
- Promoting a low-carbon housing value-chain
- Green financing for clean/green production
- Creating and supporting resilient and green jobs, livelihood, social enterprises, and micro, small, and medium-sized enterprises (MSMEs)
- Green products and materials certification
- Economic sectors' transition to circular economy

Revitalized Housing and Basic Services

- Green and resilient housing/building
- Mixed-use, open, and public spaces for risk management
- Sustainable water resource access and management
- Green and affordable energy access
- Access to reliable, safe, and secured services and facilities including community health and food systems
- Zero waste sanitation management
- Green and low-carbon mobility

Enabling Actions

1. Implement National Spatial Strategies (NSS) that mainstream equitable resilience building
2. Ensure availability of climate and disaster tool for all
3. Increase capacities of local community leaders and youth sector for resilience building
4. Support adaptive social protection program / mechanism
5. Capacitate population in resiliency building

1. Implement NSS for resilience
2. Roll-out and implement the NCRMF
3. Enhance continuous capacity development of concerned national government agencies (NGAs) and LGUs for risk-based assessment
4. Coordinate and harmonize efforts of NGAs, partners, LGUs, and academe in land use and urban planning
5. Integrate CDRA and other Risk Assessment tool/s in the formulation of CLUPs and other development local plans
6. Ensure linkage of climate and risk sensitive CLUPs with other local plans
7. LCCAP development and quality assurance
8. Ensure access to understandable, open, and shared climate information
9. Promote resilience-focused urban planning and design

1. Implement NSS for resilience
2. Biodiversity assessments and watershed management and planning
3. Geohazard updating and safekeeping.
4. Formulate ecosystem-based management plans and administering body
5. Promotion of nature-based solutions (NBS)
6. Promote aggressive rural development and industrialization along with linkages to urban economic systems by providing the infrastructure (road networks) and business models on food production, tourism, and cottage industries
7. Revitalizing ecosystem restoration commitments
8. Green transportation

1. Increase access to People's Survival Fund (PSF) and other climate finance
2. Ensure access to understandable, open, and shared climate information
3. Fast track development of digital infrastructure for governance and public audience use
4. Allocate specific percentage of budget for climate actions
5. Strengthen inter-LGU collaboration and inclusive participatory planning towards achieving climate justice

1. Increase access to the PSF and other climate finance
2. Expand research and development to support greener local economic development
3. Implement and localize the Green Building Code
4. Upgrade housing value-chain through adoption of low-carbon technologies
5. Increase capacities of informal sectors for resilient and green livelihoods
6. Enabling innovation, sustainability, and design thinking/technologies
7. Promote resilience-focused urban planning and design
8. Incorporate green building principles and best practices in policy development for local governments

1. Knowledge building on green, resilient, and sustainable community and housing design
2. Empower HOAs to implement community safety and security initiatives
3. Initiate community-based health protection and behavioral shifts to adapt to the changed environment and uncertainties
4. Improve access to climate finance for housing and community development
5. Increase access to PSF and other climate finance
6. Ensure sustainable food system
7. Secure high-quality and affordable communications system
8. Access to reliable, safe, and secure services and facilities, including community health and food systems
9. Implement and localize the Green Building Code
10. Implement the Pambansang Pabahay Para sa Pilipino (4PH) Program

Paradigm shift from conventional development to resilience building captured in the local, regional, and national spatial development

1

What is the Resilient and Green Human Settlements Framework?

The **Resilient and Green Human Settlements Framework (RGHSF)** is a policy document that first, helps to restructure the way we view human settlements in the Philippines, particularly through the lens of climate change and disaster resilience.

Second, it provides guidance on using green development and a resilience-driven perspective to assess, develop, manage, and evaluate settlements and their component parts.

Finally, the RGHSF aims to be a useful reference for all actors involved in human settlements development, so that they can, together with the government, pursue an action-oriented paradigm shift that will result in safe, inclusive, resilient, and sustainable communities across the country.

This document begins with a brief discussion of the RGHSF's policy anchors and the challenges of human settlements that compel the government to draw up the framework. It then describes the framework, its elements, and key result areas relative to national goals and targets. The last section lists down enabling actions to guide and support stakeholders in the achievement of human settlement goals, and identifies organizations with primary responsibility for implementing these actions.

Policy Anchors

The RGHSF is grounded on key international and national policies that have set the building blocks for developing resilient human settlements. Some policies find coherence within the current work of DHSUD; for other policies, the framework invites an opportunity for integration that highlights urbanization, resilience, and green recovery, which will later be enhanced through specific framework actions.

LEGISLATIVE MANDATE

The Republic Act No. 11201 or the Department of Human Settlements and Urban Development Act and its Implementing Rules and Regulations tasks DHSUD with "formulating a framework for resilient housing and human settlements as a basis for mechanisms for post-disaster housing and resiliency planning, research and development, extension, monitoring and evaluation of programs, projects and activities to protect vulnerable persons and communities in hazard-prone areas from the adverse effects of climate change and disasters." This direct mandate gives the Department the impetus to explore and prioritize opportunities that will guide and support the development of resilient and green human settlements.

PHILIPPINE NEW URBAN AGENDA AND NATIONAL URBAN DEVELOPMENT AND HOUSING FRAMEWORK

The RGHSF emanates partly from the principles and strategies laid out in the national urban policy, namely the Philippine New Urban Agenda and National Urban Development and Housing Framework, under the vision of "Better, Greener, Smarter Urban Systems in a more Inclusive Philippines". Specific strategies relative to the RGHSF include "strengthening the mainstreaming of disaster risk reduction and management planning and climate change action planning within spatial and sectoral development planning processes; and integrating green approaches to recovery and resilience to pandemics."

Cityscape of Iloilo City. © Unsplash

It is also guided by the National Housing and Urban Development Sector Plan (NHUDSP), which similarly aims to realize the strategies in the NUDHF as programs and projects with time-bound targets. Under the NHUDSP, the RGHSF is considered for immediate implementation. It is intended to "serve as a basis for mechanisms for resiliency planning, and drive research and development, extension, monitoring and evaluation of programs, projects and activities at the local level to protect vulnerable persons and communities from the adverse effects of climate change and disasters. In light of the pandemic, health risks are also taken into consideration in the discussion of urban planning policies."

Below is a diagram that shows the RGHSF relative to the NUDHF and NHUDSP.

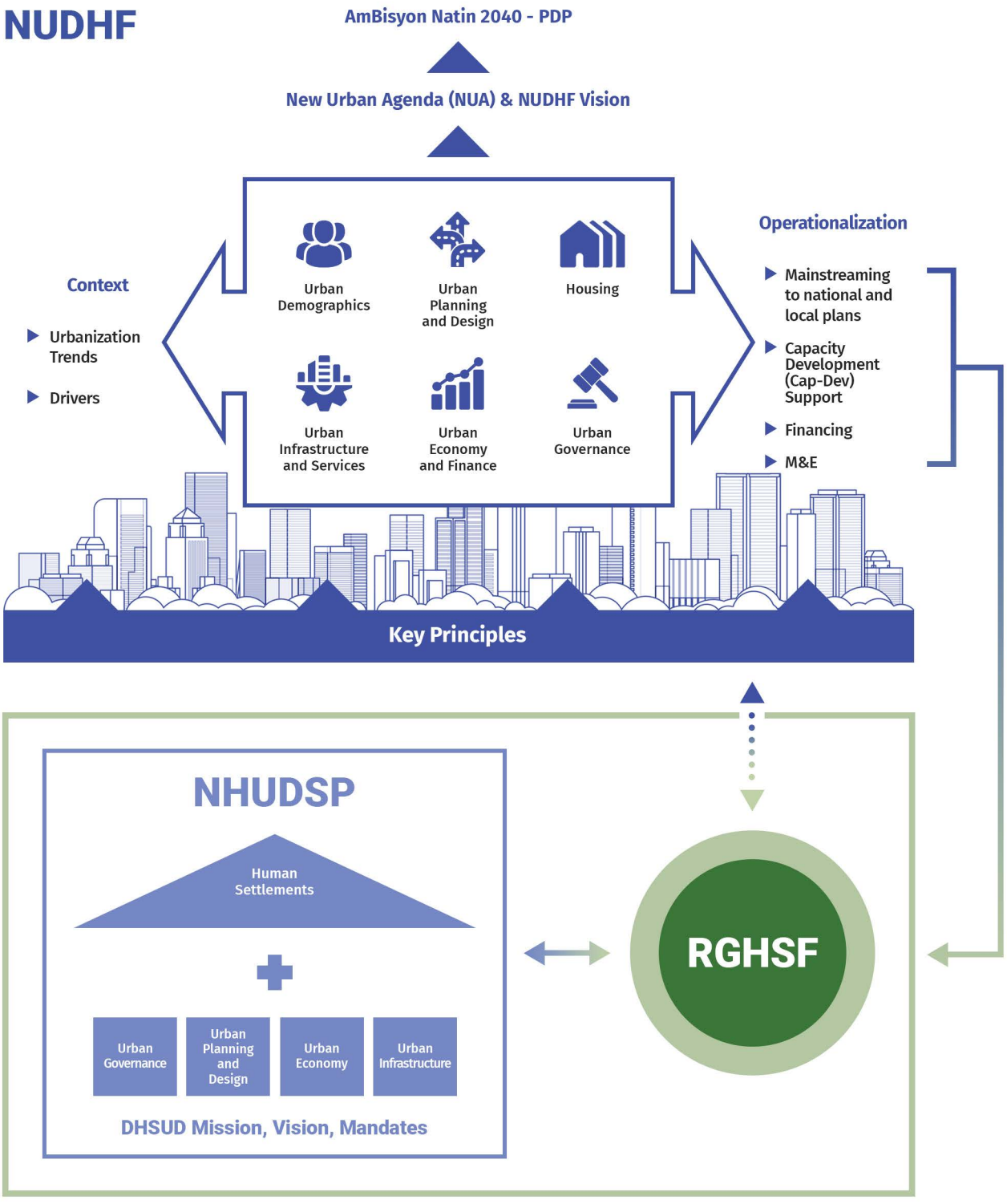
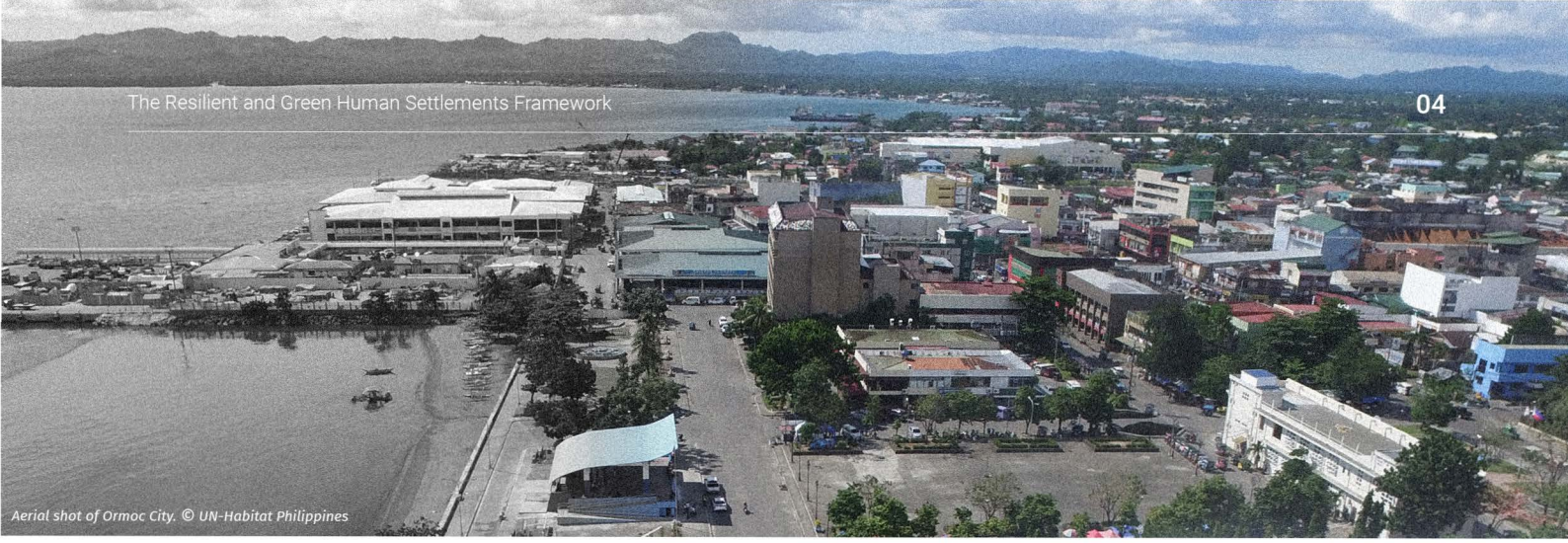


Figure 1. NUDHF, NHUDSP, and RGHSF



Aerial shot of Ormoc City. © UN-Habitat Philippines

The NDRRMF[1], with its vision of "safer, adaptive and disaster-resilient Filipino communities toward sustainable development" also signals a shift towards human settlements centered on communities' increased awareness of disaster risk reduction and management (DRRM) and a push towards resilience. Its consequent plan, the National Disaster Risk Reduction and Management Plan 2011-2028, sets down the expected outcomes, outputs, key activities, and indicators to achieve this vision. The NDRRMP identifies two outcomes in which DHSUD is the lead. These outcomes describe the nature of disaster-resilient human settlements (Outcome 8) and the access to either affordable disaster-resilient housing or financial assistance to rebuild houses for affected families or individuals (Outcome 21).

Meanwhile, the NCCAP provides policy guidance with its vision "to build the adaptive capacities of women and men in their communities, increase the resilience of vulnerable sectors and natural ecosystems to climate change, and optimize mitigation opportunities towards a gender-responsive and rights-based sustainable development." It further identifies and details thematic areas where human settlements can become a platform to build resilience, including water sufficiency, human security, sustainable energy, and climate-friendly industries and services, among others.

