



CENTRAL LUZON REGIONAL DEVELOPMENT PLAN

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PART I

Introduction

01

Overview of Regional Economy, Development Context and Trends



CHAPTER 1

Overview of Regional Economy, Development Context and Trends

Central Luzon fared well from 2016 through 2019 because of its strong foundation for robust economic growth and sustainable development. This picture of a vibrant Central Luzon economy however was dramatically altered when the COVID-19 pandemic was declared in March 2020.

The region's macroeconomic performance had been sound, stable, and well-functioning since 2016. In fact, the growth of gross regional domestic product (GRDP) averaged 7.8 percent during the 2016-2019 period, placing Central Luzon among the fastest-growing regions in the country.

Like the rest of the country, Central Luzon suffered from the impact of the pandemic and the stringent quarantine measures imposed by the government to halt the spread of the Corona Virus Disease (COVID-19), save lives, and afford the public health sector enough time and resources to respond effectively to the problem. The value of GRDP (at constant 2018 prices) in year 2020, estimated at PhP1.88 trillion pesos, contracted by 13.9 percent relative to the 2019

figure. The decline was the highest among all the regions, even higher than the NCR.

Despite the grim scenario, the year 2021 proved to be a year filled with promise and optimism. It commenced with an upbeat outlook despite concerns on the resurgence of COVID-19 cases after government bolstered efforts to close vaccination deployment gaps and provide policy support to accelerate socioeconomic recovery.

In the same year, the region's economy indicated strength, with business and households demonstrating remarkable volume of activities. The value of GRDP (at constant 2018 prices) reached PhP2.02 trillion pesos, representing a 7.4 percent increase relative to 2020.

The economy of Central Luzon is expected to quickly recuperate and get back on top of the business cycle.

Growth is poised to maintain its full vigor and ideal pace at a rate of 6.2 to 9.3 percent as the basic sectors of the region augur for higher productivity levels.

The industry sector is envisaged to lead the expansion of the economy and sustain a growth rate ranging from 10 percent to 11 percent as

events in the external environment such as reduction of global oil prices and appreciation of the peso ensues.

The services sector of the region is forecast to kick into higher gear and exhibit growth between 7 percent and 8 percent in the coming years as players in the industry uncover huge

potentials for increasing value-added in outputs, as well as deepening participation in global value chains.

Moreover, the agricultural, hunting, forestry and fishing (AHFF) sector will likely reinforce the performance of the regional economy. It is projected to exhibit a modest growth rate that will keep up with the population progression of Central Luzon.

Efforts such as (i) rationalization of land use allocation; (ii) promotion of value addition on agricultural products; (iii) expansion of the forward and backward linkages of the agri-fisheries sector with the other sectors; (iv) advancement of co-operative farming; (v) support for R&D in disaster risk reduction and climate change adaptation; and (vi) implementation of high-impact projects such as the Balog-Balog Multipurpose Project are anticipated to accelerate the productivity of the AHFF sector to 3.9 percent in the next six years.

Inflation is expected to remain a manageable macroeconomic concern despite registering a rate faster than expected during the pandemic. Nevertheless, it is estimated to follow a downward trend and fall within the target range of 2 percent to 4 percent set by the Development Budget Coordination Committee (DBCC) in coordination with the Bangko Sentral ng Pilipinas. This is expected as the government continues to execute monetary and non-monetary measures to ensure price stability.

The implementation of programs and projects designed to improve agricultural productivity and reinforce the country's strategic trade policies is foreseen to bring inflation toward the goal-consistent path over the medium term.

Meanwhile, the region's labor market is sustaining recovery at a consistent but gradual

pace. The results of the Labor Force Survey from January 2021 – October 2022 indicated a declining unemployment rate — far from the 27.3 percent recorded in April 2020.

Such positive development heralds the resiliency of the labor market and the regional economy. The positive trend is expected to continue as domestic and foreign investments continue to grow, particularly those in the economic corridors of Bataan, Bulacan, Pampanga and Zambales. This likelihood is boosted as concerned government agencies strengthen employment facilitation services, enhance social protection programs, and advance formalization for the workers of Central Luzon.

The region is confident that the percentage of the unemployed will soon reach its natural rate, i.e., between 4 percent to 5 percent — the level of unemployment when the aggregate labor market is in equilibrium or the state when all those who want to be employed at the prevailing real wage rate have work. The progress in reducing unemployment will be matched by improvements in the quality of jobs.

Despite all these good news, the fight against poverty remains far from over. Deprivation persists in certain areas of the region. Some members of the population are continuously ill-served in essential elements of well-being such as education, health care, sanitation, social protection, safety, and security.

Based on the 2021 Full Year Official Poverty Statistics of the Philippines, the poverty incidence among population in Central Luzon rose to 11.4 percent from 7.0 percent in 2018. This double-digit figure explains that the region's gains in reducing destitution were partly reversed by the pandemic which induced community lockdowns and consequently, dried up jobs and other sources of livelihood.

Central Luzon is confident that such concern is gaining solid response from all levels of government.

New and better inroads against extreme poverty are being carried out to ensure that the poorest members of the population will be able to participate, contribute to, and benefit from the socioeconomic successes of the region.

In the near term, the government will push for the delivery of programs that uplift the lives of individuals and households pushed to penury by the pandemic. Concrete actions will be taken to develop the economic resilience of communities.

In the medium and long-term, the public sector will pursue key economic and fiscal reforms to support the region's poverty reduction strategy. Both NEDA and the RDC III will support policy reforms that will: (i) enhance available resources for social services, poverty alleviation, and infrastructure development; (ii) maintain price stability to protect the poor from the negative impact of increasing food prices; (iii) improve the investment climate; and (iv) engage the private sector in the formulation of collective and coordinated response to the problem of indigency.

Strategic core initiatives under the "Build Better More" program will be executed to expedite

healing, recovery, and rebuilding of the economy and the communities of Central Luzon. A set of legacy projects will be developed to expand the region's infrastructure base, develop new and better industries, increase the productive capacity of the economy, create jobs, increase incomes, and strengthen the investment climate that will lead to sustained inclusive growth.

The rapid pace of innovation and the dynamics of technological flows are likewise expected to offer good platforms to address the crucial aspects of human deprivation and advance balanced and sustainable socioeconomic development. Their advent promises a new strength that will capacitate communities and re-energize the regional economy.

The next wave of digital revolution will introduce a range of technologies such as artificial intelligence, genome editing, augmented reality, robotics, 3-D printing, mobile supercomputing, and many others that will transform how people in our society communicate, learn, entertain themselves and relate to one another. It will likewise bring systemic change that will impact many sectors and aspects of human lives, particularly the way individuals create, exchange, and distribute value.

Medium-term socioeconomic outlook for Central Luzon is generally positive. Economic rebound is expected to be more sustainable, balanced, and inclusive in the coming years. Individuals and communities will be more resilient.

The economic momentum is forecast to gain ground early in 2023 as the general price level is seen to stabilize and as the employment situation continually improves. This situation will accelerate private consumer spending.

Domestic policies are continuously being geared towards addressing inequality and fostering economic inclusion. These policies also expand: access to quality education and healthcare for the poor, investments in infrastructure, measures for financial inclusion

to reach the most vulnerable, and incentives to increase female labor force participation to boost productivity and ensure that future economic expansions will not come at the expense of equality.

The presence of critical attributes such as enhanced capacity, good governance, resources, broad infrastructure base, and better social safety nets place Central Luzon in a much safer

and more secured position. It will continue to strengthen the ability of the region's populace and communities to prepare and plan for, absorb, recover from, and more successfully adapt to disaster-related risks, conflicts, shocks, stresses, and uncertainties. Thus, the region is confident that it can withstand threats and crises and protect the gains of development it has achieved in recent decades.

Table 1-1: Table of Headline Indicators

INDICATOR	BASELINE (YEAR)	ANNUAL TARGETS						MEANS OF VERIFICATION
		2023	2024	2025	2026	2027	2028	
Gross regional domestic product (GRDP) (growth rate, %) increased	7.4% (Year 2021)	6.2 - 9.3	6.2 - 9.3	6.2 - 9.3	6.2 - 9.3	6.2 - 9.3	6.2 - 9.3	National Accounts of the Philippines (NAP); Philippine Statistics Authority (PSA)
Unemployment rate (%) decreased	5.0 (Year 2022)	4.0 - 5.0	4.0 - 5.0	4.0 - 5.0	4.0 - 5.0	4.0 - 5.0	4.0 - 5.0	Labor Force Survey (LFS), PSA
Poverty incidence (% of population) reduced	11.4 (Year 2021)	9.43	8.44	7.46	6.47	5.59	4.50	Family Income and Expenditure Survey (FIES), PSA
Food inflation rate (%) kept stable	5.6 (Year 2022)	2.5-4.5	2.0-4.0	2.0-4.0	2.0-4.0	2.0-4.0	2.0-4.0	PSA
Headline inflation rate (%) kept stable	6.5 (Year 2022)	2.5-4.5	2.0-4.0	2.0-4.0	2.0-4.0	2.0-4.0	2.0-4.0	PSA

02

Regional Spatial Development Framework



CHAPTER 2

Regional Spatial Development Framework

The Planning Environment

Location, Land Area, and Political Subdivision

Central Luzon is bounded by the provinces of Nueva Vizcaya, Quirino, and Pangasinan on the north, by Quezon province and Pacific Ocean on the east, by the National Capital Region (NCR) and Manila Bay on the south, and by the West Philippine Sea and Zambales Mountain Range on the west. The region has an estimated total

land area of 2,147,036 hectares¹. It is composed of seven provinces namely: Aurora, Bataan, Bulacan, Nueva Ecija, Pampanga, Tarlac, and Zambales (Figure 2-1). It likewise has 14 cities, 116 municipalities, 3,102 barangays, and 24 congressional districts.

Population Size and Distribution

Based on the latest 2020 Census of Population and Housing, the total population of Central Luzon is at 12,422,172. This is a 2.05 percent growth from the 10,137,737 population in 2015. The region's population accounts for 25.5 percent of the overall population of Luzon and 11.4 percent of the entire population of the Philippines.

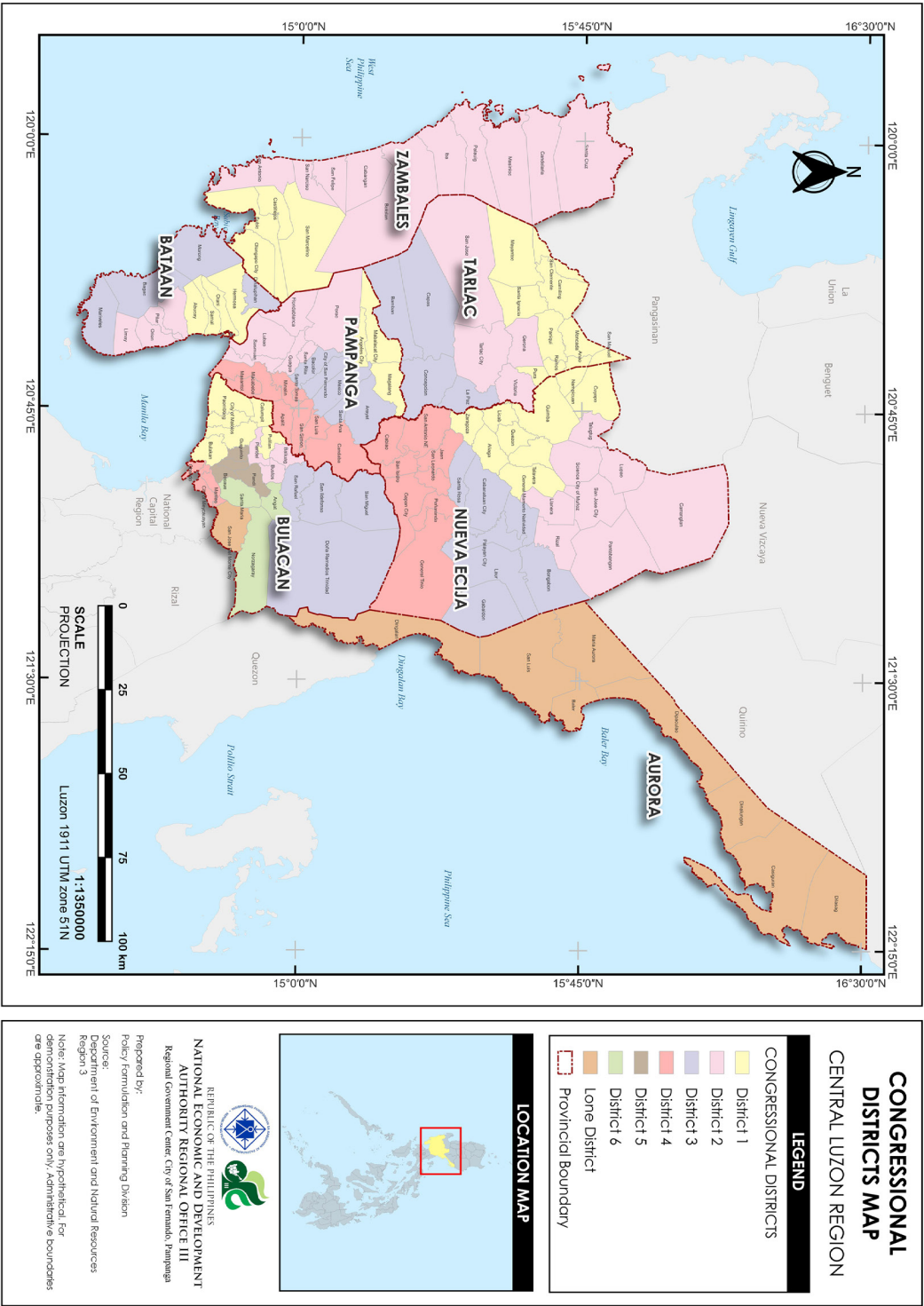
Among the seven provinces in the region, Bulacan had the biggest population in 2020 with 3,708,890 followed by Pampanga and Nueva Ecija (Table 2-1). The combined population of these three provinces accounted for about 68 percent of the region's population, with Bulacan having the biggest share at 30 percent. At the city/municipal level, San Jose Del Monte City had the largest population, followed by Angeles City, Tarlac City, City of San Fernando, and Cabanatuan City (Figure 2-2). An additional 197,260 persons were added in 2020 in the city of San Jose del Monte from its total 2010 population, making it the city that gained the highest increase in population during the period.

Table 2-1: Central Luzon Population: 2000, 2010, and 2020

PROVINCE AND HIGHLY- URBANIZED CITY	TOTAL POPULATION		
	01-MAY- 2000	01-MAY- 2010	01-MAY- 2020
Central Luzon	8,204,742	10,137,737	12,422,172
Aurora	173,797	201,233	235,750
Bataan	557,659	687,482	853,373
Bulacan	2,234,088	2,924,433	3,708,890
Nueva Ecija	1,659,883	1,955,373	2,310,134
Pampanga	1,614,942	2,014,019	2,437,709
Angeles City	267,788	326,336	462,928
Tarlac	1,068,783	1,273,240	1,503,456
Zambales	433,542	534,443	649,615
Olongapo City	194,260	221,178	260,317

Source: Census of Population and Housing, PSA

On age distribution, 65.21 percent belonged to the working-age population (16 to 64 years) in 2020. Children below 15 years of age comprised 29.21 percent while older persons (65 years old and over) accounted for 5.58 percent. The overall dependency ratio is 53.36 dependents per 100 persons.



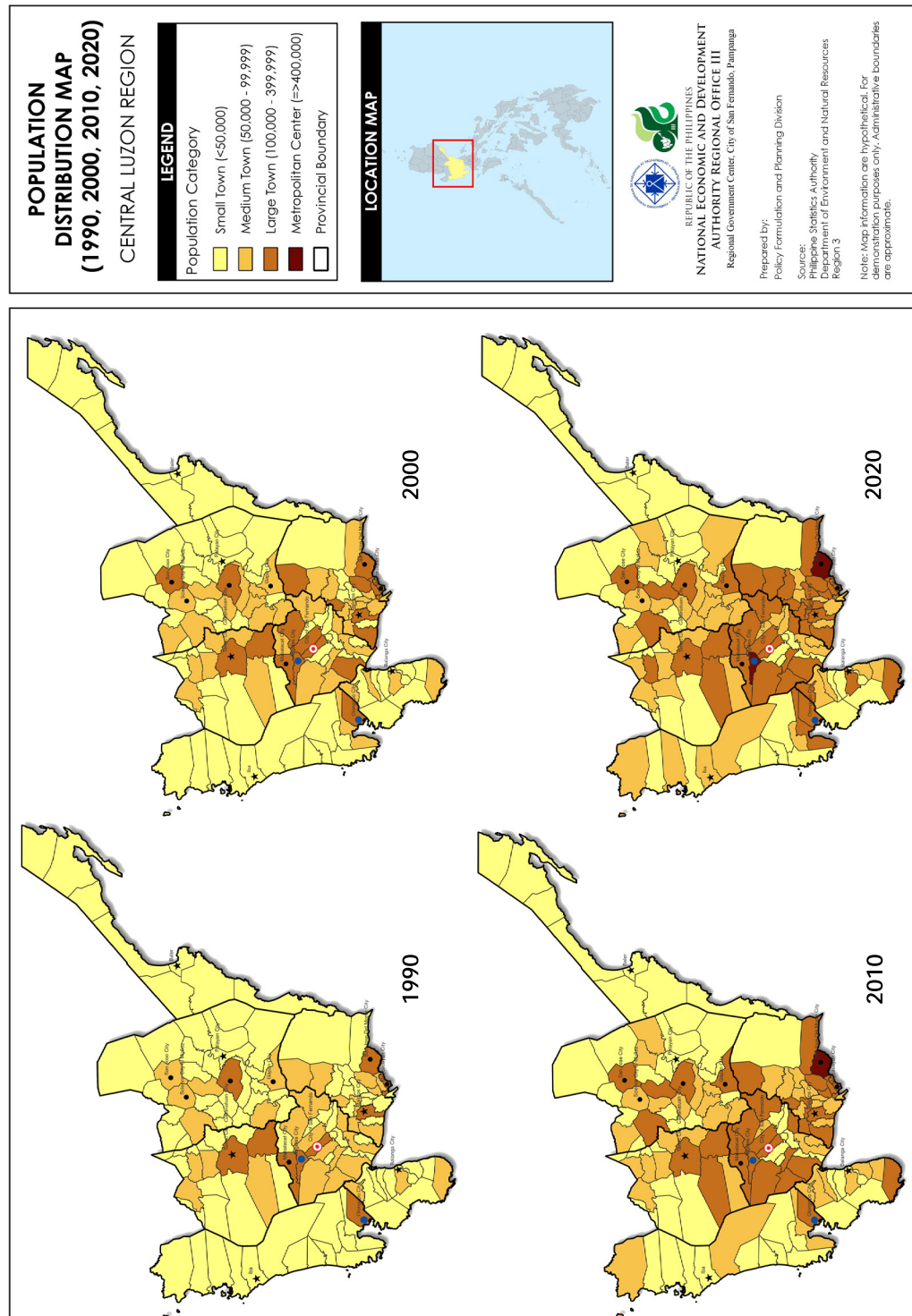


Figure 2-2: Central Luzon Population Distribution Map (1990, 2000, 2010, 2020)

Environment and Natural Resources

Central Luzon is characterized by a combination of mountain ranges with extinct and active volcanoes, lush farmlands, and natural sea harbors. It is one, of only two regions in the country, bounded by the West Philippine Sea (western seaboard) and Pacific Ocean (eastern seaboard). The region also consists of the largest plains in the country – referred to as the Central Plains of Luzon – and is the gateway to the northern Luzon regions (Figure 2-3).

Topography and Slope

The topography of Central Luzon ranges from flat terrain in the center to rolling hills, mountains and shorelines on its western and eastern borders. About 40.23 percent of the region's land area have slopes of more than 18 percent comprising of moderately steep, to steep and very steep slopes. By law, lands with slopes 18 percent or higher are not buildable for habitation purposes². On the other hand, areas with less than 18 percent slope, characterized by flat to rolling terrain, account for 59.77 percent of the region (Figure 2-4). Such lands are marked suitable for cultivation and built-up.

Watershed Forest Reserves

Central Luzon has 23 proclaimed watershed forest reserves with a total area of 308,999.74 hectares. The largest of these watersheds is the Pantabangan-Carranglan Watershed Forest Reserve which has an aggregate area of 84,500 hectares. This cuts across the provinces of Aurora, Nueva Ecija and Nueva Vizcaya, and sustains the Pantabangan Dam which has a reservoir area of 8,420 hectares and a storage capacity of about 3 billion cubic meters. This reservoir is the main source of irrigation water of the Upper Pampanga River Irrigation System, the largest national irrigation system in the country, servicing an area of 119,216 hectares of prime agricultural lands located in the provinces of Nueva Ecija, Pampanga,

Bulacan, and Tarlac. In addition to irrigation and flood control, the Pantabangan Dam also generates electricity that supplies power to the different provinces of the region through the Pantabangan and Masiway hydroelectric power plants.

The second and third largest watersheds are Angat Watershed Forest Reserve and Talavera Watershed Forest Reserve with an area of 55,709 and 37,156 hectares, respectively. The Angat Watershed Forest Reserve sustains the Angat Dam and reservoir and its downstream regulator dams which supply irrigation water to the Angat-Maasim River Irrigation System covering a service area of 32,375 hectares. The Angat Dam also supplies 90 percent of the bulk water requirement of Metro Manila through the facilities of the Metropolitan Waterworks and Sewerage System³.

Coastal Resources

Municipal waters measured at 15 kilometers from the shoreline compose the region's coastal resources (Figure 2-5). Central Luzon has a total of 2,545 hectares of mangroves⁴, 4,226 hectares of seagrass, and 11,141 hectares of coral reef⁵. These are utilized for mariculture, aquaculture, fishing, and other coastal livelihood activities. The province of Aurora has the longest coastline of about 332 kilometers followed by the province of Zambales with more than 266 kilometers of narrow coastline on its western side bordering the West Philippine Sea. The coastline of Bataan is 177 kilometers long characterized by an extensive estuarine and mudflat areas with patches of mangrove forest, sand and rock formations, and pristine and rocky beaches with coral reefs. Meanwhile, the coastlines of Bulacan and Pampanga at the southern end of the region form part of the Manila Bay and are made up of mud flats which are being used as fishponds.

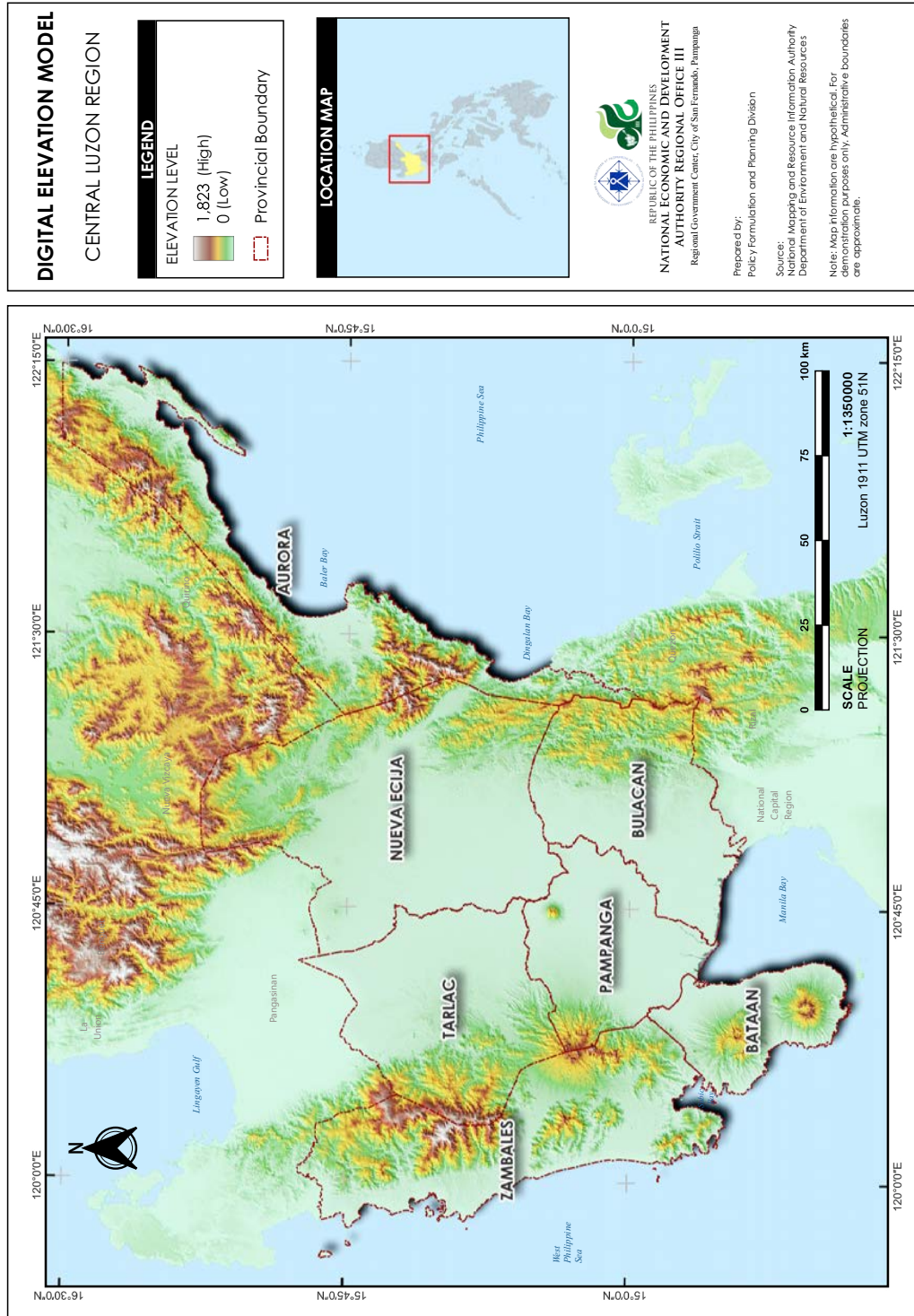
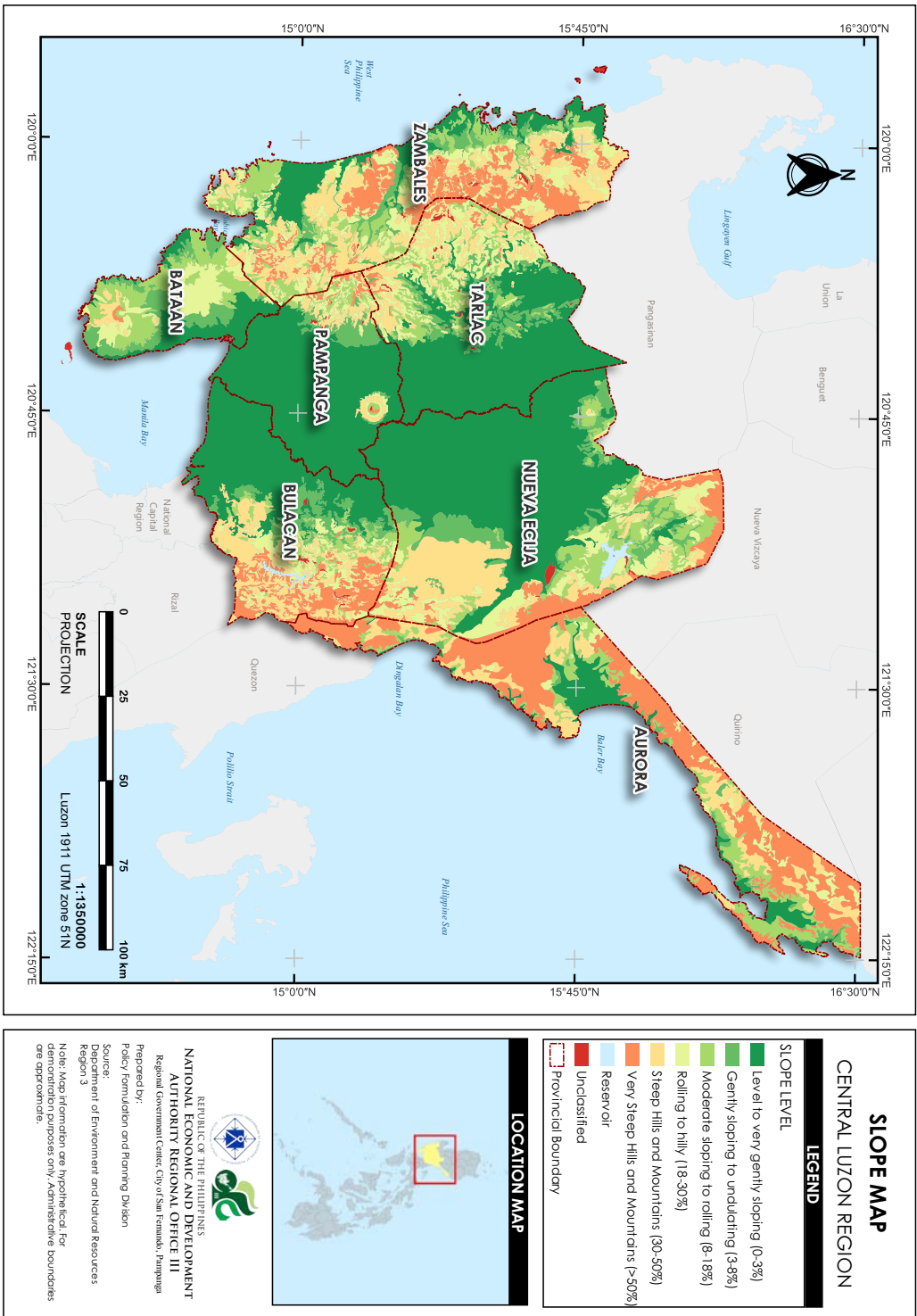


Figure 2-3: Central Luzon Digital Elevation Model



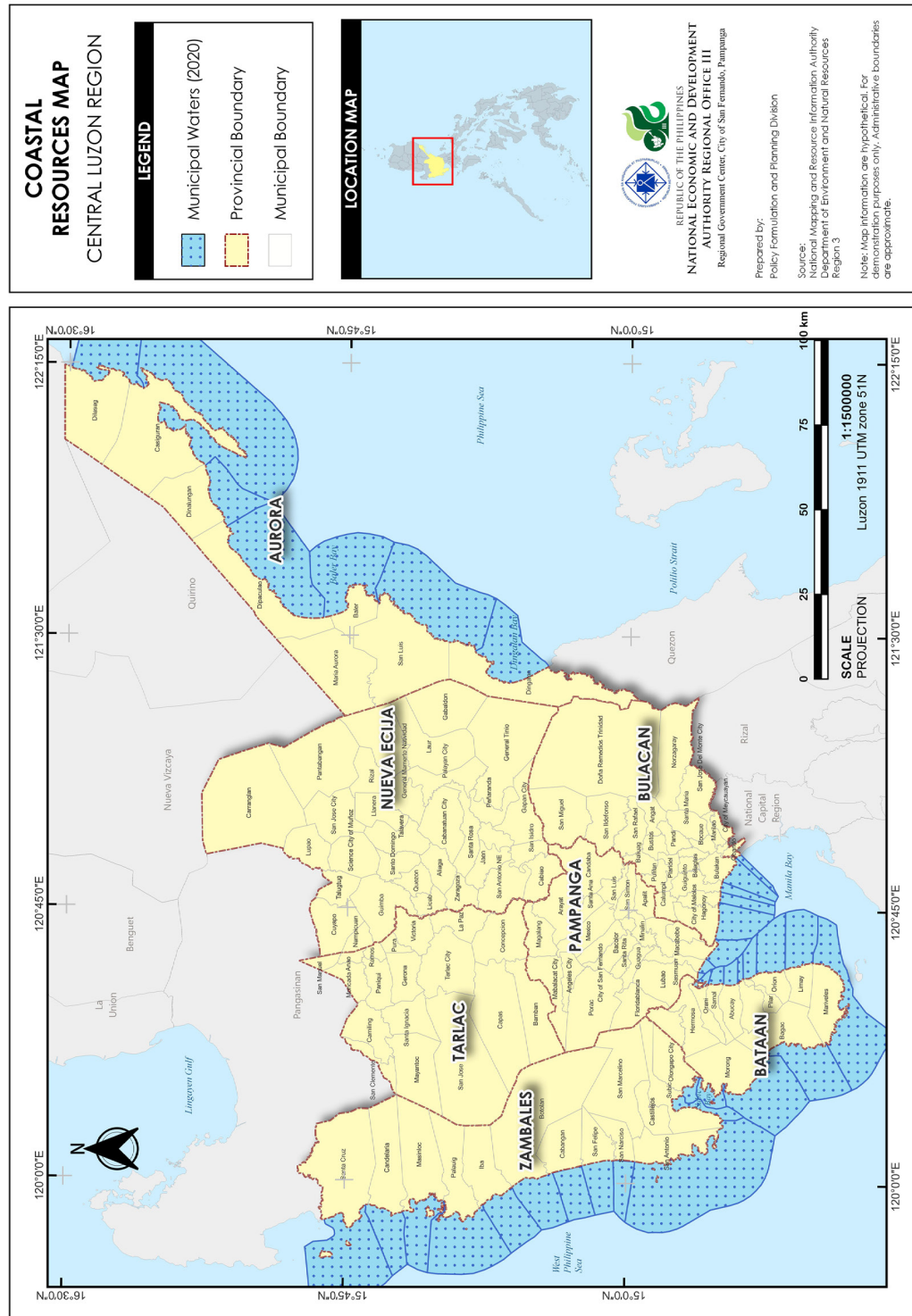


Figure 2-5: Central Luzon Coastal Resources Map

Wetlands and River Systems

Wetlands are an important ecosystem functioning as natural agent to improve water quality, help in groundwater recharge, and regulate water flow. It also serves as a natural buffer against soil and shoreline erosion and the impact of flood, tsunamis and landslides. Central Luzon has a total of 168 wetlands comprising of 153 major and minor rivers, 11 lakes, three water reservoirs and one swamp⁶.

There are 202 rivers in Central Luzon and these are mostly found in the provinces of Bataan, Aurora and Zambales. The Pampanga River is considered as the most important river system being the largest and longest river in the region (Figure 2-6). It has a catchment area of 9,759 square kilometers and a total length of 260 kilometers. The Pampanga River originates from Caraballo Mountains and flows into Pantabangan Dam where it joins three tributaries, namely: Coronel River, Peñaranda River, and Rio Chico River, before finally draining to Manila Bay. Among the three tributaries, Rio Chico River has the largest catchment area of 289,500 hectares. Rio Chico joins the main Pampanga River near Mt. Arayat and Candaba Swamp.

Protected Areas

Central Luzon has 24 protected areas covering an area of 282,577.55 hectares (Figure 2-7) consisting of 11 watershed forest reserves/watershed reservations, 1 natural park, 4 national parks, 6 protected landscapes, 1 bird and fish sanctuary, and 1 protected landscape and seascape.

Land Classification

More than half (56 percent) of the region's land area is Certified Alienable and Disposable Land (A&D), while 44 percent is classified as

Forestland. Forestland consist of 52 percent Established Timberland, 27 percent Classified Forestland, 12 percent Military, Naval and Civil Reservations, 4 percent Natural Parks, 3 percent unclassified forest land, and 2 percent fishponds⁷.

Land Cover

In 2015, crop land made up 30.06 percent of the region's landcover while forest land took up 25.74 percent. Shrub/brush land accounted for 15.60 percent, grass land 10.10 percent, barren land 1.46 percent, mangrove 0.11 percent, and marsh land 0.11 percent. Built-up land accounts for 6.68 percent while land planted to perennial crops account for 5.65 percent (Figure 2-8).

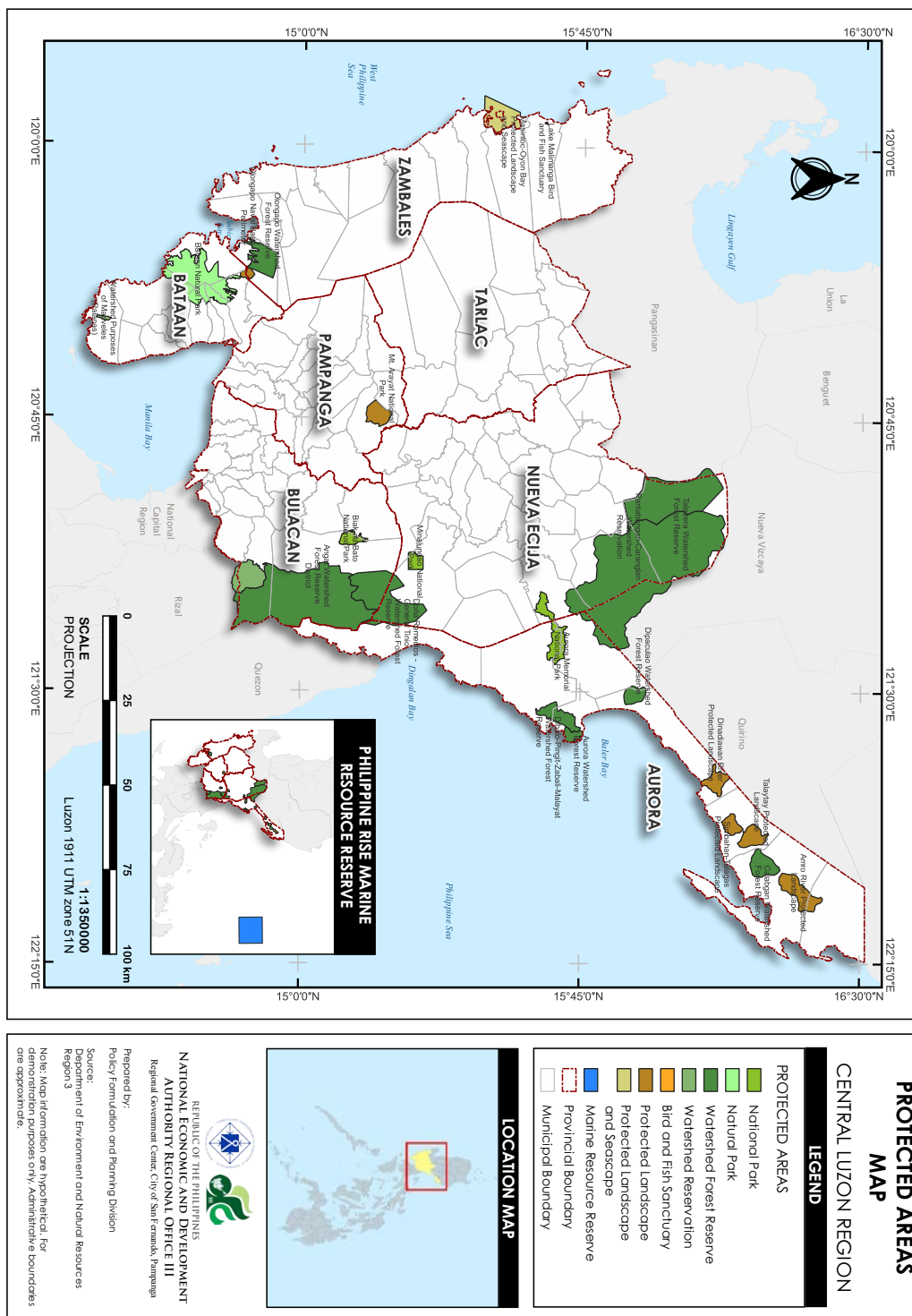
Production Areas

Central Luzon is the third most important regional economy in the country. Its production areas broadly include lands planted to annual and perennial crops, lands devoted to aquaculture, mining and quarrying, tourism, and economic zones and IT parks (Figure 2-9).

The region has the largest area planted to palay, mango, okra, onion and sweet potato from 2011 to 2019.⁸ These are located in the low-lying areas of Nueva Ecija, Pampanga, Bulacan, and Tarlac. As of 2022, Strategic Agriculture and Fisheries Development Zones (SAFDZs) in the region comprise 694,348.22 hectares of Strategic Crop Sub-Development Zone, 35,740.07 hectares of Strategic Livestock Sub-Development Zone, and 65,020.47 hectares Strategic Fishery Sub-Development Zone (Figure 2-10). On the other hand, major economic zones and industrial areas are found mostly in Pampanga, Tarlac, Bataan, Bulacan and southern portion of Zambales; while tourism beach destinations are scattered along the coasts of Zambales, Bataan, and Aurora.