The RGHSF is also based on the Philippines' updated Nationally Determined Contribution (NDC), which was communicated to the United Nations Framework Convention on Climate Change in April 2016. The NDC committed to a projected GHG) emissions reduction and avoidance of 75 per cent for the period 2020 to 2030, referenced against a projected business-as-usual cumulative economy-wide emission of 3,340.3 metric ton of carbon dioxide equivalent (MtCO2e) for the same period. Of the said 75 per cent target, 2.71 per cent is tagged as unconditional (policies and measures which can be undertaken using nationally mobilized resources) while the remaining 72.29 per cent is tagged as conditional (policies and measures which require implementation under the Paris Agreement). According to the NDC, GHG emissions avoidance is intended for the sectors of agriculture, waste, industry, transport, and energy, all of which are key in building and managing human settlements. A diagram of the Philippines' climate change governance spectrum is included in Annex A.

The Philippine Green Jobs Act of 2016[2] or Republic Act (RA) 10771 provides another opportunity for climate-responsive human settlements. It aims to promote sustainable growth, create decent jobs, and build resilience against climate change through incentives to businesses generating green jobs. Additionally, the Department of Trade and Industry (DTI) developed the Greening the Philippine Manufacturing Industry Roadmap, which identified potentials for human settlements, namely the Housing Sector in Green Economic Development. The industry roadmap takes its cue from the NFSCC, which mentions pursuing (a) energy-efficient and climate-resilient human settlements, (b) energy efficiency and climate-proofing mechanisms for public infrastructure, cultural facilities, and socioeconomic infrastructure (including telecommunications facilities), and (c) green infrastructure practices through climate-smart technologies, climate-proofing processes and construction of energy-efficient buildings.

These resilience and green development policies also correspond to national priorities laid out in *Ambisyon Natin 2040* or the Philippine Development Plan (PDP), the National Framework for Physical Planning, and the Philippine Sustainable Finance Framework. These policies support and guide the development of strategies and actions towards sustainability in human settlements.

The RGHSF also adheres to the Sustainable Development Goals (SDGs), to achieve two interlocking SDGs: SDG 11—Sustainable Cities and Communities, and SDG 13—Climate Action. The RGHSF follows the SDG targets and their implementation in the local setting.

[1] Philippine Disaster Risk Reduction and Management Act 2010
[2] Philippine Green Jobs Act 2016

PUBLIC HEALTH POLICIES

The development of the RGHSF is an opportunity to integrate public health as an input and outcome in human settlements planning. Given the challenges and opportunities imposed by the COVID-19 pandemic, the RGHSF incorporates the Republic Act 11469, or the *Bayanihan* to Heal as One Act and the We Recover as One[3], identifying the role of human settlements in addressing the pandemic specifically on decent shelter and open spaces. It also considers RA 11223 or the Universal Healthcare Act, and the Disaster Risk Reduction & Management in Health (DRRMH) Plan.

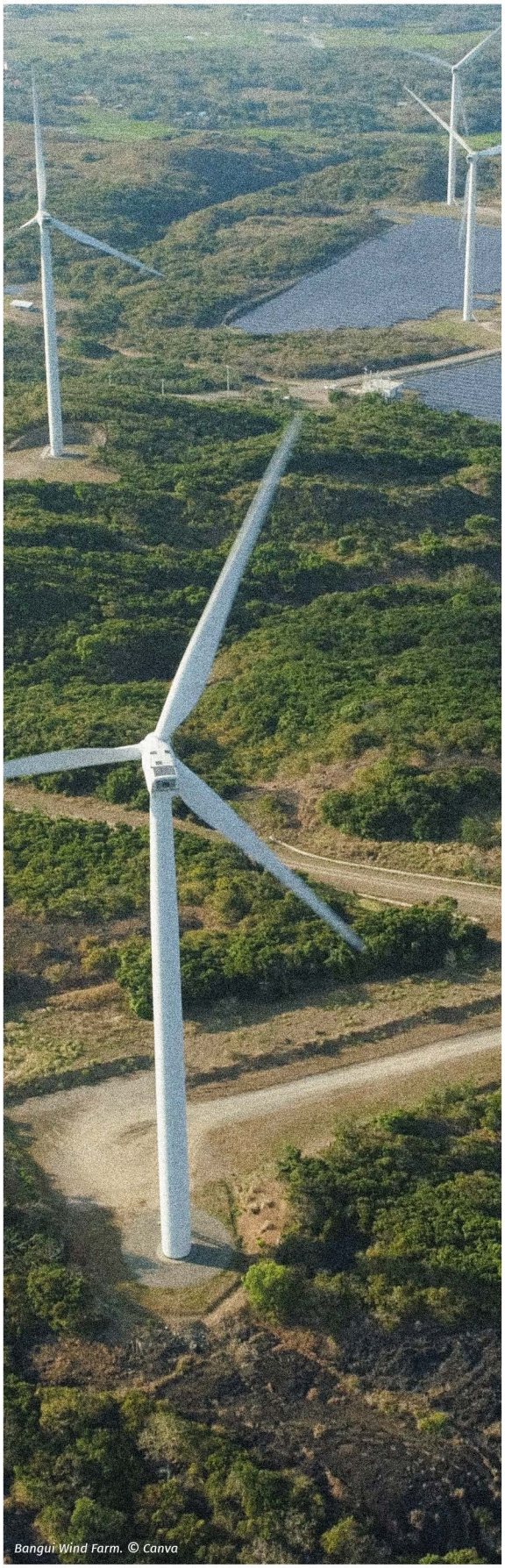
OTHER RELEVANT POLICIES

Other legislation, agency-led policies, and directives that provide supplementary guidance to the framework include: the Urban Development and Housing Act (RA 7279); Magna Carta for Homeowners and Homeowners' Associations (RA 9904); DTI-Department of the Interior and Local Government (DILG)-Department of Public Works and Highways (DPWH) Joint Memorandum Circular (JMC) No. 2019-01: Towards Ensuring Safe, Adaptive, and Disaster, Resilient Communities; Local Government Code (RA 7160); Institutionalizing the Philippine Greenhouse Gas Inventory Management and Reporting System (EO 174); An Act Establishing the People's Survival Fund to Provide Long-Term Finance Streams to Enable the Government to Effectively Address the Problem of Climate Change (RA 10174); Renewable Energy Act (RA 9513); The Climate Change Adaptation, Mitigation, and Disaster Risk Reduction (CCAM-DRR) Cabinet Cluster Roadmap 2018-2022; Code on Sanitation of the Philippines (PD 856); and the Department of Budget and Management (DBM)-Climate Change Commission (CCC)-DILG JMC 2015-01: Revised Guidelines for Tagging/Tracking Climate Change Expenditures in the Local Budget).

A detailed policy review covering the aforementioned documents is included in Annex B.

ACHIEVING POLICY COHERENCE

The RGHSF is crafted with the intention of demonstrating coherence among relevant DHSUD-led as well as with other sector-led policies. This will ensure the harmonization of actions, and avoidance of redundancies and overlaps in the development of initiatives, plans, programs, and activities of DHSUD and other agencies. An illustration of the synergy between related DHSUD policies and the RGHSF is included in Annex C. This and similar exercises in policy coherence may be further detailed in the action planning and mainstreaming phase of the RGHSF.



Bangui Wind Farm. © Canva

[3] The "build back better" strategy that seeks to "mitigate, if not contain, the transmission of COVID-19" and "undertake measures that will prevent the overburdening of the health system." (Bayanihan to Heal as One Act 2020)

Addressing the Challenges of Philippine Human Settlements

HUMAN SETTLEMENT AS A SYSTEM

A human settlement, in simple terms, is a place where people live and work in proximity. Taking on different forms, structures, and sizes, settlements consist of built, natural, and cultural or societal components that support the function of living and sustaining life. Using a systems approach, human settlements are composed of four key elements: physical, spatial, functional, and organizational[4]. These system elements rely on one another, interact, change, and develop over time.

Operationally, in the Philippines, human settlements "comprise of physical components of shelter and infrastructure; and services to which the physical elements provide support, such as community services which include education, health, culture, welfare, recreation and nutrition."[5] The Philippine government subscribes to a hierarchy of settlements which allows for distinctions in structure, size, and function, as defined in guidance documents like the National Spatial Strategy (NSS)[6] or the National Urban Policy (NUP).[7]

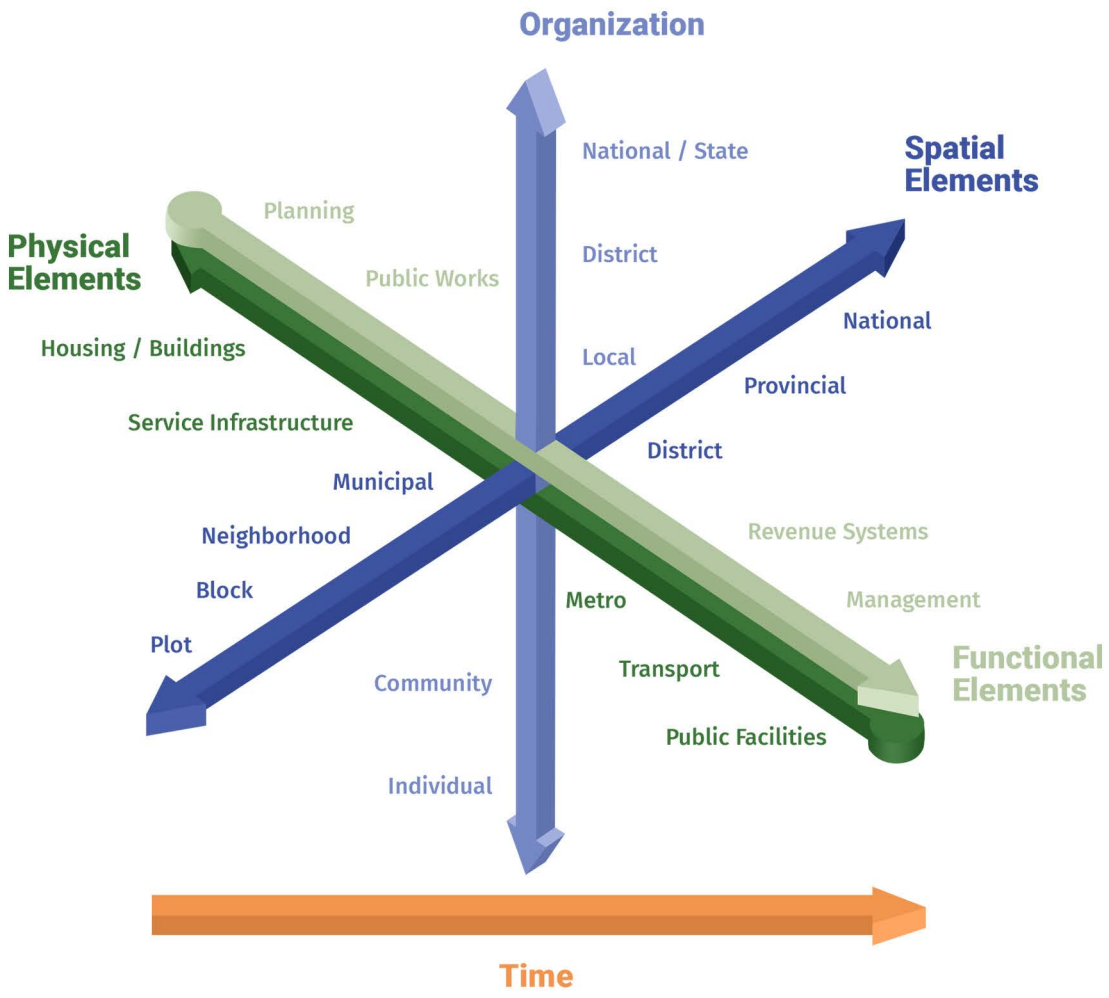


Figure 2. Urban/Human Settlements System

[4] UN-Habitat, 2015
[5] Section 3, Republic Act No. 11201, Department of Human Settlements and Urban Development Act 2019
[6] Philippine Development Plan, NEDA (2017)
[7] Philippine New Urban Agenda (2016); National Urban Development and Housing Framework (2017)

Looking at human settlements from a systems perspective is crucial in understanding how they function, identifying tangible and intangible elements that may be challenged, and discerning the ways these challenges could be addressed in an integrated manner.

In the Philippines, the evolution of settlements and the attendant issues that burden them have been extensively studied and used as bases for policy and programming. Philippine settlements face myriad challenges of capacity, land use, access to shelter and services, connectivity, equity and justice, informality, environmental sustainability, economy, as well as the impacts of climate change, and most recently, health crises.[8]

DISASTERS AND CLIMATE CHANGE

Natural disasters and climate change have strong and far-reaching effects on sectors and spaces that make up human settlements. Given current development trends, vulnerability will likely increase over time. Settlements thus need to be planned, built, and managed considering the complex nature of hazards and risks.

It should be noted that any action towards climate and disaster risk resilience is an opportunity to contribute to sustainable development and improve quality of life. Resilience-building initiatives need to be integrated with settlements as a platform for action, and with settlements planning and development as the primary process and implementation mechanism. This implies extending the focus outside shelter-specific actions and drawing other sectors like agriculture into the frame of settlements development.[9]

The push for a holistic, cross-sector approach to resilience becomes all the more evident in light of climate-related disasters. According to the National Economic and Development Authority (NEDA), the Philippines incurred over PHP 388 billion worth of damage due to disasters from 2011 to 2018. Meanwhile, the World Bank estimated that the country suffered at least USD 18.6 billion or PHP 799 billion in economic damage and other losses due to climate-related disasters over the period from 2009 to 2014. The country's economy is susceptible to climate change impacts; 85 per cent of the country's GDP is sourced from areas exposed to climate change risks. Any increase in temperature, along with changes in precipitation patterns and hydrological regimes, will heighten the country's existing vulnerabilities and cut short economic growth if no action is done.

Disaster and climate change-induced economic losses could be particularly high in urban and peri-urban areas. This is largely because of the increasing fragility of urban ecosystems, due to existing urban forms and designs that were not developed in the context of a changing climate. As the growth in urban population continues and urban densities increase, so will the climate and disaster risks and vulnerabilities of urban communities and vulnerable groups, especially for informal settlers and the urban poor.[10]

PUBLIC HEALTH RISKS

The COVID-19 pandemic also emphasized vulnerabilities of our urban system that will have direct impacts on how human settlements are developed or redeveloped. The Department of Health (DOH) has recorded 3,690,707 confirmed cases of COVID-19 with 60,455 deaths as of 25 May 2022.[11] The pandemic hit the already vulnerable population groups and moved some from the lower middle-income group to poverty, highlighting the immense impact of the pandemic on our socioeconomic system. Already worrisome pre-COVID- 19 projections showed that climate change could push an additional 100 million people into poverty by 2030 globally[12], and that social inequalities exposed and exacerbated the uneven loss of employment, with more than 300 million jobs potentially at risk[13] across the globe.

COVID-19 also revealed the vulnerability of our health system and greatly impacted the management and development of communities. Strict health protocols (including community quarantines imposed to counter the spread of the virus) amplified the need to improve the quality of living conditions, especially for vulnerable households living in highly dense communities. Continuing health and safety concerns will also disrupt production and value chains, including services and transactions within and across settlements.

The pandemic has amplified existing development issues, and challenged not only the country's health institutions, but also the economy, housing, transportation, and other elements of the urban ecosystem. These issues should compel the government to shift its perspective, highlighting health-related concerns and health systems in all aspects of development, from large-scale planning to house design.[14] Doing so will increase the overall resilience of human settlements now and in the future.

[8] Latest analysis and critique of settlements can be found in the Philippine NUA, NUDHF, and NHUDSP, among other relevant documents
[9] The impact of climate change on agriculture is projected to cost the Philippine economy about PHP 26 billion per year through 2050 (Rosegrant et al, 2015)
[10] National Housing and Urban Development Sector Plan, 2021
[11] World Health Organization, 2022
[12] Global Commission on Adaptation, 2019
[13] International Labour Organization, 2020
[14] National Housing and Urban Development Sector Plan, 2021

Marawi City. © Shutterstock

CONFLICT-DRIVEN SETTLEMENT ISSUES

Displacements of people from their settlements have also been a challenge not only during disasters but also in conflict situations. "Clashes between various armed groups and government forces create pockets of insecurity for large parts of the population, particularly in Mindanao conflict-affected areas. Hundreds of civilians become displaced every month, often repeatedly, because of clashes between insurgents and government forces as well as due to 'rido' – violent and often longstanding clan feuds. This is in addition to the protracted displacement of an estimated 66,000 people as a result of the Marawi crisis in 2017".[15]

WAY FORWARD

In light of the aforementioned issues and as the country continues to function under the combined "new normal" of climate change, health crises, and political/cultural conflicts, the Philippine government has taken the reimagining of the human settlements framework into consideration. Doing so will allow the retooling of instruments for analyses, planning, and implementation, towards delivering sustained socioeconomic recovery anchored on resilient and green human settlements development.

[15] United Nations Office for the Coordination of Humanitarian Affairs 2019

2

Resilient and Green Human Settlements: Framework Elements

The current and projected scenarios of Philippine settlements, existing policies, and mandates all point to an ongoing and dynamic conversation about **resilience** and **green development**.

Resilience is the ability of a system, community, or society exposed to hazards to **resist**, **absorb**, **accommodate**, **adapt to**, **transform**, and **recover** from the effects of a hazard in a timely and efficient manner. This includes the preservation and restoration of its essential basic structures and functions through risk management.

Figure 3. Resilience Abilities[16]

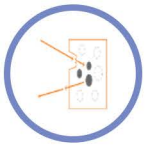
[16] Urban Planning and Design for Climate Resilience: A Reference Tool for Local Governments and Planning Actors in the Philippines (DHSUD, 2021)

Like any other system, a resilient human settlement is characterized by these abilities, which can be applied to its different elements with varying, albeit complementary results:

RESIST

A settlement can generally **withstand the negative impacts of a hazard**. When known shocks or stresses occur, the settlement will not collapse, incur damage, or have its development sectors negatively affected, because its elements are designed to bear the full brunt of incoming hazards. Flood- or earthquake-resistant buildings and flood-resistant crop varieties are examples of this ability.

Baguio City. © Unsplash



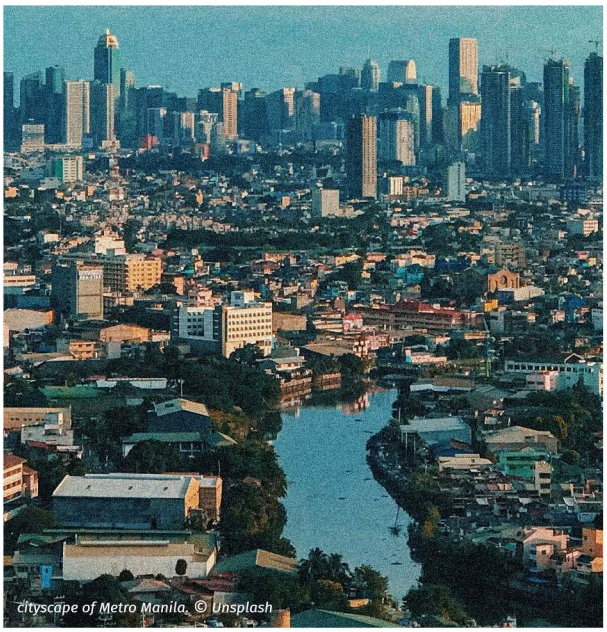
ABSORB

A settlement can **take in or receive the negative effects of hazards**. While it cannot control the hazards' magnitude, it can manage the effects by implementing hazard-specific positive actions that minimize or limit losses. Risk transfer through insurance, emergency evacuation, and flood catchments are some of these actions. While a catchment cannot prevent flooding per se, it can help ensure that loss and damage would be minimal to none.

Cainta, Rizal. © Shutterstock

ACCOMMODATE

A settlement can **accommodate or even control expected hazard impacts so that it will not be negatively affected**. By deliberately allowing and incorporating the hazard into its spaces and functions, a settlement may be not only able to avoid losses, but even positively thrive. It can also manage the residual risks and uncertainties by introducing redundancy and flexibility. Examples include multi-floor buildings to accommodate floods, floodways or widened easements to make room for fluvial floods, and alternative or additional skills and sources of livelihood in anticipation of hazard impacts.



cityscape of Metro Manila. © Unsplash


Wind farm in Bangui, Ilocos Norte. © Unsplash


Cityscape in Singapore. © Unsplash


Amsterdam, Netherlands. © Unsplash

RECOVER

A settlement can, in a timely manner, address negative effects and losses from shocks or disasters, and **regain stability through building back better using resilience-building strategies**. These include house reconstruction, policies that ensure trading or market resumption, waste management, utilities/basic service provision, as well as the immediate review and re-planning of needed system adjustments.

ADAPT

A settlement can **modify its conditions with the central aim of maintaining its integrity or essence** (including existing form and function) as well as maximizing opportunities for the people in the community. It is forward-looking, wherein adjustments are designed and implemented to suit new or projected conditions. Adjustments can also be incremental. Examples include changing livelihood and production based on changing seasonal patterns, retrofitting, houses on stilts, household-level rainwater harvesting, and redesigning public spaces for risk management activities.

TRANSFORM

While related to adaptation, transformation is **more focused and more purposive, predicated on an improved understanding of risks and vulnerabilities**. It involves changing the fundamental attributes of a settlement, and considers the larger natural and socio-economic systems in promoting sustainable development. At its core, transformation entails paradigm shifts. It is not limited to adjustments or improvements, but whole-of-settlement or systemic change. Transformational actions include land use change, settlement-scale technological innovations, policy changes, and shifting to a circular economy, among others.

GREEN HUMAN SETTLEMENTS

In addition to the above resilience abilities, the concept of green human settlements is specifically added to ensure that environmental sustainability is core to settlements development. Green human settlements will create opportunities to mitigate GHG emissions as well as utilize ecosystem services in settlements development as they address vulnerabilities and risks. Natural ecosystems in human settlements can enhance adaptation and mitigation capabilities (e.g., when trees provide a cooling effect as well as absorb carbon dioxide) and also reduce disaster risks (e.g., when mangroves serve as a buffer against strong winds, storm surges, and tsunamis).

In light of COVID-19 and other large-scale crises, human settlements now need to become platforms for the convergence of resilience abilities. Recovery from the pandemic must mean more than restoring the health system or job opportunities. It may also serve as an opportunity to "accelerate action on the climate, biodiversity, and pollution crises." Green recovery can bring economies out of recession through redesign, reduce greenhouse gas emissions, create jobs, increase the resilience of infrastructure and communities, and prioritize equity.[17] Green recovery will enable settlements to build back better, using green investments to drive economic growth and achieve environmental and social benefits. For instance, green recovery could "cut 25 per cent off 2030 emissions, putting the world on track to at 2°C pathway," while policies on clean energy, clean transport, green building upgrades can have positive impact on health and food security beyond simple recovery from a pandemic.[18]

As shown in the Figure 3, resilience abilities that support human settlements are not mutually exclusive. They often interact and complement one another to sustain the system. Furthermore, these characteristics can be translated to tangible, measurable actions within basic development sectors or **KRAs**, and across settlement scales and dimensions.

The succeeding section explains how these characteristics are reflected in key results and enabling actions, which can then be tracked as they progress towards the overall goal of resilient and green human settlements.

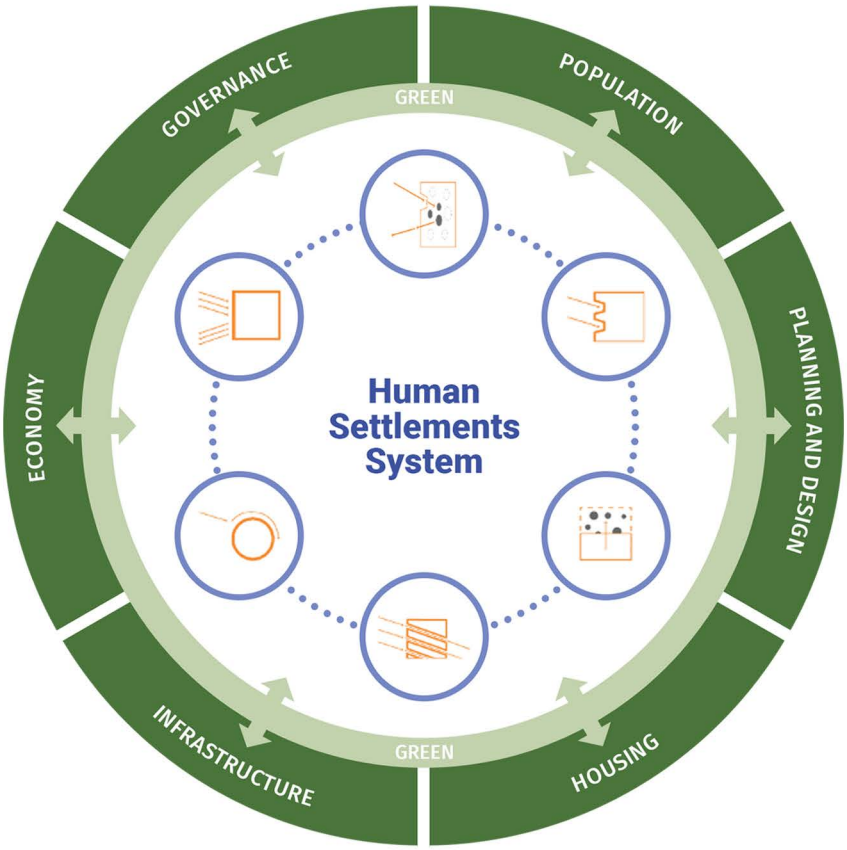


Figure 4. Conceptual Framework for Resilient and Green Human Settlements

[17] Bozzi and Rao, 2021
[18] Cities and Pandemics: Towards a More Just, Green and Healthy Future (UN-Habitat, 2021)

3

Drivers of Change: Key Result Areas for RGHSF

Key result areas, or the changes and outcomes we need to see in human settlements, are outlined in this section. KRAs are intended to aid actors in understanding the sectoral and operational dimensions of the framework. They describe the necessary conditions for each development sector and provide broad policy approaches for each.

RESILIENT POPULATION

RESILIENT AND GREEN LAND-USE AND URBAN PLANNING

BALANCED, INTERCONNECTED, AND CLIMATE-RESPONSIVE SUSTAINABLE DEVELOPMENT

TRANSFORMATIVE MULTILEVEL CLIMATE GOVERNANCE

BLUE, GREEN, AND CIRCULAR ECONOMY

REVITALIZED HOUSING AND BASIC SERVICES

1. Resilient Population

- **Empowering and safeguarding the vulnerable and disadvantaged** ensures that the marginalized and vulnerable sectors of the population are protected and utilizing their potentials. This includes actions that combat poverty and discrimination, and enable meaningful participation. Safeguards are definite measures and processes to effectively manage risks and enhance positive impacts among vulnerable populations. Likewise, they enable better stakeholder ownership and engagements.

- **Capturing the youth dividend as the primary movers of resiliency building** acknowledges the influence and power of youth action, and provides opportunities for their engagement and leadership in developing human settlements. This includes participation in the planning process, creating platforms for green innovation, and other examples of youth-led resilience-building.

- **Engaging local sustainability leaders** emphasizes grassroots leadership focused on sustainability and resilience. Programs centered on public engagement, leadership skills development, community empowerment, and support for improving organizational capacity are essential.

Tacloban City. © Shutterstock

Tagum City aerial shot. © UN-Habitat Philippines

2. Resilient and Green Land-use and Urban Planning

- **Risk-based planning and monitoring** entail the enhancement of risk analysis and tools such as the Climate and Disaster Risk Assessment (CDRA), with the deliberate inclusion of health-related risks. It also emphasizes the improvement of monitoring mechanisms that account for uncertainty and complexity in plan implementation and settlements development as a whole.