Figure 2-6: Central Luzon River Networks Map



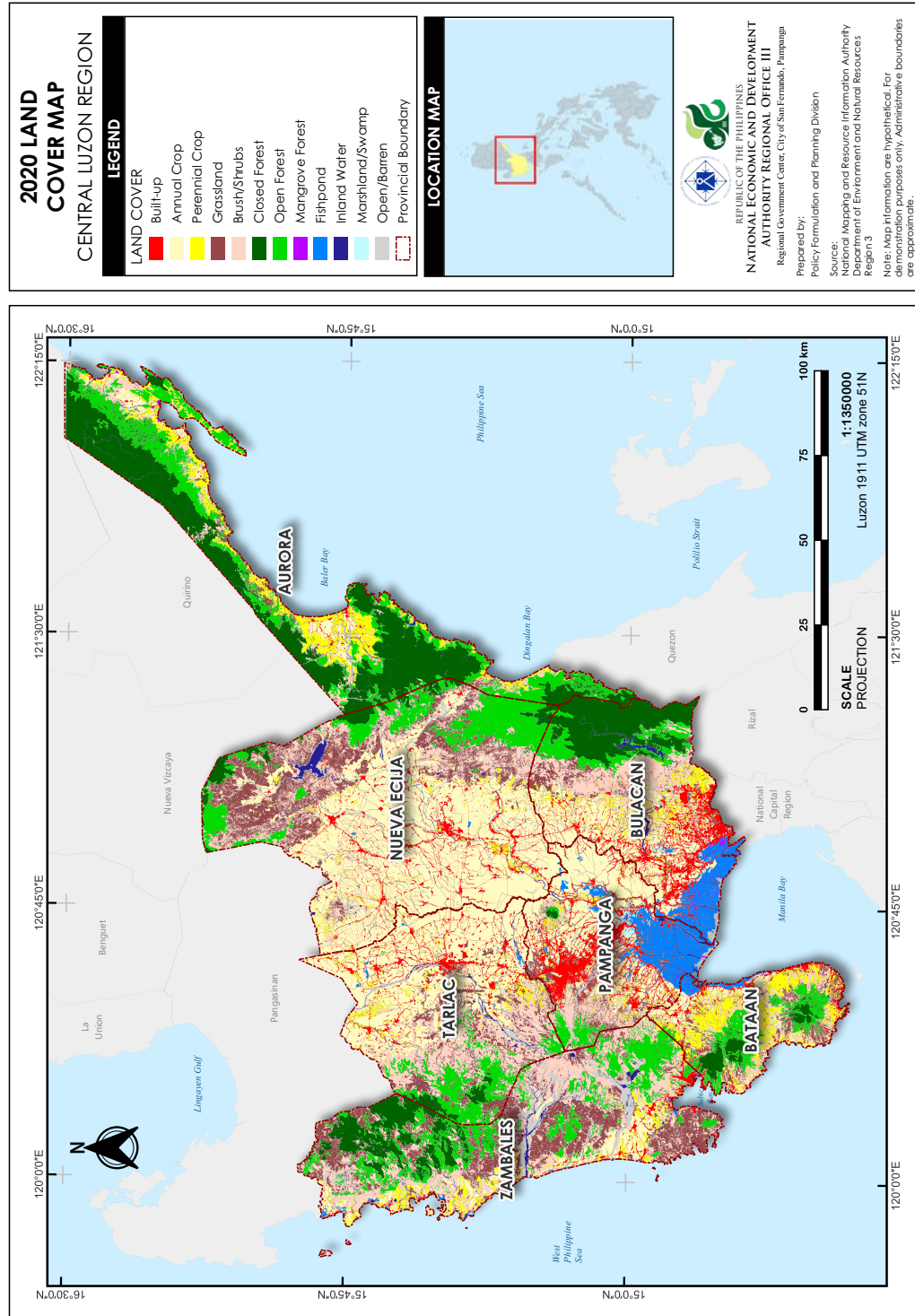


Figure 2-8: Central Luzon Land Cover Map

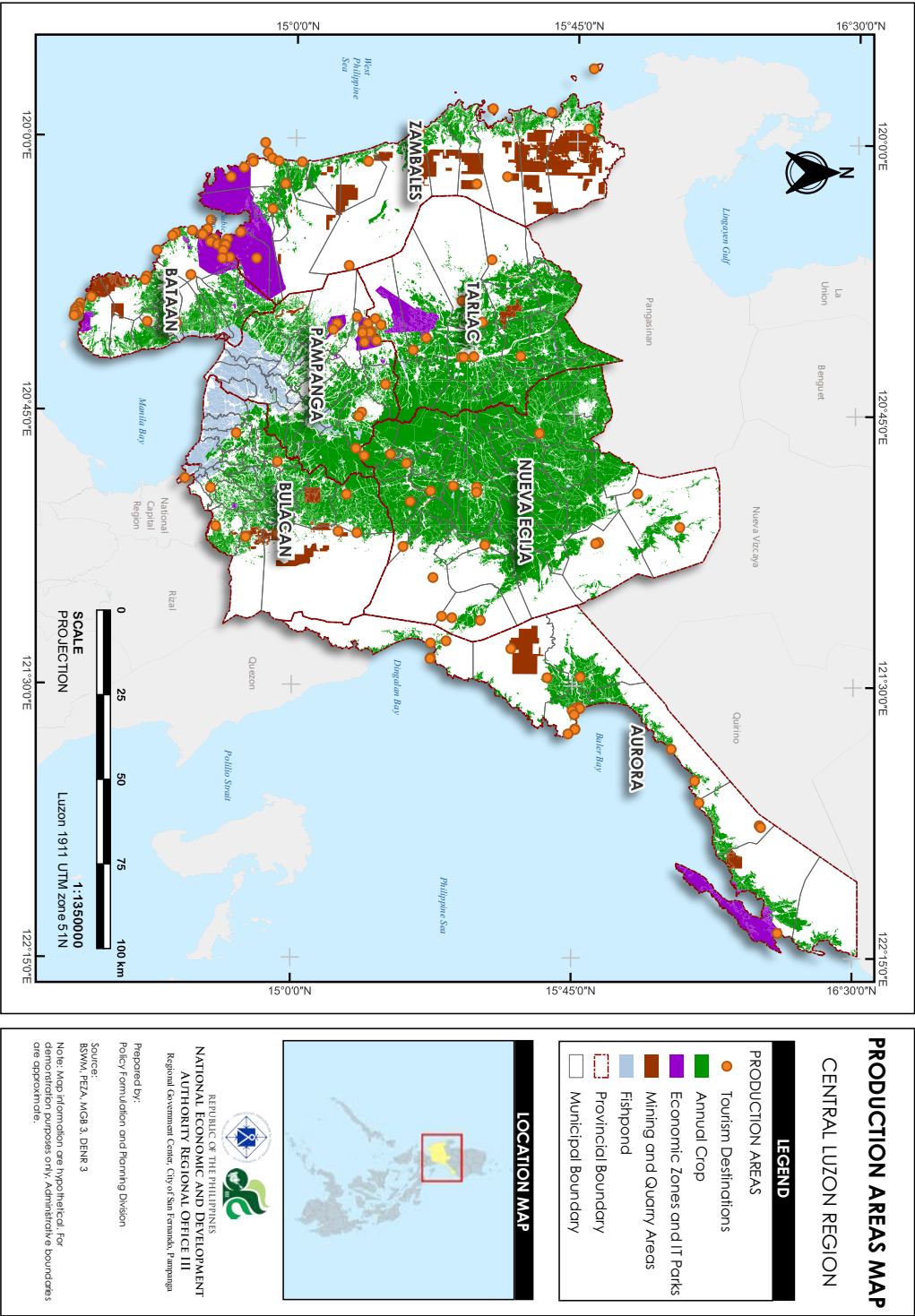
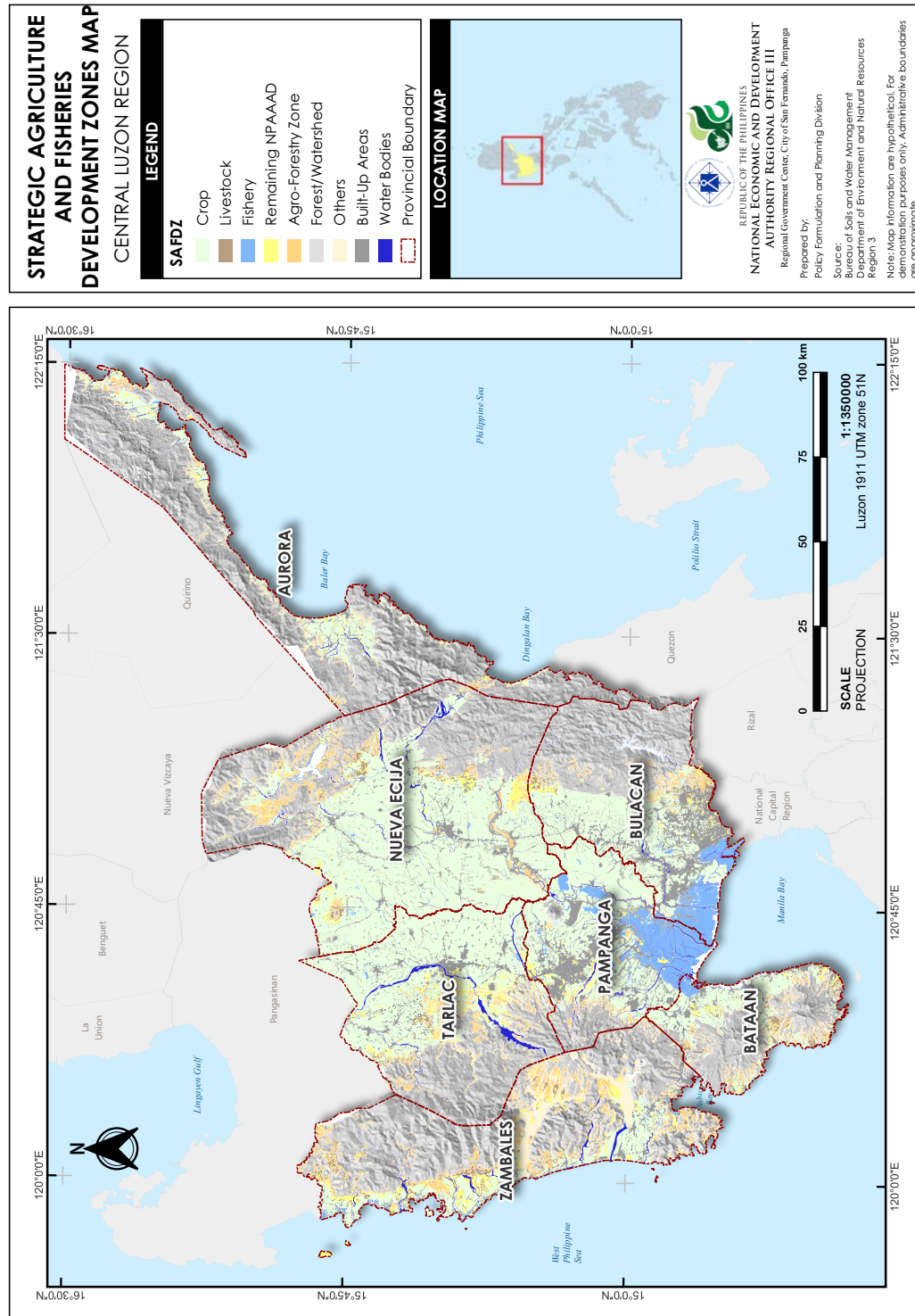


Figure 2-9: Central Luzon Production Areas Map



Transportation and Connectivity

Road Networks

Central Luzon's transportation and connectivity infrastructure greatly benefited from being strategically located north of Metro Manila and being the gateway to Northern Luzon. It can be considered as one of the regions with the best network of expressways in the country, spanning an estimated length of 300 kilometers in 2020.

Several expressways are being planned to enhance the existing urban-rural linkages within the region. These includes the Central Luzon Link Expressway (CLLEX) Phase II which will connect Cabanatuan City and San Jose City in Nueva Ecija; the North Luzon Expressway East (NLEE) with an alignment originating from Commonwealth, Quezon City going to Nueva Ecija through Norzagaray, Bulacan; the Manila

Bay Integrated Flood Control and Coastal Defense Expressway Project that will connect Bataan and Metro Manila while providing direct access to Bulacan and Pampanga, among others.

Meanwhile, the total length of national roads in Central Luzon is 2,344 kilometers, 99.98 percent of which are paved (concrete or asphalt) (Figure 2-11).

Railways

For the past several years there has been no rail transportation operating in Central Luzon. Recently however, as part of the government's investment in infrastructure development of the country, several projects are being implemented to expand and rehabilitate the railways system (Table 2-2).

Table 2-2: Summary of Proposed/Ongoing Railway Projects in Central Luzon

NAME OF RAILWAY	DESCRIPTION	LENGTH (IN KM)	STATUS
North South Commuter Railway (PNR Clark Phase I - Malolos to Tutuban)	Project will connect Tutuban, Manila to Malolos, Bulacan reducing travel time from approximately 1 hour and 30 minutes to just 35 minutes.	38.0	Ongoing
North South Commuter Railway (PNR Clark Phase II - Malolos to Clark)	Project will run from the northern suburb of Manila (Malolos) to Clark Economic Zone and Clark International Airport.	53.0	Ongoing
Subic-Clark Railway	A component of the PNR Luzon System Development Framework that will provide passenger and freight service and forming an integrated logistics hub for the development of Central Luzon as a new growth center to decongest Metro Manila.	71.2	For funding
MRT 11	Involves the construction of Metro Railway Transit System (MRTS) of elevated structure starting from Epifanio Delos Santos Avenue (EDSA), Balintawak in Quezon City up to Barangay Gaya-gaya in San Jose del Monte, Bulacan.	18.0	Proposed (Approval stage)
MRT 7	The line will run in a northeast-southwest direction, beginning at San Jose del Monte, Bulacan up to the North Triangle Common Station in North Avenue, Quezon City. The line will traverse Quezon City and Caloocan in Metro Manila and is envisioned to spur business and commerce at its inter-modal terminal station in San Jose del Monte, Bulacan.	22.8	Ongoing

NAME OF RAILWAY	DESCRIPTION	LENGTH (IN KM)	STATUS
NSCR-PNR Clark Phase II extension	An extension of railway system from the ongoing Malolos-Clark station to New Clark City	19	Proposed
New Clark City-Tarlac-La Union Railway	The alignment will run from the end station of PNR 2 (New Clark City) passing through Tarlac and going to San Fernando, La Union.	TBD	Proposed
Tarlac-San Jose Nueva Ecija Railway	The railway alignment will start from Tarlac going to San Jose in Nueva Ecija. It will then connect to the proposed Cagayan Province Railway.	55	Proposed
Cagayan Province Railway	Trail line will provide appropriate infrastructure support to sea and air operations of the Cagayan Special Economic Zone. Given its strategic location on the northern coast of Luzon, the development of a rail line capable of moving the amounts and types of cargo expected to move through the planned sea and air facilities would make the Zone more attractive to would-be investors and businesses that stand to benefit from locating in the Zone. The alignment will begin from San Jose in Nueva Ecija going to Tuguegarao in Cagayan Province passing through Caraballo Mountain tunnel.	281	Proposed
Balagtas Cabanatuan City Railway	A branching station from Balagtas station (which is part of the ongoing NSCR project) to Cabanatuan City and San Jose Nueva Ecija.	TBD	Proposed

Source: CLRDP 2017-2022, News articles

Air Transport System

Clark International Airport (CRK) located in Pampanga is one of the major airports in the region catering to both domestic and international destinations. Before the COVID-19 pandemic, Clark International Airport is served by 18 international airlines connecting the country to the following cities and destinations: Tokyo, Hongkong, Guangzhou, Singapore, Seoul, Taipei, Kaohsiung, Busan, Shanghai, Doha, Dubai, and Osaka (Figure 2-12). Currently, international destinations include Doha, Dubai, Singapore, Taipei, Shanghai, Incheon, Busan, and Yang Yang. On the other hand, domestic flights are available on the following destinations: Antique, Bacolod, Basco, Busuanga, Cagayan de Oro, Calbayog, Catarman, Caticlan, Cebu, Davao, El Nido, Iloilo, Kalibo, Puerto Princesa,

Siargao, Tacloban and Tagbilaran. Other air transport facilities in the region include airstrips, helipads, and flying schools.

Seaports

The Port of Subic located in the Subic Bay Freeport Zone (SBFZ) is the most dynamic port in Central Luzon. In 2018, there were more than 50 domestic and international shipping lines that made regular calls to Subic Port. In 2019, utilization rate was at 49 percent (292,254 TEUs) and in 2020, despite the COVID-19 pandemic, the port still remained operational with a utilization rate of 38 percent (226,085 TEUs).

Figure 2-11: Central Luzon Transport Network Map

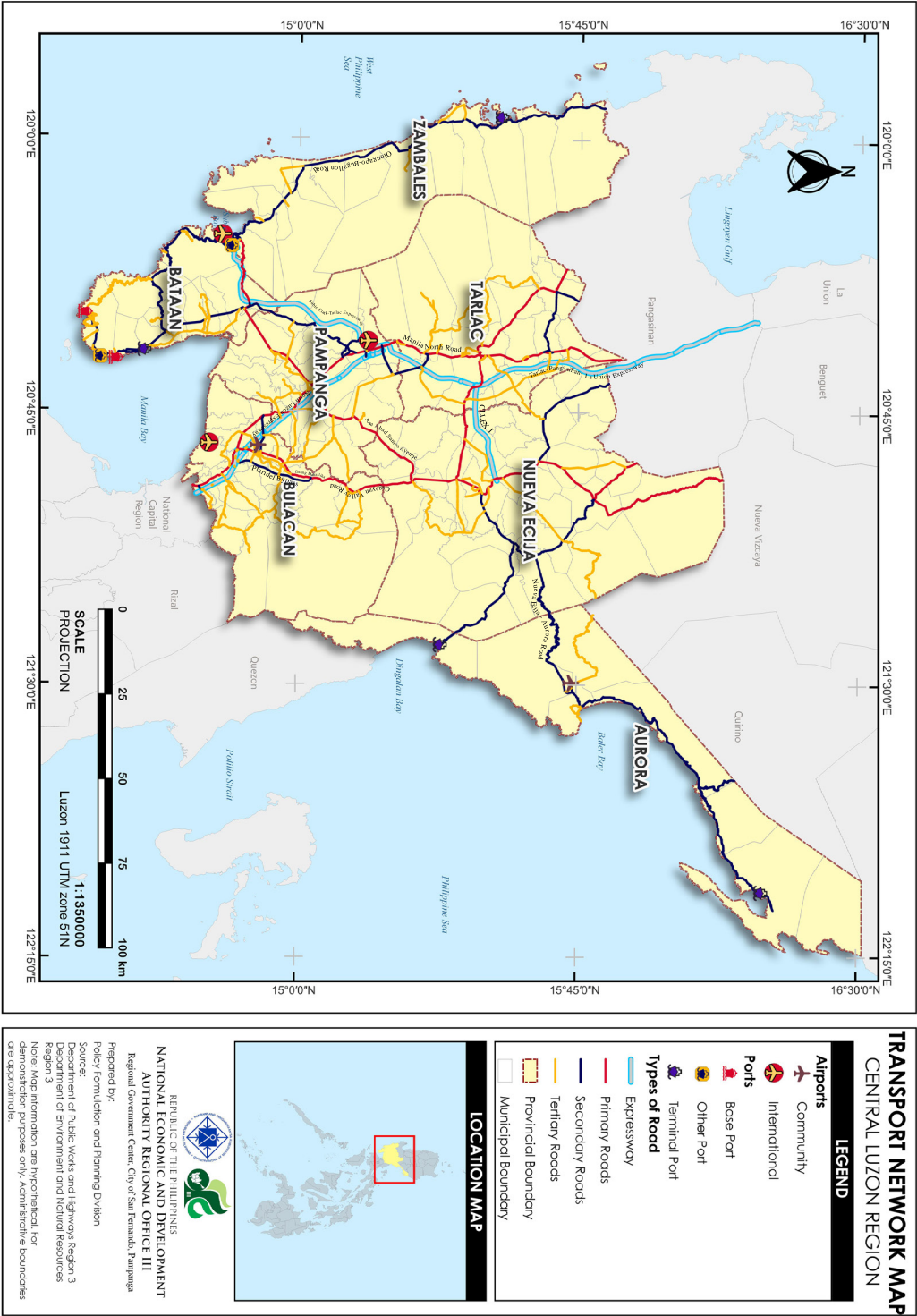
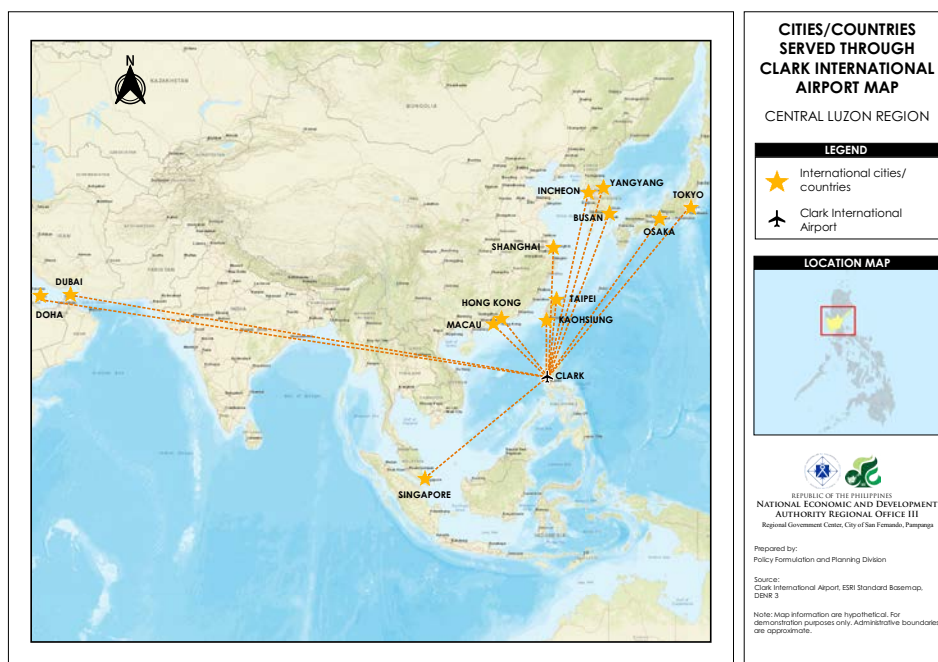


Figure 2-12: Cities/Countries served through Clark International Airport Map

Hazard Profile

Flooding

In general, areas with high flooding susceptibility in the region are those low-lying, near active and abandoned river channels, as well as located along river banks. More specifically, the Pampanga Delta, Candaba Swamp, and areas along major river systems such as the Pampanga River and its tributaries, are identified as highly susceptible areas to flooding (Figure 2-13).

Rain-induced Landslides

High elevation areas with steep slopes considerably have higher susceptibility to rain-induced landslides. Owing to its mountainous landscapes, Aurora and Zambales has the largest areas very highly susceptible to rain-induced landslide (Figure 2-14).

Storm Surge

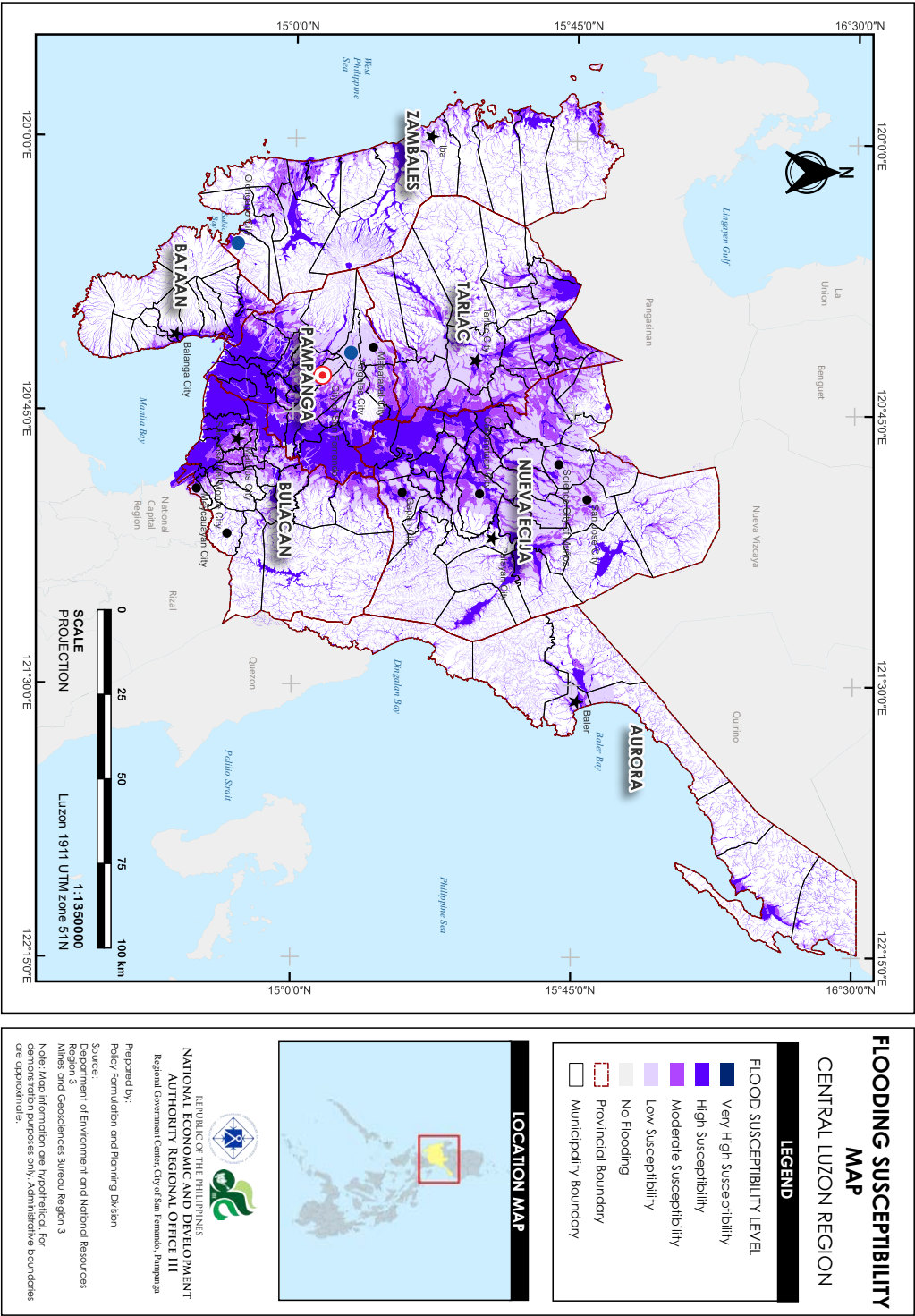
Areas located along the coastline of the provinces of Aurora, Bataan, Bulacan, Pampanga and

Zambales are most at risk to storm surge hazards. Surge heights above the head are likely to be experienced along areas nearest the shoreline while areas relatively farther from the coastline may experience lower inundations of knee-deep surge heights.

Geologic Hazards

Earthquake-related hazards in Central Luzon may occur due to the following active faults namely: Iba Fault, East Zambales Fault, Philippine Fault, Dupax Fault, West Valley Fault, Casiguran Fault, and Care Fault. Offshore earthquake generators on the other hand, include the Manila Trench on the western side and the East Luzon Trough on the eastern side of the region. Movement of these offshore earthquake generators may cause tsunamis that could impact coastal cities and municipalities.

Figure 2-13: Central Luzon Flooding Susceptibility Map



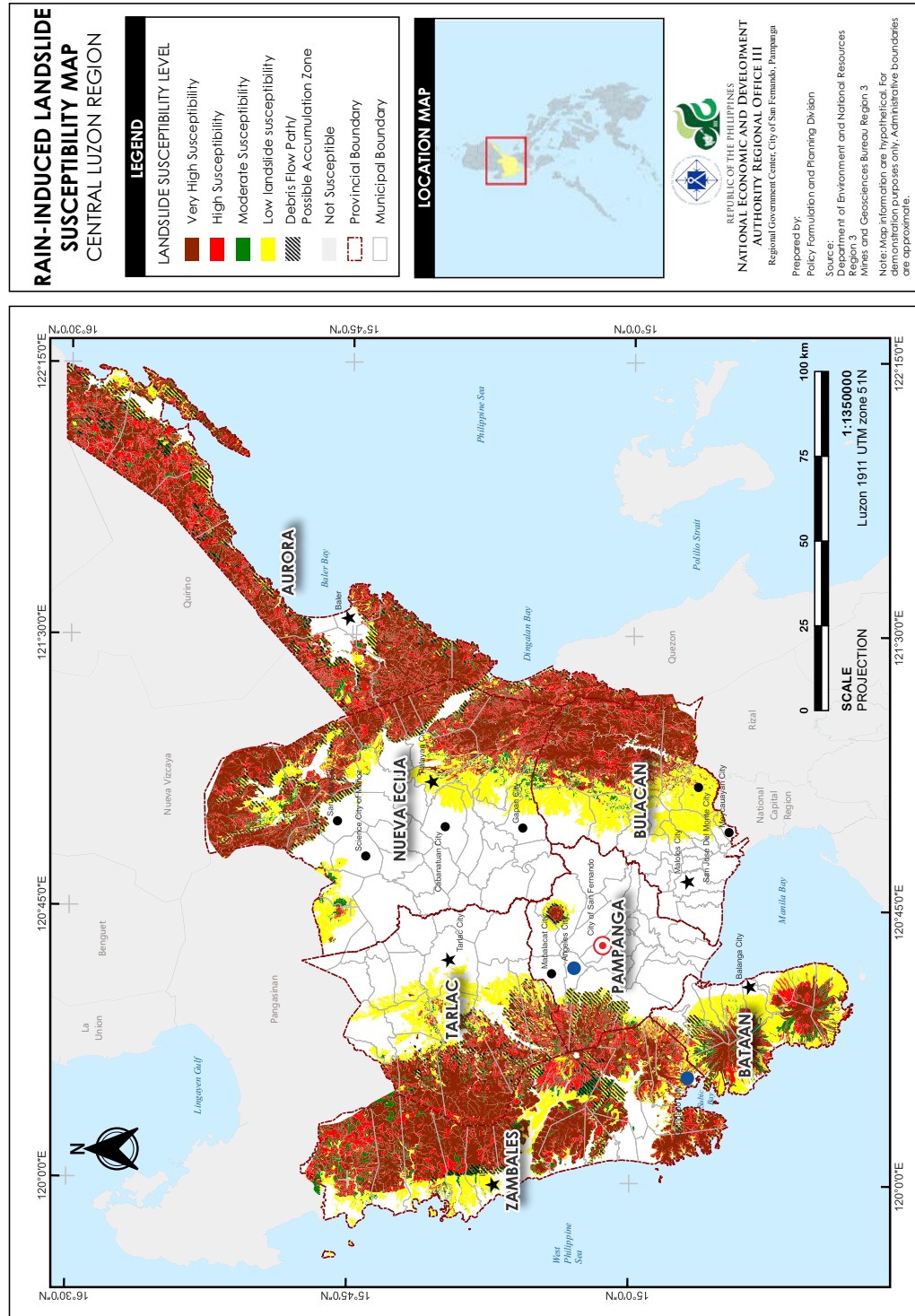


Figure 2-14: Central Luzon Rain-Induced Landslide Susceptibility Map

Assessment and Challenges

Rapid and uncontrolled urban/settlements expansion

Central Luzon is third among the regions with the highest population. The trend is moving towards further urbanization as shown in the increasing percentage of urban population from 51.6 percent in 2010 to 66.3 in 2020. Among the provinces, Bulacan has the highest percentage of urban population at 85.7 percent, followed by Pampanga and Bataan at 75.0 percent and 59.4 percent, respectively. Meanwhile, of the 130 cities and municipalities, 51.5 percent or 67 LGUs have more than 50 percent urban population.

As urban areas expand in the region, the increase in population creates additional demand for power and water, while the additional waste generated will require more sanitary landfills and sewerage or septage treatment.

Deterioration of the urban environment which manifests through high pollution levels, flooding, traffic congestion, etc. are already being experienced in Central Luzon's highly populated urban centers.

Given this, several issues emanate from the increasing urban population. One is the increase in the demand for affordable and accessible housing, especially among poor families. This situation resulted to more informal settler families (ISFs) and encroachment and/or growth of settlements within: a) protected areas, e.g. watershed reserves and national parks; b) areas prone to various hazards such as severe flooding, earthquake and erosion; and c) areas suitable for production land use.

Loss of agricultural lands due to land conversion

The region is experiencing increasing urban sprawl and industrial development. This may be 'desirable' in certain respects as it brings development, but it draws land away from agriculture (food production) and converts it into other uses to accommodate such demands. This is happening apparently in the region's key agricultural production areas which are also the sites for the economic zones. Based on PSA

data, 3.3 percent of the region's agricultural lands (equivalent to 25,750 hectares) have been converted in a span of five years – from 2010 to 2015. If left unmanaged or unabated, this will not augur well with the country's need for food supply, as the region is relied upon for a significant share in food production and security.

Exposure and vulnerability of production areas to disasters and climate change

In terms of flooding susceptibility, 45 percent of the region's existing production area is classified moderately to highly susceptible to flooding. These are largely in the low-lying crop production areas of the provinces of Nueva Ecija, Bulacan, Pampanga, and Tarlac. As weather disturbances become more intense

with climate change as predicted, the region would have to contend with such risk and its concomitant adverse effects. For the period 2017-2021, total damages to agriculture brought about by flooding is estimated at Php 5 billion.

Deforestation and forest degradation

Central Luzon's forestland, covering a total of 942,387 hectares, make up about 44 percent of the region's total land area. However, as of 2015, only 57 percent of the classified forestland is with forest cover. Of the total forest cover, 51 percent are classified as closed canopy, 49 percent as open canopy, and 0.48 percent mangrove forest.

The forests of Central Luzon have not been spared with the problems associated with deforestation and forest degradation. Extractive and illegal activities – such as illegal logging, kaingin, charcoal making, timber poaching, and unregulated minor forest products gathering – are happening in the region.

Encroachment of settlements, and plantation and highland vegetable farming are evident in the Talavera Watershed Forest Reserve where farmers from Benguet encroach into the protected area. The same is observed in the Bataan Natural Park where upland encroachment continues due to acquisition of illegal land titles and land speculation. Grass or forest fires and unregulated gathering of minor forest products such as rattan, bamboo, etc. also directly contribute to forest degradation. Furthermore, forest clearing is evident in the following areas:

- Eastern Section of the Sierra Madre Mountain range in the province of Aurora;
- Angat Watershed and surrounding areas in Bulacan and Nueva Ecija
- patches of land in Pantabangan-Carranglan Watershed and surrounding areas in Nueva Ecija;
- peak of Mt. Mariveles and northwestern slope and peak of Mt. Natib in Bataan;
- patches of areas in West Zambales Mountain in Zambales, Tarlac and Pampanga; and
- peak of Mt. Arayat in Pampanga.

While the province of Aurora has maintained its forest cover, this is threatened by illegal logging and illegal extractive activities. The towns of Dilasag, Casiguran and Dingalan in Aurora are included in the 22 illegal logging hotspots in the country identified by DENR. The rich mineral deposits of the area are currently being explored and will contribute to the deforestation of the area if not sustainably managed.

Deforestation in the upland areas have also resulted to sedimentation and siltation of surface water bodies, as indicated by the high total suspended solids in the Pampanga, San Fernando and Angat rivers.

Land Use conflicts in Protected Areas

Conflicts for ecological space and built-up areas have resulted in competing and overlapping land uses. Some NIPAS areas have been encroached by settlements and agriculture as seen in the municipalities of Carranglan and Pantabangan in Nueva Ecija, where 111,827 hectares of NIPAS areas are found with settlement and at the same time cultivated with agricultural/perennial crops. Likewise, perennial crop production

carried out in some parts of Hermosa in Bataan and Dipaculao in Aurora are located in NIPAS areas and environmentally constrained areas. Protection forests also become alternative sites for settlement in Morong, Bataan where 24,850 hectares are being used for residential purposes, while environmentally constrained and hazard prone areas are being used for residential purposes in Olongapo City. On the other hand,

easements along water/marine bodies and buffer zones in protected areas are encroached into in some areas in Zambales.

In addition, extraction of forest resources (flora and fauna) has been the common practice of upland dwellers inside and adjacent communities around most of the protected areas. In the case of Bataan Natural Park, land

clearing and cultivation are prevalent within and adjacent areas around the protected area.

Due to lack of tenurial instruments, the locals have resorted to paying “land taxes” to their respective municipal government. They consider this as payment to secure rights over the land and eventually, ownership.

Traffic congestion

Despite government efforts to improve the transport system, traffic congestion remains a challenge in several areas of the region, such as in the industrial corridor of San Fernando-Angeles Road, and the Malolos-Meycauayan portion of the Manila North Road and other major urban areas. In 2021, the San Fernando-Angeles section of the MNR is the busiest road section in Pampanga with an annual average daily traffic (AADT) of 41,475. On the other hand, the Malolos-Meycauayan section of the Manila North Road in Bulacan, recorded the highest AADT of 46,213.

One of the causes of congestion is the growing volume of vehicles yearly. According to the Land Transportation Office (LTO), from 2016-2018, Region 3 has consistently ranked third among

regions in Luzon with the highest number of registered vehicles next to NCR and Region IV A, with about 11 percent average annual growth rate. The privately-owned vehicles comprised 89 percent of the total registered vehicles in 2018. Commuters preferred to use private vehicles as a convenient alternative to the inadequate public transport system.

Traffic congestion often occurs during peak hours. Often, traffic control mechanisms such as traffic/road signs and signals do not adequately meet the needs of a particular area. The presence of road obstructions along the carriageway and road right-of-way such as electricity posts, parked vehicles, illegal vendors and establishments, and trees likewise contribute to the road congestion.

Inadequate water supply

Water supply in the region is greatly affected by population growth and various economic activities associated with it. The volume of water from wells have diminished in areas affected by saltwater intrusion, especially in low-lying coastal areas of Pampanga and Bulacan. Saltwater has also advanced further inland because of over-extraction of groundwater resulting in poor water quality. Other factors contributing to water supply issues are: high percentage of unaccounted water or non-

revenue water from pipe leakages, dependence on groundwater for municipal water supply, and the unregulated use of water from unmetered and illegal connections⁹.

Inadequate sewerage treatment and sanitation facilities

It is estimated that bulk of the biochemical oxygen demand pollution load in the region's rivers and waterways come from domestic sources. This may be attributed to the lack of basic water pollution control facilities, such as proper sewage treatment plants to cater residential and business establishments. Despite the requirements and regulations set forth by the National Sanitation Code and the Clean Water Act, sewerage and sanitation

management within Central Luzon remains far from ideal. Even though residential and commercial septic tanks are emptied by private desludging companies, many believe that the collected wastes either end up in unsanitary disposal facilities like dumpsites or are dumped directly on water bodies – practices that only aggravate the pollution situation¹⁰.

Regional Spatial Development Framework

To attain the 2040 vision of “A vibrant agri-industrial heartland and global gateway supported by balanced ecosystems where people enjoy a comfortable quality of life”, Central Luzon will continue to adopt the Enhanced W-Growth Corridor Spatial Strategy. This strategy recognizes the importance of an effective urban-rural linkage and aims to promote regional integration and economic cooperation through maximizing comparative advantages and development roles of each province. It is likewise aligned with the national spatial strategy principles of regional agglomeration, connectivity, and vulnerability reduction.

Figure 2-15 shows the translation of the spatial strategy into five synergistic investment corridors, namely: ADVANCE (Agri-Fishery Development and Value Chains Growth Corridor), iLearn (Innovation, Learning, and Research Network Corridor), CLIC (Central Luzon Industrial Corridor), WANDER (Wonderful Aurora Nature, Diving and Eco-tourism Network Corridor) and SunCHASE (Sun and Beach and Cultural Heritage Network Corridor). These corridors will aim on improving regional networks and cohesion and

at the same time on strengthening capacities to facilitate the rational and sustainable use of economic and natural resources to propel growth and development, ultimately positioning Central Luzon within the value chains of Northern Luzon, the Greater Capital Region (GCR), and the northern economies of neighboring countries such as Taiwan, Japan, and South Korea.

Table 2-3 summarizes the proposed land use of the region. Protection and Production land use comprise about 91.35 percent of the region's total land resources while built-up areas and proposed settlements expansion areas comprise the remaining 8.65 percent.