- **Green urbanism and urban renewal/regeneration** will enable the government and other actors to advocate for sustainable urban design in various settings and stages of development. Green urbanism aims for development that promotes biodiversity and ecosystem restoration, socio-cultural integrity, managed material and energy flows, and sustainable urban planning and transport, and may be embedded in large-scale plans or the development of new settlements. Urban renewal or regeneration, meanwhile, is a tool to "bring back underutilized assets and redistribute opportunities, increasing urban prosperity and quality of life,"[19] and has been promoted in the upgrading of informal settlements.[20]

- **Data access, management, and standardization to support decision-making** require concrete steps towards transferability, interoperability, and utility of information, especially for settlement-scale planning and decision-making. This will be increasingly significant as society enters the fourth industrial revolution[21], and will be needing big data, data management, and digital transformation to build and manage its spaces and communities.

- **Stakeholder engagement in hazards, vulnerabilities, risk analysis, and the capacity assessment process** shall include enhanced participatory mechanisms. Further emphasis should be placed on inclusive community planning efforts, especially on the inclusion of vulnerable populations.

- **Maximizing development opportunities in a changed environment** requires a proactive approach to unintended opportunities, particularly in post-crisis situations, such as the renewed call for livable and healthy communities during and after the COVID-19 pandemic. This heightened awareness can be translated into concrete action, including policy and legislative enhancements, retooling, and evaluation of current programs.

- **CCA/DRR strategies and nature-based programs, projects, and activities (PPAs) in the local plans** underscore the influence of land use in the development of CCA/DRR strategies, which subsequently inform local PPAs. Aside from the zoning ordinance, PPAs that are consistent with spatial realities ensure budget allocation and implementation of climate actions at the local level.

[19] Urban regeneration as a tool for inclusive and sustainable recovery (UN-Habitat, 2021)

[20] NISUS, DHSUD

[21] The Fourth Industrial Revolution is a term coined in 2016 by Klaus Schwab, Founder and Executive Chairman of the World Economic Forum (WEF). It is characterized by the convergence and complementarity of emerging technology domains, including nanotechnology, biotechnology, new materials and advanced digital production technologies. The latter includes 3D printing, human-machine interfaces and artificial intelligence, and is already transforming the global industrial landscape. (Schwab 2016 as cited in Lavopa and Delera 2021)

3. Balanced, Interconnected, and Climate-responsive Sustainable Development

- **Rural-urban nexus for integrated resilience building** recognizes the systemic nature of human settlements, therefore placing emphasis on linking system elements across the rural-urban continuum. This includes not only the flow of materials but the integration of functional and physical aspects of development within and across settlements.

- **Ridge-to-reef approach, ecosystem-based adaptation, and urban biodiversity** take off from existing guidelines on local planning, which puts primacy on an ecosystems view of development. It reiterates the need for actions that restore and enhance, while also harnessing biodiversity and ecosystem services to address vulnerability.

- **Cross-administrative area planning for resilience** promotes planning and action across larger physical settings, such as among adjacent local government units, or whole regions and development corridors. This is consistent with the system-wide approach to resilience, and the push for vertical and horizontal coordination among primary actors, stakeholders, and decision-makers.

- **Blue and green infrastructure** increases the resilience of human settlements through interconnected networks of natural and designed landscape components.[22] This requires planning and design that is mindful of the importance of natural resources, especially in urban settings, and includes them as the first consideration in settlements development.

Makati City © Unsplash

[22] Lamond and Everett, 2019

Ormoc City BCRUPD site visit. © UN-Habitat Philippines

4. Transformative Multilevel Climate Governance

- **Sufficient governance resources for transformative climate actions** are undoubtedly essential, and can be better programmed with clear measures for transparency and good governance. Specific and regular budget allocation and prioritization for climate and disaster programs are necessary. This ensures effective utilization and monitoring against objectives.

- **Available, science-based, and up-to-date decision-making tools** rely on high-quality data and robust methodologies, which then enable sound analyses and decision-making. It is also important for these tools to be useful for development actors at all levels of capacity, with opportunities for improvement as local capacities also improve.

- **Participatory, inclusive, and transparent governance towards climate justice** recognizes the fact that climate change has varying social, economic, health, and other impacts, often affecting the most vulnerable and marginalized. With participatory, evidence-based assessments and monitoring, governance can be directed towards identifying and assigning responsibility equitably, and promoting accountability among those with the most liability. It also ensures that actions to address climate change do not exacerbate existing socioeconomic stresses, but rather uplift the conditions, especially of the most burdened.

- **Harmonized digital assets and infrastructure for resilience building** promote consistency throughout the settlements planning and development process, especially among users of government data. These digital assets protect the integrity of natural and built assets as they are represented, stored, and shared. Digitalization supports data-driven and evidence-based planning and action, which is crucial in addressing both climate and health risks.

- **Coordinated and devolved climate governance** supports the continuing localization of climate resilience planning and implementation, and the integration of these efforts into existing local processes.

5. Blue, Green, and Circular Economy

- **City/human settlements scale GHG inventory and targets** reiterate the increasingly important role of cities and urban areas in reducing GHG emissions. GHG inventories provide a firm foundation for localized emission reduction and resilience objectives that can be achieved at the settlement scale. They also provide a basis for the mainstreaming of targets and resulting actions into local plans and investment programs.

- **Promoting a low-carbon housing value chain** addresses the reality that the housing sector demands some of the more permanent and resource-intensive decisions compared to other aspects of human settlements. A low-carbon value chain ensures that all stages of the housing process and all the integral components of design and construction contribute to emission reduction efforts and promote green technology.

- **Green financing for clean/green production** includes financing support for green production, waste reduction, recycling, and resource management, especially for local initiatives. This puts agriculture and fisheries under the spotlight, being the country's main economic sector in terms of job creation. Relative to this, a deeper look at blue-green economic strategies is warranted.

- **Creating and supporting resilient and green jobs, livelihood, social enterprises, and micro, small, and medium-sized enterprises (MSMEs)** will help minimize the impacts of economic activities on planetary health[23], substantially preserving or restoring environmental quality[24]. At the same time, they widen the platform to include the informal sector's contribution to the low-emission economy, being equally significant economic actors. Green jobs include those that "help to protect ecosystems and biodiversity, reduce energy, materials and water consumption through high-efficiency strategies, decarbonize the economy, and minimize or altogether avoid the generation of all forms of waste and pollution."[25]

- **Green products and materials certification** recognizes and incentivizes the efforts mentioned above, and promotes local and sustainable sourcing of materials and products for housing, human settlements development, and other purposes. Successful implementation of a certification system entails the crafting of standards as basis for certification, capacity building in the production of materials as well as in the certification process, and incentives and funding support to commit to life cycle approaches to materials development.

- **Economic sectors' transition to a circular economy** necessitates a thorough review of current economic models as well as a multi-sector strategy for transition. It also requires the creation of failsafe mechanisms that can support the transition, especially for more vulnerable or unstable sectors.

[23] Philippine Green Jobs Act 2016
[24] United Nations Environment Programme
[25] Philippine Green Jobs Act 2016

Calasiao, Pangasinan - © Shutterstock

Cebu City. © Canva.

6. Revitalized Housing and Basic Services

- **Green and resilient housing/building** features the various resilience abilities as applied to housing, preferably using context-based design principles and locally sourced materials. Resilient housing also extends beyond the structure itself and includes the network of basic services across an accessible and connected platform.

- **Mixed-use, open, and public spaces for risk management** leverage available spaces and resources to incorporate multiple uses, including community evacuation, flood water catchment, health and wellbeing, and similar purposes.

- **Sustainable water resource access and management** involve enhanced processes and technology that help identify, harness, supply, and manage scarce water resources. This would require improvements in the database, innovations in engineering and design, and community engagement to ensure the availability, safety, accessibility, and security of water for all households.

- **Green and affordable energy access** should be considered in the bid to reduce GHG emissions at the human settlement scale. This includes off-grid solutions as well as energy-saving rebates and incentive programs. Infrastructure should be improved to ensure the transmission of energy from sustainable or renewable sources.

- **Access to reliable, safe, and secure services and facilities, including community health and food systems** involves establishing and ensuring direct access to community services, especially for vulnerable populations. This includes not only physical facilities, but activating community practices, mechanisms, and groups such as Barangay Health Emergency Responses Teams, barangay health workers, and Barangay Nutrition Scholars as part of risk management and health governance.

- **Zero waste sanitation and management** pursue the management of solid, liquid, hazardous wastes and medical wastes to achieve net zero waste. Actions to support this are not confined to waste and sanitation but also include other sectors, such as green economy initiatives, urban planning and design, and green infrastructure.

- **Green and low-carbon mobility** facilitates the sustainable flow of people, resources, information, and energy within and across human settlements. This would involve not just transportation, but also how settlements are planned and designed to ensure efficient and low-emission movements. Compact, mixed-use, and accessible settlements can support better management of time, distance, and cost of mobility.

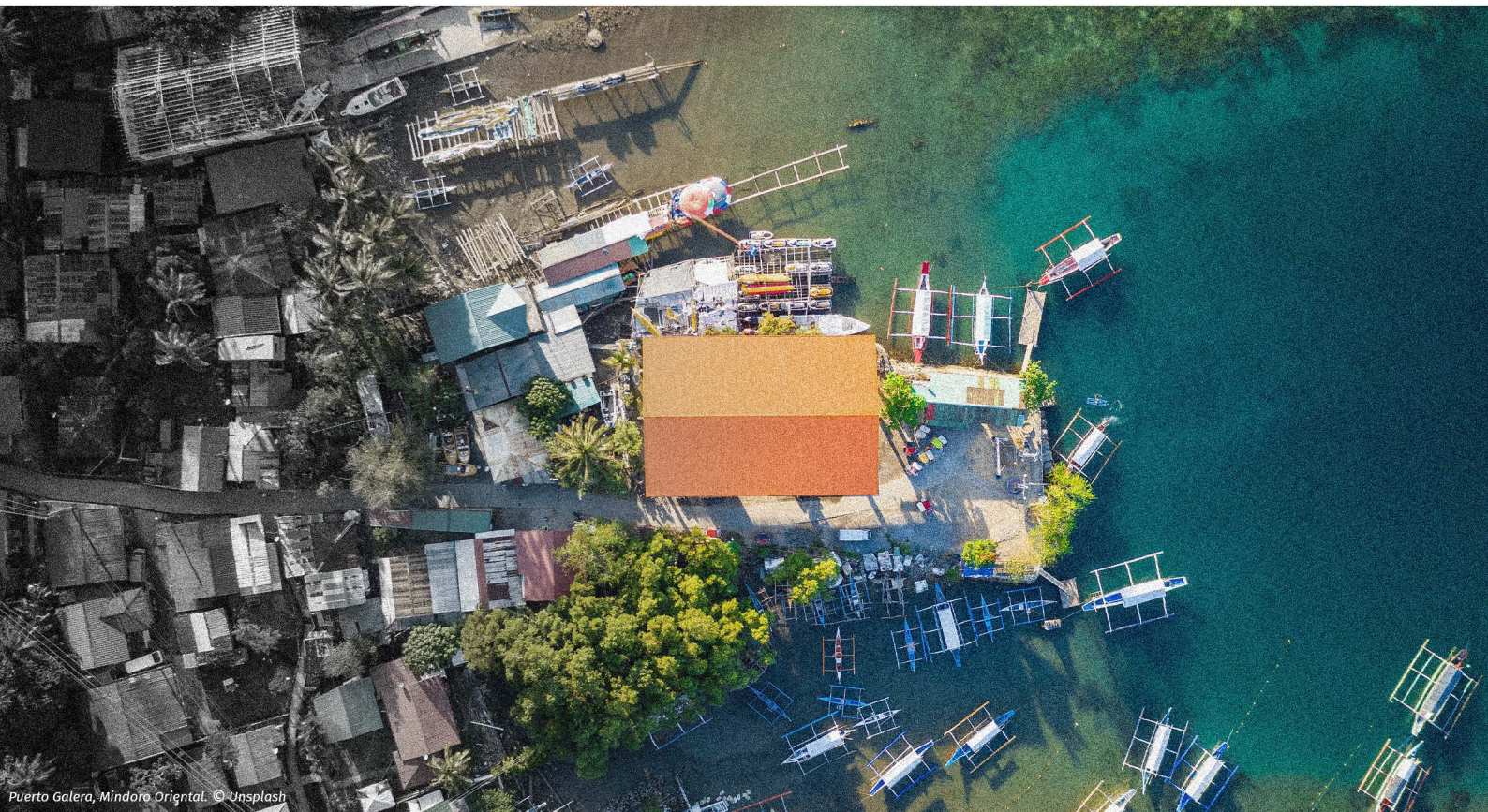
The above KRAs effectively link the framework to its anchor policies and institutional mandates and provide the basis for monitoring the progress and achievement of the framework's intended outcomes. In the table below, the KRAs are laid out across thematic areas that are consistent with NUDHF and NHUDSP, while corresponding to the resilience abilities of human settlements as described in the previous section.

It is worth noting that some of the ideal conditions described may require considerable resource mobilization compared to others. Achieving results is also contingent on the capacities of development actors. Some of the more transformative results, for instance, require prolonged effort and specific expertise, as well as larger-scale cross-sector action and collaboration. However, they lead to more long-term positive impacts, often with social, economic, and environmental multipliers.

Table 1. Resilience Abilities Across Key Result Areas

RESILIENCE ABILITIES OF HUMAN SETTLEMENTS	KEY RESULT AREAS					
	Resilient Population (NUDHF: Population) (NCCAP: Human Security)	**Revitalized Housing and Basic Services** (NUDHF: Housing and Basic Services) (NCCAP: Human Security, Sustainable Energy, Climate-Friendly Industry and Services)	**Balanced, Interconnected, and Climate-responsive Sustainable Development** (NUDHF: Infrastructure) (NCCAP: Human Security, Water Security, Sustainable Energy)	**Blue, Green, and Circular Economy** (NUDHF: Economy) (NCCAP: Climate-Friendly Industry and Services)	**Resilient and Green Land-use and Urban Planning** (NUDHF: Urban Planning) (NCCAP: Human Security)	**Transformative Multilevel Climate Governance** (NUDHF: Governance) (NCCAP: Knowledge and Capacity Development)
RESIST		▶ Green and resilient housing/ building: Hazard-resistant buildings (e.g., flood, strong winds)	▶ Hazard-resistant infrastructure	▶ Hazard-resistant economic assets (e.g., flood-resistant crop varieties for agriculture, flood- or earthquake-resistant buildings)	▶ Risk-based, informed planning and monitoring	▶ Coordinated and devolved climate governance
ABSORB	▶ Emergency evacuation ▶ Contingency/ preparedness plan ▶ Healthy lifestyles and social protection schemes	▶ Green and resilient housing/ building	▶ Flood catchments/ detention ponds and similar infrastructure	▶ Risk transfer mechanisms e.g., insurance	▶ Risk-based, informed planning and monitoring	
ACCOMMODATE	▶ Alternative or additional livelihoods/ skills	▶ Green and resilient housing/ building: e.g., multi-floors to accommodate floods	▶ Floodways ▶ Floodplains		▶ Risk-based, informed planning and monitoring ▶ Promotion of compact urban development	
RECOVER	▶ Safeguards for the vulnerable and disadvantaged	▶ House reconstruction ▶ Access to sustainable water and energy supply ▶ Sustainable water resource access and management ▶ Reliable, safe, and secure services and facilities, including community health and food system	▶ Waste and sanitation management	▶ Trading/ market resumption	▶ Risk-based, informed planning and monitoring ▶ Review and recovery planning for needed system adjustments	

RESILIENCE ABILITIES OF HUMAN SETTLEMENTS	KEY RESULT AREAS					
	Resilient Population (NUDHF: Population) (NCCAP: Human Security)	**Revitalized Housing and Basic Services** (NUDHF: Housing and Basic Services) (NCCAP: Human Security, Sustainable Energy, Climate-Friendly Industry and Services)	**Balanced, Interconnected, and Climate-responsive Sustainable Development** (NUDHF: Infrastructure) (NCCAP: Human Security, Water Security, Sustainable Energy)	**Blue, Green, and Circular Economy** (NUDHF: Economy) (NCCAP: Climate-Friendly Industry and Services)	**Resilient and Green Land-use and Urban Planning** (NUDHF: Urban Planning) (NCCAP: Human Security)	**Transformative Multilevel Climate Governance** (NUDHF: Governance) (NCCAP: Knowledge and Capacity Development)
ADAPT	▶ Safeguards for the vulnerable and disadvantaged	▶ Green and resilient housing/ building: e.g., cross ventilation houses on stilts; rainwater harvesting ▶ Retrofitting ▶ Mixed-use open and public spaces for risk management ▶ Connectivity to services and other settlements	▶ Rural-urban nexus for integrated resilience building ▶ Ridge-to-reef approach, ecosystem-based adaptation (EBA), urban biodiversity ▶ Cross-administrative area planning for resilience	▶ Changing livelihood/ production seasonal patterns ▶ Creating and supporting resilient and green jobs, livelihood, social enterprises, and MSMEs	▶ Risk-based, informed planning and monitoring ▶ Data access and standardization to support decision making ▶ Stakeholder engagement ▶ Maximizing development opportunities in a changed environment ▶ CCAM/DRR Strategies and PPAs (nature-based solutions) in the local plans	



Puerto Galera, Mindoro Oriental. © Unsplash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RESILIENCE ABILITIES OF HUMAN SETTLEMENTS	KEY RESULT AREAS					
	Resilient Population (NUDHF: Population) (NCCAP: Human Security)	**Revitalized Housing and Basic Services** (NUDHF: Housing and Basic Services) (NCCAP: Human Security, Sustainable Energy, Climate-Friendly Industry and Services)	**Balanced, Interconnected, and Climate-responsive Sustainable Development** (NUDHF: Infrastructure) (NCCAP: Human Security, Water Security, Sustainable Energy)	**Blue, Green, and Circular Economy** (NUDHF: Economy) (NCCAP: Climate-Friendly Industry and Services)	**Resilient and Green Land-use and Urban Planning** (NUDHF: Urban Planning) (NCCAP: Human Security)	**Transformative Multilevel Climate Governance** (NUDHF: Governance) (NCCAP: Knowledge and Capacity Development)
TRANSFORM	▶ Stakeholder engagement ▶ Capturing the youth dividend as the primary movers of resiliency building ▶ Engaging grassroots and sustainability leaders	▶ Promoting a low-carbon housing value-chain ▶ Zero waste sanitation and management ▶ Green and affordable energy access ▶ Green and low-carbon mobility	▶ Blue and Green Infrastructure (e.g. soft engineering solutions) ▶ Green transportation (e.g. connecting walkable communities)	▶ City/human settlements scale GHG inventory and targets ▶ Promoting a low-carbon housing value-chain ▶ Economic sectors' transition to a circular economy ▶ Green financing for clean/green production	▶ Land use change ▶ Urban renewal and regeneration ▶ Risk-based informed planning and monitoring ▶ Urban-rural nexus approach ▶ Corridor development and regional planning ▶ Ridge-to-reef approach ▶ Nature-based solutions	▶ Changes in governance (policies, regulations, etc. including those on financing) ▶ Available science-based and up-to-date decision-making tools ▶ Sufficient governance resources for transformative climate actions ▶ Harmonized digital assets for resilience building ▶ Data governance ▶ Participatory, Inclusive, and transparent climate justice ▶ Green product certification

4 Enabling Actions

This section lists down strategic actions necessary in building resilient and green human settlements based on the resilience abilities and key results presented in the previous section. This ensures that inputs from all sectors are integrated, taking into consideration existing capacities. These actions also prime government actors for the design of implementation and monitoring tools, capacity development programs, and coordination mechanisms.

The following are the identified key government agencies or prime government actors of the framework's enabling actions:

CCC	Climate Change Commission
CHED	Commission on Higher Education
DA	Department of Agriculture
DBM	Department of Budget and Management
DENR	Department of Environment and Natural Resources
DepEd	Department of Education
DICT	Department of Information and Communications Technology
DILG	Department of the Interior and Local Government
DHSUD	Department of Human Settlements and Urban Development and its Key Shelter Agencies
DOE	Department of Energy
DOF	Department of Finance
DOH	Department of Health
DOLE	Department of Labor and Employment
DOST	Department of Science and Technology
DPWH	Department of Public Works and Highways
DOT	Department of Tourism
DOTr	Department of Transportation
DSWD	Department of Social Welfare and Development
DTI	Department of Trade and Industry
NEDA	National Economic and Development Authority
NCIP	National Commission on Indigenous Peoples
NYC	National Youth Commission
OCD	Office of Civil Defense
PCW	Philippine Commission on Women
TESDA	Technical Education And Skills Development Authority

Table 2. Enabling Actions

KRA 1 – RESILIENT POPULATION		
Enabling Actions	**Details**	**Responsible Agency/ies**
1. Implement the National Spatial Strategies (NSS) that mainstream equitable resilience building	1.1 Implement NSS for population, planning, and a balanced environment. 1.2 Update the Regional Spatial Development Framework (RSDF) and integrate NSS in the Regional Development Plan. 1.3 Integrate NSS into the Provincial and City Municipal Land Use Planning.	▶ NEDA (Lead) ▶ DILG ▶ DENR ▶ DA ▶ DHSUD
2. Ensure the availability of climate and disaster tool for all	2.1 CDRA tool application and capacity-building support across local government units (LGUs). 2.2 Integrate Indigenous Peoples' rights, culture, and tradition in climate and disaster management tools, along with human settlements planning and development, and vice versa. 2.3 Capacity development in integrating CCA-DRR in Development and Sectoral Plans.	▶ DHSUD (Lead) ▶ DOST ▶ OCD ▶ DILG ▶ NEDA ▶ CCC ▶ DENR ▶ DepEd
3. Increase capacities of informal sectors for resilient and green livelihoods	3.1 Full implementation of the Green Jobs Act to enhance green infrastructure and services in cities and municipalities. 3.2 Promotion of risk transfer and other social protection programs for informal livelihoods. 3.3 Technology support for the circular economy transition of social enterprises and MSMEs. 3.4 Ensure regional equity of the capacity building programs, social protection programs on education, health, and nutrition, etc. – agencies, IAS.	▶ DOLE (Lead) ▶ DTI (Lead) ▶ DOST ▶ DA
4. Increase capacities of local community leaders and youth sector for resilience building	4.1 Adopt a needs-based approach in providing capacity training and development for community participation. 4.2 Include green job options in the curriculum to equip the youth.	▶ DHSUD (Lead) ▶ DILG ▶ NYC ▶ DOF ▶ DepEd ▶ CHED ▶ TESDA
5. Support adaptive social protection program / mechanism	5.1 Establish inclusive community-based programs at the neighborhood and city scales. 5.2 Integrate policies for women and children in Human Settlements Planning (e.g., Violence Against Women and Children, Responsible Parenthood and Reproductive laws) and Health Promotion Framework Strategy. 5.3 Acknowledge and utilize the capacities, skills, and knowledge of vulnerable groups (Persons with disabilities, women, children, the elderly, and Indigenous Peoples) as decision makers and leaders in resilience building.	▶ DHSUD (Lead) ▶ DOLE ▶ DSWD ▶ PCW ▶ DOH
6. Capacitate population in resiliency building	6.1 Enhance community participation in DRRMP and (Local Climate Change Action Plan) LCCAP processes in managing and sustaining settlements. 6.2 Place people, especially vulnerable groups (such as persons with disabilities, women, children, the elderly, and Indigenous Peoples) at the core of recovery planning and implementation. 6.3 Intensify capacity of healthcare workers and health service providers, especially at the community level, on health and human settlements resilience. 6.4 Expand PhilHealth benefit packages – include packages for climate-driven diseases. Health, in the context of climate change, should consider vector-borne and water-borne diseases, which bring slow, creeping disasters to the Philippines health system.	▶ DHSUD (Lead) ▶ CCC ▶ OCD ▶ DILG ▶ DOH ▶ DepEd ▶ CHED ▶ TESDA ▶ DSWD ▶ NCIP

KRA2 – RESILIENT AND GREEN LAND-USE AND URBAN PLANNING		
Enabling Actions	**Details**	**Responsible Agency/ies**
1. Implement NSS for resilience	1.1 Implement NSS for population, planning, and a balanced environment. 1.2 Update the RSDF and integrate the NSS into the Regional Development Plan. 1.3 Integrate the NSS into the Provincial and City Municipal Land Use Planning.	▶ NEDA (Lead) ▶ DHSUD (Lead) ▶ DILG (Lead) ▶ DENR
2. Roll-out and implement the National Climate Risk Management Framework (NCRMF)	2.1 Establish a database system for all humansettlements assets and capital. 2.2 Promote communication and advocacy campaigns for NCRMF. 2.3 Include cities and municipalities' roles and benefits in the NCRMF implementation.	▶ CCC (Lead) ▶ DILG ▶ NEDA ▶ DHSUD ▶ DA ▶ DENR
3. Enhance continuous capacity development of concerned national government agencies (NGAs) and LGUs for risk-based assessment	3.1 Include public health risks in the planning, capacity development, and budget appropriation of NGAs and LGUs as part of crisis prevention.	▶ CCC (Lead) ▶ DILG (Lead) ▶ DHSUD (Lead) ▶ DBM (Lead) ▶ DOH (Lead) ▶ NEDA
4. Coordinate and harmonize efforts of NGAs, partners, LGUs, and academe in land use and urban planning	4.1 Promote and adopt the NUDHF. 4.2 Ensure intersectoral collaboration and transdisciplinary initiatives to strengthen evidence-based planning. 4.3 Integrate/mainstream sectoral strategies in the development plans of LGUs.	▶ CCC (Lead) ▶ DILG (Lead) ▶ DHSUD (Lead) ▶ DOH (Lead) ▶ NEDA
5. Integrate CDRA and other Risk Assessment tool/s in the formulation of Comprehensive Land Use Plans (CLUPs) and other development local plans	5.1 Capacitate LGU staff to conduct and develop CDRA. 5.2 Communicate CDRA and other Risk Assessment tool/s results to stakeholders (community and household level). 5.3 Integrate health information as part of risk assessment, including peaking and emerging diseases.	▶ CCC (Lead) ▶ DILG (Lead) ▶ DHSUD (Lead) ▶ DOH (Lead)
6. Ensure linkage of climate and risk-sensitive CLUPs with other local plans	6.1 Review and enhance guidelines for the mainstreaming and harmonizing of local plans. 6.2 Strengthen implementation and monitoring of the rationalized planning systems such as the CLUP and the Comprehensive Development Plan (CDP).	▶ CCC (Lead) ▶ DILG (Lead) ▶ DHSUD (Lead)
7. LCCAP development and quality assurance	7.1 LGU capacity development for LCCAP development, implementation, monitoring, and evaluation.	▶ DILG (Lead) ▶ CCC (Lead)
8. Ensure access to understandable, open, and shared climate information	8.1 Develop an accessible and centralized database of climate information for human settlements planning. 8.2 Make climate and hazard information accessible and understandable to all decision makers, including vulnerable groups (such as persons with disabilities and Indigenous Peoples).	▶ DICT (Lead) ▶ DOST ▶ DILG ▶ OCD ▶ DHSUD
9. Promote resilience-focused urban planning and design	9.1 Urban design strategies (Urban renewal, regeneration, infill, on-site upgrading). 9.2 Promotion and establishment of green and open spaces.	▶ DHSUD (Lead)