Table 2-3: Summary of Proposed Land Use, 2020

LAND USE	LAND AREA (HECTARES)	PERCENT SHARE TO TOTAL (%)
Built-up/Settlements	184,504.06	8.65
Production	944,268.47	44.28
Protection	1,003,704.92	47.07
Total	2,132,477.45	100.00

The overall land use and physical framework illustrates the integration of the four policy areas of settlements, production, protection, and infrastructure (Figure 2-16). The existing built-up areas are concentrated along the region's main thoroughfares where rapid urbanization is taking place. Settlements/built-up expansion areas on the other hand, are located adjacent to the existing built-up zones, separated from protection areas and lands most suitable for production use. The Settlements plan altogether aims to develop well-planned communities where people live in a safe environment with sufficient social services and economic opportunities, infrastructure, and utilities.

Areas proposed for Production use include areas suitable for agriculture development, industry development, tourism, and mining and quarrying. Economic activities happen within the production areas and involves the direct and indirect utilization of land resources to generate outputs needed for consumption.

It likewise provides the framework to achieve sustainable and inclusive economic growth of the region.

Proposed Protection areas comprise of NIPAS areas, critical habitats, key biodiversity areas, production forests, wetlands, and environmentally constrained areas. It concerns the rehabilitation, conservation, sustainable development and management of critical areas to protect ecosystems and preserve their integrity, allow degraded resources to regenerate, and protect human populace from environmental hazards.

The proposed Infrastructure Development Framework is geared towards providing a sufficient, efficient, and climate and disaster-resilient infrastructure that will serve as the backbone of physical integration of the region. It follows the Quadspine Connectivity Framework to enhance urban-rural linkages as well as to improve links between people, products, and services through efficient transport solutions.

The 8 Strategic Growth Areas (SGAs)

Spatial planning and the resulting built environment underpin the level of efficiency and livability of cities and communities. Central Luzon will continually move towards achieving economic viability, environmental sustainability, and social equity through building well-planned and resilient communities. To this end, eight strategic growth areas (Figure 2-17) were identified based on their development potentials and roles in the realization of the region's vision:

- SGA 1 (Metro Clark^a): Securing a sustainable and dynamic industrial zone with world-class international connectivity)

Metro Clark Area (MCA) is an emerging conurbation that consists of the cities of Angeles, Mabalacat, and San Fernando in the inner core and the municipalities of Magalang, Arayat, Mexico, Sto. Tomas, Bacolor, Lubao, Porac, including the municipalities of Bamban and Concepcion, Tarlac in the urban fringe. Metro Clark Area is strategically located at the convergence points of the North Luzon Expressway (NLEX), Subic-Clark-Tarlac Expressway (SCTEX), Gapan-San Fernando-Olongapo Road, the Manila North Road, and the soon to be constructed North-South Commuter Railway. It also hosts the Clark Freeport

^a The term "metro" is used to refer to the growing conurbation composed of the primary urban center and its adjacent cities/municipalities. It is not a legal definition of the "metropolitan" area.

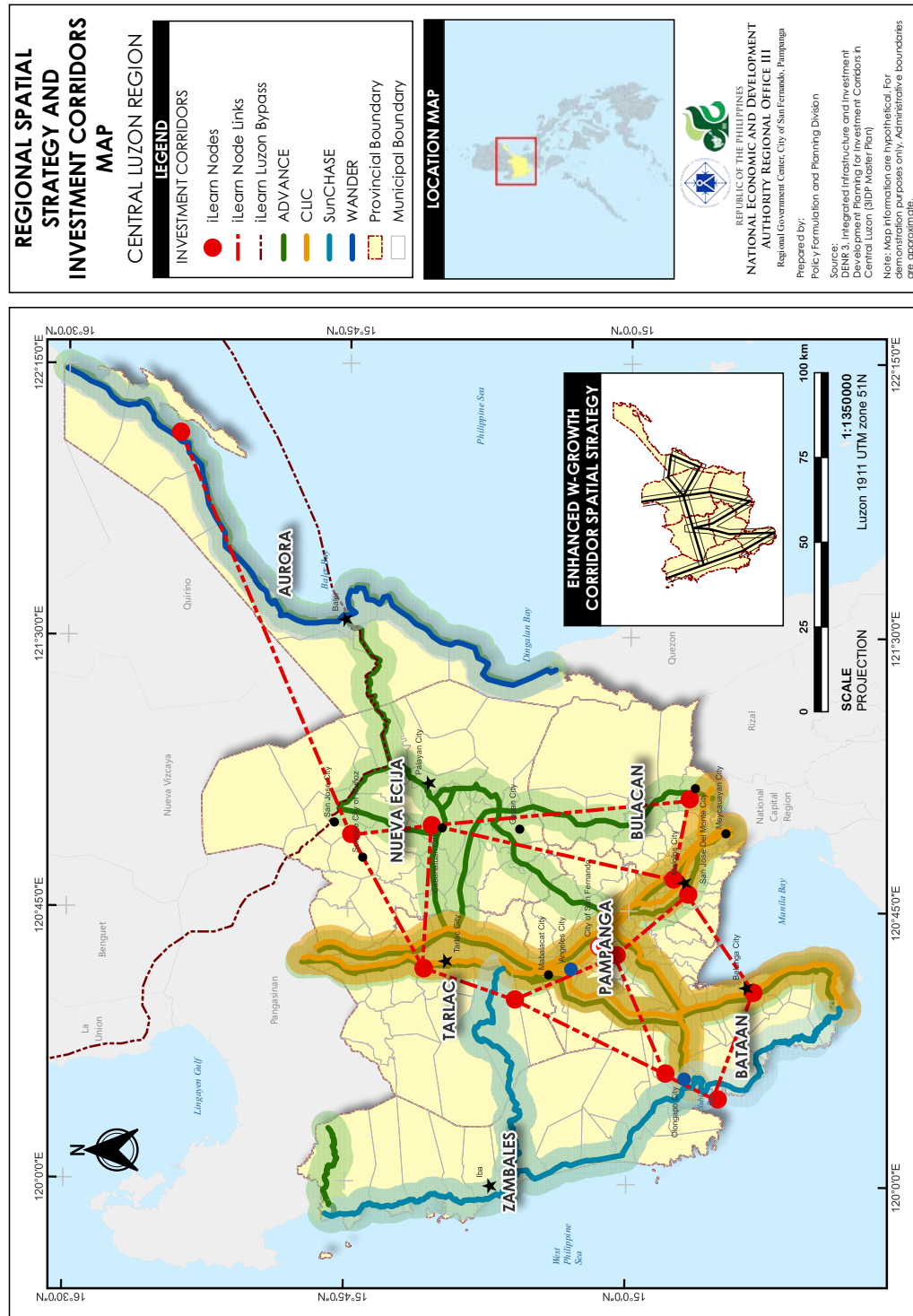
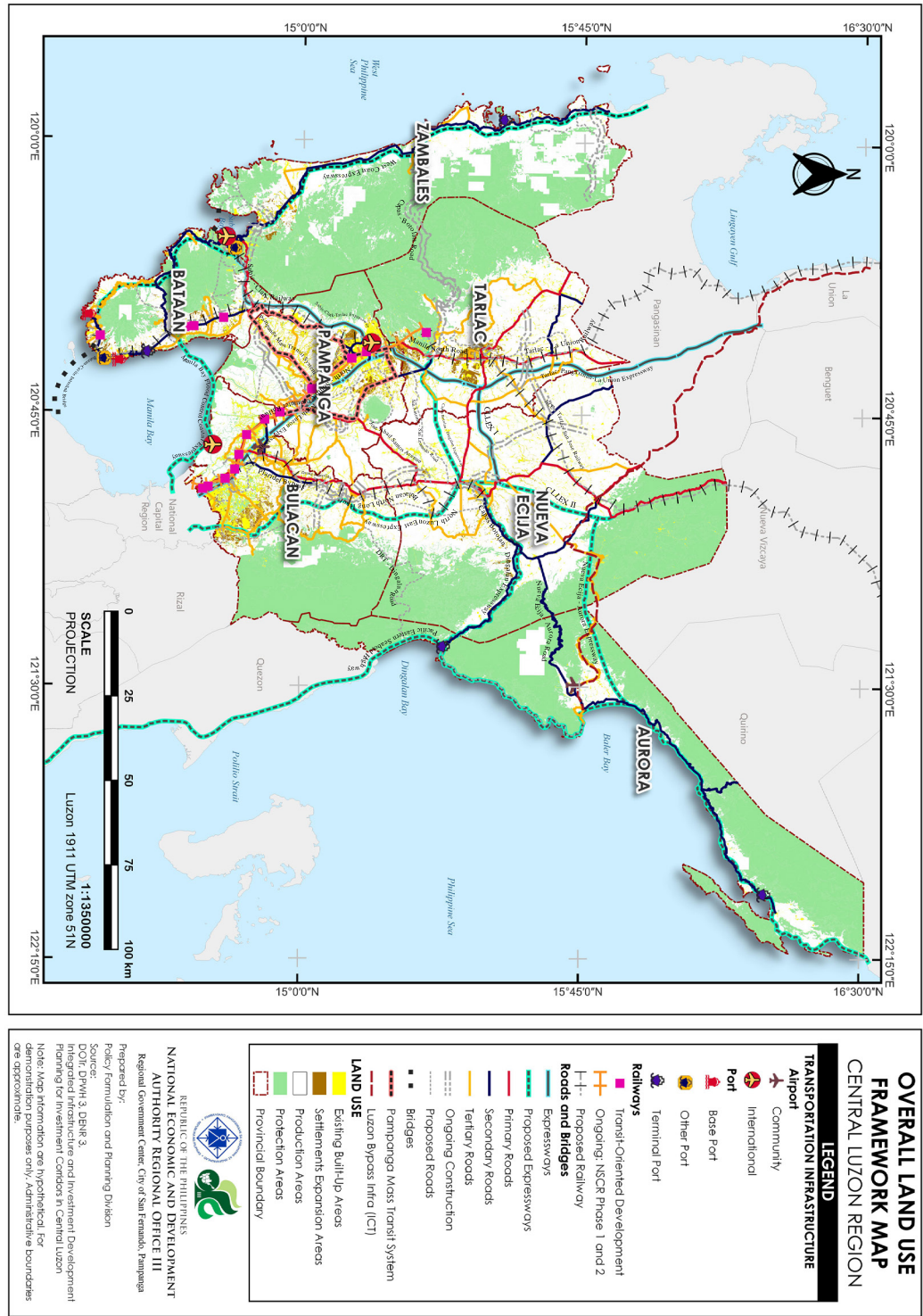


Figure 2-15: Central Luzon Regional Spatial Strategy and Investment Corridors Map

Figure 2-16: Central Luzon Overall Land Use Framework Map



and Special Economic Zone (CFSEZ) and the Clark International Airport (CIA). These important physical attributes combined with a compact population of more than two million based from the 2020 census year makes it an important provincial market outside NCR. MCA is the industrial and residential heartland of Central Luzon and is the strongest emerging counter-magnet of Metro Manila.

- SGA 2 (Metro Tarlac^b): Leading the physical and economic integration supported by infrastructure systems vital to growth and sustainability

Metro Tarlac Area is an emerging urban concentration centered in Tarlac City, the capital town of the province of Tarlac, along with the adjacent municipalities of Gerona, Victoria, La Paz, and Concepcion. Tarlac City is considered as the major growth node of the province where most economic activities are taking place. The city alone stands at the nexus of several important land transportation systems: the Manila North Road, SCTEx, the Tarlac-Pangasinan-La Union Expressway (TPLEx), and the Central Luzon Link Expressway (CLLEx) which leads to Cabanatuan City and San Jose City in the province of Nueva Ecija. Its proximity to the Clark International Airport and connectivity to the Subic Bay Freeport Zone via the SCTEx likewise makes it an ideal investment destination. The development potentials of Metro Tarlac Area will be further boosted by the on-going construction of the Capas-Botolan Road and its planned connection to the proposed expressway originating from Dingalan, Aurora.

^b Ibid

^c The term “metro” is used to refer to the growing conurbation composed of the primary urban center and its adjacent cities/municipalities. It is not meant to be a legal definition of the respective metropolitan area.

Upon implementation, this important urban-rural linkage will open up a lot of investment opportunities in the field of agri-fishery manufacturing and processing and other related value-adding activities.

- SGA 3 (Metro Olongapo^c): Capitalizing on port infrastructure for advancement in industrial development, tourism, and logistics

Metro Olongapo Area is the region's center of commerce and population facing the West Philippine Sea. It consists of Olongapo City as the primary urban center and the nearby municipalities of Subic, San Antonio and Castillejos in Zambales and Dinalupihan, Hermosa, and Morong in Bataan as the other urban centers. Growth in this area will be fueled by the Subic Bay Freeport Zone (SBFZ) and the development of the Redondo Peninsula. Subic, Castillejos, and Hermosa are the natural spillover areas for the development happening within the SBFZ and Olongapo City. In the near term, modern high-density neighborhoods will be developed in the primary urban centers to support the prospects of booming employment coming from both locals and in-migrants. Investments in tourism and service industries will likewise be promoted to capitalize on the topography of the Metro Olongapo Area which consists of mountains and coasts.

- SGA 4 (Mariveles): Enabling future growth in manufacturing, housing, and suburban living

SGA 4 is the region's gateway in the southern province of Bataan. It consists of the municipalities of Mariveles and Limay where major economic development activities will focus on light to heavy industries as well as small and medium enterprise development. Upon the

completion of the Bataan-Cavite Interlink Bridge, trade and commerce between Central Luzon and CALABARZON region will be strengthened, thereby boosting economic vibrancy of the area. Medium to high-density master-planned communities shall house the increasing population where an ecosystem approach supports the foundation of the urban landscape. Tourism activities such as those found at the natural formation of the famed Five Fingers in Mariveles (trekking, cliff diving, snorkeling, kayaking, swimming or simply enjoying sunset by the beach) shall likewise fuel the growth and development of the area.

- SGA 5 (Cabanatuan): Building better economies of scale driven by inter-regional linkages and agricultural innovation

At the center of the current RPPF is the strategy of strengthening urban-rural linkages through improving connectivity, particularly of the region's production areas with industrial areas and centers of consumption. This allows for better value-adding activities, mainly of agriculture produce, to help increase farm income and productivity. A sub-regional food exchange center shall be established within SGA 5 (Cabanatuan City, Aliaga, or Talavera area) which will serve as a consolidation and processing hub for agricultural products coming from Aurora and the Northern Luzon regions. Promotion and upgrading of agri-fishery value chains and key commodities that are part of the global value chain shall likewise be pursued. Finally, development and expansion of economic support infrastructures as well as promotion of innovation-oriented research and development will be one of the foundational strategies in the realization of this growth area.

- SGA 6 (Bulacan): Creating compact development in urban settlements to support economic vibrancy

Among all the provinces in Central Luzon, Bulacan is closest to the National Capital Region (NCR). With this, the province has immensely benefited from the available employment opportunities and at the same time supported NCR in manpower requirements across various economic activities. SGA 6 in Bulacan consists of San Jose del Monte City and the municipalities of Sta. Maria, Pandi, Balagtas, Bocaue, and Marilao. To further support the influx of population as a result of better opportunities, development of high-density residential communities connected with existing and proposed mass transport systems such as the North-South Commuter Rail, shall be promoted. Livability and sustainability of the urban areas shall be achieved through improving urban infrastructures and aiming for low-carbon development.

- SGA 7 (Baler): Harnessing the urban-to-rural fabric's eco-tourism and agro-industrial potentials in the eastern seaboard

The eastern coastline of the region is known for diving and surfing destinations, and nature-based attractions and activities such as trekking. The Sierra Madre Mountain Range also traverses the province of Aurora and as such, provides for vast opportunities for eco-tourism development. SGA 7 centered on the municipality of Baler shall capitalize on these eco-tourism destinations to position itself as a world class tourist destination. Strengthening of the value chain needs such as infrastructure, product and marketing, policy and institutional development, environmental protection, and investment promotion shall be pursued

to make the province even more attractive to tourists. Involvement of IPs and local communities will likewise be embedded in the tourism strategy to ensure inclusiveness. Aside from this, SGA 7 shall also transform to be the research and development of the region for marine biology and other marine-related fields.

- SGA 8 (Iba): Harnessing the urban-to-rural fabric's eco-tourism and agro-industrial potentials of Western Luzon

The western coastline of the region, specifically along the coasts of Zambales, is likewise popular on beach destinations. SGA 8 in Iba, the capital town of Zambales, shall catalyze development within the

surrounding municipalities. Infrastructure investment in the area will be increased to address gaps and improve competitiveness. Private sector participation in infrastructure development shall be encouraged to support development. Diversification of tourism products and experiences will be promoted to increase visitor arrival both from the international and domestic market. Similarly, involvement of IPs and local communities will likewise be embedded in the tourism strategy to ensure inclusiveness. SGA 8 will also develop its potential in agro-industrial development through investing in research and development to increase productivity, for example, in the mango value chain.

Hierarchy of Settlements

Based on the population growth rate from 2010 to 2020, the population is expected to double in 2054. Urbanization rate will be faster with the increased integration of settlements, improved road networks, transportation and industry linkages, sophisticated technology, and growing services sector.

The proposed hierarchy of settlements for Central Luzon follows the principle of concentration. Larger settlements in terms of population count are located in the upper tiers while centers with smaller populations occupy the lower tiers of the urban hierarchy. However, not all settlements can fit in the hierarchy according to this general principle. Smaller settlements, specifically those identified to have strategic roles (e.g. eco-tourism developments, transportation hubs, gateway, industrial,

freeport, and science cities, etc.) are placed in the upper levels of the hierarchy.

Table 2-4 presents that 20 regional centers identified which include the Metro Clark conurbation (consisting of Angeles City, City of San Fernando, and Mabalacat City) and New Clark City (consisting of Bamban and Capas in Tarlac). Settlements strategically located in clusters, with high percentage of urban population and whose aggregate population satisfies the population threshold are also placed in the upper tiers such as the those in Bulacan: Marilao, Malolos City, Meycauayan City, Balagtas, Guiguinto, City of San Jose del Monte, and Bocaue. Capital cities, which have strategic role in the development of the province were also considered (Iba and Baler).

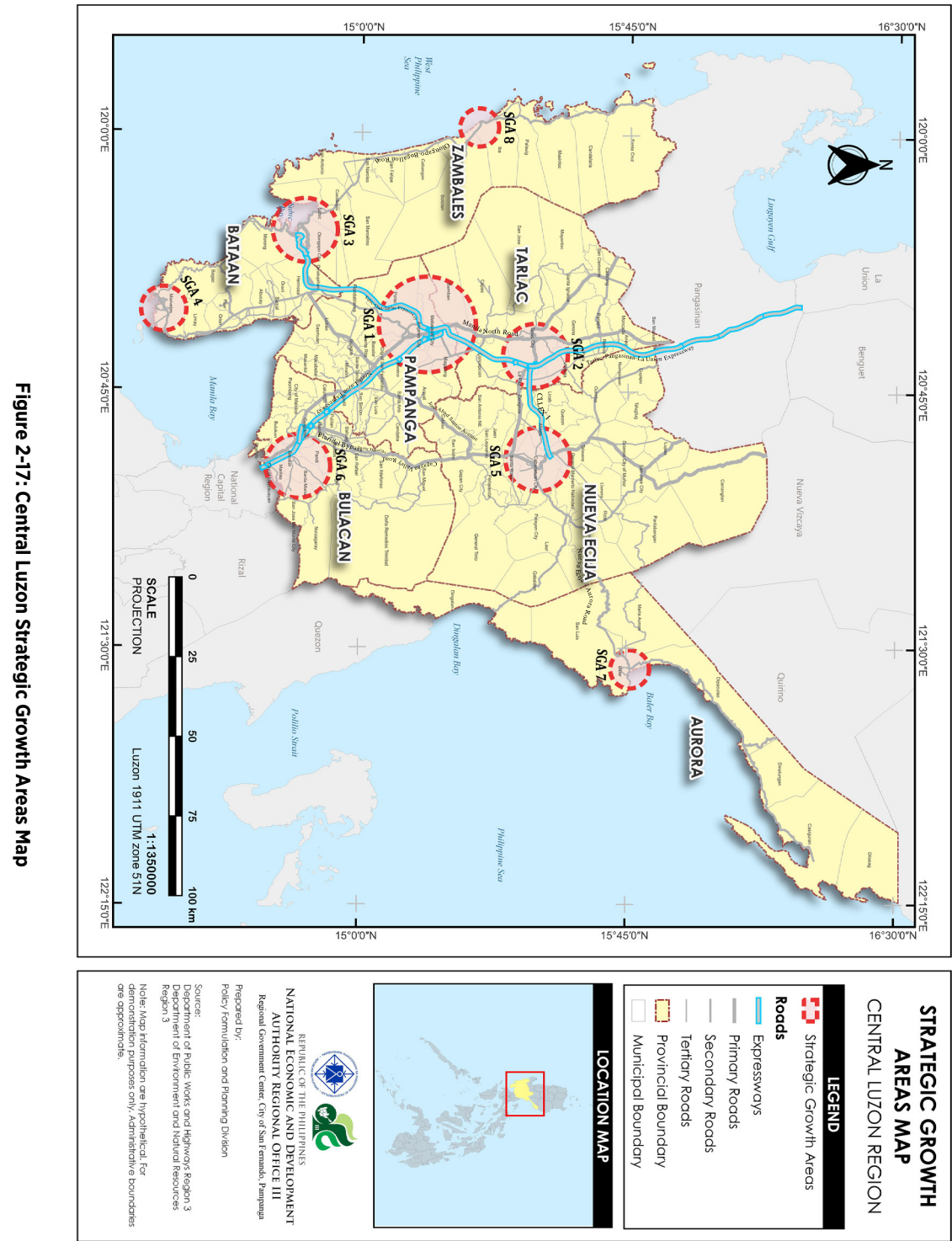


Table 2-4: Indicative Functional/Urban Hierarchy of Settlements: 2040

REGIONAL CENTER: 20			
<ul style="list-style-type: none"> • Angeles • Mabalacat City • City of San Fernando • Mariveles • Balanga City 	<ul style="list-style-type: none"> • Meycauayan City • Marilao • Bocaue • Balagtas • Guiguinto 	<ul style="list-style-type: none"> • Malolos City • Cabanatuan City • Tarlac City • Capas • Bamban 	<ul style="list-style-type: none"> • Olongapo City • San Jose Del Monte City • Baler • San Jose City • Iba
SUB-REGIONAL CENTER: 17			
<ul style="list-style-type: none"> • Hermosa • Dinalupihan • Limay • Pandi • Angat 	<ul style="list-style-type: none"> • Santa Maria • Baliuag • Plaridel • Gapan City • Palayan City 	<ul style="list-style-type: none"> • Science City of Munoz • Magalang • Lubao • Guagua • Subic 	<ul style="list-style-type: none"> • Castillejos • Paniqui
PROVINCIAL CENTER: 28			
<ul style="list-style-type: none"> • Maria Aurora • San Luis • Dipaculao • Orion • Abucay • Morong • Orani 	<ul style="list-style-type: none"> • San Ildefonso • Bustos • San Miguel • Bulakan • Norzagaray • San Antonio NE • Aliaga 	<ul style="list-style-type: none"> • Santa Rosa • Porac • Bacolor • Apalit • Arayat • Mexico • Camiling 	<ul style="list-style-type: none"> • Moncada • Santa Ignacia • Santa Cruz • Masinloc • Palauig • Botolan • Concepcion
LOCAL CENTER: 65			
<ul style="list-style-type: none"> • Dinalungan • Dilasag • Casiguran • Dingalan • Pilar • Bagac • Samal • Obando • Paombong • Dona Remedios Trinidad • Hagonoy • Calumpit • San Rafael • Pulilan • General Mamerto • Natividad • Santo Domingo • General Tinio 	<ul style="list-style-type: none"> • Bongabon • Cuyapo • Llanera • Zaragoza • Lupao • Quezon • Gabaldon • San Isidro • San Leonardo • Carranglan • Laur • Talugtug • Nampicuan • Licab • Pantabangan • Penaranda • Jaen 	<ul style="list-style-type: none"> • Cabiao • Talavera • Rizal • Guimba • San Simon • Santo Tomas • Santa Ana • San Luis • Masantol • Macabebe • Minalin • Santa Rita • Sasmuan • Candaba • Floridablanca • San Jose • San Clemente 	<ul style="list-style-type: none"> • San Manuel • Pura • Anao • Mayantoc • Ramos • Gerona • Victoria • La Paz • San Narciso • San Antonio • Cabangan • San Felipe • Candelaria • San Marcelino

Shaping Communities: The Settlements Development Framework

The Settlements Development Framework Map (Figure 2-18) shows areas suitable for urban expansion. The map is a product of a series of consultations with stakeholders to properly determine the requirements or criteria for suitable settlement areas in the region, including the corresponding weight assignments for map processing. As a result of this process, possible sites of settlements and built-up expansion were identified to be clustered and in close proximity to the existing urban cores of major cities and urban areas of the region.

Three main policy options for settlements development are espoused with the framework: (1) densification; (2) urban renewal; and (3) new town/city development. More specifically, the following policies and strategies shall be promoted towards the achievement of the goal of developing well-planned communities where people live in a safe environment with sufficient social services and economic opportunities, infrastructure and utilities:

- a. Implement vertical development (medium to high rise or multi-storey such as in Mariveles, Balaga, Orion) housing projects to address congestion of urban centers. Vertical development and densification shall be implemented in Angeles City as there is no available area for expansion;
- b. Implement urban renewal/regeneration and upgrading of buildings and urban services in existing built-up areas to help prevent the destruction of natural ecosystems and arrest urban sprawl;
- c. Include public spaces (parks and open/green spaces) as key features in developing settlements as they promote healthier living conditions and contribute to the spatial continuity of natural ecosystems
- d. Plan for redevelopment/renewal of existing settlements to accommodate a larger local population (e.g. Angeles City, Olongapo City)
- e. Plan for urban expansion/metropolitan growth to accommodate a larger local population and to avoid urban sprawl;
- f. Plan for the growth of other municipalities/cities to accommodate a larger regional population in existing settlements. This will require a long-term perspective that includes land use shifts that allow increased densities and the development of corresponding infrastructure facilities;
- g. Formulate transect-based and smart-growth oriented City/Municipal Zoning Ordinances and Building Code and enforce strict compliance;
- h. Implement green building codes for resilient housing and low-carbon emission;
- i. Relocate or provide necessary engineering interventions, whichever is economically viable and/or socially acceptable, to existing settlements in hazard-prone areas;
- j. Restrain and control expansion of present settlements in areas prone to disasters; and
- k. Consider and prepare for human security issues when the Bataan-Cavite Interlink Bridge is realized.

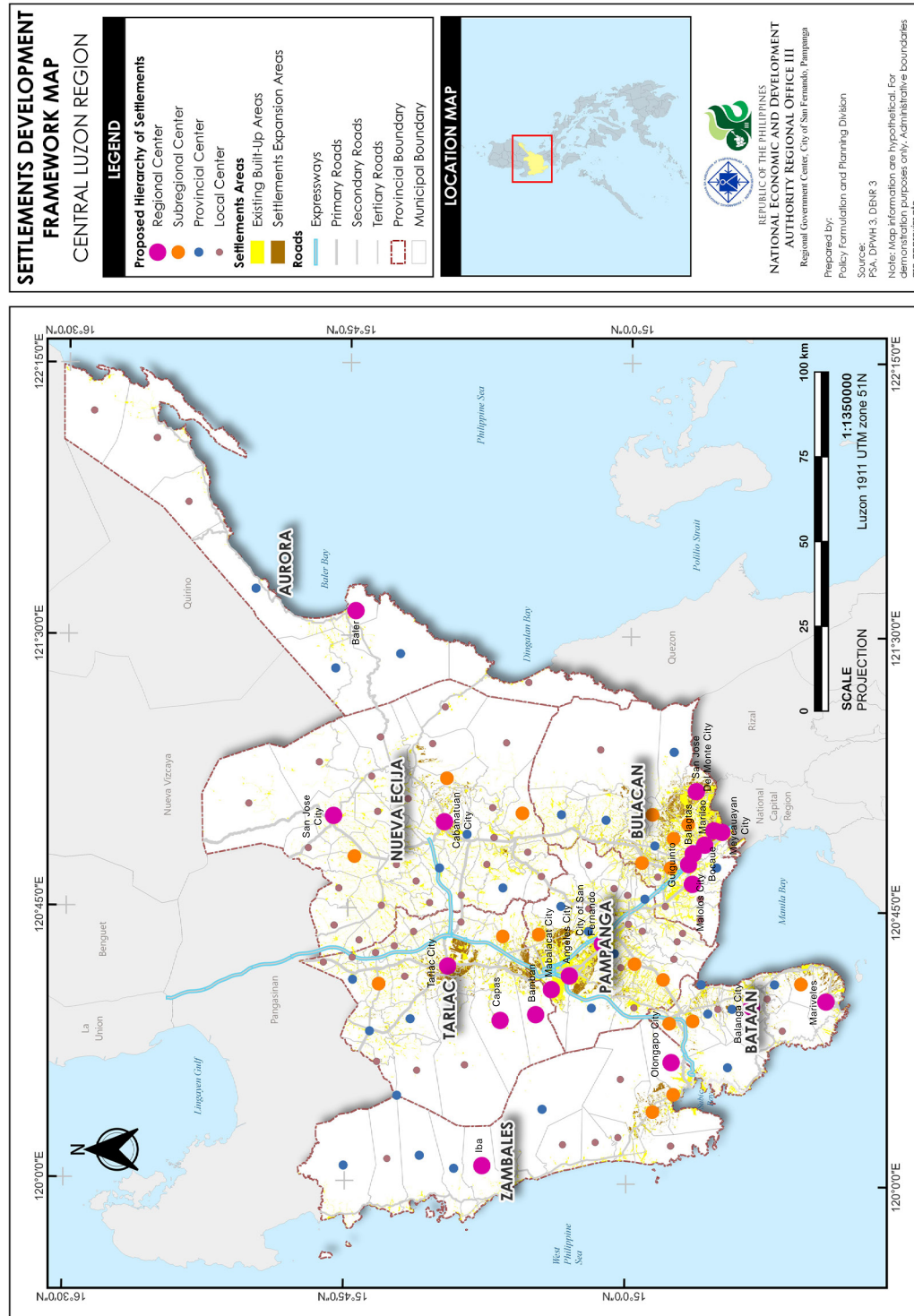


Figure 2-18: Central Luzon Settlements Development Framework Map

Nurturing Abundance: The Production Land Use Framework

The areas where productive activities could be undertaken to meet the region and country's requirements for economic growth are the areas that constitute the production land use. Specifically, production land use involves the direct and indirect utilization of land resources to generate outputs resulting from agriculture, timber or agro-forestry, grazing and pasture, mining, industry and tourism.

For the next medium- to long-term, the region needs to ensure sufficient and reasonable allocation of land for production as it continues to face mounting pressure for space from both population and economic growth. Such land allocation, particularly for production, should be able to promote the balanced growth of agriculture, industry, and services and foster the region's sustainable and inclusive development. Figure 2-19 presents the Production Land Use Framework Map of Central Luzon, indicating where major economic activities can be more appropriately undertaken.

The following are the policies and strategies that shall be adopted to harness capacities for a robust regional economy and foster sustainable and inclusive economic growth:

a. Rationalize land use and preserve productive agricultural lands:

- Ensuring non-conversion of protected agricultural lands (e.g. prime agricultural lands and irrigated areas)
- Promoting the passage of the NALUA
- Encouraging concentration of non-agricultural production activities in economic/freeport zones or clustering of industries in investment corridors to prevent conversion of agricultural lands

- Promoting modern farming and climate-smart agriculture technologies and practices and the utilization of climate stress-free tolerant crops
- b. Enforce environment regulations and prevent further encroachment of production activities in protected areas:
 - Pursuing co-management among concerned stakeholders in protected areas to encourage participation in protection area management
- c. Reduce vulnerability of production areas to disasters
 - Adopting and implementing protection measures for vulnerable areas against the effects of natural hazards
 - Advancing research on increasing resiliency
 - Locating industries away from hazard-prone areas
- d. Ensure spatial growth/economic equity through the promotion of economic corridors or strategic development areas in the region
 - Supporting the development of identified economic corridors (as identified in the study on Integrated Infrastructure and Investment Development Planning (3IDP) for Investment Corridors in Central Luzon)
 - Providing the necessary support infrastructure for fostering industry growth and competitiveness

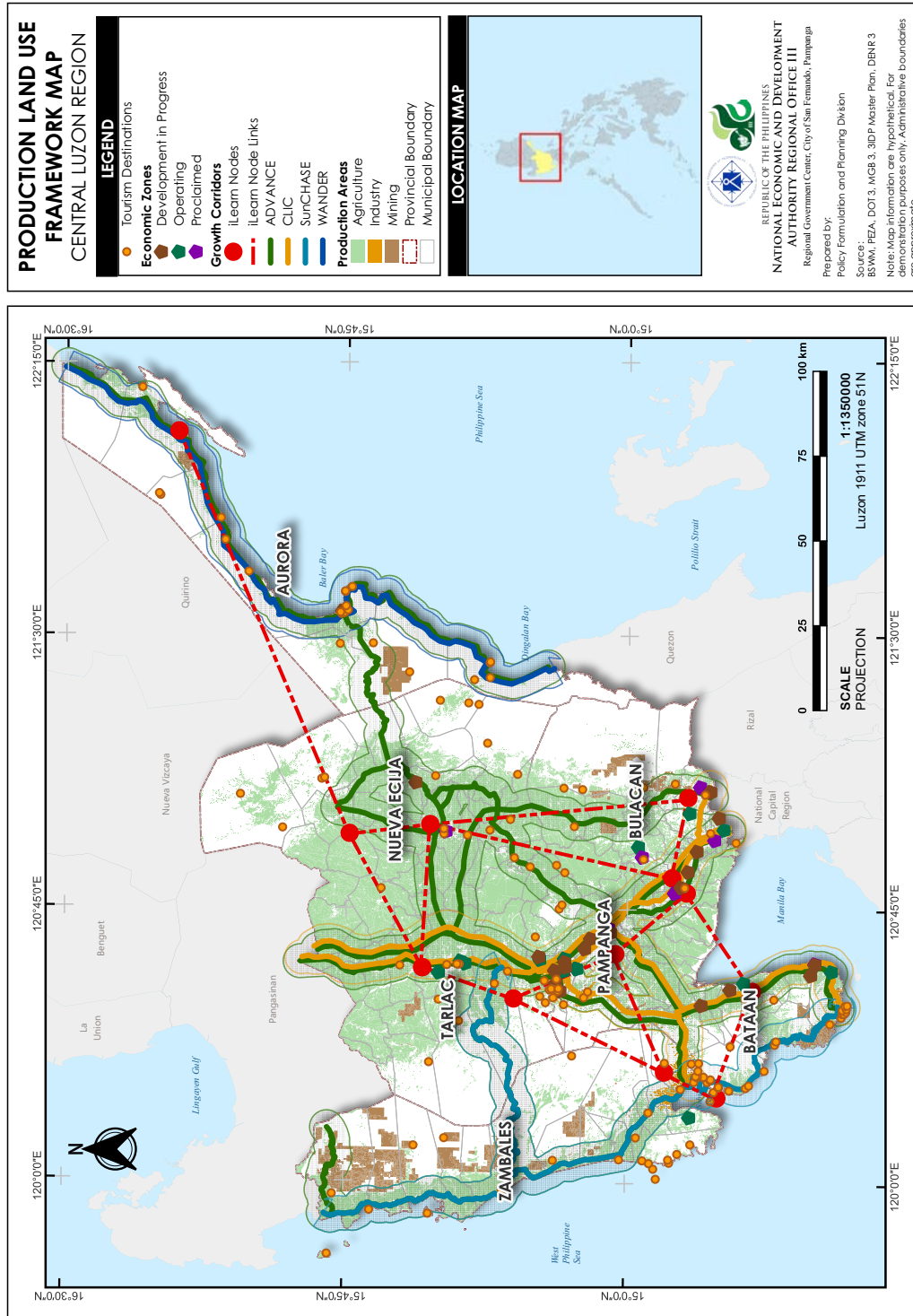


Figure 2-19: Central Luzon Production Land Use Framework Map

Defending Nature: The Protection Land Use Framework

Protecting the natural ecosystem is critical to human survival, economic growth and sustainable development. This provides the resources and the environment needed for sustaining life, while this could also potentially cause havoc when left to ruin. Crucial as it is therefore, efforts at preserving and sustaining the capacity of the natural environment to support life and economic growth must take precedence in the region's development effort. Also critical is preventing or mitigating human and economic loss by locating and protecting settlements and economic activities from hazard-prone areas.

Central Luzon's Protection Land Use includes the proclaimed and legislated protected areas such as those belonging to the Enhanced National Integrated Protected Areas System (ENIPAS) per Republic Act 11038, reserved or conserved areas outside the ENIPAS or non-ENIPAS such as key biodiversity areas, critical habitats and wetlands requiring equivalent amount of protection areas with CADT, and environmentally constrained areas which are susceptible to natural hazards such as seismic and volcanic eruption hazards, prolonged flooding, tsunami, and landslide, among others (Figure 2-20).

To preserve/maintain the integrity of the region's protected areas for the benefit of the present and future generations, the following policies and strategies shall be adopted:

- a. Ensure containment and regulation of existing settlements in protected areas. A buffer zone may be provided to ensure there is no expansion/additional encroachment in the protected areas (PAs). An updated inventory of migrants and settlers must be conducted by DENR for proper monitoring of these areas and ensure no additional encroachment in the PAs;
- b. Prohibit production activities in areas with high to very high or critical susceptibility to flooding;
- c. Rehabilitate degraded forestlands, critical watersheds and major river basins continuously through reforestation efforts under the Enhanced National Greening Program and Forestland Management Program and local complementary reforestation programs;
- d. Ensure the indigenous people's rights to develop, control, and use land within their ancestral domain in accordance with approved Ancestral Domain Sustainable Development and Protection Plans;
- e. Formulate DRRM plans for affected areas and align with the PA Management Plans and Forest Land Use Plans of local government units, and integrate LCCAP and CDRA in all local plans;
- f. Institutionalize community-based and culture-specific Early Warning System; and
- g. Develop and institutionalize information management systems and sharing between the provincial, municipal and barangay levels.

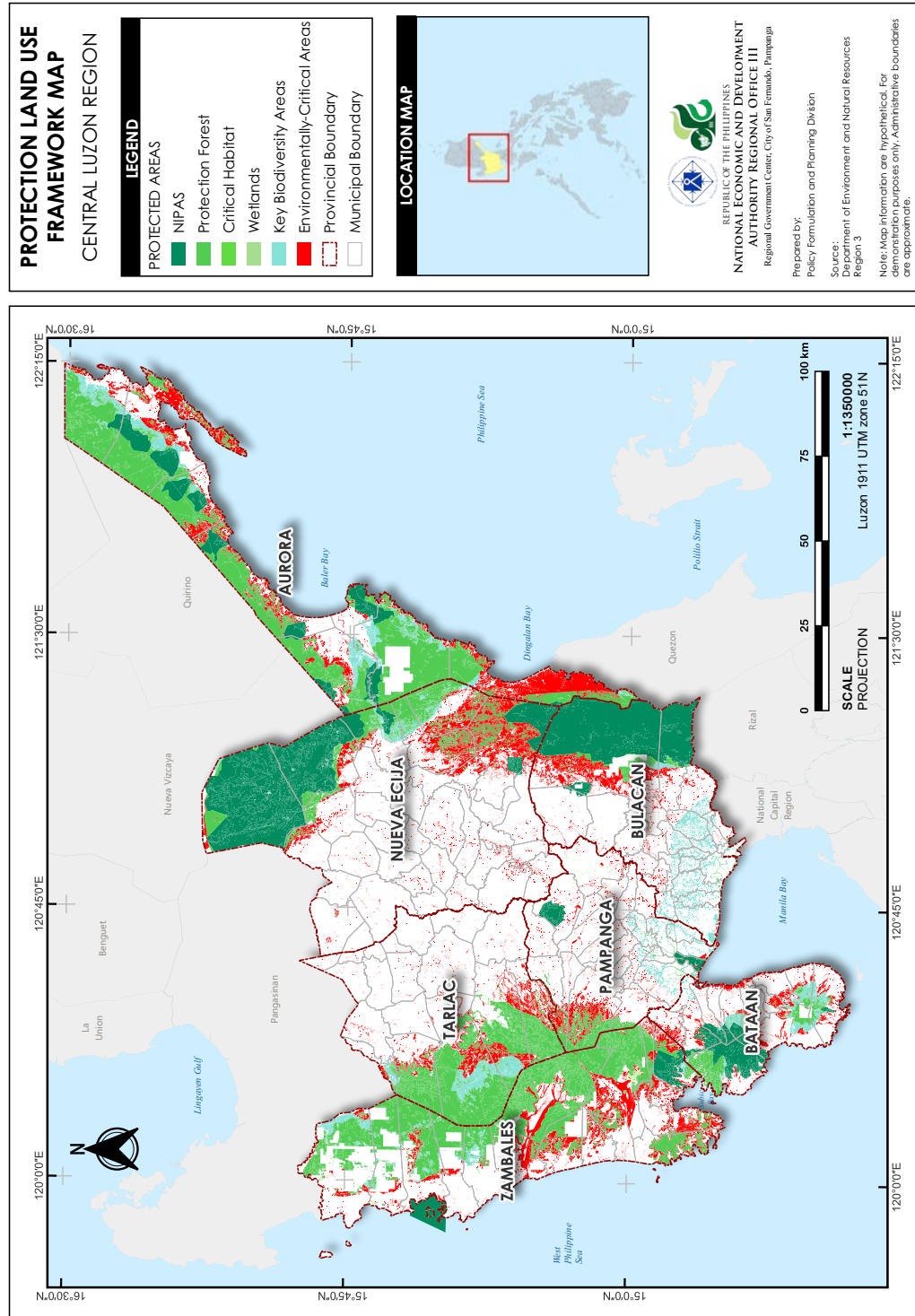


Figure 2-20: Central Luzon Protection Land Use Framework Map

Building Seamless Linkages: The Infrastructure Development Framework

The infrastructure development framework serves as the common link between production, protection and settlements. Central Luzon's Infrastructure Development Framework is guided by the "Quad-Spine Connectivity Framework" where north-south and east-west linkages are strengthened to support and guide urban and rural development while mitigating impacts of hazards to communities through adoption of vulnerability reduction principles (Figure 2-21).