KRA3 – BALANCED, INTERCONNECTED, AND CLIMATE-RESPONSIVE SUSTAINABLE DEVELOPMENT		
Enabling Actions	**Details**	**Responsible Agency/ies**
1. Implement NSS for resilience	1.1 Implement NSS for population, planning, and a balanced environment.	▶ NEDA (Lead) ▶ CCC (Lead) ▶ OCD (Lead) ▶ DILG (Lead) ▶ DENR ▶ DHSUD
2. Biodiversity assessments and watershed management and planning	2.1 Conduct ridge-to-reef ecological profiling and analysis across LGUs. 2.2 Encourage watershed assessments of inter-regions and bio-regions as part of planning. 2.3 Enhance the monitoring and evaluation of LGU land use and zoning implementation through the DHSUD Land Use and Zoning Information System (LUZIS).	▶ DHSUD (Lead) ▶ LGU (Lead) ▶ DENR ▶ DILG ▶ NCIP
3. Geohazard updating and safekeeping	3.1 Continuously re-evaluate data in the geohazard maps provided by the Mines and Geosciences Bureau (MGB) to ensure their accuracy for settlements planning.	▶ DOST (Lead)
4. Formulate ecosystem-based management plans and administering body	4.1 Formulate, update, and implement environment-related plans like the Forest Land Use Plan (FLUP), Integrated Coastal Management Plan (ICMP), Philippine Biodiversity Strategy and Action Plan (PBSAP), watershed plans, and river basin plans. 4.2 Update and prepare the Provincial Physical Framework Plan (PPFP) / Provincial Development and Physical Framework Plan (PDPFP by integrating ridge-to-reef / watershed approaches, CDRA, and biodiversity concerns. 4.3 Update and streamline national ecosystem-based data management tools such as the Natural Capital Accounting (NCA).	▶ DHSUD (Lead) ▶ LGU (Lead) ▶ NEDA ▶ DILG ▶ DENR
5. Promotion of nature-based solutions (NBS)	5.1 Implement modules on good practices (NBS) that can be referenced by LGUs. 5.2 Link settlements planning with NBS principles and technologies. 5.3 Provide incentives for developers who adopt NBS technologies. 5.4 Intensify public infrastructure development that adheres to NBS.	▶ DENR (Lead) ▶ NEDA (Lead) ▶ DHSUD ▶ DPWH ▶ DOE ▶ DILG ▶ DOST
6. Promote aggressive rural development and industrialization along with linkages to urban economic systems by providing the infrastructure (road networks) and business models on food production, tourism, and cottage industries	6.1 Provision of green infrastructure network and connectivity. 6.2 Implement models on food production, tourism, and waste management with a focus on peri-urban and rural-urban development. 6.3 Promote mixed-use, mixed-income development to sustain economic and social benefits in human settlement zones/areas.	▶ DTI (Lead) ▶ DENR (Lead) ▶ NEDA (Lead) ▶ DHSUD (Lead) ▶ DOT ▶ DA ▶ DPWH
7. Revitalizing ecosystem restoration commitments	7.1 Review and ensure consistencies of national laws and policies related to ecosystem/biodiversity preservation and restoration to inform long-term planning and sustainability of human settlements.	▶ DENR (Lead) ▶ DILG (Lead) ▶ DHSUD ▶ CCC
8. Green transportation	8.1 Intensify GHG emission reduction in the transport system. 8.2 Prioritize the development of quality, inclusive, and decent mass transportation system. 8.3 Promote Transit-Oriented Development in human settlements planning. 8.4 Implement the use of travel demand management tools (e.g., Intelligent Transport Systems). 8.5 Promote and support the informal transport sector in transitioning to low-carbon technologies.	▶ DOTr (Lead) ▶ DILG ▶ DOE ▶ DHSUD ▶ DOF ▶ DPWH

KRA4 – TRANSFORMATIVE MULTILEVEL CLIMATE GOVERNANCE		
Enabling Actions	**Details**	**Responsible Agency/ies**
1. Increase access to People's Survival Fund (PSF) and other climate finance	1.1 Expedite accessing the PSF through utilizing partnerships and collaboration with available relevant stakeholders in cities and regions. 1.2 Improve risk assessments to better inform proposals for financing. 1.3 Ensure gender-inclusive interventions specifically in women in climate finance. 1.4 Increase access to sustainable and green financing for local government units and stakeholders. 1.5 Tap international climate action funds (e.g., Asian Development Bank, World Bank, etc.) for renewable energy projects and resilient housing.	▶ CCC (Lead) ▶ DOF (Lead) ▶ DILG (Lead) ▶ DHSUD (Lead)
2. Ensure access to understandable, open, and shared climate information	2.1 Develop an accessible and centralized database of climate information for (both for adaptation and mitigation) human settlements planning (Refer to RA 9729). 2.2 Sustain technical working groups on spatial data/information for national government agencies and other mandated organizations. 2.3 Make climate information accessible and understandable to vulnerable groups, especially to persons with disabilities and Indigenous Peoples.	▶ DICT (Lead) ▶ DOST ▶ DILG ▶ OCD ▶ DHSUD
3. Fast track the development of digital infrastructure for governance and public audience use	3.1 Promote inclusive digital infrastructure to support resilience building and low-carbon development. 3.2 Ensure the connectivity of consumers especially for distant facilities with service providers (e.g., utilization of National ID Program).	▶ DICT (Lead) ▶ DILG
4. Allocate a specific percentage of budget for climate actions	4.1 Implement sustainable and green financing to support housing value chain processes. 4.2 Assess public institutions spending on climate actions based on results-based monitoring system. 4.3 Monitor LGUs budget spending on climate actions (as per climate change expenditure tagging) in order to baseline budget allocation for climate change programs. 4.4 Ensure risk-informed investment planning and budgeting (i.e. Risk Resilience Program - Program Convergence Budgeting, Local Disaster Risk Reduction and Management Fund). 4.5 Explore possible incentives for climate-related initiatives and sustainable developments projects through SDGs for infrastructure, fiscal incentives, etc.	▶ CCC (Lead) ▶ DBM (Lead) ▶ DOF (Lead)
5. Strengthen inter-LGU collaboration and inclusive participatory planning towards achieving climate justice	5.1 Public-private partnerships and cross-sector collaboration (government, homeowners associations (HOAs), non-government organizations (NGOs), private, etc.) 5.2 Ensure the application of a community-based CCA-DRRM *barangay* land use plan. 5.3 Maximize the presence of youth-led governance such as *Sangguniang Kabataan* in barangay-scale resiliency building. 5.4 Heighten horizontal governance cooperation and coordination in addressing emerging diseases. 5.5 Ensure the review and update of plans, standards, and guidelines to support the localization of climate resiliency planning. 5.6 Operationalize the Nationally Determined Contribution (NDC) policies and establish mechanisms to monitor GHG emissions.	▶ DILG (Lead) ▶ DHSUD (Lead) ▶ NEDA (Lead) ▶ CCC (Lead) ▶ OCD ▶ DOF

KRA5 – BLUE, GREEN, AND CIRCULAR ECONOMY		
Enabling Actions	**Details**	**Responsible Agency/ies**
1. Increase access to the PSF and other climate finance	1.1 Access local and international climate finance (i.e. Use of local DRRM Fund for pre-disaster preparedness, Innovation Grant, Extension of Credit Risk Program to financial institutions (FI), green mortgage loans). 1.2 Adopt climate finance tagging and Monitoring, Evaluation, and Learning (MEL) systems. 1.3 Provide continuous technical training to LGUs in developing projects to access financing. 1.4 Immediate implementation of the Philippines Sustainable Finance Roadmap. 1.5 Promote risk transfer mechanism and insurance for CCA-DRR.	▶ CCC (Lead) ▶ DOF (Lead) ▶ DBM (Lead) ▶ DILG (Lead) ▶ DENR (Lead)
2. Expand research and development to support greener local economic development	2.1 Expand research and technology support for MSMEs. 2.2 Establish green housing/livelihood microfinance. 2.3 Promote green jobs and the circular economy to support settlements. 2.4 Support climate smart energy and transport. 2.5 Promote inclusive and sustainable industries to support the livelihood security of settlements. 2.6 Expand research for culture-based resilience interventions. Climate science should consider indigenous knowledge systems. 2.7 Develop strategies to strengthen academe-industry-government collaboration in undertaking research and developing innovative solutions to support green economic growth. 2.8 Incentivize research and development for CCA-DRR. 2.9 Implement the Philippine Action Plan for Sustainable Consumption and Production (PAP4SCP).	▶ DTI (Lead) ▶ DOST ▶ DOLE ▶ NEDA ▶ DOTr ▶ DPWH ▶ DOT
3. Implement and localize the Green Building Code	3.1 Incorporate green, circular economy in DHSUD and Key Shelter Agency (KSA) housing programs and housing value chain. 3.2 Empower homeowner associations to promote green growth communities. 3.3 Support local/LGU-driven initiatives on Green Building Guidelines. 3.4 Provide incentives for green building initiatives/programs. 3.5 Support the transition to the use of clean/renewable energy in settlements development or upgrading. 3.6 Review and update the National Building Code and Sanitation Code to incorporate climate- and disaster-resilient building and design strategies/considerations.	▶ DHSUD (Lead) ▶ CCC (Lead) ▶ DENR (Lead) ▶ DPWH (Lead) ▶ DILG
4. Upgrade housing value-chain through adoption of low-carbon technologies	4.1 Incorporate low-carbon housing design in PD 957 and BP220. 4.2 Incentive LGUs through zoning regulations and implementation. 4.3 Promote green growth strategies in land-use and settlements planning. 4.4 Improve procurement process to attract more competitive bids for low-carbon technologies and other new technologies in climate adaptation.	▶ DHSUD (Lead) ▶ LGU (Lead) ▶ Shelter Agencies ▶ DOST ▶ DOE ▶ CCC

Cagayan de Oro. © UN-Habitat Philippines

KRA5 – BLUE, GREEN, AND CIRCULAR ECONOMY		
Enabling Actions	**Details**	**Responsible Agency/ies**
5. Increase capacities of informal sectors for resilient and green livelihoods	5.1 Certification guidelines on green jobs; include all sectors of society for green jobs especially vulnerable groups, such as persons with disabilities and senior citizens. 5.2 Build youth-based human resource pool/database for green jobs. 5.3 Form cooperatives or associations for green jobs and enterprises. 5.4 Promote green enterprise skills development especially among women in formal and informal settlements. 5.5 Promote social dialogues and inter-agency cooperation to support informal sectors in transitioning to resilient and green livelihoods.	▶ DHSUD (Lead) ▶ CHED (Lead) ▶ DILG (Lead) ▶ TESDA (Lead) ▶ DTI (Lead) ▶ DSWD ▶ DOLE ▶ DOST
6. Enable innovation, sustainability, and design thinking/technologies	6.1 Innovations for green design and digital technologies in settlements planning and development (e.g., Guideline on Smart Cities). 6.2 Incorporate local materials present in regional areas for innovation and technologies to support the housing value chain. 6.3 Ensure preventive maintenance and sustainability of emergency equipment used for risk prevention and response (e.g., medical equipment for COVID-19).	▶ DOE (Lead) ▶ DHSUD (Lead) ▶ DOST ▶ DICT
7. Promote resilience-focused urban planning and design	7.1 Promote and utilize local and sustainable materials for blue-green infrastructure. 7.2 Incorporate designs and functions of resilient urban infrastructure following the Urban Planning and Design for Climate Resilience: A Reference Tool for Local Governments and Planning Actors in the Philippines.	▶ DHSUD (Lead) ▶ DOST ▶ DENR ▶ DILG ▶ DPWH

KRA6 – REVITALIZED HOUSING AND BASIC SERVICES		
Enabling Actions	**Details**	**Responsible Agency/ies**
1. Knowledge building on green, resilient, and sustainable community and housing design	1.1 Inclusion of human settlements planning through comprehensive land use planning. 1.2 Digitalization of Informal Settler Families (ISF) data and improving access for settlements planning and re/development and policy making. 1.3 Improve physical and digital connectivity of human settlements, particularly in low-income communities. 1.4 Integrate energy plan with human settlements planning. 1.5 Certify available local housing materials for green and resiliency. 1.6 Conduct training and capacity building activities for local production of materials and green technology. 1.7 Prioritize the development of walkable communities considering access to basic social services. 1.8 Highlight BP 344, Gender Sensitive Design, Green Building Code, and other relevant policies in housing designs and infrastructure development supporting human settlements. 1.9 Increase the role and capacity of women to access adequate housing and basic services. 1.10 Establish database systems for human settlement assets including the database/online inventory of available/idle lands for socialized housing. 1.11 Strengthen the utilization of a Community-Based Monitoring System in the gathering, validating, and monitoring of ISF information and data.	▶ DHSUD (Lead) ▶ Shelter Agencies ▶ DOF ▶ DOST ▶ DOE
2. Empower HOAs to implement community safety and security initiatives	2.1 Improve community-led actions for resilience and safety net measures. 2.2 Integrate public health and climate resilience building in the estate management capacities of HOAs. 2.3 Strengthen skills and knowledge of HOAs in addressing health and climate risk management and prevention.	▶ DHSUD (Lead) ▶ DILG
3. Initiate community-based health protection and behavioral shifts to adapt to the changed environment and uncertainties	3.1 Strengthen community-based disaster preparedness for an effective response during disasters, future hazards, and crisis. 3.2 Post-disaster resilient housing (e.g., halfway housings).	▶ DHSUD (Lead) ▶ DOH ▶ DSWD ▶ DOF
4. Improve access to climate finance for housing and community development	4.1 Unlock climate finance from various sources – government, private, international cooperation. 4.2 Target the most vulnerable groups/communities and locations.	▶ DOF (Lead) ▶ CCC (Lead) ▶ DILG (Lead) ▶ Shelter Agencies (Lead)
5. Increase access to PSF and other climate finance	5.1 Capacity building support to LGUs on risk-informed project development processes and packaging. 5.2 Integrate the RGHSF into the guidelines to access the PSF in order to expedite the evaluation of related projects and release of funds.	▶ CCC (Lead) ▶ DILG (Lead)