In order to provide sufficient, efficient, and climate and disaster-resilient infrastructure that will serve as backbone of physical integration, the following policies and strategies shall be adopted:

- a. Improve and maintain the region's trunk road system especially sections critical to inter-regional and intraregional linkages;
- b. Upgrade and improve major road networks in areas experiencing heavy traffic. While bypass roads can ease traffic, zoning/land use policies in these areas should be continually enforced especially if they traverse major production/protection areas;
- c. Promote non-motorized transport and walkability in urban centers, in combination with adequate public mass transport and transit-oriented development to improve ease of access and efficiency of movement within urban centers;
- d. Identify and assess areas where increased demand for water (industry, agriculture and household use) can be addressed (efficiency, quality) or provided (accessibility, sustainability);
- e. Explore sustainable technologies or sources of clean water (surface, ground) for implementation and development in high-demand areas or industries where shortages are being experienced or projected
- f. Encourage clustering of LGUs in planning sanitary landfill facilities and other solid waste management technologies to address its large capital requirement and allow low income LGUs to pool resources to establish such facilities;
- g. Promote investments in renewable energy, green, and sustainable building techniques valuing existing ecosystem services; and
- h. Implement water-sensitive urban designs such as establishing rainwater harvesting facilities, porous and permeable pavements to enhance surface water infiltration, rainwater percolation intakes in existing and new planned unit development.

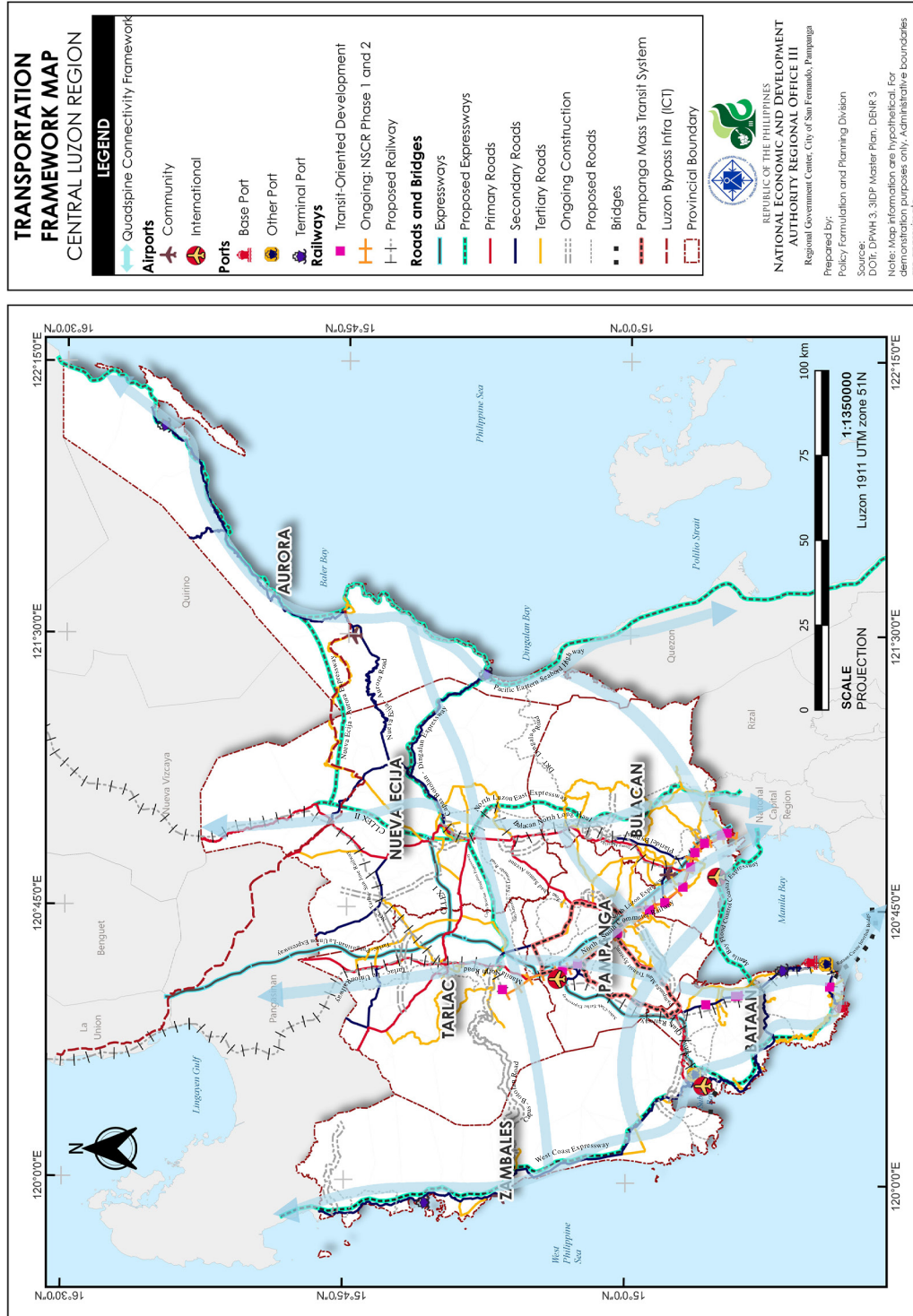


Figure 2-21: Central Luzon Transportation Framework Map

¹Department of Environment and Natural Resources. Philippine Forestry Statistics 2021

²Presidential Decree 705, Series of 1975-Forestry Reform Code of the Philippines, 1975

³National Irrigation Administration, n.d.

⁴2021 Philippine Forestry Statistics

⁵DENR 3 – Coastal Resource Map

⁶DENR-Biodiversity Management Bureau, 2014

⁷Department of Environment and Natural Resources. Philippine Forestry Statistics 2021

⁸Integrated Infrastructure and Investment Development Planning (3IDP) for Investment Corridors in Central Luzon: Situational Analysis Report. 2020

⁹Climate Responsive Integrated Master Plan for Pampanga River Basin, 2016 - 2030

¹⁰Climate Responsive Integrated Master Plan for Pampanga River Basin, 2016 - 2030

03

Strategy Framework



CHAPTER 3

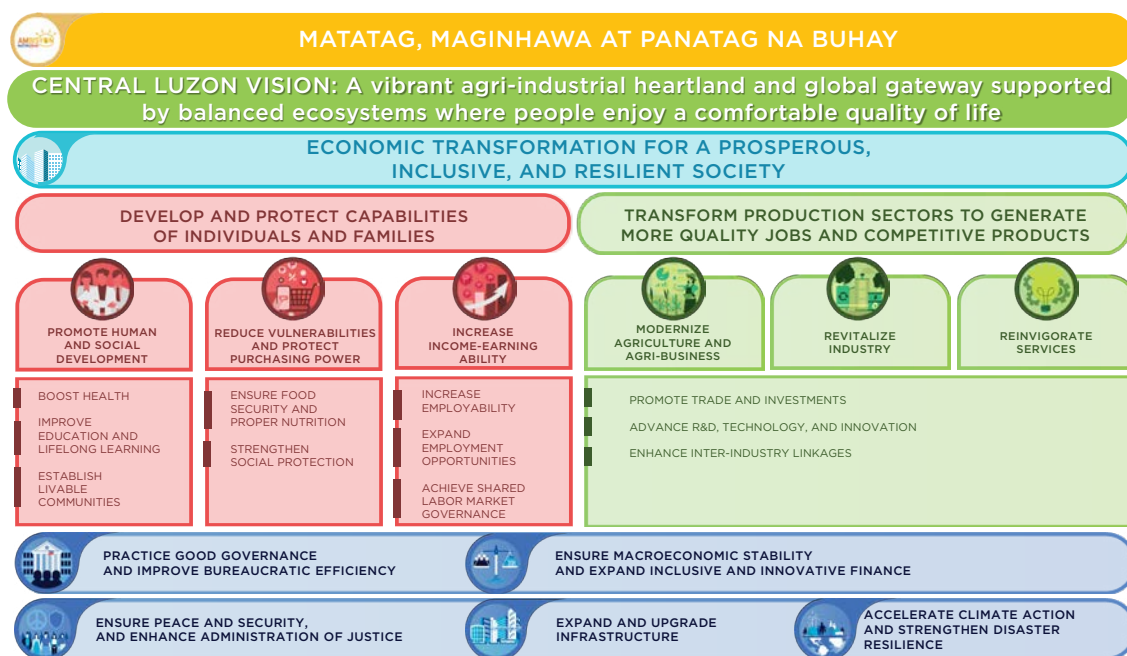
Strategy Framework

The Central Luzon Regional Development Plan (CL-RDP) 2023-2028 translates the goals of the Philippine Development Plan (PDP) in the region, which aims for economic and social transformation to reinvigorate job creation and accelerate poverty reduction by steering the economy back on a high-growth path. This growth must be inclusive, building an environment that provides equal opportunities to all Filipinos, and equipping them with skills to participate fully in an innovative and globally competitive economy. This goal contributes to the attainment of the Central Luzon's 2040 vision of ***"A vibrant agri-industrial heartland and global gateway supported by balanced ecosystems where people enjoy a comfortable***

quality of life." The regional vision is aligned with the country's long-term vision of a *"matatag, maginhawa, at panatag na buhay para sa lahat."*

The PDP/RDP 2023-2028 is based on the President's 8-point socioeconomic agenda that tackle immediate, on-the-ground concerns – high inflation, scarring due to COVID-19 and the tight fiscal space; address long-standing, critical constraints to generating more jobs, quality jobs and green jobs over the medium term; and provide the necessary enabling environment – level playing field, and peace and security.

Figure 3-1: CLRDP Strategy Framework



The underlying theme of the Plan is transformation, and integral in all the strategies in the PDP/RDP 2023-2028.

The over-arching goal is to achieve economic and social transformation for a prosperous, inclusive and resilient society. The strategies are organized corresponding to the following objectives: (i) develop and protect capabilities of individuals and families, (ii) transform production sectors to generate more quality jobs and produce competitive products, and (iii) foster an enabling environment encompassing institutions, physical and natural environment, that promotes a prosperous, inclusive and resilient society.

Capabilities of individuals and families will be developed to enable them to participate in growth opportunities (Chapter 4).

- Good health will be promoted (Chapter 4.1). Health care strategies will be comprehensive and will focus on building an ecosystem in communities for health care providers, and an environment where individuals can make healthy choices (e.g., nutritious affordable food and health literacy).
- Opportunities for transformative lifelong learning will be expanded (Chapter 4.2). The quality of education at all levels will be improved by expanding access to quality learning resources, enhancing the curriculum, and improving the competencies of teachers. TVET programs will be improved to make them more responsive to industry needs; higher education institutions will be strengthened to perform a greater role in knowledge co-creation, and serve as innovation hubs and incubation centers.

- Social development will be pursued through livable communities (Chapter 4.3). For communities still to be established, access to human, social, and economic development opportunities will be facilitated, by design. Simultaneously, there will be programs to upgrade the conditions in existing communities where these are found to be inadequate.

Social protection (SP) systems will be made more efficient with improved targeting and digitalized processes for faster response to the needs of the most vulnerable (Chapter 5).

- Amidst the possibility of accelerated inflation owing to natural and external shocks, the priority is to ensure food security and proper nutrition, especially among the most vulnerable (Chapter 5.1). A sufficient and stable supply of food will be ensured, primarily through improved productivity of agri-food systems, including storage, transport, and logistics. Measures to prevent and address wasting, stunting, and obesity will be implemented through supplementary feeding, nutrition education, and nutrition promotion campaigns.
- Social protection systems will be strengthened (Chapter 5.2). There will be programs to reduce the risks faced by specific vulnerable groups (persons with disability, women, children, indigenous persons, persons in geographically isolated and disadvantaged areas (GIDAs), migrant workers, etc.), and to mitigate the impact in case the risk materializes.

Jobseekers and those currently working will have more opportunities to improve on their income-earning ability (Chapter 6).

- Contents of training modules and curricula for human capital development will be continuously updated to match the needs of emerging in-demand occupations. The updating will also cover professional standards and licensure examinations.
- Employment facilitation services will be enhanced to include career development support, and an active labor market information system. Everyone will have access to opportunities to increase their income-earning abilities by the effective enforcement of anti-discrimination laws. Migrant workers will also have access to these opportunities to facilitate their reintegration back into the domestic economy.

The production sectors will be transformed to provide high-quality, high-skill, and stable employment opportunities for the fast-growing Filipino workforce.

The strategies in each sector are categorized into three major groups: (i) expand markets, (ii) promote value-adding, (iii) foster inter-sectoral linkages.

Agriculture and agribusiness will be modernized (Chapter 7).

- Primarily, production efficiency will be improved through farm clustering or consolidation, adoption of improved technology, and access to inputs. More innovation hubs and farm demonstration sites will be established and the Province-led Agriculture and Fisheries Extension System will be strengthened. The blue economy will be

developed with the full implementation of the Fisheries Management Act plans, and the upgrading of Technology Outreach Stations, and National Technology Centers, among others. Opportunities for greater value-adding will be created by expanding business partnerships between primary producers and other entrepreneurs, and by strengthening the capacity of primary producers to process raw materials, understand markets, and ensure that food safety and quality standards are met. Government will rationalize investments in the sector to promote the interconnectedness of multimodal transport and logistics, particularly for perishable products. Use of mobile platforms and channels will be encouraged for marketing, payment, and product delivery. Institutional capacity to formulate plans, conduct R&D, provide extension services, and undertake monitoring and regulation will be enhanced with the use of modern technology and better information systems.

Industry will be revitalized (Chapter 8).

- Domestic production and supplier base will be expanded, particularly corresponding to the value chains of the following industry clusters: (i) Industrial, Manufacturing and Transport (IMT), (ii) Technology, Media and Telecommunication (TMT), (iii) Health and Life Sciences (HLS), and (iv) Modern Basic Needs (MBN). This entails enhancing business-matching activities and intensifying support through the provision of common service facilities, marketing assistance and even time-bound performance-based incentives. Servicification will be promoted, including the adoption

of Industry 4.0, Internet of Things, etc. This will be done through co-locating industry and service enterprises, and including academic institutions, and providing more platforms for collaboration.

Services sector will be reinvigorated (Chapter 9).

- Demand for services will be expanded by actively promoting the country's tourism, culture, creative sector, and IT-BPM. Adoption of holiday economics will also be undertaken to boost domestic tourism, promote local products, and encourage inter-cultural exchanges. Streamlining regulations to allow 24/7 operations of transport and logistics operations will also increase demand. Value-adding to diversify "product" offering and improve "consumption" experience will be encouraged by instituting accreditation protocols, improving access to physical and digital infrastructure, and developing technology parks, centers of creative excellence and innovation, creative talent hubs, and improved shared service facilities for MSMEs. Finally, capacities of institutions providing business advisory services, and of communities and LGUs hosting the investments and events will be continuously upgraded.

Establishing a dynamic innovation ecosystem is at the heart of the transformation agenda of the Plan (Chapter 10).

- The innovation ecosystem involves interlinkages between and among social scientists, basic R&D institutions, product engineers, design and marketing specialists, and

entrepreneurs who bring the ideas and all these players together. Over the medium-term, government will (i) provide a nurturing environment for basic research and development, and knowledge creation; (ii) support market-driven and customer-centered R&D; (iii) scale up technology adoption, utilization and commercialization; and (iv) promote an innovation culture and entrepreneurship. Government will make use of a combination of financial and technical support to academic and skills training institutions, business incubators, and startups. Government will also establish physical and digital platforms to encourage greater collaboration between and among the ecosystem players.

Trade and investments will be promoted to improve the competitiveness of domestic industries, increase demand for Philippine products and generate more jobs (Chapter 11).

- International trade will continue to be a major strategy to expand markets, diversify sources for the cumulation of raw and intermediate materials, and increase competitiveness. Thus, government will adopt a purposive, assertive and forward-looking position in negotiating regional trade agreements. Renewed focus will be given to the survival, growth, and expansion of local firms in the export and domestic markets in order to drive productive employment, and increase incomes.
- Government will also position the services sector as the foremost supplier of tradeable intermediate services. To this end, support will be provided to training and re-training programs

for the sector and facilitate access to the necessary physical and digital infrastructure.

Financial inclusion will be promoted and public financial management improved (Chapter 12).

- A healthy financial sector is vital to ensure sound macroeconomic fundamentals. At the same time, the financial sector needs to be efficient as an intermediary between savers and investors to promote sustainable economic growth. The strategies aim to broaden and deepen financial inclusion, and accelerate financial innovation, while ensuring financial sector health. On financial inclusion, the strategies include promoting financial literacy, and facilitating access to financial services and instruments. On financial innovation, government institutions will adopt a “regulatory sandbox” approach for new innovations, promote Regulatory Technology (RegTech), and address information gaps to encourage innovations. To ensure financial health, government institutions will intensify consumer protection, and undertake macro- and micro-prudential measures.

Individuals, businesses, and civil society will enjoy better connectivity (Chapter 13).

- Investments in the appropriate infrastructure can help reduce the cost of electricity, ensure water security, and lower the cost of logistics. Such investments will improve access to people, goods and services and information, and promote growth that is more inclusive. Given the limits to government resources and capabilities, public-private partnerships (PPPs) will

be further encouraged. In this endeavor, the formulation and/or updating of infrastructure sectoral master plans and roadmaps that provide a more comprehensive understanding of the infrastructure gaps and needs, and thus serve as a sound basis for identifying priority infrastructure programs, activities and projects, including those that may be best pursued through PPP modalities.

Filipinos and residents of the Philippines will enjoy peace and security and an efficient justice system (Chapter 14).

- Lasting peace and security enable a stable environment for a strong and vibrant economy (Chapter 14.1). At the same time, an efficient justice system characterized by integrity, fairness, accessibility, and a proper regard for the rule of law is necessary for fostering a high-trust society and a favorable business climate (Chapter 14.2).

Private sector and civil society will observe marked improvements in bureaucratic efficiency and the practice of good governance (Chapter 15).

- Good governance entails bolstering public accountability and integrity and deepening participatory governance that ensures that marginalized sectors (e.g., women, children, indigenous peoples, persons with disabilities and in GIDAs) have concrete roles and significant influence in all stages of public decision-making. Given the tight fiscal space, the government must pursue bureaucratic efficiency to maximize the benefits from public spending. Doing so involves rightsizing and a whole-of-government approach in reengineering systems

and procedures, accelerating digital transformation in government and raising the productivity performance of agencies, as well as the competencies of public servants.

Finally, the Plan recognizes the need for collective action to mitigate the climate crisis, and strengthen our resilience to disasters (Chapter 16).

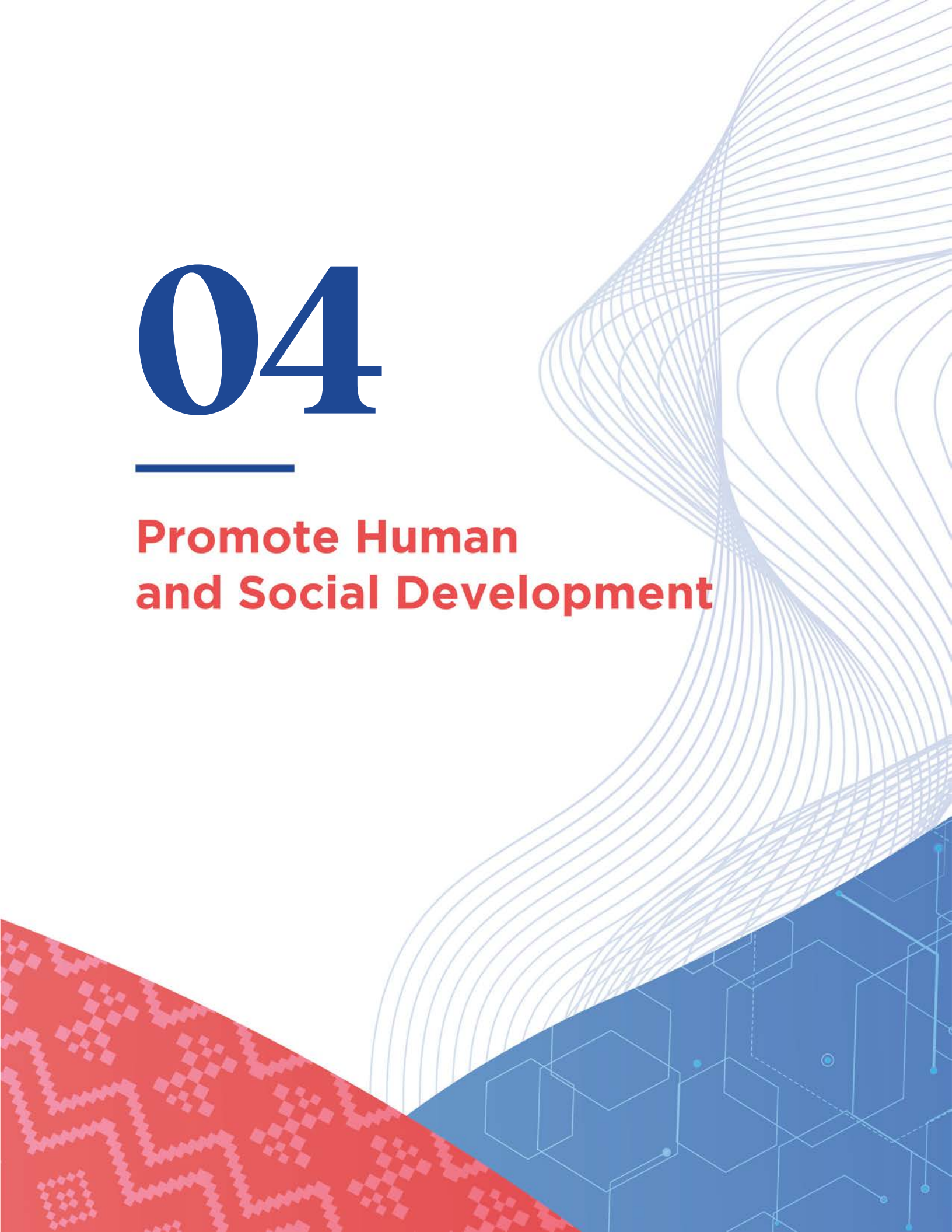
- The priority is to enhance the adaptive capacity of communities and ecosystems that are most vulnerable to natural hazards and climate change. This will be supported by an improved knowledge and data ecosystem, and good governance.

PART II

Develop and Protect Capabilities of Individuals and Families

04

**Promote Human
and Social Development**



CHAPTER 4

Promote Human and Social Development

Filipinos are envisioned to have better access to quality healthcare system, lifelong learning opportunities, and livable and sustainable communities. The region will continue to thrive amidst the massive impact of the pandemic in the health and education sector. This chapter focuses on the strategies to promote the region's human capital for a resilient and healthy society.

Sub-Chapter 4.1 Boost Health

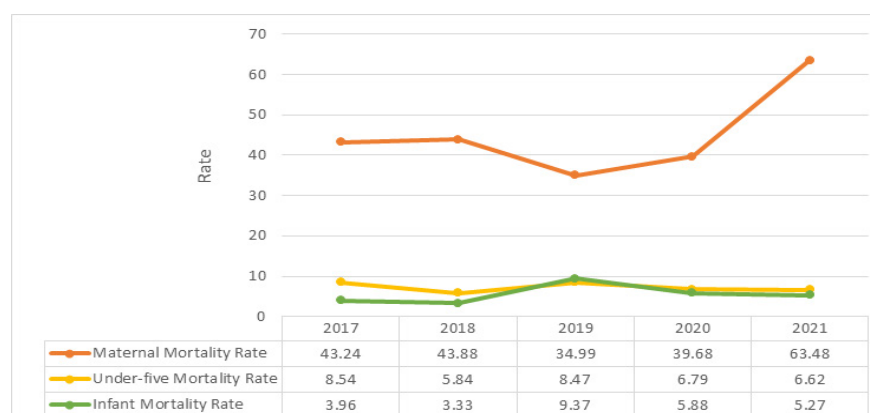
Central Luzon continues to respond well to and recover from the COVID-19 pandemic. However, inefficiencies in the coordination and management of health care continue particularly in the local levels¹. This may have led to poor health outcomes that can impact on medium- and long-term health and productivity goals if not immediately addressed. This chapter presents the challenges faced by the sector and provides recommendations (interventions and strategies) to attain the following outcomes: (a) social determinants of health improved; (b) healthy choices and behavior enabled; (c) access, quality, and efficiency of healthcare improved; and (d) health systems strengthened.

Assessment and Challenges

Increasing mortality rates. Maternal mortality ratio (MMR) worsened from 43.24 deaths per 100,000 live births in 2017 to 63.48 deaths in 2021 based on data from the DOH-CLCHD. Maternal deaths can occur during pregnancy and childbirth or within 42 days of termination of pregnancy, irrespective of the duration and site of pregnancy. Although MMR increased, it is still within the Sustainable Development Goals (SDG) target of less than 70 maternal deaths per 100,000 livebirths.

Other similar indicators such as infant mortality and neonatal mortality (the former referring to the death of an infant before his first birthday and the latter, referring to death within the

first 28 days of life) also slightly worsened. Infant mortality rate (IMR) increased from 3.96 deaths in 2017 to 5.27 deaths in 2021, but this is still below EOP target at less than 17 infant deaths per 1,000 livebirths. Similarly, neonatal mortality rate increased from 0.17 deaths in 2017 to 3.01 in 2021, but still within the 2030 SDG target of less than 12 neonatal deaths per 1,000 livebirths. Meanwhile, under-five mortality rates declined from 8.54 deaths in 2017 to 6.62 in 2021. Under the SDG, this should be not more than 25 deaths per 1,000 livebirths.)

Figure 4.1-1: Infant, Under-five, and Maternal Mortality Rates 2017-2021, Central Luzon

Source: DOH-CHD 3

Slow improvement in immunization coverage in children. Fully immunized children (FIC) refer to infants who received one dose of BCG, three doses each of OPV, DPT, and Hepatitis B vaccines, and one dose of measles vaccine before reaching one year of age. Targets for the past five years have not been achieved. In fact, the proportion of FIC in Central Luzon declined from 67.24 percent in 2017 to 65.86 percent in 2021. This decrease means there is a need to increase coverage by 29.14 percentage points more to attain the end of plan target of 95 percent. Among the provinces, Nueva Ecija and Zambales registered the lowest FIC for the period 2017-2021. The challenges brought by the pandemic in the provision of full immunization under Central Luzon National Immunization Program, and diversion of resources towards COVID-19 vaccination programs resulted to the decline in the proportion of FIC. Coverage targets for specific vaccine programs (such as Chikiting Bakuna for measles and polio), however, have been successful.

Increasing cases of HIV/AIDS. The COVID-19 pandemic disrupted the delivery of and access to HIV prevention, testing, and treatment services resulting to new infections. The number of newly-diagnosed cases of human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) increased from 1,153 in 2017 to 1,444 cases

in 2021. In terms of geographic distribution, Bulacan has the highest number of recorded cases with 500 in 2021, followed by Pampanga with 418 cases.

Declining use of modern family planning methods. Although facility-based delivery ratio dipped slightly from 95.63 percent in 2017 to 95.27 percent in 2021, this figure is still five percent higher than the 2022 target of 90 percent. Modern contraceptive prevalence rate, however, declined from 47.83 percent in 2017 to 25.36 percent in 2021. Moreover, this is 5 percentage points less than the 30 percent target in 2022. Strategic and sustained efforts in promoting modern contraception methods are needed to arrest the decline to at least 40 percent. Furthermore, adolescent birth rate or age specific fertility rate for women aged 15-24 slightly increased from 14.99 percent in 2019 to 16.76 in 2021.

Based on the preliminary results of the 2022 National Demographic and Health Survey, the region ranked third among the highest percentage of women aged 15-19 years who have ever been pregnant with 8.0 percent following Region XI-Davao Region (8.2 percent) and Region X-Northern Mindanao (10.9 percent). Moreover, among the regions, Central Luzon recorded the highest percentage of women aged 15-19 years who have ever had a pregnancy

loss (stillbirth, miscarriage, or abortion) at 1.3 percent.

Inadequate facilities and human resources for health. DOH-CLCHD data recorded 1:39,601 doctor-to-population ratio in the region as of 2021 which is below the standard ratio of 1:20,000. The doctor-to-population ratio may be aggravated by the effect of the pandemic that exhausted and threatened the lives of medical workers including medical doctors.

To ensure accessibility of in-patient services in the region amidst COVID-19, improvement in hospital bed capacity must also be addressed.

The bed-to-population ratio in 2021 for government hospitals was at 0.4:1,000 while the ratio in private hospitals was at 0.5:1,000. These said ratios were way below the standard of one bed per 1,000 population.

High share in health spending. Based on the Philippine National Health Accounts, the region's health spending or Current Health Expenditure (CHE) was recorded at PhP104.5 billion in 2021, which is 50 percent higher compared with PhP69.62 billion posted in 2017. Furthermore, among other regions, Central Luzon recorded second highest percent share at 9.6 percent of the total CHE, next to NCR.

Strategy Framework

This strategy framework is anchored on a holistic approach focused on improving health outcomes as envisioned in the SDGs, reducing health inequities, and achieving universal health care. The first pillar describes a society that promotes physical, mental, and social well-being for all, especially those living in vulnerable households and communities. The second pillar focuses on empowering individuals

and households to make appropriate choices regarding their own health and seeking care when needed. The third pillar describes the health care delivery system, both public and private, that Filipinos should be able to access. The last pillar emphasizes crucial capacitating measures for the health system that need to be bolstered to support the other outcomes.

Figure 4.1-2: Strategy Framework to Boost Health



Strategies

Outcome 1: Social determinants of health improved

Ensure communities, workplaces, and schools support physical, mental, and social well-being for all

To ensure alignment with the national strategy of focusing on the social determinants of health (SDH)², opportunities that promote well-being of individuals and households shall likewise be undertaken in the region. The strategies include enabling active transport environments, livable communities, promoting safe and conducive working and learning spaces for all Filipinos; and ensuring access to safe drinking water, basic sanitation, and nutritious food choices. The Central Luzon Regional Development Council (RDC) will support the Department of Health (DOH) and Department of the Interior and Local Government (DILG) in the implementation of the National Policy Framework on the Promotion and Recognition of Healthy Communities (DOH-DILG JAO 2021-0002) that aims to improve the quality of life of individuals and communities. To address mental health concerns (one of the health research priorities identified in the Central Luzon Regional Unified Health Research Agenda), studies and policies for the provision of mental health services and programs in schools and workplaces shall also be supported.

Also through the RDC, the private sector will be engaged to ensure a whole of society approach and sustain multistakeholder efforts in making living and working spaces (environments) for students, households and working population safe and productive.

Foster a whole-of-government, whole-of-society approach to health

Collaboration of various stakeholders will be strengthened, such as but not limited to, activities that foster healthy public policies; promote and recognize healthy communities with the DOH and DILG; provide health and nutrition programs in schools with the Department of Education (DepEd); and mental health and physical fitness programs in workplaces with the Department of Labor and Employment (DOLE) and Civil Service Commission (CSC).

To facilitate the achievement of the demographic dividend, the Special Regional Committee on Population and Development (SRC-POPDEV) was created under the Regional Development Council III, with members from regional line agencies and civil society organizations. The committee shall oversee implementation of the following POPDEV priority strategies: 1) responsible parenthood /family planning and family development; 2) adolescent health and development; 3) promotion of life-cycle and interregional approaches to development; 4) inclusive development for marginalized population; 5) integration of population in sector development; 6) people-centered regional and local development; 7) POPDEV research/data information system; 8) international partnership and cooperation on POPDEV.

Outcome 2: Healthy choices and behavior enabled

Increase health literacy

Campaigns and interventions using multiple communication media platforms will be developed and implemented to continuously encourage individuals and households towards more healthy practices. A good example is DOH's Health Promotion Playbooks which are readily available online for use by communities. In addition, institutional campaigns may be undertaken to instill awareness among the youth. For HIV/AIDS, information and education on the importance of testing and treatment are still necessary strategies for its prevention, and even elimination of HIV-related stigma and discrimination. Efforts must be strengthened in the provinces of Bulacan and Pampanga which recorded highest number of HIV/AIDS cases in the region.

To contribute in improving the maternal, neonatal, and child health and nutrition, the Commission on Population (POPCOM) will strengthen the implementation of responsible parenthood and family planning

(RPFP) program such as development and implementation of effective social and behavior change communication, capacity building of local RPFP implementors, and improving accessibility of FP services.

Moreover, through DOH and the LGUs, the long-term benefits of immunization programs will be intensified to increase the proportion of FIC especially in the provinces of Nueva Ecija and Zambales which recorded lowest FIC coverage.

Promote appropriate health-seeking behavior

Interventions will be focused on promoting benefits of having healthy lifestyles and addressing lifestyle diseases such as cancer, diabetes, and cardiovascular diseases. Individuals will be provided with the knowledge and resources to recognize when medical care is necessary, and to seek care at the appropriate levels when needed.

Outcome 3: Access, quality, and efficiency of health care improved

Secure sustainable and equitably distributed health infrastructure and human resources

The Central Luzon Regional Health Facility Development Plan serves as an overall plan for health facility development in the region and will help in identifying health facilities, equipment, and other investments based on actual needs and gaps in the provinces. The DOH Health Facilities Enhancement Program (HFEP) will continue to improve public health facilities such as barangay health stations, rural health

units/urban health centers for government to provide affordable and quality health care and specialized treatments. DOH 3 with LGUs will institutionalize responsive health systems including ambulance and patient transport services for GIDA, marginalized populations, and IP communities. By improving the health system, the HFEP can contribute to ensuring delivery of quality health services towards achieving health-related SDG targets.

Moreover, the RDC will support the implementation of the National Human

Resources for Health Master Plan (NHRHMP). The provision of standardized and competitive compensation, protection, benefits, and incentives and ensuring gender equality in the health workforce will improve the welfare, ensure adequate number, and enable equitable distribution of the country's human resources for health.

Promote strategic purchasing for quality, transparency, efficiency, and cost-effectiveness

The DOH, PhilHealth and other agencies shall promote strategic purchasing by adopting provider payment arrangements that incentivize patient-centered primary health care and create incentives for improving quality and efficiency in health service delivery.

Ensure financial risk protection

The UHC law ensures that aside from quality and affordable health care goods or services, Filipinos are protected against financial risk. The RDC will thus support awareness-raising activities of DOH and PhilHealth specifically benefits of joining the and/or contributing to government's health insurance program, transparency, membership obligations, and feasibility/advantage of having other products such as fixed co-payment and co-insurance policies.

Harness complementary private sector partnerships for health care access and delivery

Partnerships with the private sector will be explored to address gaps in health care technology and supply side investments.

Among the strategies in the PDP is the establishment of a framework and guide allowing and encouraging private entities to contribute to the implementation of national and local health programs. In Central Luzon, the Jose B. Lingad Memorial General Hospital (JBLMGH) is already able to bridge the gap through its multi-sectoral governance council and alliances with private donors. Similar collaborations in other provinces will be undertaken to improve services and programs of public tertiary hospitals.

Establish integrated, innovative, quality health care delivery systems

Agencies critical to UHC implementation such as DOH, NNC and POPCOM, with the concerned LGUs, will be encouraged to establish integrated and innovative health care delivery systems which involves the provision of health care services in nutrition, immunization, family planning, anti-tuberculosis, for HIV/AIDS, and adolescent health. These should be accessible and responsive to gender and cultural issues, and across all levels of care.

To address concerns on inefficiencies in the management and coordination of health at the local level, functional health care provider networks will be established, with safe and high-quality facilities and services. The provision of integrated care will be facilitated through referral systems between higher level hospitals, such as the JBLMGH (a regional apex hospital) and other health care providers within its reach, and through the support of local health boards.

Outcome 4: Health systems strengthened

Increase national and local government investments for health

With the increased resource base of LGU allotment given the implementation of the Mandanas-Garcia ruling, LGUs will be encouraged to sustain investments for nutrition and health programs, investments in human resources for health, and health facilities as indicated in their respective local health facility development plans (LHFDP) and local investment plans for health (LIPH). This will also address the need to increase and improve the number and distribution of competent human resources particularly in geographically isolated and disadvantaged areas in the region.

Enhance national and local capacity for health system leadership, management, anticipatory governance, and resilience to public health emergencies

To improve capacities of agencies and LGUs in managing public health emergencies, efficient

information systems, adequate resources, evidence-informed decisions are needed. Capabilities and capacities of the local health systems such as on public financial management, basic epidemiology, disease surveillance, and event-based surveillance of LGUs and agencies shall also be enhanced to increase resilience to public health emergencies.

Strengthen health research for evidence-informed policy and self-sufficiency in health technology

To manage public health emergencies, demand for health-related technologies increased. There is a need to increase investments and funding support to health research and development, and innovation to: (a) translate basic health research into policies and PPAs; (b) promote low-cost and climate-resilient innovations/products for remote populations and vulnerable sectors based on projected health needs and service delivery gaps in the medium term; and (c) improve capacity for high quality local medicine development and/or production.