KRA6 – REVITALIZED HOUSING AND BASIC SERVICES		
Enabling Actions	**Details**	**Responsible Agency/ies**
6. Ensure sustainable food system	6.1 Improve and promote green value chain. 6.2 Promote systems thinking: urban-rural continuum. 6.3 Link human settlements with sustainable agriculture and inclusive food systems. 6.4 Promote urban agriculture in city centers and high density areas.	▶ DA (Lead) ▶ DENR (Lead) ▶ DTI (Lead) ▶ DOST (Lead) ▶ DPWH (Lead)
7. Secure high-quality and affordable communications system	7.1 Invest in green communications technology for energy-efficiency in human settlements planning and development. 7.2 Improve communications to enhance DRR and climate resilience actions at the local or community level. 7.3 Strengthen government investment in broadband infostructure and establish a government-owned broadband community for a more extensive and affordable Internet access.	▶ DICT (Lead) ▶ DOE (Lead) ▶ DPWH (Lead)
8. Access to reliable, safe, and secure services and facilities, including community health and food systems	8.1 Improve the design and implementation of drainage and sewerage systems to promote health, environmental protection, and climate resilience. 8.2 Increase access to high-quality water supply and renewable energy. 8.3 Enhance solid waste management systems from the household to community and municipal/city level. 8.4 Leverage land to finance settlements development and maintenance – application of land-based financing. 8.5 Connect new settlements with integrated transport system. 8.6 Strengthen public-private partnerships (PPP) to support financing of settlements infrastructure and utilities. 8.7 Create/strengthen existing institutions (consider creating board) in the absence of an apex body that will regulate and ensure the delivery of housing and human settlements, water and sanitation services, etc.	▶ DHSUD (Lead) ▶ DPWH (Lead) ▶ DOE (Lead) ▶ DOTr (Lead) ▶ DENR (Lead) ▶ DOH (Lead) ▶ DILG (Lead) ▶ PPP Center (Lead) ▶ DBM (Lead) ▶ DICT (Lead)
9. Implement and localize the Green Building Code	9.1 Support local/LGU-driven initiatives on green building guidelines. 9.2 Provide incentives for green building initiatives/programs. 9.3 Support the transition to clean/renewable energy in settlements development or upgrading. 9.4 Review and update the National Building Code and Sanitation Code to incorporate climate- and disaster-resilient building and design strategies/considerations.	▶ DHSUD (Lead) ▶ CCC (Lead) ▶ DENR (Lead) ▶ DPWH (Lead) ▶ DILG
10. Implement the Pambansang Pabahay Para sa Pilipino (4PH) Program	10.1 Strengthen public-private partnerships (PPP) to support the financing of settlements infrastructure and utilities. 10.2 Incorporate green, circular economy in DHSUD and Key Shelter Agency (KSA) housing programs and housing value chain. 10.3 Empower homeowner associations to promote green growth communities. 10.4 Support local/LGU-driven initiatives on Green Building Guidelines.	▶ DHSUD and its KSAs (Lead) ▶ DILG ▶ NEDA ▶ PPP Center ▶ DBM ▶ CCC ▶ DOF

5

Operationalizing the Framework

This section states the key agency and inter-agency tasks to be accomplished to effectively and efficiently operationalize the framework.

Strategic Action Plan

A **strategic action plan** will be formulated after the framework has been approved. This will further detail the enabling actions, and provide baselines and targets using the most recent data available to the DHSUD and other relevant agencies. Components of the action plan would include:

a. A comprehensive review of the status of all the thematic areas of the RGHSF;

b. Assessment of the gaps and needs, with reference to each of the key agency's KRAs and strategies in the RGHSF;

c. Prioritization of needs based on resources and capacities. Based on each agency's priorities, SMART (specific, measurable, aligned, relevant, and time- bound) strategies can then be further developed through the enabling actions described earlier, phased across a set timeframe for achieving the KRAs;

d. Preparation of a realistic action plan for implementation; and

e. Estimation of additional funds required, to be mobilized from various sources, for implementing the actions;

f. Development of a monitoring and evaluation framework, using agreed-upon indicators for each KRA and with the aim of strengthening the national statistical system.

Furthermore, the operationalization of the RGHSF is to be viewed considering related plans, policies, or frameworks. As such, the timeframe and period of reporting will be aligned with its policy anchors. This will also guide agencies in monitoring and evaluating the KRAs. Depending on inter-agency agreements, the framework may have short-term, mid-term, and long-term periods.

Compliance or performance monitoring tools will be developed and employed to assess the performance of NGAs involved in RGHSF-related programs and projects. This is meant to ensure continuing improvements in sustainable human settlements, continuously improve the framework, and address perceived and potential issues or gaps. Indicators will be the backbone of monitoring progress towards the implementation of the RGHSF. This requires focused attention on:

- Baselining of data (e.g. national statistical system to collect, compile, classify, and analyze data on a range of issues of resilience); and
- Method/s of indicator assessment (e.g. absence / presence, percentage increase/decrease, etc.).

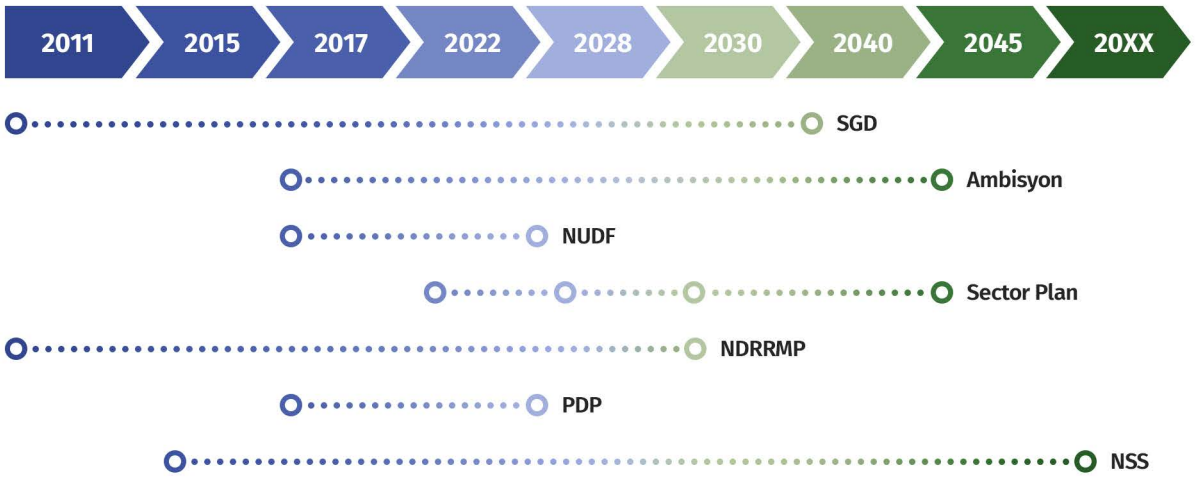


Figure 5. Consolidated Timelines for RGHSF-related Policies

Mainstreaming Guide

Together with other agencies, DHSUD will develop general guidelines on mainstreaming and integration of the RGHSF. Sector or agency-specific details will then be developed by the relevant agencies, in accordance with needs and available resources. The main content of the guide would include:

a. Principles and approaches in mainstreaming and integration in agencies' regular project cycle management;

b. Process, methods, and tools for mainstreaming and integration; and

c. Strategies to maintain consistency with the targets of the NDRRMP and DHSUD Sector Plan.

Institutional Collaboration Mechanism

Considering the individual mandates of national government agencies, a mechanism for close and meaningful collaboration will have to be established and maintained. The first step towards this is the approval of a JMC or a similar policy instrument that details the purpose, roles, and responsibilities of identified relevant agencies. The agreement will also trigger actions within each agency, including action planning, mainstreaming RGHSF in existing and planned programs across governance levels, and corresponding resource mobilization.

The institutional arrangement will highlight development collaboration at various levels—local, regional, and international, and across administrative and country boundaries. The risks of transboundary disasters can only be addressed through local and regional collaboration. Therefore, effective working arrangements between key agencies and local, regional, and international organizations can facilitate context-based implementation of the framework by exchanging knowledge, good practices, and other joint activities. International collaboration can open windows of opportunities for capacity-building, transfer of technology, and development assistance.

Programming and Budgeting

For the framework's KRAs to be fully realized, the enabling actions need to be programmed and efficiently implemented. As mentioned, this may be done through mainstreaming into the agencies' plans and programs, such as DHSUD's sector plan. This would enable budgeting, targeting, and measurement of progress relative to institutional goals and objectives. While some enabling actions already match existing or planned activities and are therefore easier to budget for, some may need to be included in future iterations of agencies' programs.

The RGHSF will then be the basis of implementing agencies for fund allocation and financing, alongside supplementing existing and planned programs, projects, and activities that are relevant to climate and disaster actions. To support this, agencies, stakeholders, and partners can explore and utilize various funding windows such as climate finance and public-private partnerships.

Communications

Led by DHSUD, the communications plan will aim to increase not only awareness, but the motivation to incorporate the RGHSF into policies, programs, and activities. It should be able to convey the relevance of the framework, as well as its practicability in all aspects of settlements development. This requires the participation of other relevant agencies, in order to capture the nuances and unique language of end users across various sectors.

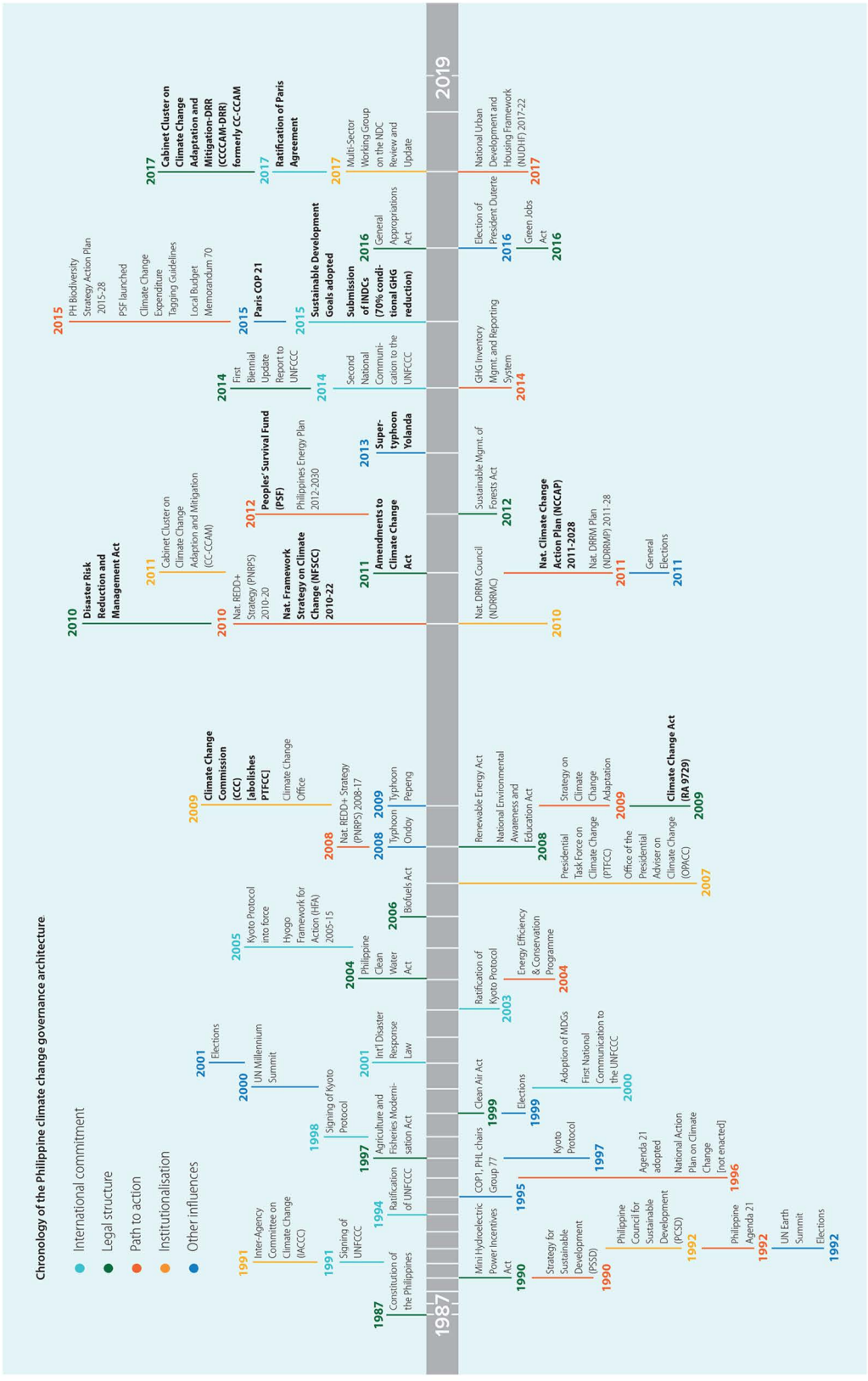
In the formulation of the framework's Communication Plan, localization of the RGHSF may be considered through (a) simplification of technical concepts (b) translation into Filipino, and (c) identification of practical steps/ actions.

Aside from the identified key agencies, the participation of other stakeholders and institutions (such as the private sector and civil society organizations) is vital in promoting advocacies that support operationalizing the RGHSF.

6 Annexes

Annex A:

Diagram of the Philippines' Climate Change Governance Spectrum (Reference)[26]



[26] Image originally published in "Multi-Level Climate Governance in the Philippines: Shaping connections for climate action" by adelphi and UN-Habitat Philippines, 2018; further modified to include recent updates in the Philippine climate change landscape.