Legislative Agenda

Table 4.1-1: Legislative Agenda to Boost Health

LEGISLATIVE AGENDA	RATIONALE	RESPONSIBLE AGENCY
Establishment of a Medical Reserve Corps (MRC)	The MRC will include licensed physicians, medical degree holders, students who have completed four years of a medical course, registered nurses, and licensed allied health professionals who may be called upon to assist the national government, its agencies and instrumentalities, and the LGUs in addressing the medical needs of the public. The President will have the authority to order the nationwide mobilization of the MRC to complement the Armed Forces of the Philippines Medical Corps in case of declaration of a state of war, state of lawless violence, or state of calamity.	DOH

LEGISLATIVE AGENDA	RATIONALE	RESPONSIBLE AGENCY
Creation of the Philippine Center for Disease Control and Prevention (CDC)	The following are the key features of the proposed measure: (a) creation of the CDC under the DOH for policy and program coordination; (b) ensuring the health system is well prepared to forecast, prevent, monitor and control diseases, injuries, and disabilities both of national and international concern; (c) recentralization of local epidemiology and surveillance units; (d) strengthening epidemiology, public health surveillance, and research capacities, and (d) ensuring investments to better equip the country in response to public health emergencies.	DOH
Establishment of the Virology and Vaccine Institute of the Philippines	The Institute will be an attached agency of the DOST and will serve as the country's principal virology laboratory, providing investigations, research, and technical coordination of the entire network of virology laboratories across the country.	DOST, DOH

Results Matrix

Table 4.1-2: Results Matrix: Boost Health

INDICATOR	BASELINE (YEAR)	ANNUAL TARGETS						MEANS OF VERIFICATION	RESPONSIBLE AGENCY/INTER- AGENCY BODY
		2023	2024	2025	2026	2027	2028		
Subchapter 4.1: Boost Health (Impact Indicators)									
Average life expectancy increased (years)								Population Projections and Civil Registration and Vital Statistics (CRVS)	Department of Health (DOH), PSA
Male	67.52 (2005-2010) 69.63 (2020-national)						71.14 (national)		
Female	74.21 (2005-2010) 75.91 (2020-national)						77.42 (national)		
Maternal mortality rate decreased (per 100,000 live births)	63.48 (2021)	<70	<70	<70	<70	<70	<70	Philippine Statistics Authority Estimates	DOH
Neonatal mortality rate decreased (per 1,000 live births)	3.01 (2021)	<12	<12	<12	<12	<12	<12	National Demographic and Health Survey (NDHS)	DOH
Infant mortality rate decreased (per 1,000 live births)	5.27 (2021)	<17	<17	<17	<17	<17	<17	NDHS	DOH
Under-5 mortality rate decreased (per 1,000 live births)	6.62 (2021)	<25	<25	<25	<25	<25	<25	NDHS	DOH

INDICATOR	BASELINE (YEAR)	ANNUAL TARGETS						MEANS OF VERIFICATION	RESPONSIBLE AGENCY/INTER- AGENCY BODY
		2023	2024	2025	2026	2027	2028		
Premature mortality rate attributed to non-communicable diseases decreased (number of deaths per 1,000 population aged 30-70 years old)							1 (national)	CRVS	DOH
Tuberculosis (TB) incidence decreased (per 100,000 population)	539						427 (national)	World Health Organization Global TB Report	DOH
Outcome 1: Social determinants of health improved									
Safe water supply coverage increased (% families)	97.4 (2020)							Annual Poverty Indicator Survey (APIS)	DOH, Water Districts (WDs), Rural Water Systems (WS), Water Service Providers (WSP)
Access to basic sanitation increased (% families)	87.5 (2020)							APIS	WDs, Rural WS, WSP
Percentage of targeted communities recognized as Healthy Settings increased (%)	N/A none are certified yet						60% (national)	DOH Admin data	DOH
Percentage of targeted schools recognized as Healthy Settings increased (%)	N/A none are certified yet						60% (national)	DOH Admin data	DOH
Percentage of targeted workplaces recognized as Healthy Settings increased (%)	N/A none are certified yet						60% (national)	DOH Admin data	DOH
Percentage of women (aged 18-49 years old) completing Grade 12 or higher increased (%)								NDHS	DEPED, CHED, TESDA
Prevalence of stunting among children under 5 years of age decreased (%)	23.1 (2015)	22.8	20.83	19.38	17.93	16.33	14.74%	Expanded National Nutrition Survey (ENNS)	CL-RNC (based on CO's computation of PPAN targets)
Poverty incidence decreased (%)	11.4% (2021)						4.5%	Family Income and Expenditure Survey (FIES)	
Outcome 2: Healthy choices and behavior enabled									
Percentage of Filipino adult 18 years old and above with sufficient or excellent comprehensive health literacy increased							69% (national)	Health Literacy Survey	DOH

INDICATOR	BASELINE (YEAR)	ANNUAL TARGETS						MEANS OF VERIFICATION	RESPONSIBLE AGENCY/INTER- AGENCY BODY
		2023	2024	2025	2026	2027	2028		
Unmet Need for Family Planning among currently married women decreased	NDHS 2017: 14%-total unmet need 6%-spacing 8%-limiting			10%			8%	National Demographic and Health Survey (NDHS)	
Modern Contraceptive Prevalence Rate among Married Women of Reproductive Age increased	NDHS 2017: 38.2%					65%		National Demographic and Health Survey (NDHS)	
Outcome 3: Access, quality, and efficiency health care improved									
Percent of provinces with adequate bed-to-population ratio increased (%)							60% (national)	DOH Admin Data	DOH
Percent of provinces with adequate primary care facilities increased (%)							60% (national)	DOH Admin Data	DOH
Bed capacity of government and private hospitals increased (bed to population ratio)	0.4:1000 (Gov't) 0.5:1000 (Private)						1:1000	DOH Admin Data	DOH
Percent of identified cities and provinces with adequate HRH to population ratio increased							72% (Physician) 72% (Nurse) 100% (Midwife)	DOH Admin Data	DOH
Number of UHC Integration Sites that achieved the target number of Key Result Areas for a particular level in the Local Health Systems Maturity Levels								DOH Admin Data	DOH
Household OOP health spending as percentage of CHE decreased (%)							28% (national)	Philippine National Health Accounts	DOH, PhilHealth
Outcome 4: Health systems strengthened									
Percent of health facilities with paperless electronic medical record (EMR) and regularly submit data increased (%)							100% of private health facilities (national)	DOH Admin Data	DOH, PhilHealth
Percent of region and provincial/city/municipality LGUs with functional epidemiology and surveillance unit increased (%)							100% (national)	DOH Admin Data	DOH

Sub-Chapter 4.2 Improve Education and Lifelong Learning

Access to high-quality learning opportunities in the region will be ensured to enable Filipinos to realize their potential and to become globally competitive. By 2028, Filipinos are envisioned to be smart and innovative with full participation in society and the world of work. These will be attained through improved learning materials and facilities, enhanced training programs, and strengthened collaboration among stakeholders in the provision of lifelong education and opportunities.

Assessment and Challenges

Basic education learning slowed down during the pandemic. The Philippines has institutionalized reforms to expand access to education at all levels (i.e., K to 12 Program, Universal Access to Quality Tertiary Education). A major accomplishment is the increase of the mean years of schooling to 10.0 in 2018, which is close to the end of plan target of 11.3.³

However, due to the pandemic, performance in two basic education indicators slowed down. From school years (SY) 2015-2016 to 2019-2020, net enrolment rate in the elementary level decreased by 3.4 percentage points while completion rate declined by 4.5 percentage points.⁴ While enrolment in both Junior Highschool (JHS) and Senior Highschool (SHS) improved in the last four years, this significantly slowed down in 2020 with the restrictions in face-to-face learning. In addition, net enrolment and completion rates in elementary and JHS in 2020 were not achieved (recorded at 95.4 percent and 86 percent versus the targets of 100 percent and 94 percent, respectively). The same is true for completion rates (84.6 percent and 84 percent in elementary and JHS), which are far behind the 100 percent targets.

Figure 4.2-1: Net Enrolment Rate

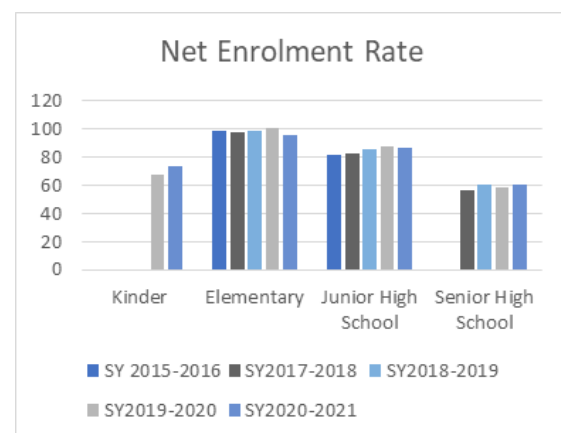
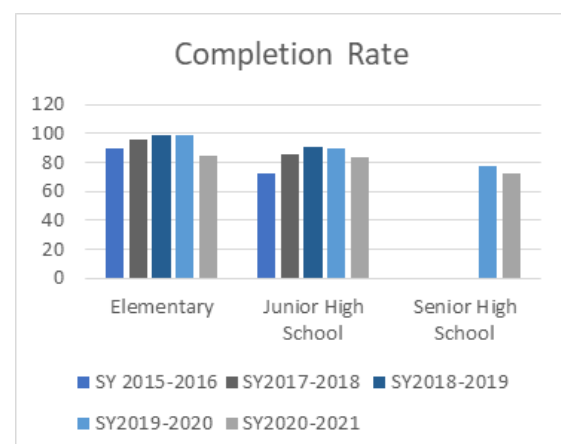


Figure 4.2-2: Completion Rate



Quality of basic education remains a challenge. Even prior to the health crisis, the quality of education was deteriorating based on low National Achievement Test (NAT) results. DepEd reoriented the NAT in 2018 to be more aligned with 21st century skills but were not administered in 2020 and 2021 due to the health crisis. From the previous NAT's measurement of content, learner achievements are now interpreted in terms of proficiency levels. Given this, the 2017 NAT could not be compared with the 2015 baseline data, with 2017 NAT scores pertaining to the proportion of students who can be considered as at least moving towards “mastery” (estimated at 15.35 percent among Grade 6, 32.69 percent among Grade 10, and 11.73 percent among Grade 12 students)⁴.

Despite huge investments in education, the prolonged school closures during the height of the pandemic deteriorated the competency development of the learners, and made developing 21st century skills (beyond classroom setting) more challenging. Adding to these are the limited number of teachers with specialized skills, increased expenses for blended modality, and delayed release of basic education inputs (e.g., learning materials such as laptops and printed modules).

Inadequate resources in public higher education institutions. National government allocations to SUCs have recently been declining. Given the limited fiscal space for capital outlay projects, disparity between the requirements of SUCs and the actual budget (as provided for in the GAA) is evident in the following years: 27 percent difference in 2022, 46 percent in 2021, and 20 percent in 2020.

Number of graduates able to foster 21st century global knowledge economy declined. The higher education graduates able to demonstrate excellence in the 21st century global knowledge economy refers to graduates from programs developed and/or

revised based on multi-disciplinary platforms that foster 21st century competencies. There is a 51 percent decrease on the number of graduates from 2019 to 2021 while graduates from science, engineering, manufacturing and construction decreased by 68 percent. According to CHEDRO 3, the decline in 2021 may be attributed to the K-to-12 program since students are only on their third-year level from the start of its implementation. Also, with the restrictions in face-to-face learning, many graduating students were unable to complete their curricula which required internship/on-the-job training or laboratory work⁵.

Inadequate supply of graduates that match the skills demanded by employers. The shortage of industry-ready workers has been cited in studies to be an effect of the country's educational and training institutions' difficulty to meet the level of competencies required to do high-skilled jobs, as indicated by persistently high youth unemployment and underemployment rate⁶. In Central Luzon, the decline in the number of graduates in the preceding years, particularly those in teacher education and allied health related professions, will have an effect on the (manpower) supply for these skills. In fact, nutritionists and sanitary engineers are two of the industry needs that cannot be filled up due to the decreasing or zero number of graduates, as well as absence of HEIs offering these courses⁷.

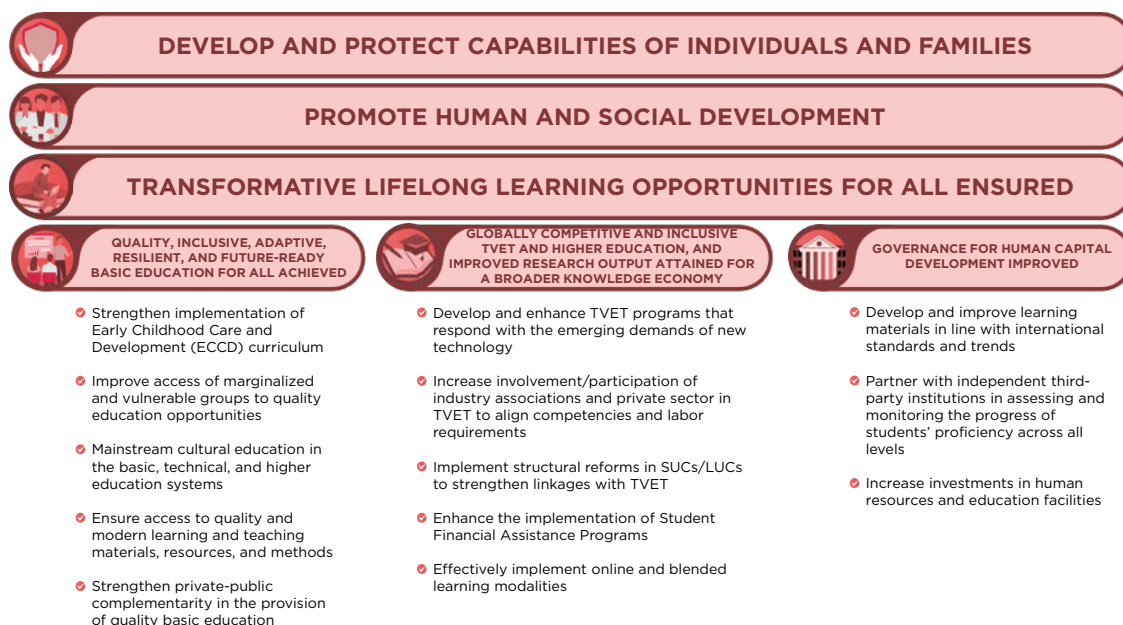
Competitiveness of HEIs improved and need to be sustained. The quality of HEIs in the region improved in terms of degree programs being offered. The percentage of HEIs with Centers of Excellence, Center of Development, with recognized flagship program, with Autonomous or Deregulated status, or with Level III or Level IV accredited programs increased to 9 percent in 2021 from just 5 percent between 2017-2020.⁸ More so, four out of the 12 SUCs in the region were included in the The Times Higher Education 2022 rankings of universities

that assess universities against the UN SDGs. Meanwhile, the Tarlac Agricultural University was among the 2022 Global Top Innovative

Universities (101-200 ranking) by the World's Universities with Real Impact.

Strategy Framework

Figure 4.2-3: Strategy Framework to Improve Education and Lifelong Learning



Strategies

Outcome 1: Quality, inclusive, adaptive, resilient, and future ready basic education for all achieved

Strengthen implementation of Early Childhood Care and Development (ECCD) programs and curriculum

ECCD program will be enhanced to provide a solid foundation for young learners and this entails capacity building of child development service providers and implementation of holistic development-oriented curriculum. Each barangay should establish a day care or child development center where health and nutrition concepts will be introduced. This is to increase awareness in the prevention of diseases and illnesses and other basic concepts

to shape knowledge in learners even at an early age. School-based feeding program shall be strengthened to reduce malnutrition and micronutrient deficiencies that critically affects learning outcomes.

Improve access of marginalized and vulnerable groups to quality education opportunities

Sustainable Development Goal (SDG) 4 clearly provides the commitment to ensure equal access to all levels of education for the vulnerable including persons with disabilities, indigenous

peoples (IPs) and children in vulnerable situations⁹. Unsuitable learning materials and physically inaccessible school buildings have hampered the enrolment of the vulnerable groups to be mainstreamed in regular school settings.

Access and inclusion of children and persons with disabilities from basic to higher education system will be highly prioritized. The preparation and implementation of the Action Plan on making public tertiary education accessible to all hearing-impaired students in the region will be pursued as one of the priorities of the Central Luzon Regional Development Council (RDC).

Admission to Alternative Learning System (ALS) and construction of classrooms for the Last Mile Schools of DepEd will be enhanced in cities and municipalities to catch-up and address learning losses primarily in geographically isolated and disadvantaged areas (GIDA). The ALS will enable those in GIDA areas who cannot complete basic education or acquire lifelong learning through the formal system.

Mainstream cultural education in the basic, technical and higher education systems

Integration of culture and values formation in all levels of education will be strengthened. Courses and curricula for developing artistic and culture-sensitive workers will be promoted, producing competent workforce in the culture and creative industries. Encouraging innovation and creativity among students also foster better learning since they are able to experience taking risks and trying new things. This entrepreneurial mindset has been identified by regional stakeholders to drive progress in the race for globally competitive products and services.

Ensure access to quality and modern learning and teaching materials, resources, and methods

Implementation of Digital Classroom Project and Computerization Program of DepEd shall be pursued to address the challenges in digital learning and to minimize learning disruptions in the midst of any pandemic or disaster. Investments in ICT infrastructures will be prioritized to bolster access and resiliency of both teachers and learners. The National Education Portal will be aggressively promoted to enable seamless digital shift of the education system. New pedagogical practices in teaching shall be implemented such as adoption of open educational resources, formative analytics and teachback¹⁰.

In addition, partnerships between schools, the DICT, LGUs and private internet service providers will be pursued to have affordable or subsidized internet access as poor internet access was identified as a problem with online education.

Strengthen private-public complementarity in the provision of quality basic education

Forging partnership and collaboration between the government (national and local), private sector (e.g., internet service providers, telecom providers and local media), and civil society organizations for education delivery will help augment existing capacities in the sector to achieve its goal of basic education for all. The voucher system shall also be expanded to allow the students to choose which school to attend thereby promote and support complementarity between the public and private education institutions. The implementation of the Government Assistance to Students and Teachers in Private Education (GASTPE) of DepEd and Student Financial Assistance Programs (StuFAPs) of CHED will be strengthened and strictly monitored to provide assistance to poor or underprivileged but deserving students.

Outcome 2: Globally competitive and inclusive TVET and higher education, and improved research output attained for a broader knowledge economy

Develop and enhance academic and technical programs that respond with the emerging demands of new technology

Reforms in academic and technical programs and systems to produce graduates who can demonstrate 21st century competencies and to meet the requirements in the work landscape of Industry 4.0. Programs should reflect and focus on soft skills/core work skills that will further develop the lifelong learning and workforce employability¹¹. Course offerings should capitalize on emerging needs of the region and on the region's priority programs and courses endorsed by Regional Development Council for students availing the CHED scholarship programs. The New and in-demand programs such as data science, nano technology urban agriculture, sustainable development, and food value chain will be revisited and developed¹². More so, facilities and systems shall adapt to new technologies providing more access and efficiency in the delivery of higher education and TVET programs.

Increase involvement/participation of industry associations and private sector in higher education and TVET to align competencies and labor requirements

Higher education and TVET institutions will have strong linkages with industry stakeholders in learning materials or curricula development, training provisions and skills upgrading to ensure that graduates acquire skills/competencies of employers. This also provides an in-depth understanding of future work places that would help in the design and implementation of training for both trainers/

assessors and students, and be responsive to the requirements of industries.

Implement structural reforms in State and Local Universities and Colleges (SUCs/LUCs) to strengthen linkages with TVET communities

The SUCs, LUCs and polytechnic institutions will be tapped to deliver TVET programs and widen training opportunities that are aligned with the labor market demand in local communities for adult learning.

Enhance the implementation of Student Financial Assistance Programs and Scholarship Programs

CHED will continue and expand the provision of scholarships and grants especially in basic and applied research and CHED 3 priority courses. Timely awarding of student financial assistance in higher education and TVET will be ensured.

Effectively implement online and blended learning modalities

Distance-learning methods will be pursued in higher education and TVET system to ensure continuous learning amidst possible economic and social disruptions. The use of digital learning tools, learning management information system, television, radio and printed materials will be optimized and be made available in areas with no or limited internet access.

Outcome 3: Governance for human capital development improved

Develop and improve learning materials in line with international standards and trends

Learning materials and teaching practices will adapt to recent trends in international education frameworks and standards. Thus, DepEd learning materials provided to learners will be regularly evaluated to eliminate error-filled and outdated school textbooks and online modules. To achieve this and to be able to respond to the specific needs of schools, the school-based management of DepEd should be strengthened.

Partner with independent third-party institutions in assessing and monitoring the progress of students' proficiency across all levels

Quality assessment requires monitoring of learning outcomes of both instructor and students. A formative assessment methodology will be developed to be implemented

across all schools. This will be on top of the implementation of the large-scale assessment or national achievement test for students. Partnership with third-party institutions will be utilized to guarantee objective assessments of students' competencies at all education levels.

Increase investments in human resources and education facilities

The construction and upgrading of education facilities that are disability and gender sensitive (in support of the SDG 4.a) and with suitable electricity, computers and internet connectivity shall be ensured and monitored (see also Chapter 13: Expand and Upgrade Infrastructure). This also entails hiring competent teachers and other non-teaching staff and continuous capacity building of all education agents in all levels of education. Rationalizing the workload of teachers will be prioritized to give primary focus on addressing learning losses and to maximize gains on capacity development interventions.

Legislative Agenda

Table 4.2-1: Legislative Agenda to Improve Education and Lifelong Learning

LEGISLATIVE AGENDA	RATIONALE	RESPONSIBLE AGENCY
Review of the Country's Basic Education System towards Improving the Enhanced Basic Education Act of 2013	The proposed law seeks to revisit the K-12 curriculum to make the graduates more readily-employable, better equipped with critical thinking and problem-solving skills, and imbued with the skills and capacities needed to be productive and active citizens of the country.	DepEd
Expansion of the National Feeding Program in secondary schools	The proposed law addresses what is identified as among the biggest problems of the student population by expanding the coverage of the School-Based Feeding Program (SBFP), as mandated by RA 11037, to include learners from Grades 7 to 12 to ensure that proper government interventions are in place for the youth in their formative and adolescent years.	

LEGISLATIVE AGENDA	RATIONALE	RESPONSIBLE AGENCY
Strengthening of the Technical and Vocational Education and Training (TVET) in the Philippines by incorporating Apprenticeship and Dual Training System, providing for Continuous Training of the Unemployed, and Expanding the Provision of Enterprise-Based Education and Training	This proposed measure aims to incorporate the existing programs under the "EBT Program" administered by TESDA and expand the provision of training programs being implemented within companies. The program can be a mix of workplace training and classroom-based learning. Strengthening partnerships among LUCs, TESDA, and TVET institutions are suggested to be highlighted to ensure that programs will cater to community needs and priorities, including agri-entrepreneurship.	TESDA

Results Matrix

Table 4.2-2: Results Matrix: Improve Education and Lifelong Learning

INDICATOR	BASELINE VALUE (YEAR)	ANNUAL PLAN TARGETS						MEANS OF VERIFICATION	AGENCY RESPONSIBLE
		2023	2024	2025	2026	2027	2028		
Societal Goal:									
Intermediate Goal:									
Subchapter Outcome 4.2: Education and lifelong learning improved									
Proportion of learners achieving at least "Proficient" in the NAT (%) - Reading									
Grade 3		53-57	57-63	63-67	67-72	72-76	76-81	NAT Results, EBEIS	DepEd
Grade 6		55-59	59-64	66-69	69-74	74-79	79-83		
Grade 9		53-58	58-63	63-68	68-73	73-78	78-83		
Grade 12		54-58	58-63	63-68	68-73	73-78	78-83		
Proportion of learners achieving at least "Proficient" in the NAT (%) - Mathematics									
Grade 3		43-49	49-55	55-62	62-68	68-75	78-81	NAT Results, EBEIS	DepEd
Grade 6		40-46	46-52	52-59	59-65	65-73	73-79		
Grade 9		44-50	50-56	56-63	63-70	70-77	77-83		
Grade 12		44-50	50-56	56-63	63-70	70-77	77-83		
Licensure examination for teachers (LET) passing rate (%)									
Elementary	63.24	64.51	65.16	66.46	67.79	69.82	71.92	LET Results	CHED
Secondary	59.46	60.65	61.26	62.49	63.74	65.65	67.62	LET Results	
Licensure examination (across all disciplines) passing rate (%)									
Overall takers	54.82	55.92	56.48	57.61	58.76	60.53	62.34	LET Results	CHED, PRC
First-time takers	48.83	49.81	50.31	51.32	52.34	53.91	55.53	LET Results	
Number of higher education institutions in reputable international rankings increased	4	5	5	6	6	7	7	World University Rankings, Impact Ranking, or other ranking systems identified by CHED	CHED
TVET Certification Rate (%)	92 (2021)	92	92.5	93	93.5	94	94.5	TESDA Admin Data	TESDA
Additional Indicators:									

Indicator	Baseline Value (Year)	Annual Plan Targets						Means of Verification	Agency Responsible
		2023	2024	2025	2026	2027	2028		
Percentage of Higher Education Institutions (HEIs) with Centers of Excellence, Center of Development, with recognized flagship program, with Autonomous or Deregulated status, or with Level III or Level IV accredited programs	9% (2021)	10%	11%	12%	13%	14%	15%	CHED Report	CHED
Number of higher education graduates able to demonstrate excellence in the 21st century global knowledge economy	20,846 (2021)	54,336	57,596	61,052	64,715	68,598	72,714	CHED Report	CHED
Net enrolment rate	(2020)							EBEIS	DepEd
Elementary	95.41	97.49	97.79	98.10	98.40	98.70	99.00		
JHS	86.09	97.31	97.85	98.38	98.92	99.46	100.00		
SHS	60.02	70.20	73.16	76.12	79.08	92.04	85.00		
Completion rate	(2020)							EBEIS	DepEd
Elementary	84.60	90.31	91.45	92.58	93.72	94.86	90.31		
JHS	84.01	87.81	88.21	88.40	88.60	88.80	87.81		
SHS	72.07	78.14	79.91	81.69	83.46	85.23	78.14		
Proportion of schools with access to the Internet for pedagogical purposes	(2021)	Note: targets based on target commitments per SDO; DepEd Central Office did not set targets as reference for regional targets						EBEIS	DepEd
Elementary	83.68	100.00	100.00	100.00	100.00	100.00	100.00		
JHS	84.38	99.89	100.00	100.00	100.00	100.00	100.00		
SHS									
Proportion of schools with access to computers for pedagogical purposes	(2021)	Note: targets based on target commitments per SDO; DepEd Central Office did not set targets as reference for regional targets						EBEIS	DepEd
Elementary	42.70	52.55	58.00	63.40	69.80	74.55	79.70		
JHS									
SHS									
Proportion of schools with access to electricity	(2021)	Note: targets based on target commitments per SDO; DepEd Central Office did not set targets as reference for regional targets						EBEIS	DepEd
Elementary	99.08	94.30	95.40	96.15	96.35	96.60	96.75		
JHS	99.56	94.26	95.05	96.16	96.68	97.26	97.79		
SHS									

*Philippines

Sub-Chapter 4.3 Establish Livable Communities

Based on the 2020 Census of Population and Housing, 67 out of the 130 cities and municipalities in Central Luzon have reached more than 50 percent in urban population¹³. This number is expected to climb in the coming years due to increases in population, economic activity, and migration. This implies that the region will soon face threats of urban sprawl and congestion and eventual deterioration if proper community planning is not made.

In order to improve and sustain the cities and urban centers' livability and harness the potentials of rural areas, the following will be ensured: access to fundamental necessities such as affordable housing, clean water, sanitation, and livelihood opportunities; availability of open spaces and cultural amenities for social interaction; efficient public services such as transportation and utilities; and a healthy and green environment, among others.

Assessment and Challenges

The assessment will focus on the factors affecting livability. It will examine gaps in housing and social infrastructure, dynamics of community planning, and current state of the natural environment.

Housing sector needs to be addressed in a comprehensive manner given the increasing population. The National Housing Authority (NHA) 3 attained 99.47 percent of its housing starts target wherein 21,730 out of 21,846 housing units commenced construction in 2017 to 2021. This includes the housing programs for resettlement of the Informal Settler Families (ISFs) affected by the Supreme Court's Mandamus to clean up the Manila Bay Area, by government infrastructure projects, and those living along danger areas. This also includes the housing units for the indigenous peoples, former rebels, and beneficiaries of government employees housing program.

As for the housing needs identified by LGUs in their Local Shelter Plans (LSPs), the Department of Housing and Urban Development (DHSUD) 3 revealed a total need of 320,618 housing units. The region, however, is also confronted with

pressures from the booming population and effects of migration. This implies an increase in housing requirements every year in addition to the outstanding housing need.

Relocations of ISFs need to be fast-tracked. Based on the DILG data, there are identified 69,054 ISFs affected by the SC Mandamus who need to be relocated. In 2017-2022, NHA 3 was able to relocate 2,132 ISFs which is above its target of 1,963 ISFs for the same period. Though the target was surpassed, the relocation of the remaining 66,922 ISFs needs to be accelerated in order to realize the administration's thrust of Pambansang Pabahay para sa Pilipino: Zero ISF 2028. This implies scrutinizing and addressing the impediments that hurdle relocation including the prolonged signing of Memorandum of Agreement of sending and receiving LGUs.

Proportion of LGUs with approved and updated LSPs and Comprehensive Land Use Plans (CLUPs) increased. The preparation of LSPs is imperative for LGUs as the process and output provide analysis and recommendations on the local housing situation based on

information of housing needs and other relevant data. DHSUD 3 reported that 71 LGUs have updated LSPs, 6 are currently updating, and the remaining 53 have no LSPs. Although this indicates that some LGUs need to catch up, this is an improvement from the previous 69 approved LSPs in 2021.

As to CLUPs, 73 LGUs have updated their plans, while updating is ongoing for the other 57. The updated CLUPs incorporated climate change adaptation and disaster risk reduction management measures, enabling LGUs to develop well-planned and resilient communities. The CLUPs also identified areas suitable for open public spaces and parks for the improved well-being of citizens.

Access to social and other government services is limited. For urban and rural communities to be livable, fundamental human necessities such as health and education must be available, affordable, and accessible. For health facilities, the region is yet to meet the ideal ratio of 1 barangay health station (BHS) per barangay and 1 rural health unit (RHU) for every 20,000 population where additional 1,033 BHS and 349 RHUs need to be established.

For more discussion on social infrastructure, please refer to Chapter 13.

Highly-Urbanized Cities ensure availability of open and green spaces. Cities often get congested due to large crowds, built-up areas on almost every square meter of land, and huge fleet of mobile vehicles. To ensure that these areas remain livable, there should be available open and green spaces. These spaces do not only help in reducing the urban heat but also provide venues for people to interact and reconnect with the natural environment. In its CLUP, Angeles City allocated 109.89 hectares for open space and parks in 2020. This is an increase from the 32.23 hectares of land distribution in 2009. Meanwhile, Olongapo City identified that there are about 4.91 hectares for public open space

or 190 square meters of open space per 1,000 inhabitants in 2012¹⁴.

Management of solid waste must be prioritized. Based on the DENR - Environmental Management Bureau's (DENR-EMB) estimates¹⁵, the region's projected waste generation from 2020 to 2025 will be at 15,325,011.32 tons which is approximately equal to 1.1 million of filled large dump trucks. Proper solid waste management must be prioritized to protect the public from the toxic and hazardous effects of waste and to ensure environmental quality. In 2021, the region has a total of 24 sanitary landfills (SLFs) wherein only 14 are operational¹⁶. DENR-EMB 3 recorded that 115 out of 130 cities/municipalities in the region are availing the services of an accredited SLF, 6 are availing the services of Metro Clark Waste Management Corporation (MCWMC), and 6 are operating their own SLFs. Municipalities of Dilasag and Dinalungan in the province of Aurora currently have no final disposal facility but are in ongoing coordination with MCWMC. The municipality of Gabaldon in Nueva Ecija also has no final disposal facility and is currently using equipment to process their residual waste. As for material recovery facilities, the region has 129 facilities, majority of which are in the province of Bulacan.

Air and water quality continued to deteriorate. The Emission Inventory¹⁷ conducted by EMB in 2018 revealed that 75 percent of air pollution in Central Luzon comes from mobile sources, 20 percent from stationary sources, and 5 percent from area sources. To monitor ambient air quality, the presence of two particulate matter (PM) levels in the air is measured: PM 10 and PM2.5. The PM 10 are particles less than 10 µm in diameter which comes from dust from roads, farms, dry riverbeds, construction sites, and mines that can irritate the eyes, nose, and throat. On the other hand, the PM 2.5 refers to particles that are less than 2.5 µm which are considered more dangerous as they can get into

the lungs and even blood¹⁸. In 2021, only 59 percent of the monitored locations are within the ambient air quality standards.

EMB regularly monitors the 36 waterbodies in the Manila Bay Region in Central Luzon¹⁶. To monitor water quality, parameters prescribed in

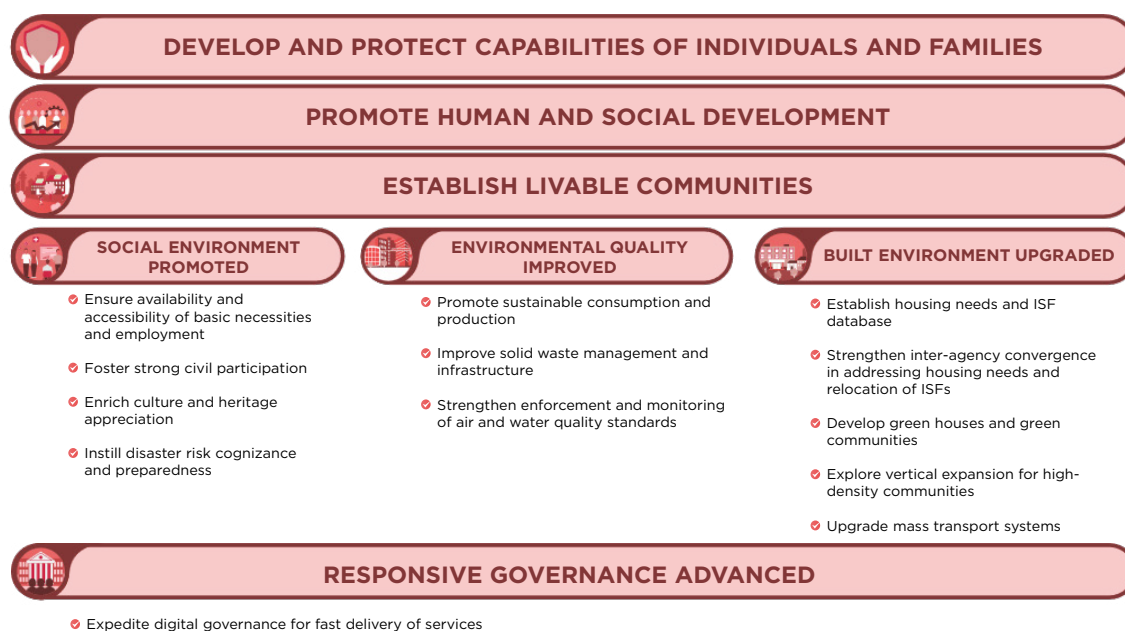
the Water Quality Guidelines are used including BOD, dissolved oxygen (which measures the amount of oxygen in the water to support aquatic life), and fecal coliform. In 2021, the water bodies in the region did not pass the water quality guideline values in general.

Strategy Framework

The livability of the urban and rural communities covers four sectoral outcomes: i) social environment promoted; ii) environmental quality improved; iii) built environment upgraded; and iv) responsive governance advanced (see Figure 4.3-1). Promoting social environment will build a stronger sense of community across households

while ensuring that the basic needs of citizens are attainable. Improving the quality of the natural environment will enable individuals and households to be healthy, while upgrading the built environment will guarantee that they have safe spaces to live. Finally, responsive governance will foster communities that feel secured and cared for.

Figure 4.3-1: Strategy Framework to Establish Livable Communities



Strategies

Outcome 1: Social environment promoted

Ensure availability and accessibility of basic necessities and employment

To attain a comfortable quality of life, availability and access to human necessities including food, education, housing, drinking water, sanitation, and social and healthcare services must be guaranteed. This requires the establishment of food markets, schools or learning centers, health facilities, water supply system, and social service centers in every community. In 2022, 189 barangays in Central Luzon were classified as geographically-isolated and disadvantaged areas¹⁹ (GIDAs) that warrant prioritization when it comes to improving availability and accessibility of basic necessities.

Furthermore, programs that create and improve community or area-appropriate earning opportunities must be pursued. This will not only boost the local economy but also help minimize the time and travel expenses of individuals going to and back from work.

Foster strong civil participation

Effective and sustainable community planning and development requires a whole-of-society approach. Hence, the involvement of all stakeholders including civil society organizations (CSOs), private sector, academe, media, and voluntary associations in planning, decision-making, and other socio-political and cultural activities must be encouraged. Currently, there are 3,209 accredited CSOs in the region. To further make the people and non-governmental organizations become active partners, LGUs shall establish an accessible community engagement platform, provide

incentives for participation, and promote active communication.

Out of the 130 cities and municipalities in Central Luzon, only 34 have established their local People's Councils and 118 have CSO Desks. Hence, the remaining LGUs are enjoined to strictly comply with DILG Memorandum Circular 2021-054 to increase public engagement in local governance.

Enrich culture and heritage appreciation

Histories, culture and values create a sense of belongingness and play an important role in fostering social cohesion and unity. The government's greater awareness and recognition of the role of culture in socioeconomic development prompted significant improvement for the sector. Thus, culture must be continuously preserved and documented.

Moreover, the National Commission on Culture and the Arts reported that only 86 LGUs or 74 percent have validated and functional Local Culture and Arts Councils (LCACs) in the region. LCACs are instrumental in planning and implementing programs and activities such as annual festivals, heritage tours, and local artists and talent features that build historical and cultural awareness and appreciation among citizens. Thus, the remaining 44 LGUs are enjoined to comply with DILG Memorandum Circular No. 2017-133.

Instill disaster risk cognizance, preparedness, and mitigation

The 2022 World Risk Report²⁰ ranked the Philippines first, out of the 193 countries, as

most vulnerable to disasters. Specifically, the Pampanga River Basin which encompasses the provinces of Pampanga, Nueva Ecija, and Bulacan faces the threats of extreme flooding and liquefaction. Provinces of Aurora and Zambales which have both terraneous and coastal features are prone to rain-induced landslides and storm surge. Also, the presence of active faults in the provinces of Aurora, Nueva Ecija, and Zambales could potentially cause ground shaking in the whole region.

To minimize and avoid potential catastrophic impacts of these natural calamities, LGUs must capacitate communities, households, and individuals on the different types of hazards – geophysical, hydrological, climatological (see Chapter 16), and public health emergencies. This can be done through massive campaigns, distribution of disaster risk reduction advocacy materials, and promotion of web-based applications such as HazardHunterPH which allows individuals to assess natural hazards of specific locations.

LGUs shall also keep their Local Disaster Risk Reduction and Management Plans relevant and updated, mainstream the Climate and Disaster Risk Assessment in their CLUPs, and formulate and implement strategies to improve preemptive response, coping, and adaptive capacities. Through the CSO Desks and local People's Councils, local governments must also endeavor to organize self-help groups and set up mechanisms for alerts and first-level response in case of emergencies and disasters. These include organizing and capacitating volunteers as frontliners in disaster response, listing and profiling of residents particularly those needing special attention (e.g., elderly, persons with disability, children etc.), inventory of vulnerable and critical infrastructure, and provision of permanent evacuation centers, among others.

For more information on disaster risk resilience, please refer to Chapter 16.

Outcome 2: Environmental quality improved

Promote sustainable consumption and production

As espoused in the Philippine Action Plan for Sustainable Consumption and Production²¹, and the 2030 Sustainable Development Goals - the awareness and preference of individuals for green products will be increased. Through information and advocacy campaigns, consumers will be encouraged to reuse, recycle and rethink about materials and products they buy, use or throw away. Meanwhile, strict monitoring will be imposed by the DENR on the implementation of Extended Producer Responsibility Act of 2022 which requires manufacturers and producers to be environmentally responsible throughout the life cycle of the product, especially its post-consumer stage. This implies that producers

would have to adopt innovative practices, alter and improve product packaging, and use sustainable materials to minimize wastes.

Improve solid waste management and infrastructure

With the expected increase in the generation and volume of solid wastes, it is imperative to prioritize the improvement of solid waste management. As it was observed, LGUs are highly dependent on outsourced waste disposal services. Thus, clustering of LGUs in planning for the establishment of solid waste facilities is recommended to reduce the large capital requirements. Though it seems a large capital outlay at first, LGUs might benefit from the cost-sharing in the long-run and even help the low-income municipalities properly dispose

their wastes. Moreover, the number of more sustainable waste disposal facilities must be increased. For example, LGUs are encouraged to explore the development of Biomass Waste-to-Energy facilities that will convert wastes into usable heat, electricity, or fuel.

DENR shall also closely keep LGUs in check for compliance to the Ecological Solid Waste Management Act of 2000, specifically on the mandates on waste diversion and prohibition of open dumpsites. Pursuant to Section 20 of the Act, LGUs should divert more than 25 percent of all solid wastes through re-use, recycling, and composting activities and other resource recovery activities, provided that the waste diversion goal increases every three years. In addition, documentation and sharing of best practices on waste diversion activities of municipalities such as in Botolan in Zambales and Dinalupihan and City of Balanga in Bataan¹⁶ will be regularly conducted for possible replication in other LGUs.

Strengthen enforcement and monitoring of air and water quality standards

Increased investments in air and water quality monitoring technologies and equipment have

to be made. The installation and upgrading of environmental monitoring stations would facilitate the collection of more accurate and reliable data, thus enabling the identification of priority areas and water bodies needing restoration and rehabilitation.

For air monitoring, there are only eight stations in the region which are located in City of Balanga in Bataan, Bocaue and City of Meycauayan in Bulacan, City of San Fernando and Angeles City in Pampanga, and Sta. Cruz and SBMA in Zambales. Priority areas for installation of additional air monitoring stations include the emerging regional centers identified in the Central Luzon Settlements Development Framework Plan (see Chapter 2). It is critical to monitor the environmental quality of these urban areas in order to safeguard their livability.

Furthermore, promotion and enforcement of clean air and water policies and programs like the adoption of electric vehicles, rationalization and improvement of mass transport, massive and sustained clean-up of waterways, and adopt-an-estero program will also be intensified and encouraged in each province.

Outcome 3: Built environment upgraded

Establish housing needs and ISF database

Obtaining accurate and timely data on housing is a challenge. Hence, strong directives and adequate resources must be allocated by the LGUs towards the preparation of updated and comprehensive LSPs. These and the data gathered from other relevant government databases like CBMS will be harmonized to create a more accurate housing information in Central Luzon. Having a consistent and updated database would provide accurate information

on housing situation and pave the way for more effective planning, including the identification and targeting of individuals in need of housing assistance.

As the primary national government entity responsible for human settlements, DHSUD shall take the lead in consolidating housing data and establish data-sharing schemes with other Key Shelter Agencies (KSAs) for the population, administration, updating, and management of the database.

Strengthen inter-agency convergence in addressing housing needs and relocation of ISFs

The administration's flagship mass housing project, the Pambansang Pabahay para sa Pilipino Program (4PH), was launched in the last quarter of 2022 to narrow the country's total housing gap by constructing 1 million units every year from 2023 to 2028. The 4PH empowers LGUs, as lead proponents and implementers, in facilitating project financing, construction, and property management within their localities. It also highlights the convergence of KSAs, government financial institutions, and the private developers to formulate policies and mechanisms in providing affordable housing for Filipinos.

LGUs in the region, especially the high-density populated areas, are encouraged to participate in this national endeavor to alleviate homelessness and provide secure shelter for all. In addition to the responsibilities of LGUs provided in the DHSUD Memorandum Circular 2023-004, LGUs may consider the creation of public housing fund²² to further improve housing affordability. Said housing fund could be pooled from several sources including income from idle land taxes and float bonds. The fund can then be utilized to provide direct subsidies to families and incentives to builders of socialized housing or be funneled for the development of socialized housing communities (number of beneficiaries will depend on the number of population under poverty line) in sites identified by the LGU in their LSPs or CLUPs, as appropriate. As for relocating ISFs, coordination among LGUs will be strengthened to reduce and resolve administrative barriers to make the transition faster and convenient for the moving families. LGUs will also develop the vacated areas to ensure that no ISFs will return.

Develop green houses and green communities

Builders and developers shall adopt green technologies that are aligned with the Philippine Green Building Code of 2015 and mainstream green technologies and designs for residential and commercial buildings. These include installation of solar panels, rainwater harvesting systems, roof gardens, daylight-controlled lighting systems, and utilization of green construction materials.

Likewise, existing and emerging urban centers must ensure the availability and preservation of open and green spaces. LGUs will designate these spaces as public parks, urban farms, or any community-based amenities where citizens are welcome to conduct their leisure, recreational, and cultural programs. Moreover, future redevelopment of rural areas will be designed in a way that favors a walkable and green environment.

Encourage vertical expansion for high-density communities

As prescribed in the Settlements Development Framework Plan of Central Luzon, policies recommending vertical development will be explored for highly-urbanized cities such as Angeles City and Olongapo City and other urban centers such as the municipalities of Mariveles, Orion, and the City of Balanga in Bataan where there are limited areas for expansion. Constructing multi-storey and tenement-style residential buildings and socialized housing is not only capable of housing a greater number of individuals and families but also maintain and observe the intended production and protection uses of lands and prevent eventual conversion. This is also a way of lowering the carbon footprint with integrated and walkable neighborhoods.

Upgrade mass transport systems

To make communities more livable, transportation links must also be improved. The Infrastructure Development Framework Plan mentioned in Chapter 2 recommends establishment of integrated intermodal mass transportation systems such as buses and trains to alleviate the problem of increasing volume of vehicles that causes traffic. An example of

this is the proposed Pampanga Mass Transit System²³ that will help decongest MacArthur Highway and other major road sections around the province through a sustainable transport system. In addition, road designs that favor non-motorized transport and active mobility options such as walking and bicycling within urban centers are encouraged (see also Chapter 13).

Outcome 4: Responsive governance advanced

Expedite digital governance for fast delivery of services

The 2022 United Nations E-Government Development Index²⁴ placed the Philippines 89th out of the 193 countries in terms of readiness and capacity of the government to use information and communications technologies to deliver public services. This calls for the passage of legislative bills relating to digitizing government services such as the E-Governance Act and strengthening the digital connectivity in the country.

Drawing lessons from the pandemic that nearly shut down the delivery of public services, LGUs shall start making essential frontline

services such as obtaining licenses, permits, and documents available online. DOH may consider expanding telemedicine programs and mobile clinics of hospitals to reach more clients. Moreover, the provision of social assistance can be through digital banking. This will eliminate long queues in government offices, possible transmission of communicable diseases, encourage paperless transactions, minimize travel costs, and maximize resource efficiency.

In support of this thrust, LGUs will also conduct programs to capacitate and build the digital skills of citizens and invest in cybersecurity services to protect confidential information.

Legislative Agenda

Table 4.3-1: Legislative Agenda to Establish Livable Communities

LEGISLATIVE AGENDA	RATIONALE	RESPONSIBLE AGENCY
National Land Use Bill	Address suitable land availability constraints for housing development by legislating options such as removing the Comprehensive Agrarian Reform Program (CARP) restrictions to land consolidation while maintaining land ownership by beneficiaries, completing inventory of protected areas to ascertain land for development, and tapping idle or unutilized private lands.	DHSUD
Rental subsidy and access to public rental housing	Improve access to and affordability of housing especially for the informal settler families, homeless, and underprivileged	DHSUD

LEGISLATIVE AGENDA	RATIONALE	RESPONSIBLE AGENCY
Strengthening of KSAs National Housing Authority (NHA) Act Amendments to the National Home Mortgage Finance Corporation Charter	Renew the NHA Charter and strengthen its organizational structure and functions. Broaden mandate to allow securitization not only of mortgages but also of other housing-related receivables or loans resulting in increased funds available for housing development	DHSUD
Unnecessary Plastic Products Regulation Bill	Phase out single-use plastic	DENR
Maritime Safety, Security, and Prevention of Ship-Sourced Pollution Bill	Prevention and control of marine pollution from any vessel	Philippine Coast Guard, DENR, DOST
E-Governance Act	Digitize public services for fast and convenient delivery	DILG, DICT

Results Matrix

Table 4.3-2: Results Matrix: Establish Livable Communities

INDICATOR	BASELINE	TARGETS						MEANS OF VERIFICATION	RESPONSIBLE AGENCY
	(YEAR)	2023	2024	2025	2026	2027	2028		
Establish Livable Communities									
Social Environment Promoted									
Number of CSOs accredited by the Provincial/Municipal/City Sanggunian	3,209	increasing						CSO Monitoring Report	DILG
Established CSO Desk	118	increasing					130		DILG
Established Peoples Council	34	increasing					130		DILG
Environmental Quality Improved									
Proportion of barangays served by MRFs	41% (1,271 out of 3,102) [2021]	43%	45%	47%	49%	51%	53%	Annual Solid Waste Management Report	DENR-EMB
Proportion of cities/municipalities served by SLFs	32% (41 out of 130) [2021]	35%	38%	41%	44%	47%	50%	Annual Solid Waste Management Report	DENR-EMB

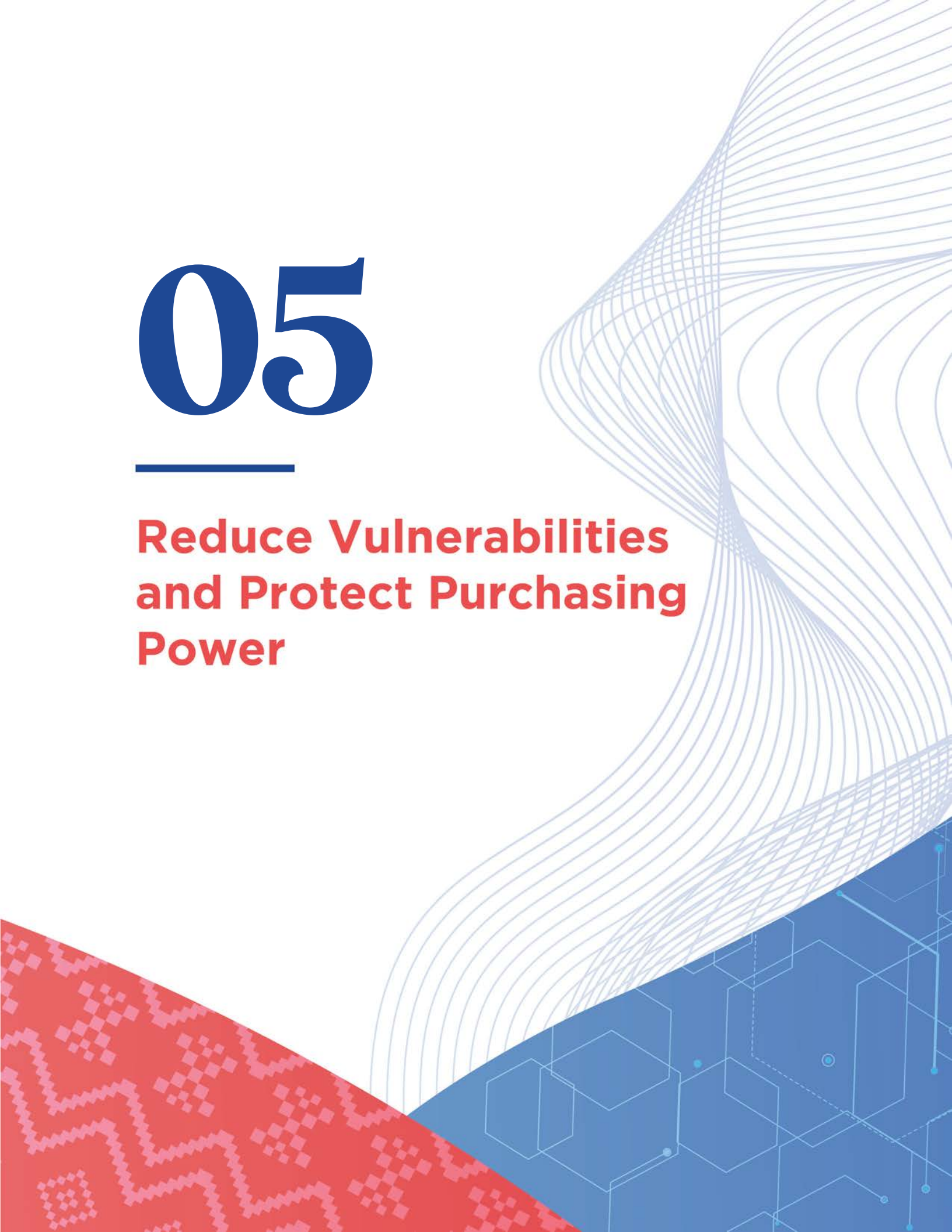
Indicator	Baseline	Annual Targets						Means of Verification	Responsible Agency
	(Year)	2023	2024	2025	2026	2027	2028		
Percentage of Highly-Urbanized cities and other major urban centers within ambient air quality guidelines value increased Heroes Hall, San Fernando, City of San Fernando, Pampanga (Pollutant/s Monitored: PM10 & PM 2.5) Meycauayan City Hall, Meycauayan City, Bulacan (Pollutant/s Monitored: PM10) Challenger Field, Philippine Air Force City (Pollutant/s Monitored: PM10)	59% (2021)	60%	62%	64%	66%	68%	70%	Annual Air Quality Monitoring Report	DENR-EMB
Percentage of water bodies conforming with water quality guideline values for the following intended use: Primary contact recreation use	46% (2021)	54%	54%	62%	62%	69%	69%	Water Quality Monitoring Reports	DENR-EMB
Area of green spaces increased (in hectares) Angeles City Olongapo City	109.89 (2020) 4.91 (2012)	increasing						CLUPs, CDPs	LGUs
Built Environment Upgraded									
Housing units started or financed	21,730 (as of 2021)	586*	586	586	586	586	586	Progress Report	NHA
Number of ISFs relocated	2,132 (2022)	998	TBD	TBD	TBD	TBD	TBD	Progress Report	NHA
Responsive Governance Advanced									
Percentage of LGUs preparing risk-informed plans									
LSP	55% (71 out of 130)	increasing						Progress Report	DHSUD
CLUP	56% (73 out of 130) (2022)	85%	85%	85%	85%	85%	85%	Progress Report	DILG

*Based on NHA 3's assumption of budget allocation of Php 500 million for housing construction

- ¹First Validation Workshop on the Formulation of the CL-RDP (RPC on Social Development), 29 November 2022
- ²PDP 2023-2028, Chapter 2.1 Boost Health, page 32
- ³PSA Report, 2022
- ⁴DepEd Assessment Report, 2021
- ⁵Central Luzon Regional Development Report 2021
- ⁶Discussion paper series No. 2019-34 by PIDS (Assessing the Alignment of Philippine Higher Education with the Emerging Demands for Data Science and Analytics Workforce by Quismorio, et al
- ⁷Findings of the Sub-committee on CL RHEAP, 2021
- ⁸CHED Report, 2022
- ⁹United Nations. Sustainable Development Goals. <https://sdgs.un.org/goals>.
- ¹⁰Innovative Pedagogies of the Future: An Evidence-Based Selection, 2019
- ¹¹Technical and Vocational Education and Training in the Philippines in the Age of Industry 4.0, ADB 2021
- ¹²Updated Philippine Development Plan 2017-2022
- ¹³National Economic and Development Authority Region 3. (2022). DRR-CCA Enhanced Central Luzon – Regional Physical Framework Plan 2020-2040. City of San Fernando, Pampanga.
- ¹⁴City of Olongapo. (2021). Revised Comprehensive Development Plan of the City of Olongapo for 2020-2026. City of Olongapo.
- ¹⁵Department of Environment and Natural Resources – Environmental Management Bureau. Solid Waste Management Data. Retrieved 07 November 2022 from <https://emb.gov.ph/solid-waste-management-data/>.
- ¹⁶Department of Environment and Natural Resources – Environmental Management Bureau Region 3. Regional State of Brown Environment Report 2021. City of San Fernando, Pampanga.
- ¹⁷CEST Inc., PRIMEX, SYSTA Philippines. EDCOP. (2021). Integrated Infrastructure and Investment Development Planning for Investment Corridors in Central Luzon Final Situational Analysis Report. City of San Fernando, Pampanga.
- ¹⁸Centers for Disease Control and Prevention (n.d.). Particle Pollution. [https://www.cdc.gov/air/particulate_matter.html#:~:text=Coarse%20\(bigger\)%20particles%2C%20called,or%20even%20into%20your%20blood](https://www.cdc.gov/air/particulate_matter.html#:~:text=Coarse%20(bigger)%20particles%2C%20called,or%20even%20into%20your%20blood)
- ¹⁹Department of Health (n.d) . GIDA Certification 2022. <https://gidais.doh.gov.ph/gidalist.php>
- ²⁰Francis Atwil, et.al. World Risk Report 2022. Bundnis Entwicklung Hilft and Ruhr University Bochum. Aachen, Germany.
- ²¹Philippine Action Plan for Sustainable Consumption and Production (PAP4SCP) serves as a guiding framework to influence and steer sustainable behavior and practices across sectors and levels of government by implementing programmatic policy reforms and set of actions over the short- (2020-2022), medium- (2022-2030), and long-term (2030-2040).
- ²²Ballesteros, M.M., Ramos, T.P., and Ancheta, J.A. (2022, August 18). Measuring Housing Affordability in the Philippines. Philippine Institute for Development Studies.
- ²³Palafox Associates. Pampanga Megalopolis Master Plan.
- ²⁴Department of Economic and Social Affairs. (2022). United Nations E-Government Survey 2022: The Future of Digital Government. New York.

05

**Reduce Vulnerabilities
and Protect Purchasing
Power**



CHAPTER 5

Reduce Vulnerabilities and Protect Purchasing Power

By 2030, the goal is to end hunger, achieve food security and improve nutrition particularly among children and other individuals belonging or perceived to belong to vulnerable groups. This is the call of the United Nations as hunger becomes one of the leading causes of death in the world.

This chapter presents the strategies to ensure physical, social, and economic access to adequate, safe, and nutritious food. It covers the issue on food inflation and measures to improve consumers access to affordable and healthy food amid the disruptions brought about by the pandemic. It emphasizes the interaction between food system and nutrition. It likewise underscores the importance of enhancing the resilience of families and individuals against shocks to preserve purchasing power.

Sub-Chapter 5.1 Ensure Food Security and Proper Nutrition

Assessment and Challenges

The World Food Programme (WFP) reported that one of ten households in the Philippines are food insecure based on the remote household food security survey conducted in October 2022, with this most apparent in regions with high poverty incidence. Central Luzon, having one of the lowest poverty incidences among regions, appeared the least insecure with food insecurity rate of 2.6 percent, followed by NCR and CALABARZON at 4.3 percent and 8 percent in 2022, respectively¹.

Upsurge in food prices is rendering risk to food security. Food inflation or the rate of increase in food prices doubled in the last four years, climbing from 2.3 percent in 2019 to 5.6 in 2022. Inflation was even higher in 2021 at 5.9 percent, largely influenced by the 14.5 percent increase in the prices of meat. In 2022, higher

increments in food prices were noted in (a) oils and fats (19.4 percent), (b) sugar, confectionery and desserts (16.8 percent), and (c) fish and other seafoods (6.9 percent).

Food prices increased as a result of the market/supply chain disruptions effected by the pandemic and geopolitical tensions, higher fuel and other input costs, adverse weather conditions, and disease outbreaks particularly in the swine and poultry industries. The combination of said factors led to supply crunches that drove prices up and the domestic market, particularly the poor, feeling the pinch financially. This as food make up for 61 percent of expenditures of the low-income consumers. As it is, any further increase in food prices would have this sector of the population reel in difficulty that could lead to this turn to cheaper

but less nutritious alternatives or worse to food hunger.

CL food sufficiency in peril due to land conversion. The region is a major source of many of the country's staples, with food sufficiency rates in 2020 topping 100 percent of the region's population's consumption requirement (DA report). It is sufficient in rice (165 percent), white corn (805 percent), onion (291 percent), tilapia (157 percent), pork (180 percent), chevon (238 percent), chicken (318 percent), shrimp (205 percent), duck (162 percent), chicken eggs (116 percent), duck eggs (752 percent), and shellfish (338 percent).

Nonetheless, the region's growing population, rising industrialization, and urban expansion is driving the conversion of agricultural lands to settlements and industrial hubs. If left unabated and not counteracted by improvement in agricultural productivity and in inter-regional trade, this trend would imperil the region's food supply.

Malnutrition indicators (stunting and wasting) slightly increased. The impact of COVID-19 pandemic on hunger and

undernutrition led to further scaling up efforts to address malnutrition. According to a Department of Health – Central Luzon Center for Health Development (DOH-CLCHD) report, the prevalence of stunting in children under five-years of age slightly increased from 3.03 percent in 2019 to 3.23 percent in 2021. Stunting is a condition wherein a child is short for his age which can be attributed to deprivation and malnutrition during the first 1,000 days of life. Other contributing factors are impaired growth and development due to repeated infection and inadequate psychosocial stimulation during the first five years of age (UNICEF, 2019).

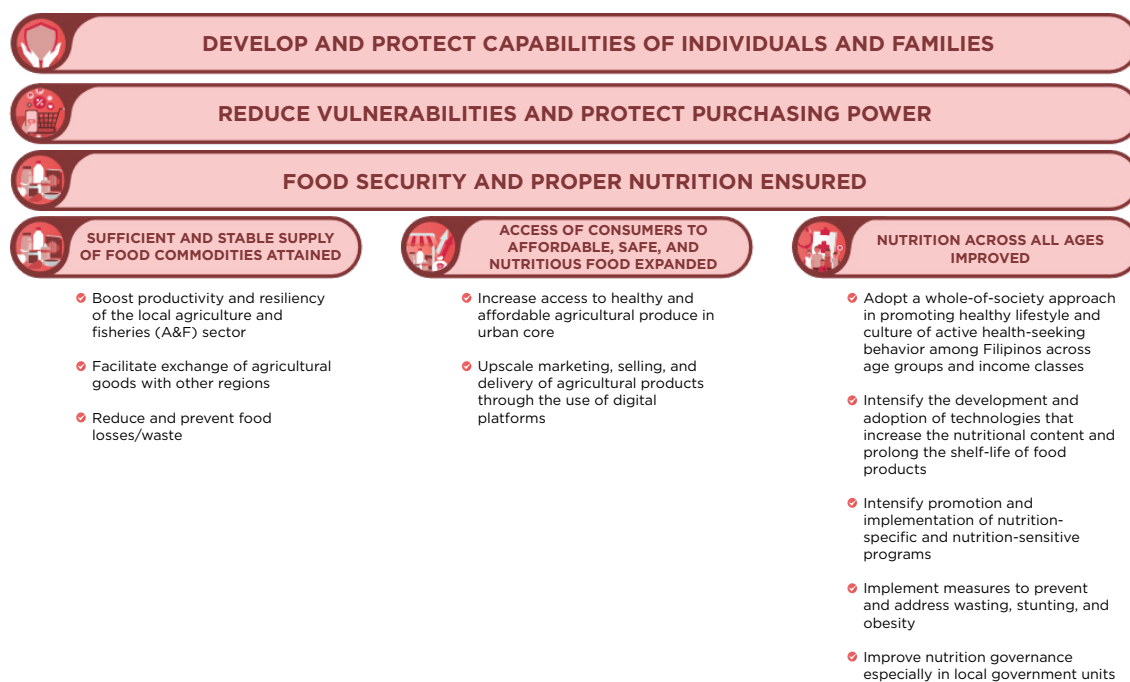
Likewise, prevalence of wasting (a condition wherein a child is too thin for his height) slightly increased from 0.91 percent to 1.27 percent over the same period, with malnutrition similarly credited as contributing factor.

While the indicators are well within the 2022 targets of 14.6 percent and 4.9 percent for stunting and wasting, respectively, the ideal of course and one that the region envisions attaining is that no child suffers from malnutrition.

Strategy Framework

Pursuit of the aforementioned goal shall be guided by the following strategic framework, with actions targeted towards beefing up the

region's capacity to provide affordable and nutritious food to its populace particularly the poor.

Figure 5.1-1: Strategy Framework to Ensure Food Security and Proper Nutrition

Strategies

Outcome 1: Sufficient and stable supply of food commodities attained

Boost productivity and resiliency of the local agriculture and fisheries (A&F) sector

Food security rests on having a sufficient, stable and accessible supply of food. Fundamentally, this also depends on having a robust and productive A&F sector as the basic food source. Ensuring this therefore requires exploring at and instituting measures that will strengthen the sector, make this more resilient in the face of multifarious challenges, including climate change, and, sustain and increase its capacity to produce food.

As one of the country's major food sources, Central Luzon through its agri-fishery stakeholders shall hence strive to maintain, more so increase, agricultural production.

Efforts shall focus on increasing productivity and resiliency of food production by ramping up research and innovation in the development of technologies in these concerns. The Department of Agriculture (DA) shall lead in this endeavor in coordination and collaboration with the agencies and organizations in the region's research ecosystem, such as the DOST and the Central Luzon Agriculture, Aquatic and Resources Research and Development Consortium (CLAARRDEC). The same shall also ensure that the outputs of such research and innovations are cascaded and disseminated to farmers and fisherfolks and producers in downstream industries using existing extension mechanisms that include the local government units (LGUs), the Agricultural Training Institute (ATI), and the state universities and colleges (SUCs).

Specifically, in the medium-term, research and innovation shall focus around its key agricultural commodities – palay, lowland vegetables, onion, mango, aquaculture products, livestock and poultry – particularly on developing more efficient and productive production technologies and methods, high-yielding crop varieties, more efficient irrigation systems, pest and disease control and management, and soil health management, among others.

Facilitate exchange of agricultural goods with other regions

In addition to boosting productivity, measures shall also be pursued that would facilitate food trade flow between regions and across provinces within the region. This is to ensure that fresh and processed A&F products are available and accessible to consumers and institutional buyers alike. Thus, support infrastructure necessary to promote A&F sector growth shall be built in strategic areas of the region (see also Chapter 13). This shall include farm-to-market roads,

intra- and inter-regional roads or highways and railways, and food terminals or ports for market trade and processing of A&F commodities.

Reduce and prevent food losses/waste

Investments on food terminals cum processing centers shall be pursued to reduce food losses or waste as what happens when there is boom production or market glut. Other than eliminating or minimizing food losses, this will also help stabilize prices of commodities, encourage farmers to continue farming, and thus ensure food supply.

In addition, the RDC shall also more actively promote sustainable consumption and circular economy as a way to reduce food waste. It will especially engage the assistance of the LGUs and the private sector representatives in the RDC in identifying mechanisms by which this can be effectively carried out.

Outcome 2: Access of consumers to affordable, safe, and nutritious food expanded

Increase access to healthy and affordable agricultural produce in urban core

The “Plant, Plant, Plant Program” or “Ahon Lahat, Pagkaing Sapat (ALPAS) Laban sa COVID-19” launched in 2020 aims to enhance food productivity and security amid the pandemic. One of its components is the Urban Agriculture Program (UAP) which aims to establish communal gardens that showcase sustainable urban farming and encourage urban dwellers to grow their own food.

In 2022, a total of 14 community gardens were established in all provinces of the region. About 12,122 beneficiaries were provided with farm

inputs such as lowland vegetable seeds, garden tools, machinery, and equipment.

Trainings on greenhouse farming with hydroponics and propagation were conducted in the following areas: 1) Pulung Maragul, Angeles City; 2) Guiguinto, Bulacan; 3) Malolos City, Bulacan; 4) Abucay, Bataan; 5) Bagac, Bataan; 6) Science City of Muñoz, Nueva Ecija; 7) San Pascual, Talavera, Nueva Ecija; 8) Brgy. Lara, City of San Fernando, Pampanga; 9) Brgy. Alasas, City of San Fernando, Pampanga; 10) Tarlac City; 11) Paniqui, Tarlac; 12) Subic, Zambales; and 13) Iba, Zambales.

The RDC through the DA shall continue to support and promote urban farming and

widen the UAP's geographic coverage with the assistance of LGUs and civil society organizations.

Another that shall be sustained is the “Kadiwa ni Ani at Kita” program. The DA launched said program in 2019 as a way to help small farmers and fisherfolks increase their income by connecting them directly to the market, and to enable consumers, particularly the poor, get access to affordable and good quality agri-fishery products. From 2020 to 2022, a total of 654 KADIWA outlets have been established in the region. Through these, producers were able to sell 682,934 kgs of agricultural produce amounting to PHP49.25 million.

Corollary, the DA shall continue to provide support and promote the continued operation and expansion of KADIWA stores, particularly in urban areas which rely on the rural areas for their food supply.

Upscale marketing, selling and delivery of agricultural products through the use of digital platforms

Logistics and communications were among the challenges faced by the agriculture industry during the pandemic. Farmers and fisherfolks were unable to transport and sell their products because of the travel and mobility restrictions imposed, which led to artificial shortages in food supply, inability of consumers to access or purchase their food needs, and to food losses or waste. Innovative marketing solutions are therefore needed to complement food production expansion to reduce food waste and to increase access to markets/consumers. Corollary, the RDC will foster the development and use of online marketing platforms in partnership with the academe, innovation or incubation centers, and private sector organization such as business chambers.

Outcome 3: Nutrition across all ages improved

Adopt a whole-of-society approach in promoting healthy lifestyle and culture of active health-seeking behavior among Filipinos across age groups and income classes

Under the Central Luzon Regional Plan of Action, the Department of Health and National Nutrition Council will monitor the implementation of programs and projects such as Promotion of Healthy Lifestyle and NCD Prevention (e.g., conduct of advocacy and promotion activities on healthy lifestyle), and Healthy Food Environment (e.g., offices, institutions, and establishments supporting healthy food environment) which emphasized the importance of physical activity and healthy eating. Moreover, the implementation of Nutrition Promotion for Behavior Change

Program will raise awareness of family members, development workers, and policy makers on the significance of improving nutrition and ensure that nutrition services are complemented with substantial IEC activities.

Intensify the development and adoption of technologies that increase the nutritional content and prolong the shelf-life of food products

The region will support research and development programs and efforts of research institutions and 12 state universities and colleges to intensify the development of safe, affordable, nutritious, and energy-dense food products, and development of processing and packaging technologies that improve nutritional content

and prolong the shelf-life of food products.

Intensify promotion and implementation of nutrition-specific and nutrition-sensitive programs

In combatting malnutrition amidst COVID-19 pandemic, the implementation of policies and programs under the Regional Plan of Action for Nutrition (RPAN) will continue to serve as guide for planners and action officers. The RPAN consists of nutrition specific programs anchored in the Philippine Plan of Action for Nutrition (PPAN) and the DOH major programs with convergence on the First 1000 days and nutrition of young and older children, maternal care, adolescent health and pregnancy, and other programs to address nutrition and health challenges. The region shall also strengthen the implementation of nutrition-sensitive programs, and enabling programs as indicated in the Central Luzon RPAN.

The mobilization of LGUs for nutritional outcomes, policy development for food and nutrition, and management strengthening for PPAN effectiveness are strategies to intensify advocacy and strengthen implementation of the RPAN. Further, this is ensured if LGUs establish nutrition offices with adequate staff complement, formulate local nutrition action plans that are integrated in their provincial development and physical framework plans (PDPFP) and comprehensive development plans (CDP), and provide nutrition budget in their annual investment program (AIP).

Priority areas in the intensification of programs and activities on nutrition had been the provinces of Aurora and Nueva Ecija. The province of Aurora was identified as among 37 PPAN priority provinces in the country with the highest stunting prevalence rate in 2015 (NNS 2015, FNRI-DOST). The province

of Nueva Ecija, on the other hand, was among the 32 priority provinces in the country with high prevalence of teenage pregnancy. Both provinces have a high incidence of poverty. Interventions in other provinces with high poverty rate, such as Zambales, will also be prioritized.

Implement measures to prevent and address wasting, stunting, and obesity

The region shall ensure that key health, nutrition, early education and related services are delivered during the first 1,000 days of life. To help address all forms of malnutrition, the region shall also strengthen the implementation of nutrition-specific interventions at the local level such as Micronutrient Supplementation Program, Dietary Supplementation Program, Nutrition in Emergencies Program, National Nutrition Promotion for Social Behavior Change, Overweight and Obesity Management and Prevention Program, and the Philippine Integrated Management of Acute Malnutrition, among others.

Improve nutrition governance especially in local government units

The region shall improve nutrition governance through strengthening of barangay nutrition scholar programs, establishing LGU nutrition offices, and strengthening the functional local nutrition committees at the provincial, city/municipal/barangay levels. Capacity development such as Nutrition Program Management shall be provided to members of local nutrition committees, and training on Basic Course for Barangay Nutrition Scholar to all barangay nutrition scholars.

Legislative Agenda

Table 5.1-1: Legislative Agenda to Ensure Food Security and Proper Nutrition

LEGISLATIVE AGENDA	RATIONALE/KEY FEATURES	RESPONSIBLE AGENCY
Instructional Gardens and Urban Agriculture Act	This aims to promote the practice of urban agriculture to advance agriculture and food security. Urban agriculture and vertical farming will be integrated into academic curriculum for primary and secondary level students of both public and private institutions.	DA, DOST, DEPED
Increasing Idle Land Tax	This is to promote the productive use of idle lands, even if temporary, but without prejudice to the rights of owners to security of tenure.	Department of Finance, DILG, LGUs
Menu Labeling Act	This aims to address the problems of obesity and improper nutrition among Filipinos and to encourage them to have a healthier lifestyle. The calorie content in menus of food service establishments will be required to be disclosure and information be prominently displayed so customers will be able to make a more informed decision towards a proper and healthier lifestyle	DTI
Healthy Food and Beverage in Public Schools Act	This seeks to establish a healthy food and beverage program for all public elementary and secondary schools and learning institutions, to promote healthy diet and positive eating environments to all learners and teaching and non-teaching personnel. This will address the worsening problems of child obesity and incidence of malnutrition among Filipinos.	DOH
Amendment of Presidential Decree 1569 or Strengthening Barangay Nutrition Scholars (BNS)	The amendment will upgrade the qualification standards, incentives, and benefits, and ensure the security of tenure of BNS. This is essential in the continuing capacity building and sustained delivery of quality frontline nutrition services to the community. Further, this will ensure that trained and experienced BNS are carried over by succeeding political administrations.	DILG, LGUs, DOH, NNC
Establishment of LGU nutrition offices	The presence of a Nutrition Office with adequate and competent staff complement will ensure that local governments have nutrition focal persons on the ground for nutrition programs to be properly implemented and able to benefit the targeted beneficiaries, especially the vulnerable and high-risk groups.	DILG, LGUs, DOH, NNC
Amendment of RA 8976 or Food Fortification Law	The proposed amendment aims to resolve gaps and inconsistencies of RA 8976 with RA 11037 (Child Nutrition Act), RA 10611 (Food Safety Act of 2013), and RA 8172 (Act for Salt Iodization Nationwide). In particular, the amendment will focus on the coverage of mandatory fortification for rice, authorizing the NNC Governing Board to add and remove food for fortification and other provisions that need updating. This proposed legislative measure will also amend RA 8172 to enhance support for the local salt industry.	DOH, NNC, FDA, DTI, DOST-FNRI, DA, and LBP

Results Matrix

Table 5.1-2: Results Matrix: Ensure Food Security and Proper Nutrition

INDICATOR	BASELINE (YEAR)	ANNUAL TARGETS						MEANS OF VERIFICATION	RESPONSIBLE AGENCY/ INTER- AGENCY BODY
		2023	2024	2025	2026	2027	2028		
Intermediate Goal: Develop and Protect Capabilities of Individuals and Families									
Chapter Outcome: Reduce Vulnerabilities and Protect Purchasing Power									
Subchapter 5.1: Ensure Food Security and Proper Nutrition									
Food Insecurity (%)	2.6% (2022)							WFP Food Security Monitoring (Remote HH Food Security Survey)	WFP
Outcome 1: Sufficient and stable supply of food commodities attained									
Food inflation rate (%) kept within stable	6.3% (2021)	2%-4%	2%-4%	2%-4%	2%-4%	2%-4%	2%-4%	Inflation Report	PSA
Food sufficiency rate of key commodities									
Outcome 2: Access of consumers to affordable, safe, and nutritious food expanded									
Subsistence incidence among population (%) reduced	2.6% (2021)							Poverty Statistics Report	PSA
Kadiwa outlets increased									
Outcome 3: Nutrition across all ages improved									
Proportion of households meeting 100% recommended energy (%) intake increased	28.5 (2015)	36.7	37.9	39.1	40.3	41.5	42.7	FNRI – ENNS	CL-RNC (Based on CO's computation of PPAN targets)
Prevalence of stunting among children under five years of age (%) decreased	23.1 (2015)	22.28	20.83	19.38	17.93	16.33	14.74	FNRI – ENNS	CL-RNC (Based on CO's computation of PPAN targets)
Prevalence of malnutrition for children under five years (wasting) (%) decreased	7.5 (2015)	7.3	7.2	7.06	6.92	6.78	6.64	FNRI – ENNS	CL-RNC (Based on CO's computation of PPAN targets)

Sub-Chapter 5.2 Strengthen Social Protection

In times of great uncertainties due to the COVID-19 pandemic, the social protection system of the region proved to be an important pillar in empowering and protecting the poor, vulnerable, and disadvantaged individuals, families and communities from individual life cycle, economic, environmental, and social risks. It has cushioned the ill-effects of community lockdowns and economic stagnation and has greatly contributed in the recovery efforts of the government. Though much has been achieved, several gaps and challenges still need to be addressed promptly to protect, maximize, and build on the gains from the previous years' poverty reduction efforts thereby enhancing resilience and reducing vulnerabilities of families and individuals.

Assessment and Challenges

The country's social protection (SP) system has been an essential part of the COVID-19 pandemic management strategy. Especially for the poor and vulnerable individuals in the region, expansion of the various social protection programs and projects have provided great relief in times of community lockdowns and unprecedented economic shocks.

Steadfast implementation of social protection programs under the convergence strategy cushioned effects of the pandemic. The continuing threat of the COVID-19 pandemic highlighted the crucial role of the government's social protection programs in upholding the rights of the poor and vulnerable population. In 2016 to 2021, the *Pantawid Pamilyang Pilipino Program* or the Regular Conditional Cash Transfer (RCCT) in Central Luzon was able to cover over 290,000 poor households. In 2021, a total of 4,163 households were registered under the Modified Conditional Cash Transfer (MCCT). Of this, 4,104 households are Indigenous Peoples (IP) households in geographically isolated and disadvantaged areas, 48 households are homeless street families, while the remaining 11 households are families in need of protection². Despite the continuing pandemic, a notable number of 41,207 household beneficiaries graduated

or were waived from the *Pantawid Pamilyang Pilipino Program* in the same year. According to the DSWD, the trend has been increasing. Households that graduate from the program are those that have greatly improved their well-being, and are considered no longer in the subsistence or survival levels, per DSWD's Social Welfare and Development Indicator (SWDI) Assessment.

Meanwhile, Republic Act No. 11469 or the "*Bayanihan* to Heal as One Act of 2020" guided the implementation of the Livelihood Assistance Grants (LAG) under the Sustainable Livelihood Program. Along with other projects, it helped mitigate the effects of the COVID-19 pandemic on the poor and vulnerable when, during the period 2020 to 2021, a total of 41,126 households were assisted. This is almost equivalent to the total number of household beneficiaries from the three-year period prior to the pandemic. The *Kapit-bisig Laban sa Kahirapan Comprehensive and Integrated Delivery of Social Services* which uses the community-driven development approach was also expanded to accommodate COVID-19 related programs and projects.

Social pension for poor senior citizens continuously expanded. In 2021, a total of

114,195 indigent senior citizens were covered under the program. This is two percent below the target of 116,403 but still significantly higher than the 2016 baseline target of 76,257 beneficiaries. This deviation from the 2021 target is attributed to the unpaid beneficiaries who have not complied with the documentary requirements or were not able to claim benefits during the payout as a consequence of community lockdowns. Also, in 2019, program reassessment was undertaken which resulted to improved coverage of beneficiaries³.

National Health Insurance Program (NHIP) availment and coverage rates improved.

Over the past six years, NHIP availment rate remained steady at 13 percent. As for the coverage rate, 93 percent or around 11.5 million individuals in Central Luzon are now registered in PhilHealth's database⁴. Six million of these individuals are identified to be regular members of the program, while the remaining 5.5 million are members' dependents. Though a small portion of the region's population remains unregistered at 7 percent, the enactment of the Universal Health Care Law and Republic Act No. 10645 which provides for the mandatory PhilHealth coverage of senior citizens, ensures that all vulnerable groups are automatically eligible to claim health benefits once treated in government health care institutions.

Percentage of economically active population contributing to pension schemes increased but still below the national average. Social security or social insurance is one of the major components of social protection and a key pillar of decent work. In 2017, about 27.8 percent of the economically active population in Central Luzon are contributing to the Social Security System (SSS) pension scheme, significantly lower than the national average of 34.4 percent.

Number of Overseas Filipino Workers (OFWs) decreased due to COVID-19 border restrictions. In 2020, the Philippines recorded

a total of 1,771,460 OFWs, remarkably lower than the 2019 figure of about 2,177,080 OFWs. Despite various border controls implemented by receiving countries in 2020, Central Luzon remains to be the second largest OFW-sending region following CALABARZON. About 11.8 percent of the 2020 total or 208,590 OFWs came from the seven provinces in the region while 18.5 percent or about 328,380 OFWs came from CALABARZON.

More children are pushed into hazardous work.

In 2020, 11.2 percent or about 460,000 children in the region are living below the per capita poverty threshold. Though this is a significant decline from the 2015 figure of 16.9 percent, children in the region remains to have the highest poverty incidence among other basic sectors. In the same year, an estimated 65,300 children are working and 32,400 are considered as child laborers. The number of child laborers in the region almost doubled in 2019 to 2020, from 18,500 to 32,400 child laborers, respectively⁵.