Annex B:
Review of Relevant Policies Related to RGHSF[27]

Each policy/law is marked with colored circles that describe whether it contains provisions on key aspects such as resilience, adaptation, GHG mitigation, as well as urban planning and design elements to promote climate resiliency. Green circles mean that the policy/law explicitly contains provision(s) on the key aspect(s) marked. Yellow circles mean that the policy/law only implies coverage of the key aspect(s) marked. Lastly, red circles mean that the policy/law does not contain provision(s) on the key aspect(s) marked. Simply put, the color-coding scheme is as follows:

B.1. MATRIX OF INTERNATIONAL AGREEMENTS RELATED TO CLIMATE CHANGE AND URBAN PLANNING AND DESIGN (UPD)

TITLE OF POLICY REVIEWED	ONE LINER DESCRIPTION	CLIMATE CHANGE ACTION BEING PROMOTED AND/OR MENTIONED			UP&D COVERAGE	URBAN DESIGN ELEMENTS (CHECKLIST)					
		Resilience (General)	Adaptation	GHG Mitigation		Urban Structure / Urban Grain	Density and Mix	Height and Massing	Streetscape and Landscape	Facade and Interface	Details and Materials
UNFCCC	Overall framework for inter-governmental efforts to tackle challenges posed by climate change	●	●	●	●	●	●	●	●	●	●
KYOTO PROTOCOL	Agreement linked to UNFCCC which binds industrialized countries to reduce GHG emissions	●	●	●	●	●	●	●	●	●	●
PARIS AGREEMENT	Brings all nations into a common cause to undertake ambitious efforts to combat climate change and adapt to its effects	●	●	●	●	●	●	●	●	●	●
HYOGO FRAMEWORK	Underscores the need for and identified ways of building resilience	●	●	●	●	●	●	●	●	●	●
SENDAI FRAMEWORK	Recognizing the State's primary role to reduce disaster risk	●	●	●	●	●	●	●	●	●	●
2030 AGENDA FOR SUSTAINABLE DEVELOPMENT (SDGS)	Universal call to action to end poverty, protect the planet, and ensure peace and prosperity by 2030	●	●	●	●	●	●	●	●	●	●

[27] Lifted from Urban Planning and Design for Climate Resilience: A Reference Tool for Local Governments and Planning Actors in the Philippines (DHSUD, 2022)

TITLE OF POLICY REVIEWED	ONE LINER DESCRIPTION	CLIMATE CHANGE ACTION BEING PROMOTED AND/OR MENTIONED			UP&D COVERAGE	URBAN DESIGN ELEMENTS (CHECKLIST)					
		Resilience (General)	Adaptation	GHG Mitigation		Urban Structure / Urban Grain	Density and Mix	Height and Massing	Streetscape and Landscape	Facade and Interface	Details and Materials
NEW URBAN AGENDA	Shared vision for a better and more sustainable future through well-planned and well-managed urbanization	●	●	●	●	●	●	●	●	●	●

B.2. MATRIX OF NATIONAL FRAMEWORKS RELATED TO CLIMATE CHANGE AND UPD

TITLE OF POLICY REVIEWED	ONE LINER DESCRIPTION	CLIMATE CHANGE ACTION BEING PROMOTED AND/OR MENTIONED			UP&D COVERAGE	URBAN DESIGN ELEMENTS (CHECKLIST)					
		Resilience (General)	Adaptation	GHG Mitigation		Urban Structure / Urban Grain	Density and Mix	Height and Massing	Streetscape and Landscape	Facade and Interface	Details and Materials
AMBISYON NATIN 2040	Long-term vision and aspirations of the Filipino people in the next 25 years	●	●	●	●	●	●	●	●	●	●
PHILIPPINE DEVELOPMENT PLAN (PDP) 2017-2022	The administration's medium-term plan which aims to lay the foundation for inclusive growth, a high-trust society, and a globally competitive economy	●	●	●	●	●	●	●	●	●	●
PHILIPPINE NEW URBAN AGENDA	Reflects the aspirations of Filipinos for the future of their cities	●	●	●	●	●	●	●	●	●	●
NATIONAL FRAMEWORK STRATEGY ON CLIMATE CHANGE (NFSCC) 2010-2022	Guides the national and sub-national development processes, including the formulation of CLUPs and CDPs	●	●	●	●	●	●	●	●	●	●
NATIONAL DISASTER RISK REDUCTION & MANAGEMENT PLAN 2011-28 (NDRRMP)	Required under RA No. 10121, establishing policies, plans, and programs to deal with disaster	●	●	●	●	●	●	●	●	●	●

TITLE OF POLICY REVIEWED	ONE LINER DESCRIPTION	CLIMATE CHANGE ACTION BEING PROMOTED AND/OR MENTIONED			UP&D COVERAGE	URBAN DESIGN ELEMENTS (CHECKLIST)					
		Resilience (General)	Adaptation	GHG Mitigation		Urban Structure / Urban Grain	Density and Mix	Height and Massing	Streetscape and Landscape	Facade and Interface	Details and Materials
NATIONAL URBAN DEVELOPMENT AND HOUSING FRAMEWORK (NUDHF)	The development framework for urban and urbanizing areas, which guides the collective efforts of stakeholders to improve the performance and efficiency of the country's urban systems	●	●	●	●	●	●	○	●	○	○
NATIONAL HOUSING AND URBAN DEVELOPMENT SECTOR PLAN (NHUDSP)	A 20-year road map that aims to harmonize and sustain the housing and urban development initiatives by consolidating the existing and proposed PAPs of the department, its key shelter agencies and stakeholders	●	●	●	●	●	●	○	●	○	○
RESILIENT AND GREEN HUMAN SETTLEMENTS FRAMEWORK (RGHSF)	Provides a lens through which the complexity of communities and the drivers that contribute to its resilience can be understood	●	●	●	●	●	●	○	●	○	○

B.3. MATRIX OF LAWS ON CLIMATE CHANGE AND DISASTERS RELATED TO UPD

TITLE OF LAW REVIEWED	ONE LINER DESCRIPTION	CLIMATE CHANGE ACTION BEING PROMOTED AND/OR MENTIONED			UP&D COVERAGE	URBAN DESIGN ELEMENTS (CHECKLIST)					
		Resilience (General)	Adaptation	GHG Mitigation		Urban Structure / Urban Grain	Density and Mix	Height and Massing	Streetscape and Landscape	Facade and Interface	Details and Materials
CLIMATE CHANGE ACT OF 2009	Promotes state policy to integrate the concept of climate change in various phases of policy formulation, development plans, poverty reduction strategies, and other developmental tools of government	●	●	●	○	○	○	○	○	○	○

TITLE OF LAW REVIEWED	ONE LINER DESCRIPTION	CLIMATE CHANGE ACTION BEING PROMOTED AND/OR MENTIONED			UP&D COVERAGE	URBAN DESIGN ELEMENTS (CHECKLIST)					
		Resilience (General)	Adaptation	GHG Mitigation		Urban Structure / Urban Grain	Density and Mix	Height and Massing	Streetscape and Landscape	Facade and Interface	Details and Materials
PHILIPPINE DISASTER RISK REDUCTION AND MANAGEMENT ACT OF 2010	Provides for the development of policies and plans and the implementation of actions pertaining to of disaster risk reduction and management	●	●	○	●	○	○	○	○	○	○
PEOPLE'S SURVIVAL FUND	Creation of a fund and a disbursement mechanism to support the adaptation activities of local governments and communities	●	●	●	○	○	○	○	○	○	○

B.4. MATRIX OF PLANNING AND DESIGN LAWS RELATED TO CLIMATE CHANGE

TITLE OF LAW REVIEWED	ONE LINER DESCRIPTION	CLIMATE CHANGE ACTION BEING PROMOTED AND/OR MENTIONED			UP&D COVERAGE	URBAN DESIGN ELEMENTS (CHECKLIST)					
		Resilience (General)	Adaptation	GHG Mitigation		Urban Structure / Urban Grain	Density and Mix	Height and Massing	Streetscape and Landscape	Facade and Interface	Details and Materials
LOCAL GOVERNMENT CODE	Governs the creation, powers, functions, and limitations of provinces, cities, municipalities, and *barangays*	●	○	○	○	○	○	○	○	○	○
ACT CREATING THE DHSUD	Creating a full-fledged DHSUD mandated to provide access to adequate, safe, secure, habitable, sustainable, resilient and affordable homes	●	●	○	●	○	○	○	○	○	●
URBAN DEVELOPMENT AND HOUSING ACT OF 1992	Provides for a comprehensive and continuing urban development and housing program	○	○	○	●	○	○	○	○	○	●

TITLE OF LAW REVIEWED	ONE LINER DESCRIPTION	CLIMATE CHANGE ACTION BEING PROMOTED AND/OR MENTIONED			UP&D COVERAGE	URBAN DESIGN ELEMENTS (CHECKLIST)					
		Resilience (General)	Adaptation	GHG Mitigation		Urban Structure / Urban Grain	Density and Mix	Height and Massing	Streetscape and Landscape	Facade and Interface	Details and Materials
SPECIAL ECONOMIC ZONE ACT OF 1995, AS AMENDED BY RA NO. 8748	Provides the framework for the creation, operation, administration, and coordination of special economic zones in the Philippines	●	●	●	●	●	●	●	●	●	●
PHILIPPINE GREEN JOBS ACT OF 2016	Promoting the creation of green jobs	●	●	●	●	●	●	●	●	●	●
PHILIPPINE GREEN BUILDING CODE	Prescribes measures/standards to minimize the effects of buildings on human health and the environment	●	●	●	●	●	●	●	●	●	●
PD 1216, DEFINING OPEN SPACE IN RESIDENTIAL SUBDIVISIONS	Prescribes open space requirements for housing development	●	●	●	●	●	●	●	●	●	●

Annex C:
Related DHSUD Policies and the RGHSF

PHILIPPINE NEW URBAN AGENDA	NUDHF PRINCIPLES	RGHSF RESULT AREAS
1. Urban Demography: Capturing the youth dividend, a more spatially balanced and interconnected development, and safeguards for the vulnerable and disadvantaged.	▶ Urbanization as a catalyst for inclusive growth. ▶ Urban areas as accessible platforms for social and economic opportunity, cultural expression, and innovation. ▶ Spatially and thematically integrated settlements within coherent and efficient urban systems and forms across scales.	**Resilient Population** ▶ Empowering and safeguarding the vulnerable and disadvantaged ▶ Capturing the youth dividend as primary movers of resiliency building ▶ Engaging local sustainability leaders
2. Land and Urban Planning: Effective regional planning and development, planning for climate change adaptation and disaster risk reduction (DRR), and improving access to urban land.	▶ Spatially and thematically integrated settlements within coherent and efficient urban systems and forms across scales. ▶ Resilience as a base for spatial structuring and sectoral development.	**Resilient and Green Land-use and Urban Planning** ▶ Risk-based planning and monitoring ▶ Green urbanism and urban renewal / regeneration ▶ Data access, management, and standardization to support decision-making ▶ Stakeholder engagement in hazards, vulnerabilities, risk analysis, and capacity assessment ▶ Maximizing development opportunities in a changed environment ▶ CCA/DRR strategies and nature-based solutions/PPAs in the local plans
3. Urban Environment: Climate and disaster resilience, urban environmental infrastructure improvements, and developing green cities.	▶ Resilience as a base for spatial structuring and sectoral development.	**Balanced, Interconnected, and Climate-responsive Sustainable Development** ▶ Rural-urban nexus for integrated resilience building ▶ Ridge-to-reef approach, ecosystem-based adaptation, and urban biodiversity ▶ Cross-administrative area planning for resilience ▶ Blue and green infrastructure
4. Urban Governance: Stronger sector leadership, effective multilevel governance, improved local governance capacity, and participatory and transparency mechanisms.	▶ People's participation and empowerment as foundation of urban governance, facilitating sustainable resource use, planning management, and finance.	**Transformative Multilevel Climate Governance** ▶ Sufficient governance resources for transformative climate actions ▶ Available science-based and up-to-date decision-making tools ▶ Participatory, inclusive, and transparent governance towards climate justice ▶ Harmonized digital assets and infrastructure for resilience building ▶ Coordinated and devolved climate governance

PHILIPPINE NEW URBAN AGENDA	NUDHF PRINCIPLES	RGHSF RESULT AREAS
5. Urban Economy: Diversified local and housing finance, sustainable local economic development, and urban economy mainstreaming in development planning.	▶ Urbanization as a catalyst for inclusive growth. ▶ Urban areas as accessible platforms for social and economic opportunity, cultural expression, and innovation.	**Blue, Green, and Circular Economy** ▶ City/human settlements scale GHG inventory and targets ▶ Promoting low-carbon housing value chain ▶ Green financing for clean/green production ▶ Creating and supporting resilient and green jobs, livelihood, social enterprises, and MSMEs ▶ Green products and materials certification ▶ Economic sectors' transition to circular economy
6. Housing and Basic Services: Scaling up low-income and pro-poor housing, affordable, reliable, and resilient basic services, and shifting to an inclusive, low-carbon urban transport system.	▶ Resilience as a base for spatial structuring and sectoral development. ▶ Spatially and thematically integrated settlements within coherent and efficient urban systems and forms across scales.	**Revitalized Housing and Basic Services** ▶ Green and resilient housing/building ▶ Mixed-use, open, and public spaces for risk management ▶ Sustainable water resource access and management ▶ Green and affordable energy access ▶ Access to reliable, safe, and secure services and facilities including community health and food systems ▶ Zero waste sanitation and management ▶ Green and low-carbon mobility

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Moving towards a better, greener, and smarter human settlements in the Philippines

The Resilient and Green Human Settlements Framework - a policy milestone for building resilient cities and communities.

The resilience of human settlements rests on their ability to resist, absorb, accommodate, recover from, adapt to, and transform in the face of shocks and stresses that are constantly challenging people's growth and survival. A changing climate, coupled with large-scale crises like the COVID-19 pandemic, and manmade disasters require a shift from the traditional development process towards a more resilient and green development pathway.

Building Climate Resiliency through Urban Plans and Designs

A work of collaboration

The Philippines' Department of Human Settlements and Urban Development (DHSUD) spearheaded the creation Resilient and Green Human Settlements Framework (RGHSF) in partnership with the Climate Change Commission (CCC).

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