The lack of an inclusive digital infrastructure hindered quick adaptation of social protection programs to meet urgent needs.

The Philippines is one of only 23 countries without a national ID system. This has presented problems when the COVID-19 pandemic hit and the government had to quickly expand social protection programs to reach and aid more individuals gravely affected by the public health crisis⁶. In its absence, strain was felt in the delivery of social assistance provided for under the *Bayanihan* to Heal As One Act. Information barriers such as fragmented and inconsistent government databases caused significant delays in service delivery as well as leakages and fraud in beneficiary identification.

Effects of climate change continue to push more households into poverty. Central Luzon, owing to its topography and location, experience natural hazards on varying frequency and

magnitude. The central plains which contain majority of the population of the provinces of Bulacan, Nueva Ecija, Pampanga, and Tarlac is traversed by the region's major river systems including the Pampanga River. In general, about 16.18 percent of the total regional population in 2015 or about 1,814,558 individuals are

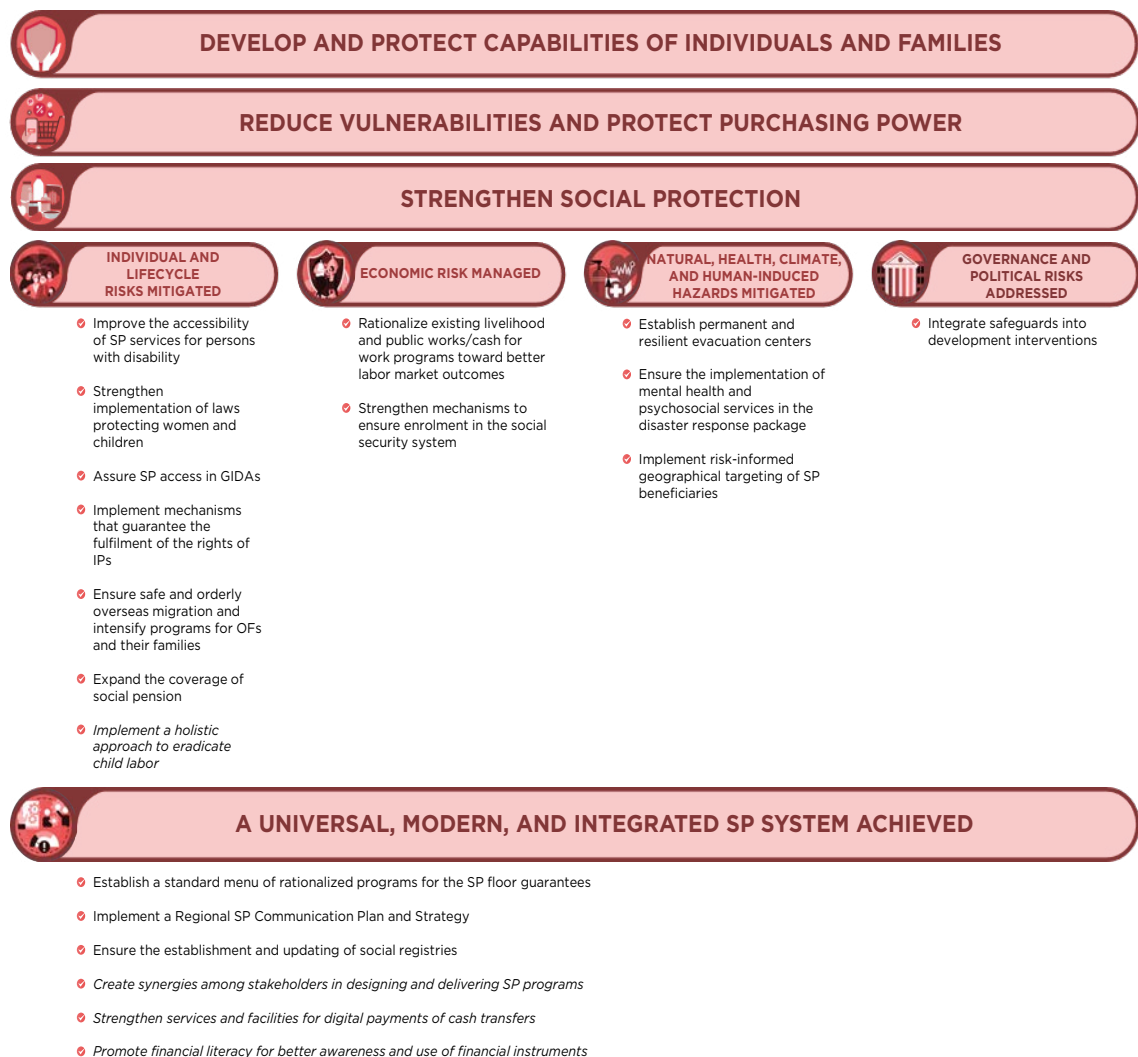
exposed to high flooding susceptibility. Among the seven provinces, those located within the catchment areas of the Pampanga River Basin such as Bulacan, Pampanga, and Nueva Ecija had the highest number of population exposed to high flooding susceptibility.

Strategy Framework

To achieve social and economic transformation, there is a need to strengthen social protection by managing individual and life cycle risks,

economic risks, natural, health, climate and human-induced hazards, as well as governance and political risks.

Figure 5.2-1: Strategy Framework to Strengthen Social Protection



**strategies that may be implemented in partnership with the private sector*

Strategies

Outcome 1: A universal, modern, and integrated Social Protection system achieved

Establish a standard menu of rationalized programs for the SP floor guarantees

Upon approval and implementation of the SP Floor, the region shall ensure that programs included in the package will be implemented and improved – from targeting to enrolment and delivery. Institutionalization of monitoring and evaluation of SP programs will likewise be advocated through the Regional Development Council. In order to ensure efficiency in the use of limited resources, current social protection programs shall be reviewed to eliminate overlaps and duplications, and at the same time assess relevance and gaps in program delivery.

Implement a Regional SP Communication Plan and Strategy

While there are SP programs catering to different needs of the vulnerable population, information about these programs such as on those who are eligible to apply and the process on availment, remains limited. Raising awareness of the public through information dissemination will be pursued through the DSWD Field Office 3 with the assistance of DILG 3 and the local government units.

Ensure the establishment and updating of social registries

The generation and management of data for vulnerable sectors such as the indigenous peoples, persons with disabilities, and child laborers are deemed important to allow more informed development planning and programming and budgeting. The database of agencies overseeing

these sectors must be dynamic and capable of responding to changes in which it will be used. Periodic updating shall be advocated to ensure that information being collected will have relevant use since the time it was collected. Harmonization of government databases such as the Community-Based Monitoring System (CBMS) and the national ID system shall also be pursued to facilitate targeting, authentication, registration and enlistment into regional SP Programs. Utilization of the National Nutrition Information System as one of the data sources for the social registries will likewise be advocated.

Create synergies among stakeholders in designing and delivering SP programs

There is a need to identify and further detail specific activities to improve partnerships and to define the roles of government agencies, private sector, and various stakeholders in the implementation of SP programs. Special committees and offices at the local levels such as the Local Committees on Anti-Trafficking and Violence Against Women and their Children, Local Council for the Protection of Children, and Persons with Disability Affairs Office will be continuously capacitated in the principles of SP which are aligned with the enhanced SP Operational Framework. The role of local government units and stakeholders in community driven development and the need for vertical/horizontal collaboration will be emphasized. In particular, the Sectoral Committee on Social Development under the RDC III will be used as a platform to discuss and advocate SP.

Strengthen services and facilities for digital payments of cash transfers

Several SP programs and services have tapped digital payment platforms during the pandemic. This transition significantly reduces administrative and transaction costs and increases efficiency in service delivery. At the regional level, digitalization of all social protection programs and services will be encouraged. Meanwhile, strengthening capacities and facilities for digital payment of cash transfers through public-private partnerships will be continued.

Promote financial literacy for better awareness and use of financial instruments

According to the 2021 Financial Inclusion Survey conducted by the Bangko Sentral ng Pilipinas (BSP), account ownership almost doubled in two years, from 29 percent in 2019 to 56 percent in 2021. E-money accounts also became the most-owned account, while farmers or workers in the agriculture sector had the highest financial exclusion-with 73 percent having no accounts. To promote greater financial literacy and use of financial instruments in the region, the BSP shall continue to collaborate with government and non-government organizations in on-boarding strategic sectors to the formal financial system. These includes, among others: wage and salary recipients, beneficiaries of government financial assistance, young adults, and other disadvantaged groups.

Outcome 2: Individual and lifecycle risks mitigated

Improve the accessibility of SP services for persons with disability

Monitoring of the establishment and functionality of the Persons with Disability Affairs Office (PDAO) in all provinces, cities, and 1st to 3rd class municipalities as provided under RA 10070 shall be continuously mainstreamed through the DILG's Seal of Good Local Governance (SGLG). The establishment of PDAOs and the appointment of Focal Persons shall be of great help in enhancing persons with disabilities representation in various levels of policy and program implementation such as the Local Development Councils. The PDAO shall also be responsible in ensuring that policies and programs for the promotion of welfare of persons with disabilities are funded at the national and local government level and that the database of persons with disabilities is

regularly updated. Information dissemination campaigns will also be intensified to ensure that all target beneficiaries are aware of the programs which they can avail. In the region, participation of NGOs, POs and the private sector in the implementation of disability-related laws concerning employment, among others, shall be continued.

Strengthen implementation of laws protecting women and children

Women and children are considered inherently vulnerable. To this end, there is a need to strengthen implementation of laws that protect them: Anti-Violence Against Women and Their Children Act of 2004, Safe Spaces Act, Anti-Trafficking in Persons Act of 2003, Anti-Mail Order Spouse Act, Domestic Workers Act, and the Special Protection of Children

Against Child Abuse, Exploitation, and Discrimination Act, among others. National and local government interventions will be intensified through community-driven initiatives. Capacity-building of LGUs in implementing social protection for adolescent mothers and their children will also be pursued. Advocacy programs aimed at preventing the occurrence of violence against women and children shall continue to be mainstreamed in various platforms such as Family Development Sessions (in 4Ps households) and other agency programs.

Assure SP access in geographically isolated and disadvantaged areas (GIDAs)

Provision of SP programs to people in GIDAs shall be intensified by understanding and addressing barriers preventing them from accessing government programs. Registration of individuals to the national ID system will be pursued to ensure inclusion in databases for targeting, authentication, and enrolment to SP programs.

Implement mechanisms that guarantee the fulfilment of the rights of Indigenous Peoples (IPs)

The government shall continue instituting and establishing the necessary mechanisms to enforce and guarantee the fulfilment of the rights of IPs, taking into consideration their customs, traditions, values, beliefs, interests and institutions, and to adopt and implement measures to protect their rights to their ancestral domains. Furthermore, mandatory representation of IPs and Indigenous Cultural Communities in local legislative bodies will also be ensured. Efforts to combat mendicancy will also be intensified to protect IPs, especially children, from exploitation.

Ensure safe and orderly overseas migration and intensify programs for OFs and their families

The newly created Department of Migrant Workers through its Regional Offices will strengthen implementation of programs to ensure that all Filipinos going overseas for work or permanent residency will have proper and legal documentation. Coordination with DOLE, DFA, OWWA and the Commission on Filipinos Overseas will likewise be strengthened. Additionally, to address the vulnerabilities caused by global developments, social safety nets will be extended alongside the conduct of skills upgrading and skills matching. The region shall also strive to fulfill the 23 objectives of the Global Compact for Safe, Orderly, and Regular Migration (GCM)⁷. Appropriate programs for the families of OFs such as financial literacy will also be pursued to assist them in coping with the new setup. Studies on the determinants of internal migration and possible policy interventions to ensure safe and orderly migration to the region's provinces such as in the case of Bataan where social services to at least 200 family migrants from the province of Masbate need to be provided.

Expand the coverage of social pension

In 2019, the DSWD 3 conducted a reassessment of indigent senior citizens which resulted in better coverage. To this end, the social pension program will be continuously broadened to ensure coverage of all indigent senior citizens. This would also entail improvements in the registry of older persons.

Implement a holistic approach to eradicate child labor

Strengthening programs and mechanisms to reduce exploitation of children including worst

forms of child labor shall be pursued consistent with the SDGs. Current government programs can be enhanced to ensure that employers, including families, are educated on compliance to anti-child trafficking or labor laws. A convergence strategy may also be adopted to ensure effectiveness and sustainability of interventions. For example, strengthening the implementation of Parent Effectiveness Services (PES) and Empowerment and Reaffirmation

of Paternal Abilities (ERPAT) at the local level shall be promoted. Another possible area for convergence is through strengthening and broadening the coverage for the Alternative Learning System (ALS) for out of school children in special cases. Such holistic approach may likewise include gathering and sharing of data, engaging non-government organizations and community members, and addressing both the needs of parents and children.

Outcome 3: Economic risks managed

Rationalize existing livelihood and public works/cash for work programs toward better labor market outcomes

Restructuring of public works programs (PWP) such as the Tulong Panghanapbuhay para sa Disadvantaged/Displaced Workers (TUPAD) and Cash/Food for Work, or linking it to social protection interventions will be espoused to ensure policy coherence in achieving better labor market outcomes for vulnerable workers. To enhance effectiveness of PWPs as a poverty reduction program, participation of women as target beneficiaries and the existing wage payment for cash for work given at 75 percent of the prevailing daily wage rate will be re-examined⁸.

Strengthen mechanisms to ensure enrolment in the social security system

Workers in the informal sector shall be encouraged to enroll in the social security system through massive information campaigns. The state-run Social Security System (SSS) is tapping cooperatives and associations and conducting multi-sectoral events to promote SSS programs for self-employed workers in the informal sector. To further reach out to vulnerable sectors of the economy, such as farmers, fisherfolks, other seasonal workers/helpers, and kasambahays, convergence with organized groups, government agencies, local government and SSS-accredited partner agencies are to be continued and encouraged. Monitoring companies' remittances of its employees' contributions will likewise be strengthened.

Outcome 4: Natural, Health, Climate and Human-Induced Hazards Mitigated

Establish permanent and disaster-resilient evacuation centers

Aside from disaster preparedness and mitigation measures, response capabilities of the region

shall be strengthened through construction of permanent and resilient evacuation centers in all provinces and major cities of the region. Provision of women and child-friendly spaces in safe evacuation and transition homes shall also be promoted.

Ensure the implementation of mental health and psychosocial services in the disaster response package

Anxiety, depression, and other stress-related problems often affect children and adolescents exposed to extreme natural disasters. When left untreated, these may result in severe psychological and social consequences. The government through the DOH 3 and DSWD 3 will assure that adequate and appropriate psychosocial support services are available during disasters.

Implement risk-informed geographical targeting of SP beneficiaries

A climate and disaster-risk based approach needs to be adopted in the design and

implementation of social protection programs. This will require an understanding of the relationship between the evolving multi-hazard landscape and the key elements – population, assets, and livelihoods – that will be at risk from potential impacts of climate change and disasters⁹. The use of geographic information systems (GIS) in the preparation of risk assessments to determine the vulnerability of poor households shall be pursued. In the same manner, mapping of the transitory poor and those at risk of becoming poor in the near future will also be conducted to facilitate real-time program decisions, such as expansion of a particular program, in the aftermath of a disaster. Hazards to be considered in the risk assessments may either be rapid-onset events such as floods, earthquakes, or landslides, or slow-onset events such as drought or sea-level rise.

Outcome 5: Governance and Political Risks Addressed

Integrate safeguards into development interventions

For every development project and policy reforms implemented by the government, displacement of or negative outcomes for

some sectors of society is unavoidable. Thus, the government, through the concerned implementing agencies shall continue to ensure placement of safety nets in such projects to compensate or mitigate negative externalities on affected sectors.

Legislative Agenda

Table 5.2-1: Legislative Agenda in support of Strengthening Social Protection

PROPOSED BILL	RATIONALE	LEAD AGENCY
Achieve a Universal, Modern and Integrated SP System		
1. Universal and Integrated Social Protection System	<p>The need for a legal framework that will rationalize SP programs towards an integrated system where there is:</p> <ul style="list-style-type: none"> • Recognition of SP as a basic right provided by the state; • Institutionalization of the SP floor; • Establishment of effective coordination structures; • Establishment and updating of social registries; • Enhancement of digital payment platforms; and <p>Sustainable financing and partnerships with the private and civil society sectors</p>	DSWD and NEDA

PROPOSED BILL	RATIONALE	LEAD AGENCY
Achieve a Universal, Modern and Integrated SP System		
Mitigate Individual and Lifecycle Risks		
2. Unified System of Separation, Retirement, and Pension	This bill seeks to provide an equitable and sustainable pension system for uniformed personnel. It also intends to address the weakness in their current pension system such as automatic indexation, funding sources, and the need to adjust the pensionable age, among others.	DOF
3. Disability Support Allowance	The bill seeks to grant a cash subsidy to supplement incomes of households with persons with disability.	National Council on Disability Affairs (NCDA)
4. Expansion of Unemployment Insurance	This bill will expand the coverage and benefits of unemployment insurance for SSS and GSIS	SSS/ GSIS/ DOLE
Mitigate Natural, Health, Climate, and other Human-Induced Hazards		
5. Evacuation Center Bill	This will establish permanent and typhoon-resilient evacuation centers with necessary facilities to avoid the practice of using classrooms during calamities. These centers will also take into consideration in their design the welfare of children, women, persons with disability, and the elderly.	NDRRMC

Results Matrix

Table 5.2-2: Results Matrix: Strengthening Social Protection

INDICATOR	BASELINE (YEAR)	ANNUAL TARGETS						SOURCE OF DATA/ MEANS OF VERIFICATION	AGENCY RESPONSIBLE
		2023	2024	2025	2026	2027	2028		
Outcome: Individual and lifecycle risks mitigated									
1. Total number of child laborers	32,400 (2020)	Decreasing						PSA Report	DOLE
2. Number of profiled child laborers	20,243 (2021)	9,376	TBD	TBD	TBD	TBD	TBD	DOLE report	DOLE
3. Number of parents of child laborers provided with livelihood assistance (DILP)	349 (2021)	10% increase	10% increase	10% increase	10% increase	10% increase	10% increase	DOLE report	DOLE
4. Number of beneficiaries under the Education Assistance Program	316 (2021)	354	339	339	339	339	339	NCIP report	NCIP
5. Percentage of documented Overseas Filipinos to total Overseas Filipinos*		Increasing						DFA report	Department of Migrant Workers/ OWWA/CFO
6. Percentage of senior citizens who receive pension	114,195 (2021) – DSWD data	131,103 or 100%	144,375 or 100%	151,593 or 100%	159,172 or 100%	167,130 or 100%	175,486 or 100%	SSS, GSIS, DSWD, PPOAS administrative data and PSA population projection	SSS/GSIS/ DSWD/ National Commission of Senior Citizens/ PNP/ AFP

INDICATOR	BASELINE (YEAR)	ANNUAL TARGETS						SOURCE OF DATA/ MEANS OF VERIFICATION	AGENCY RESPONSIBLE
		2023	2024	2025	2026	2027	2028		
7. Percentage of poor households with members 18 years old and below that are 4Ps beneficiaries*	28.05% (2022) equivalent to 75,865 households	TBD	TBD	TBD	TBD	TBD	TBD	Listahanan, Latest Standardized Targeting System	DSWD
8. Number of Conditional Cash Transfer (CCT) household beneficiaries covered	291,603 (2021)	324,140	329,688	329,100	TBD	TBD	TBD	DSWD report	DSWD
9. Number of Panatawid beneficiaries graduated/ waived from the program	41,207 (2021)	29,887	TBD	TBD	TBD	TBD	TBD	DSWD report	DSWD
Outcome: Economic risks managed									
10. Number of households enrolled under the Sustainable Livelihood Program	24,879 (2021)	9,334	10,267	11,294	12,423	13,665	15,032	DSWD report	DSWD
11. Number of vulnerable/ marginalized workers provided with livelihood assistance under DILP	11,504 (2021)	5,940	TBD	TBD	TBD	TBD	TBD	DOLE report	DOLE
12. Percentage of families covered with social insurance* ¹	95.28% (2022)	95%	97.5%	100%	100%	100%	100%	APIS	SSS/ GSIS/ Philhealth/ PCIC
13. Percentage of economically active population contributing to SSS*	26.4 (2019)	27-28	28-29	29-30	30-31	31-32	32-33	SSS Report	SSS
Outcome: Natural, health, climate and human-induced hazards mitigated									
14. Number of deaths due to disaster per 100,000 population	0.086 (2018)	0.	0	0	0	0	0	NDRRMC Report	OCD
15. Number of missing persons due to disaster per 100,000 population decreased	0.000 (2018)	0	0	0	0		0	NDRRMC Report	OCD
16. Number of emergency shelter assistance provided (ESA with cash for work)	13,994 (2021)	12,185	ANA	ANA	ANA	ANA	ANA	DSWD report	DSWD
17. Number of families affected by natural and human-induced calamities provided with relief assistance	120,854 (2021)	ANA	ANA	ANA	ANA	ANA	ANA	DSWD report	DSWD

*Percentage of the estimated/projected population from PSA

¹The Philippines Food Security Monitoring October 2022 by World Food Programme

²DSWD Field Office 3 report

³DSWD Field Office 3 report

⁴PhilHealth 3 report

⁵Philippine Statistics Authority. (2021, December 15). Working Children and Child Labor Situation. Retrieved from <https://psa.gov.ph/content/working-children-and-child-labor-situation>

⁶World Bank. (2021, October 14). The World Bank. Retrieved from <https://www.worldbank.org/en/news/opinion/2021/10/14/transforming-social-protection-delivery-in-the-philippines-through-philsys>

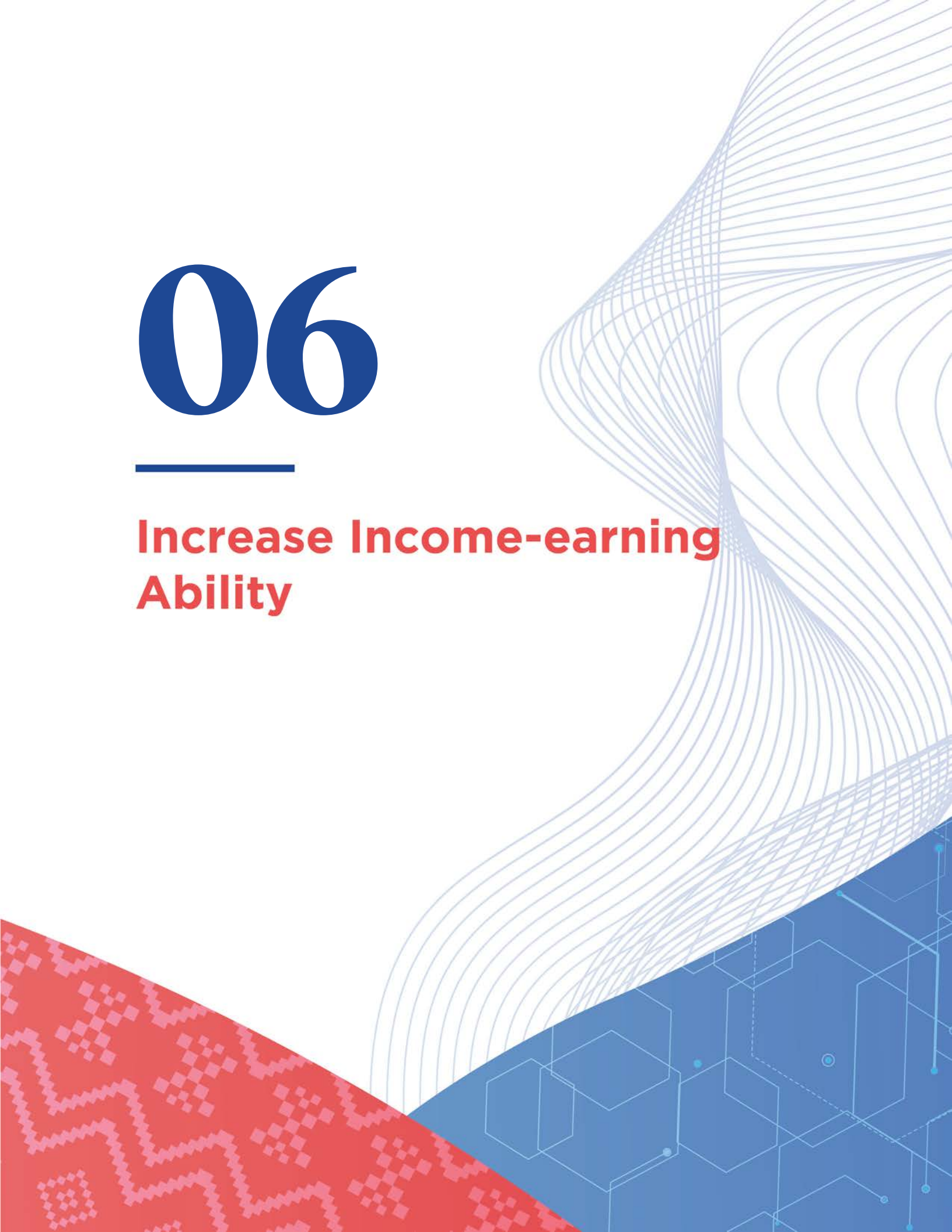
⁷Retrieved from [N1845199.pdf \(un.org\)](#)

⁸Mansal, C. A. (2020). A Study on Public Work Programs Toward Better Labor Market Outcomes: The Cases of TUPAD and Cash for Work. ILS Discussion Paper Series, 13-14.

⁹Natural Disasters, Public Spending, and Creative Destruction: A Case Study of the Philippines. <https://www.adb.org/sites/default/files/publication/408351/adbi-wp817.pdf>

06

**Increase Income-earning
Ability**



CHAPTER 6

Increase Income-earning Ability

Increasing the income-earning ability of the people involves increasing the employability of the workforce, expanding opportunities for employment, and strengthening partnership among stakeholders in their shared responsibility to attain labor market efficiency and responsiveness.

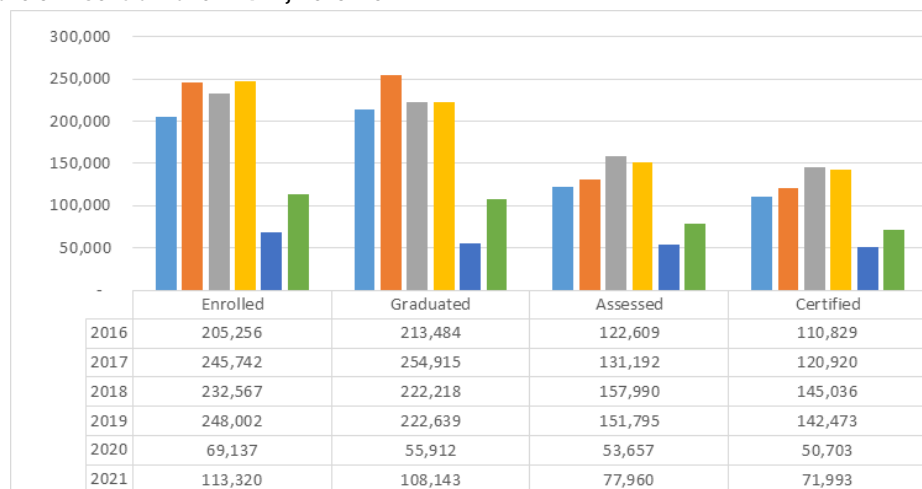
By 2028, more and high-quality employment opportunities will be available in the region matched with workforce that are able to adapt to the changing demands of the labor market through lifelong learning, upskilling and reskilling programs.

Assessment and Challenges

TVET performance needs to be sustained. Technical-vocational education and training (TVET) improved in terms of enrollees, graduates, and programs assessed and certified from 2016 to 2019 (Figure 6-1). Although the number of enrollees, graduates and programs dropped in 2020 as expected, in compliance with health protocols. This included assessment of candidates during competency and certification.

While certification rate remained higher than 90 percent since 2016, most of the TVET courses offered are low-level skills, seven of which are even likely to become irrelevant as a result of automation.¹ The certification rate of 92.3 is mainly attributed to the increase in assessment centers and assessors in each of the seven provinces.

Figure 6-1: Central Luzon TVET, 2016-2021



Source: TESDA 3, PSA (RSET, 2021)

The average employment rate of TVET graduates from 2017 to 2022 is estimated at 70 percent, meaning 7 out of every 10 TVET graduates received employment in the last five years.

Job-skills and competencies mismatch among graduates still occurring. The percentage of graduates from technical education and skills development scholarship programs that are employed decreased by seven percentage points from 2020 to 2021. This however also declined even before the pandemic (in 2019), supporting the case for improving the quality of education and training in the Philippines so that graduates can be employed, and have the necessary skills/competencies required by industries.²

Labor market continued to recover. Better employment opportunities in the past years led to the continuous decline in unemployment rate from 2015 to 2019 (Table 6-1). From

7.8 percent unemployment rate in 2015, this decreased in 2019. However, with the slowdown of economic activities during the height of the pandemic resulting to displacement of workers, unemployment rate escalated to 13.1 percent in 2020. By October 2021, it recovered to 7.5 percent, lower than the 2018 value of 7.8 percent.

Although the labor force participation rate (LFPR) inched up by 2.1 percentage points from 2020 to 2021, it can be noted that the LFPR decreased by 2.3 percentage points from 2016 to 2019 and further down by 5.2 percentage points in 2020. At the same time, labor force participation of women also remains a concern as it went from 46.7 percent in 2016 percent to 42.5 in 2020. Central Luzon is one of the regions with low LFPR of women, below the 50 percent national average in the last six years.

Table 6-1: Central Luzon TVET, 2016-2021

YEAR	POPULATION 15 YEARS OLD AND OVER ('000)	LABOR FORCE PARTICIPATION RATE	EMPLOYMENT RATE	UNEMPLOYMENT RATE	UNDEREMPLOYMENT RATE	FEMALE LFPR
2015	7281	61.5	92.2	7.8	13.5	
2016	7517	62.1	93.4	6.6	16.1	46.7
2017	7752	58.7	93.4	6.6	11.4	41.8
2018	7889	59.9	94.2	5.8	11.4	44.5
2019	8333	59.8	94.9	5.1	10.1	44.8
2020	8576	56.9	86.9	13.1	12.1	42.5
2021	8825 ^p	59.0	92.5	7.5	7.3	NDA

Source: PSA

Displaced workers significantly increased and rose sharply during pandemic. Despite improvements in employment, the number of establishments resorting to permanent closure and retrenchment increased in the years 2018 and 2019. Based on DOLE 3's report, around 64,000 workers were displaced in 2019, critically higher than in 2016 with 5,086. These are mostly in the manufacturing and construction industries.

Youth employability improved but still remains a concern. The increased number of government initiatives and programs to support access to basic and tertiary education and to provide training and employment to the youth sector paved way for the improvement of percentage of youth not in employment, education, and training (NEET) improved as it declined from 25.6 percent in 2015 to 19.4 in 2019. However, this is still higher than the national average of 18.6 percent and therefore

requires more in-depth studies to identify the determinants of being NEET despite being in high economic activity areas³.

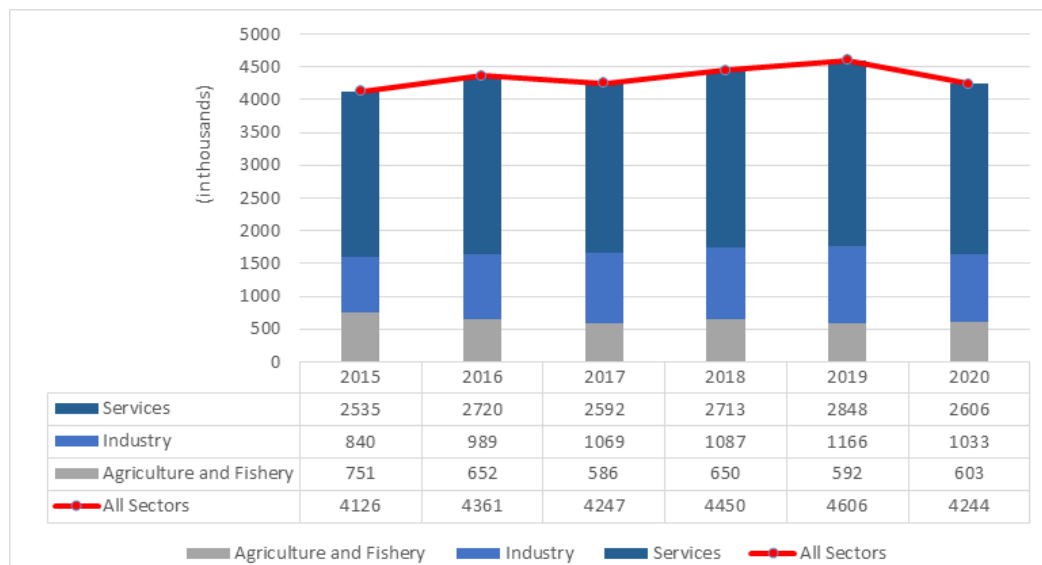
Upskilling of workforce is expected to meet the demands of the digital economy. The services sector continued to employ majority of workers with 2.6 million workers or 61.4 percent of the total employed persons (Figure 6.2). Industry sector came next and employed over 1.0 million workers, higher than its 2015 figure of 0.8 million workers.

Employment in the agriculture sector continued to decline in 2020. The number of workers was estimated at 603,000, a 20 percent decrease from 751,000 in 2015. Its share to total employed declined by four percentage points, from 40.5 percent to 37.5 percent.

Those engaged in wholesale and retail; and repair of motor vehicles and motorcycles made up the largest proportion of workers in the service sector. However, employment in accommodation and food service activities decreased from 5.1 in October 2019 to 3.8 in October 2020 (latest data) that can be attributed to community quarantines implemented in 2020.

With the adoption of flexible work mechanisms and critical role of digital economy in the new normal, there is a need to upskill current and future workforce on the use of information technology to enhance productivity and to widen market reach.

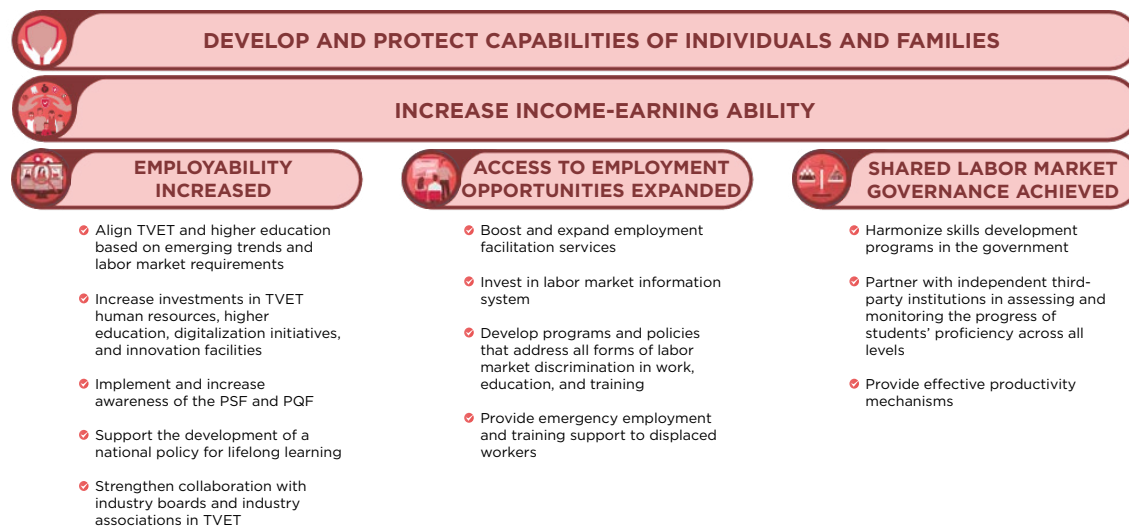
Figure 6-2: Central Luzon Employment by Sector, 2015-2020



Source: PSA

Strategy Framework

Figure 6-3: Strategy Framework to Increase Income-earning Ability



Strategies

Outcome 1: Employability Increased

Align TVET and higher education based on emerging trends and labor market requirements

Reskilling and upskilling of workforce will be strengthened to align with emerging industry demands. Targeted training modules will be developed to respond to the needs of the youth and vulnerable sector with the participation of the private sector in the design of curricula and provision of trainings (See Chapter 4.2). TESDA scholarship programs should become accessible in terms of application requirements especially in geographically isolated and disadvantaged (GIDA) areas. Programs that promote employability of the youth, particularly senior high school graduates, shall be effectively enhanced and monitored.

Increase investments in TVET human resources, higher education, digitalization initiatives, and innovation facilities

Quality of TVET human resources will be improved through provision of scholarship funds and grant-aid programs intended for skills upgrading especially for those who would like to pursue research and innovation. Qualification, training, and competency requirements shall be updated and improved. TVET Innovation centers which were piloted in other provinces/regions shall also be established in the region in collaboration with the digital learning initiatives by DICT. These innovation centers will be located in the Innovation, Learning, and Research Network Corridor (ILEARN) Corridor⁴. The Department of Science and Technology has identified 14 Research & Development and Training Centers attached

to various HEIs in the region in support of this strategy.

Implement and increase awareness of the PSF and PQF

The Philippine Skills Framework/Philippine Qualifications Framework (PSF/PQF) describes the levels of skills and education qualifications and sets the standards for qualification outcomes⁵. The government will pursue the full implementation and recognition of the PSF/PQF, encouraging all stakeholders (primarily employers) to utilize the PQF Registry of Qualifications to align skills availability with staffing requirements.

Support the development of a national policy for lifelong learning

Lifelong learning is central to United Nation's development agenda. Promoting lifelong learning means creating systems that provides access to education for people of all ages, and providing opportunities to unlock their potential for their personal development and for the sustainable economic, social,

cultural and environmental development of society⁶. Lifelong learning centers on the full implementation of the PQF. Local government units will take the lead in providing accessible and community-based lifelong learning opportunities.

Strengthen collaboration with industry boards and industry associations in TVET

The establishment of industry boards in key sectors shall be pursued and implemented as envisioned to have a vital role in the governance of TVET. These key sectors as identified in the National Technical Education and Skills Development Plan include agri-fishery, construction, ICT, health, and logistics. It shall capacitate industry boards in forecasting in-demand skills, review of curriculum and competency standards, certification design, and training regulation formulation (See Chapter 4.2). A review committee for all training regulations in the region will be convened that will submit recommendations to the national level.

Outcome 2: Access to employment opportunities expanded

Boost and expand employment facilitation services

Employment facilitation services will be heightened to connect people to jobs and potential employers. The utilization of Public Employment Services Office (PESO) will be maximized to provide timely and adequate information on jobseekers, labor trends and demands at the local level through digital platforms that can be accessed by other PESOs nationwide. Collaboration of PESO, DOLE and TESDA will provide better and full range of employment and training services. The creation of a database that is linked to local PESO for

possible employment will be developed and strengthened in all localities such as the Hotjobs Bataan where trainees are requested to register in the PESO portal. Initiatives by DICT and the City of San Fernando (Pampanga) to create a database of skills particularly ICT graduates of CSFP HEIs, is supportive of the strategy.

Invest in labor market information system

A labor market information system (LMIS) provides an essential service as it is a basis for employment and labor policies, and inform the design, implementation, monitoring and

evaluation of policies that are better focused and targeted⁷. Investments in LMIS will be encouraged or an online portal linkage of certified learners to employment will be developed. One example that can be tapped by the government is through the improvement of the PhilJobNet, envisioned as a one-stop shop and premier source of labor market information.

Develop programs and policies that address all forms of labor market discrimination in work, education, and training

Labor market policies shall ensure non-discrimination of the vulnerable and disadvantaged groups particularly among women and youth (See also Chapter 5.2). Other issues that need to be addressed is on transportation constraints and technological capacities.

Provide emergency employment and training support to displaced workers

Labor market programs will be provided to cater to the needs of displaced workers due to the pandemic, economic shocks, and disasters, including repatriated overseas Filipino workers. The Department of Labor and Employment (DOLE) is implementing short and long-term programs and projects which include among others DOLE Integrated Livelihood and Emergency Employment (DILEEP), Tulong Panghanapbuhay sa ating Disadvantaged Worker (TUPAD), and Training for Work Scholarship Program (TWSP). There is also a need to strengthen monitoring of these livelihood programs to ensure that only the target and qualified beneficiaries are provided assistance.

Outcome 3: Shared labor market governance achieved

Harmonize skills development programs in the government

The creation of an inventory of all training programs is needed towards the convergence of programs with similar objectives. Thereafter, impact evaluation studies and surveys shall be conducted to determine the effectiveness of the programs and desired reforms.

Create awareness of TVET programs implemented by the government

A more focused and sustained marketing and advocacy strategies are needed to promote jobs in TVET programs. The utilization of digital

platforms and social media, skills fairs or competitions will be augmented to encourage reskilling and upgrading of both workers and job seekers to benefit from new and emerging opportunities.⁸

Provide effective productivity mechanisms

The government, through the National Wages and Productivity Commission (NWPC) shall continue to provide technical assistance to workers and enterprises on adopting and enhancing productivity measures/technologies and developing productivity-based incentive schemes.

Legislative Agenda

Table 6-2: Legislative Agenda to Increase Income-earning Ability

LEGISLATIVE AGENDA	RATIONALE	RESPONSIBLE AGENCY
Revised National Apprenticeship Program; Enterprise Based Education and Training to Employment Act	Harmonize the existing EBT modalities and expand the provision of training programs being implemented within companies which can be a mix of workplace training and classroom-based learning. Institute further reforms on the apprenticeship program to make them more attractive to both the enterprises and the prospective apprentices, promoting skills acquisition and youth employment.	TESDA
Jobs Creation Strategy Bill	Create an Inter-Agency Council for Jobs and Investments co-headed by the Department of Trade and Industry, DOLE, and TESDA, include representatives from employers' organizations and labor groups, and establish working groups that will focus on developing employment recovery and job creation in specific industries and emerging sectors, such as but not limited, to construction, tourism, agriculture, information technology and business process management, and manufacturing.	DOLE
Lifelong Learning Development Bill	Develop a Lifelong Learning Development Framework through the Philippine Qualifications Framework-National Coordinating Council (PQF-NCC). The PQF-NCC shall determine and set standards for developing action components and desirable success measures for promoting lifelong learning in cities, municipalities, and educational institutions.	DOLE
Enterprise Productivity Act (Amendments to Productivity Incentives Act)	Fortify the intentions of the "Productivity Incentive Act of 1990" by promoting inclusive and sustainable work productivity programs. It aims to reinforce labor productivity through (a) establishing a Productivity Incentives Committee; (b) adopting productivity incentive programs; (c) granting productivity incentives to employees; and (d) providing a tax incentive to business establishments for granting incentives to employees.	DOLE

Results Matrix

Table 6-3: Results Matrix: Increase Income-earning Ability

INDICATOR	BASELINE	ANNUAL PLAN TARGETS						MEANS OF VERIFICATION	AGENCY RESPONSIBLE
		2023	2024	2025	2026	2027	2028		
Societal Goal:									
Intermediate Goal: Income-earning ability increased									
Chapter Outcome 1: Employability increased									
Percentage of youth not in employment, education, or training (%) reduced	19.4 (2018)	17.4-19.4	17.1-19.1	16.8-18.8	16.5-18.5	16.2-18.2	15.9-17.9	LFS	PSA, DOLE
TESDA Certification Rate	92 [2021]	92	92.5	93	93.5	94	94.5	TESDA Admin Data	TESDA

INDICATOR	BASELINE	ANNUAL PLAN TARGETS						MEANS OF VERIFICATION	AGENCY RESPONSIBLE
		2023	2024	2025	2026	2027	2028		
Employment rate of TVET graduates (%) increased	70 (2020)	77	77.64	78.98	80.32	81.66	83	TESDA Admin Data	TESDA
Chapter Outcome 2: Access to employment opportunities expanded									
Female labor force participation rate (%) increased	42.5 (2020)	42.5-44.5	43.0-45.0	43.5-45.5	43.5-45.5	43.5-45.5	43.5-45.5	LFS	PSA
Placement rate (%) of jobseekers increased		80	81	82	83	84	85	DOLE Admin Data	DOLE
Chapter Outcome 3: Shared labor market governance achieved									
Total number of MSMEs provided with technical assistance on designing productivity-based incentive schemes increased	50 (2022)	75	80	85	90	95	100	DOLE Admin Data	DOLE
Percentage of trained MSMEs with productivity improvement program/action plan increased	45 (2022)	50	55	60	65	70	75	DOLE Admin Data	DOLE

¹Updated Philippine Development Plan 2017-2022

²See discussion in Chapter 4.2, Challenges in Education and Lifelong Learning

³See Orbeta, et al. (2021), Who Are the Youth NEET in the Philippines Today? Philippine Institute for Development Studies Discussion Paper Series No. 2021-21

⁴Integrated Infrastructure and Investment Development for the Investment Corridors of Central Luzon Master Plan

⁵Philippine Qualifications Framework, <https://pqf.gov.ph/>

⁶UNESCO Institute for Lifelong Learning, <https://www.uil.unesco.org/en/unesco/vacancies>

⁷International Labour Organization, 2022

⁸Technical and Vocational Education and Training in the Philippines in the Age of Industry 4.0, ADB 2021

PART III

Transform Production Sectors to Generate More Quality Jobs and Competitive Products

07

Modernize Agriculture and Agribusiness



CHAPTER 7

Modernize Agriculture and Agribusiness

As the country's biggest food source, it behooves the region to work for the sustainable development of its agriculture, forestry and fishery (AFF) sector. Failing to ensure this would render at risk attainment of the country's, more so the region's, food security and inclusive growth goals. Avoiding said peril nonetheless warrants the sector's transformation to one that is not only productive but one that is viable and profitable. Ultimately, the goal is to enrich the sector, make food production a flourishing venture and an avenue for reducing, if not eliminating, poverty.

Assessment and Challenges

Agriculture's declining share to the regional output. Not only does the sector share the least to the regional economy, its share has also been declining. From about 19 percent in 2000, AFF's share slid to 17 percent in 2010 and further to 12 percent in 2021. Accounting for this decline is the sector's weak growth which averaged 2.2 percent for period 2011-2021 compared to 3.8 percent for the period 2000-2010.

Central Luzon kept its status as the food basket of the country despite weak growth. Albeit the region's agriculture sector's weak growth, this continued to yield a significant portion of the country's food staples. The region leads in the production of palay, onion, ampalaya, okra, string beans, chicken, duck, duck eggs, tilapia, tiger prawn, catfish, and mudfish, and ranks second for eggplant, chicken eggs, and mudcrab. It ranks fifth in goat production and sixth in hogs.

In palay, the region accounts for 18 percent of the country's produce with half of that portion coming from Nueva Ecija. The same is true for onion where the region produces 55 percent of the national output, of which bulk is supplied by Nueva Ecija. The region also produces more

than half of the country's output of tiger prawn (59 percent) and tilapia (51.36 percent share).

As a major food source therefore, it obliges the region to carry on this critical role and thereby sustain as well as advance the development of the agriculture sector.

Food production at risk due to multiple issues. Sustaining and advancing the sector's growth and development warrants addressing the multifarious issues besetting the sector. Among said issues are: 1) land conversion, 2) pest and disease outbreak, 3) high cost of production and low farm income, 4) vulnerability to and high cost of impact of climate change/weather disturbances, 5) inadequate irrigation, and 6) inadequate post-harvest facilities. In fisheries in particular, the industry is as well saddled by issues on environmental degradation caused by water pollution, and illegal fishing for capture fisheries.

The abovesaid issues and challenges are nothing new to the sector but have in fact hitherto affected the agriculture sector's performance. Nonetheless, the risk that these pose on the country's food security and sustainable

development have become even more stark than ever, with the changing global environment and increasing population heaving more pressure on food production.

Agricultural lands are being converted as a result of urban growth and industrial development. Based on PSA data, 3.3 percent of the region's agricultural lands, equivalent to 25,750 hectares, have been lost in a span of 5 years – from 2010 to 2015 (RPFP 2020-2040). Concern is that land conversion is happening in Central Luzon's key production areas, particularly Bulacan, Nueva Ecija and Pampanga.

Pests and diseases are also dampening the sector's growth performance. The African Swine Fever (ASF) outbreak in 2019 caused a lot of damage to the region's hog industry, consequently displacing the region as the country's lead hog producer. Other than ASF, the region also suffered in the past from the avian influenza outbreak in poultry and armyworm infestation in onion. These created havoc to these subsectors with the small farmers feeling the economic pinch from such calamities.

The high cost of production is driving up concerns in the sector particularly among small farmers and fisherfolks which have limited access to financing. This plus the low farmgate price they get for their produce raises concern on the viability and sustainability of the agriculture and fisheries sector in general.

The problem is aggravated by weather disturbances that wreak enormous damage to the sector almost annually and weakening the sector's growth, not to mention the financial burden brought on small farmers and fisherfolks. With the region's susceptibility to natural hazards including climate change, developing resilience to such disruptions must be at the front and center of efforts at developing the sector.

Irrigation, which is an important element in crop production, is lacking in some production areas of Tarlac and Nueva Ecija. In Tarlac, irrigation development rate is only about 45 percent, the lowest in the region even as the province ranks second as source of palay/rice here. This makes thus the completion of the Balog-Balog Multipurpose Irrigation Project in the province crucial as this will irrigate 34,500 hectares more of farmlands and increase palay yield to 5.2 metric tons (MT) per hectare from the current 3.1 MT. On the other hand, although Nueva Ecija in NIA's report already registered 100 percent irrigation development, farmers in the province still claim lack of irrigation as one of the limiting factors in crop production.

Storage, transport, processing, and marketing facilities/services are still inadequate, causing postharvest losses along the chain. In fisheries, although the region has Community Fish Landing Centers in key fishing municipalities, it nonetheless lacks cold storage facilities (CSFs). CSFs are needed to maintain longer shelf life and ensure the quality of fish catch. While there is one established in Dingalan, Aurora this, however, ceased operation because of poor maintenance. Establishment of these in strategic areas is recommended to reduce wastage and help farmers/fishermen get better price for their produce.

Considering the enormity and complexity of the problems facing the agriculture and fisheries sector, not to mention the sector's vulnerability, an integrated and targeted approach to solving the aforementioned problems is needed to keep the sector afloat, promote its growth and improve the lot of those on whose hands and toil people depend on for the food on their table. Fundamental as the sector's development is in ensuring the country's food security and human capital development, government support from all levels and sectors is of utmost importance.

Farmers and fisherfolks are among the poorest. Farmers and fisherfolks posted the highest poverty incidences among the basic sectors both at the national and regional level. The latest survey in 2018 pegged this at 15.3 percent for fisherfolks and 13.8 percent for farmers in Central Luzon. Although the figures already indicate an improvement over the 2015 survey, which registered a poverty incidence of 27.1 percent for farmers and 26.8 percent for fisherfolks, the picture remains a concern given its implication on the country's food production and food security objectives, if the causes of poverty in the sector are not addressed. One of the factors alluded to by stakeholders is the small/fragmented nature of

farming where farmers individually till small parcels of land that produces just enough, if not a little in excess, to cover production cost and make a profit. The average landholding according to DA is 1.5 hectares, while the net profit-cost ratio per hectare based on PSA data ranges from 0.23 to 2.45 for various crops (Table 7-1). In fisheries, 33.5 percent of fishermen are classified subsistence fishermen with income averaging less than PHP 10,000.00 monthly (per capita food threshold), in 2018. Compounding this problem is the seasonal nature of AF production, which further limits the capacity of farmers and fishermen to produce throughout the year.

Table 7-1: Farm Income Analysis of Major Crops produced in Central Luzon, 2021

CROPS	TOTAL COST OF PRODUCTION/HA	FARMGATE PRICE	YIELD/HA	GROSS INCOME (PHP)*	NET INCOME (PHP)*	NET PROFIT-COST RATIO*
Ampalaya	219,584.00	44.00	8,279.00	364,276.00	144,692.00	0.66
Onion	186,300.00	55.00	11,693.00	643,115.00	456,815.00	2.45
Eggplant	183,641.00	35.00	11,180.00	391,300.00	207,659.00	1.13
Garlic	142,770.00	109.00	2,429.00	264,761.00	121,991.00	0.85
Stringbeans	195,380.00	31.00	13,708.00	424,948.00	229,568.00	1.17
Tomato	267,785.00	28.00	13,744.00	384,832.00	117,047.00	0.44
Cassava	44,901.00	9.00	11,845.00	106,605.00	61,704.00	1.37
Sweet Potato	42,765.00	21.00	6,548.00	137,508.00	94,743.00	2.22
Mango	106,324.00	46.00	3,990.00	183,540.00	77,216.00	0.73
Palay	62,797.00	15.00	5,139.00	77,085.00	14,288.00	0.23

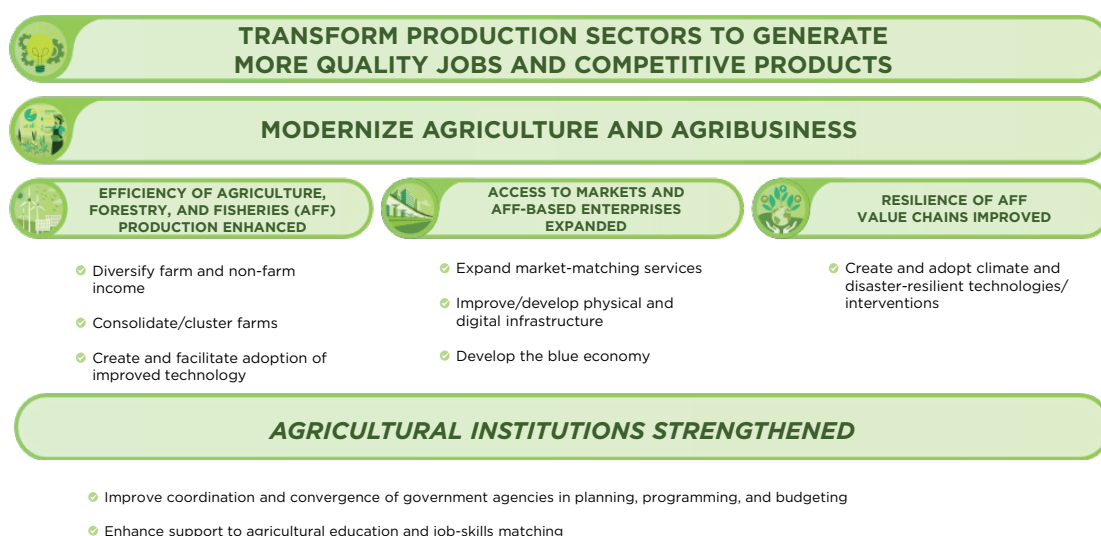
Source: Computed based on PSA data

Strategy Framework

In line with the Philippine Development Plan 2023-2028, the region shall pursue as goal for the next six years the modernization of the agriculture and agribusiness sectors,

to propel these to greater heights, increase the sector's productivity and resiliency, and promote inclusivity.

Figure 7-1: Strategy Framework to Modernize Agriculture and Agribusiness



Strategies

The abovementioned goal shall be pursued through the following strategies, which are

geared toward reducing poverty among farmers and fisherfolk in Central Luzon:

Outcome 1: Efficiency of AFF production enhanced

Diversify farm and non-farm income

Considering the seasonal nature of agricultural and fishery production and the low income derived from monocropping, effort to promote diversification of farm and non-farm income shall be pursued. With DA as lead, focus shall be on the potential areas identified in the National Agriculture and Fisheries Modernization Plan (NAFMIP) 2021-2030 for different commodity systems that in the region are classified into coconut-based, rice-based or corn-livestock-poultry-based and aquaculture and coastal fishery-based. Focal areas are the provinces of Nueva Ecija, Tarlac, Zambales and Aurora. The latter is not identified in the NAFMIP but will also be given focus given its largely resource-based/agri-based economy. The province in

particular accounts for the biggest coconut production in North Luzon.

The region's SUCs, R&D and training institutions as well as innovation centers, in partnership with LGUs, shall be tapped and mobilized to undertake research on these commodity systems and to promote and train farmers on the commodity systems that may be adopted in specific areas. The region's innovation centers shall also be leveraged to engage and promote value-adding of farm products and by-products to help increase farmers' income.

Farm tourism shall also be encouraged, through the DOT and LGUs, as a way of adding value and maximizing the benefit from farming. With the Farm Tourism Development Act (RA 10816) paving the way for its development, support to the sector would just have to be

sustained, and for DOT to coordinate efforts of all concerned entities toward promotion of the subsector, and to work toward eliminating emerging bottlenecks.

Consolidate/cluster farms

The Department of Agriculture in tandem with the LGUs shall continue to encourage farmers to consolidate forces as a way of capturing better opportunities that come with economies of scale. The high cost of farm production and low farm income are driving calls to a shift to community-based farming as a solution. DA in partnership with LGUs and cooperatives shall explore and facilitate this move through the establishment of pilot or demonstration farms as a way to encourage farmer participation and allay farmers resistance to change. Tie-ups with firms in the agribusiness chain shall also be promoted to help achieve efficiency of production and marketing. DA and DTI shall collaborate in linking farm consolidators with institutional and industrial markets.

Create and facilitate adoption of improved technology

Focus shall be on the development and promotion of farm technologies and solutions to the various challenges hampering the sector's growth. Efforts shall be directed towards developing technologies that will improve productivity, reduce post-harvest losses, strengthen pests and diseases surveillance

and management, mitigate the effects of bad weather on production, and reduce the cost of production, promote value addition, among others. This shall be the direction of the region's SUCs and R&D institutions, as well as LGUs, to assist in the transformation of agriculture to a more sustainable, viable and lucrative production venture. Among LGUs, the Science City of Muñoz in Nueva Ecija will spearhead the development and promotion of agricultural and research technologies (See Chapter 8), this being host to several of the region's RDIs.

Promotion of the output of R&D shall also be pursued to facilitate the utilization of technologies and ensure that the sector benefit from the investments poured in R&D. This shall be done through the convergence of efforts involving DA and its affiliate agencies, SUCs, LGUs, and the DTI for linking agriculture with industry.

Partnerships with the private sector shall also be cultivated to help push for the needed R&D interventions.

Support to R&D dissemination shall also be pursued through building an inventory or database of mature technologies to promote awareness on and facilitate access to R & D outputs. The Regional Research and Development and Innovation Committee shall facilitate determination of how the latter shall proceed.

Outcome 2: Access to markets and AFF-based enterprises expanded

Expand market-matching services

The region shall continue to improve on its market-matching/facilitation services to facilitate access of farmers and *agripreneurs* to markets. Efforts shall be poured into looking at how data and information can be better

generated and shared to facilitate market linkage and promotion. This shall be done through the convergence of efforts of concerned agencies (DA, DTI), local government units, and SUCs.

As earlier pointed out in Chapter 5.1, DA will continue to support the operation and

expansion of Kadiwa centers in the region. This is to help A&F producers connect directly to the market at the same time afford consumers quality and affordable agricultural produce.

Further, industry stakeholders led by DA, DTI and LGUs shall look into the proposed establishment of food and market hubs (FMHs) or food terminals as identified in the NAFMIP 2021-2030 in Cabanatuan City in Nueva Ecija, Tarlac City in Tarlac Province, San Fernando City in Pampanga, Olongapo City in Zambales, and Angeles City. Said FMHs are intended to serve as e-market hubs providing digital marketing services that would link commercial, institutional, and other buyers to farmers and fisherfolks. Examples of such market tie-ups are those between Jollibee Foundation and Chowking with onion farmers in Nueva Ecija, and Zest-o Corporation with mango growers in Guimba, Nueva Ecija. More of similar marketing agreements/trade arrangements are foreseen with the establishment of said facilities.

Improve physical and digital infrastructure

RDC III shall promote the development of the necessary physical infrastructure, including input/service centers, postharvest facilities, and digital platforms to increase production efficiency in the sector and to broaden market access or reach of agricultural commodities and AFF-based enterprises in the region. In particular, it shall shepherd the conduct of further studies toward the development of the proposed PAPs identified in the Integrated Infrastructure and Investment Development Planning for Investment Corridors in Central Luzon (3IDP) study.

Among said projects are: (1) Logistics Hub near Clark and Subic; (2) Truck Consolidation Facility along NLEX within the municipalities of Bulacan; (3) Regional Integrated Transport and Processing Center in Talavera, Nueva Ecija;

(4) Dingalan Fish Port and Cold Storage in Dingalan, Aurora; (5) Masinloc Fish Port and Cold Storage in Masinloc, Zambales; (6) Sub-Regional Food Exchange Center in Balagtas, Bulacan; (7) Climate-resilient Hatching and Fingerlings Nursery in Pampanga; Livestock Artificial Insemination Centers in Nueva Ecija and Bulacan; and (8) Nueva Ecija Bulk Water Supply Development Project. More so, a Sub-Regional Food Exchange Center within the areas of Cabanatuan City, Aliaga, and Talavera shall be established which will serve as a consolidation and processing hub for agricultural products coming from Aurora and the Northern Luzon regions (Chapter 2).

Expanding the region's irrigation service coverage shall also be pursued. The completion of the Balog-Balog Multipurpose Irrigation Project that will expand irrigation service in Tarlac, the rehabilitation of existing systems, and the development of new and sustainable sources of irrigation water (other than groundwater) shall be given priority within the medium-term (See Chapter 13). The latter shall involve looking at how to tap more surface water for irrigation and developing and adopting technologies that are resilient to climate change.

Further, priority shall also be given to development and rehabilitation of farm-to-market roads (FMR) to facilitate transport of farm produce directly to the market and reduce transport cost.

Develop the blue economy

As the country's top source of fish and fishery products, particularly from aquaculture, management of the region's aquatic resources and their sustainable development is therefore crucial. Maintaining a healthy and productive aquatic ecosystem is critical for sustaining the region's production capacity, for maintaining and creating jobs/livelihood, and above all for ensuring food security.

Bearing said goals in mind, the ecosystems-approach to fisheries management shall hence be promoted and pursued within the established Fishery Management Areas (FMAs) as identified by BFAR. Central Luzon shares in the conservation and management of fisheries in FMA 1 (Aurora with Cagayan, Isabela, Quezon, Camarines Norte, Camarines Sur, Catanduanes, Albay, Sorsogon, and Batanes) and FMA 6 (Zambales, Bataan, Pampanga and Bulacan with Ilocos Norte and Sur, Pangasinan, NCR, Cavite, Batangas, and Occidental Mindoro).

To ensure the quality of the region's fish produce and promote value-adding, DA-BFAR shall also continue to promote the establishment of fish processing/cold storage facilities. Research and development shall also be bolstered to develop more efficient and productivity-enhancing fishing technologies through the region's SUCs. Further, monitoring and enforcement will be strengthened with the LGUs for the control of illegal fishing.

Outcome 3: Resilience of AFF value chains improved

Create and adopt climate- and disaster-resilient technologies/interventions

Vulnerable as the region is to the vagaries of weather, research and development and investment on climate-resilient technologies shall hence be pursued and given more focus. The region's SUCs and research institutions shall again be tapped for this purpose, with the assistance of DA and other concerned government agencies and LGUs for the technologies' dissemination. In particular, the

use and practice of smart agriculture shall be fostered through the agencies concerned as a way to increase agricultural productivity and minimize wastage. Further, NEDA as RDC Secretariat will also look into the projects proposed in the 3IDP and see how these can be further pursued and shepherded. Such include: (1) Retarding Basin at San Antonio Swamp in Pampanga; (2) Water Tunnel crossing CLLEX in Zaragoza, Nueva Ecija; (3) Storm Water Impounding Basins in Baler or Maria Aurora in Aurora and in Rizal or Llanera in Nueva Ecija.

Outcome 4: Agricultural institutions strengthened

Improve coordination and convergence of government agencies in planning, programming, and budgeting

Convergence of government agencies is needed to ensure smoother coordination and implementation of AFF plans and programs. This shall be pursued in partnership with the LGUs, as the primary provider of service in the agriculture sector, through existing mechanisms and platforms such as the Regional Development

Council, other sectoral committees/councils, and various research consortia. In support and to ensure harmonization and alignment of plans and budget, NEDA (as RDC secretariat) will enhance coordination of and assist the formulation and review of sector plans and programs and budget proposals of sector agencies requiring RDC endorsement.

In line with the Mandanas-Garcia ruling on the full devolution of devolved functions under the Local Government Code, enhancement of LGU

capacity for delivering assistance and services to farmers and fisherfolks shall be given focus through the education/capacity-building programs of the DA and its affiliate or attached agencies.

Partnerships with SUCs for their research and extension services shall as well be strengthened and leveraged as a platform for reaching out and training the sector stakeholders along the value chain.

Enhance support to agricultural education and job-skills matching

Agricultural education and job-skills matching shall be given renewed focus through the region's SUCs, training institutions and LGUs. Programs along this line will be developed and promoted targeting the youth, the unemployed and underemployed, and old and promising farmers and *agripreneurs*.

Legislative Agenda

Support shall be given to the following proposed legislative measures:

Table 7-2: Legislative Agenda to Modernize Agriculture and Agribusiness

LEGISLATIVE AGENDA	RATIONALE	RESPONSIBLE AGENCY
National Land Use Bill	This is to establish a national land use framework that will (a) define the indicative priorities for land utilization and allocation across residential, infrastructure, agricultural, and protective uses; (b) integrate efforts, monitor developments related to land use; and (c) evolve policies, regulations, and directions of land use planning processes.	DENR, DAR, DTI, Department of Public Works and Highways (DPWH), Department of Transportation, Department of Tourism, DILG, Department of Justice, Department of Energy, Department of Human Settlements and Urban Development, LGUs
Consolidating land administration and management functions	This will improve land administration and management services for agricultural and non-agricultural lands. This will also contribute to fast-tracking the distribution of individual titles under CARP.	DAR, DENR, LRA
Increasing Idle Land Tax	This is to promote the productive use of idle lands, even if temporary, but without prejudice to the rights of owners to security of tenure.	Department of Finance, DILG, LGUs
Soil and Water Conservation Act	This aims to promote the adoption and implementation of Sustainable Land Management programs, projects, and activities for further prevention of land degradation through various soil and water conservation technologies and approaches, including rainwater harvesting.	DA
New Agrarian Emancipation Act	This aims to free ARBs from the debt burden through the condonation of unpaid principal amortization payments for the lands awarded under CARP.	DAR
Farm-to-Market Road Development and Acceleration	This seeks to institutionalize the Farm-to-Market Road Development Program and funding commitment. This is to improve the Philippine barangay road network to serve the needs of the Philippine Food Systems.	DA, DPWH
Strengthening the agricultural extension system	This aims to provide additional funding for provincial LGUs to incentivize them in investing and/or improving the provincial agri-fishery extension system. This builds on the draft Executive Order institutionalizing PAFES and mandating its implementation across all provinces.	DA, LGUs

Results Matrix

Table 7-3: Results Matrix: Modernize Agriculture and Agribusiness

INDICATOR	BASELINE (YEAR)	ANNUAL PLAN TARGETS						MOV	RESPONSIBLE AGENCY
		2023	2024	2025	2026	2027	2028		
Chapter Outcome: Agriculture and Agribusiness Modernized									
Poverty incidence among primary producers (farmers and fisherfolk) reduced (%)									
a. Farmers	31.6 (2018)*	---	---	23.7	---	---	15.8	PSA	DA, DAR, LGUs
b. Fisherfolk	26.2 (2018)*	---	---	19.6	---	---	13.1	PSA	DA, LGUs
Sub-Chapter Outcome 1: Efficiency of AFF production enhanced									
Growth in AFF Gross Value Added increased (% in constant prices)	0.8 (Q1-Q3 2022)	TBD	TBD	TBD	TBD	TBD	TBD	PSA	DA, LGUs
Growth in AFF Labor Productivity increased(%)	-4.5 (Q3 2022)	TBD	TBD	TBD	TBD	TBD	TBD	PSA	DA, DAR, LGUs
Volume of Production of Key A&F Commodities increased (in MT)									
Palay	3,616,712.39 (2022)								
Corn	306,020.96 (2022)								
Mango	357,825.57 (2022)								
Onion	131,547.77 (2022)								
Garlic	343.56 (2022)								
Tomato	34,670.24 (2022)								
Eggplant	30,240.68 (2022)								
Ampalaya	26,654.08 (2022)								
Cassava	23,373.45 (2022)								
Sweet Potato	53,292.67 (2022)								

INDICATOR	BASELINE (YEAR)	ANNUAL PLAN TARGETS						MOV	RESPONSIBLE AGENCY
		2023	2024	2025	2026	2027	2028		
Carabao	4,930.77 [2021]								
Cattle	14,770.51 [2021]								
Hog	104,782.17 [2021]								
Goat	7,158.83 [2021]								
Chicken	593,872.06 [2021]								
Chicken Eggs	136,301.00 [2021]								
Duck	9,492.26 [2021]								
Duck Eggs	22,499.34 [2021]								
Commercial Fisheries	7,691.33 [2022]								
Municipal Fisheries	55,768.38 [2022]								
Aquaculture	300,345.65 [2022]								
Level of mechanization improved									
Blue Economy (fisherfolk with motorized boats / total number of registered fisherfolk in the National Program for Municipal Fisherfolk Registration)	11% (January 2023)	---	---	TBD	---	---	TBD	BFAR	BFAR
Postharvest losses of Key Commodities Decreased	TBD	TBD	TBD	TBD	TBD	TBD	TBD	DA	DA
Sub-Chapter Outcome 2: Access to markets and AFF-based enterprises expanded									
Growth in the total value of approved investments in AFF-related activities increased (% in real terms)	-24.0 [2021]	TBD	TBD	TBD	TBD	TBD	TBD	PSA	Investment Promotion Agencies
Growth in the value of A&F exports increased (% FOB value)	-13.9 [Sep 2022]	TBD	TBD	TBD	TBD	TBD	TBD	PSA	DA DTI

INDICATOR	BASELINE (YEAR)	ANNUAL PLAN TARGETS						MOV	RESPONSIBLE AGENCY
		2023	2024	2025	2026	2027	2028		
Sub-Chapter Outcome 3: Resilience of AFF value chains improved									
Proportion of primary producers covered by agricultural insurance to total number of primary producers registered in the RSBSA (%)	TBD (2021)	TBD	TBD	TBD	TBD	TBD	TBD	TBD	PCIC

08

Revitalize Industry



CHAPTER 8

Revitalize Industry

Central Luzon is the third leading region in the industry sector with share of the national output averaging 14.7 percent in the last ten years, following NCR's 22.4 percent and CALABARZON's 24.6 percent. Within the region, the sector is the second biggest contributor to the GRDP at 42.2 percent in 2021 and the second leading employer among sectors in 2020 at 24 percent.

Significant as the sector is in the region's economic development, particularly in generating jobs and in increasing income, revving this up following the crippling effects of the pandemic and the challenges it brought to fore is not only crucial but must be at the core of both public and private initiatives.

To invigorate the sector in the next six years and steer the region back to a high growth path, measures shall be adopted that would encourage more public and private collaboration toward enhancing the region's investment environment, increasing product competitiveness, improving forward and backward linkages, and developing the human resources fit for the needs of industry, and developing the human resources fit for the needs of industry.

Assessment and Challenges

The industry sector is the second largest contributor to the region's economy. Industry accounted for 42.2 percent of the GRDP in 2021, second to Services. The sector's share has been expanding relative to the other sectors until the pandemic reversed its growth in 2020 with a -20 percent contraction, causing the sector's share to drop to 40 percent. However, following the easing of restrictions in 2021, the sector rebounded with a double-digit growth (13.8 percent), the highest among sectors, which helped drove up the region's economy to positive levels, albeit still not strong enough to revert to the output level prior to the pandemic.

Sector growth is driven by manufacturing and construction. The manufacturing and construction subsectors accounted for 91.9 percent of the output of the industry sector in 2021. Although there have been expansions in the electricity, steam, water and waste management subsector, the region's

industry growth is largely propelled by the manufacturing and construction subsectors. The latter is driven by investments pouring into the region's ecozones coupled with the implementation of various infrastructure and real estate development projects in the region.

Industry is the second biggest source of employment at 24 percent. An average of 1.1 million jobs annually have been created by the industry sector from 2017 to 2019. However, this narrowed to 1.03 million jobs in 2020 as a result of the pandemic, or an 11 percent decline from the previous year. Despite the contraction, the industry sector still accounts for the second highest proportion of employment in the region at 24 percent, with most of the jobs converging in the manufacturing and construction subsectors. The potential for more job creation abounds in the sector as the existing ecozones of the region advance efforts to realize their full capacity.

Micro, small, and medium enterprises (MSMEs) make up 99.7 percent of the region's industry sector. Among MSMEs, micro enterprises accounted for 92 percent in 2021, with the largest concentration in the province of Bulacan and Pampanga. As small businesses are inherently vulnerable to economic shocks, the challenge is to help MSMEs restore their footing, increase their resilience, expand in size or graduate to bigger enterprises, and be more competitive. Such is critical given the MSMEs importance in labor employment and livelihood generation.

High cost of utilities, bureaucratic government procedures, and access to financing are constraining the competitiveness of industries. Sustaining and expanding the growth of the industry rests on addressing these constraints. Central Luzon's proximity to the National Capital Region has given the region the leverage in terms of access to markets and resources that have shaped the region's development through the decades. The region though has not quite maximized its potential owing to unresolved constraints and challenges

that tend to deter private sector participation and investments. While progress has been made along this line, particularly in streamlining government processes, improvements in these areas are still warranted. Access to finance is of particular concern to small enterprises with the stringent requirements of financial institutions. Increasing access to financial instruments would allow and encourage enterprises to sustain and expand their operations.

Innovation and digitalization warranted for industries to stay competitive. With digitalization picking up steam, industries are compelled to pivot to the use of more efficient, productivity-enhancing, and innovative technologies to remain in competition. This includes transformative solutions to raw material gaps, labor shortage, and service disruptions. Connectivity, both digital and physical, needs upgrading to better serve the information, communication, and transport needs of industries, make their operations more efficient, as well as increase their access to markets.

Strategy Framework

The industry sector is envisioned to lead the expansion of the region's economy, which is targeted to grow by 10 to 11 percent. To revitalize the industry sector and steer the region back to a high growth path, measures to expand the domestic market and supplier base, move up the value chain, and enhance linkages

across sectors shall be adopted (See Figure 8-1). Specific strategies are outlined under each outcome that would help in achieving the overall goal of transforming production sectors to generate more quality jobs and competitive products

Figure 8-1: Strategy Framework to Revitalize Industry

Strategies

Outcome 1: Domestic market production and supplier base expanded

Enhance business-matching activities

To assist MSMEs in accessing markets and large enterprises with sources of raw materials and other inputs in the local market, DTI 3 will pursue business matching activities vigorously. It will tap existing platforms and mechanisms and develop new ones to drive forward and backward linkages among industry sectors. Currently the region has 139 Negosyo Centers (NCs) distributed across 130 cities/municipalities that may be tapped to maintain a database of industries and to facilitate cross-matching of enterprises in the supply chain.

Additionally, the special economic zone authorities in the region will set up similar mechanisms, and link them with the NCs outside the customs territories to strengthen linkages, and promote consolidation and synergy between and among the industries of the region.

Intensify support to industries serving the domestic market

Provide assistance to expand market share

Promotion and patronage of domestic products help expand domestic market share. Current efforts along this line are DTI 3's One Town One Product and Buy Lokal movement and promotional activities like local and national trade fairs.

As a complementary initiative for realizing such thrust, DTI 3 through its Negosyo Centers will maintain a databank of local products that agencies can refer to for their product guide.

To further promote local products, LGUs with the assistance of DTI 3 and DOT 3, will be encouraged to set-up product hubs, trade outlets or centers in strategic locations for local residents, travelers or tourists. Product enhancement will also be promoted through the region's innovation centers and DTI 3's product development and assistance program

to help improve the quality of local products and increase their competitiveness.

Foster regional industrialization

Develop platforms to support a culture of innovation

A culture of technological innovation to boost industrial growth and resilience will be fostered in the region. Towards this goal, DTI 3 and DOST 3 will encourage the development of incubation centers and knowledge hubs that will provide space and venue for sharing and advancing ideas and for developing innovations. An example of this is the Central Luzon Technological Hive of Regional Innovation for a Vibrant Ecosystem (THRIVE Central Luzon) which was developed as a convergence platform for dialogue and collaboration among institutions in the region's innovation ecosystem, to improve stakeholder

access to innovation and foster a culture of innovation among industries/businesses in the supply chain.

Meanwhile, DOST 3, DTI 3, and the SUCs will advance the development of incubation centers and knowledge hubs in the iLearn Corridor to respond to the demands of the industries in the region. Furthermore, the LGUs will prioritize the development of innovation facilities along the corridor which traverses Tarlac City, Municipality of Capas, City of San Fernando, City of Balanga, Olongapo City, City of Malolos, San Jose Del Monte, Cabanatuan City, San Jose City, and Casiguran, Aurora. They will collaborate with international development partners and the private sector to take advantage of their resources, expertise and modern technologies for the sustainable operation of the knowledge and innovation hubs.

Outcome 2: Moving up the value chain achieved

Improve competitiveness

The age of innovation and new technologies has intensified competition among businesses in the value chain. This has led to businesses redesigning their path and adapting to current developments by developing new and higher value products and services to stay relevant in the market. Repackaging and value addition of goods and services would require a lot of creativity and understanding of industry needs. Thus, operators of innovation/knowledge hubs or incubation centers will assist in conducting market intelligence, providing advice, and developing innovations that will help industries stay in the competition.

Improve connectivity and ensure efficient movement of goods

Improving competitiveness also calls for efficient logistics, transport, and delivery services of

inputs and outputs in the region. Such would necessitate the provision of appropriate and adequate infrastructure to enhance local and regional connectivity as well as lower operating costs. Further discussion on transport and connectivity may be seen in Chapter 13: Expand and Upgrade Infrastructure.

Lower utility costs and promote renewable energy sources

The Department of Energy (DOE) and water service providers in the region will also promote the development of power and water infrastructure and other utilities to help cut down on industry operating costs. The use of alternative energy sources such as renewable energy will continuously be promoted (see Chapter 13: Expand and Upgrade Infrastructure).

Accelerate the digitalization and innovation of MSMEs and startups

The rapid shift towards digitalization during the pandemic demonstrated how the fourth industrial revolution has influenced people and organizations in the conduct of their daily operations. As such, DTI 3 will need to promote the digital transformation of MSMEs through better access to finance and technology. This will further encourage growth of start-ups and enhance the productive and innovative capacity of existing enterprises. In this connection, the agency will cultivate partnerships among stakeholders and advance policies and programs that facilitate access to finance and technology for MSMEs.

To help businesses enhance their operations through technological advances and scientific methods, DOST 3 will continue to funnel support through the implementation of Small Enterprise Technical Upgrading Program.

Promote Key Industrial Sector Value Chains in the Region

The Integrated Infrastructure and Investment Development Planning (3IDP) for Investment Corridors in Central Luzon master plan identified key priority industries and supply/value chains the region could promote to its advantage in the identified industrial corridors of the region (Table 8-1). Development of these priority industries and industrial sector value chains would help boost industry growth and create more jobs. In this pursuit, efforts to link the upstream and downstream sectors in these priority industries while building their capacities will be given focus with the DTI 3, LGUs, Investment Promotion Agencies (IPAs) and other concerned agencies collaborating to provide the necessary assistance and business environment conducive to industry growth and development.

Table 8-1: Key Industrial Sectors Value Chains

PRIORITY INDUSTRY	LOCATION (PROVINCE/CITY)	SUPPLY/VALUE CHAINS
Automotive	New Clark City	<p><u>Supply chain:</u> New parts and systems for next generation cars – ADAS (safety) related parts, mold & dies, xEV related parts; auto electronics; electric motor powertrains; more technologically sophisticated wire harnesses at lower cost; batteries for e-vehicles</p> <p><u>Value chain:</u></p> <p>Upstream – IT engineers for ADAS development;</p> <p>Midstream – materials and parts processing by abundant labor force;</p> <p>Downstream – highly skilled mechanical engineers for repair and maintenance; engineering services outsourcing (ESO); R&D for wire harnesses; chain upgrading into aerospace wire harnesses</p>
Shipbuilding	Subic; Bataan	<p><u>Supply chain:</u> Production of mid-sized ships (RORO) and small vessels</p> <p><u>Value chain:</u> Repair and maintenance all ship sizes; technology upgrading by fostering engineers and technicians; backward linkages in steel products, paint, panels and furniture, electric cables and pumps; promotional efforts on shipbuilding capability; developing technical expertise for ship repair; joint operations of various shipyards to achieve scale</p>

Aerospace	Clark SEZ; Subic	<p><u>Supply chain:</u> Tier 1 parts manufacturing (making module of hydraulic equipment, avionics/flight control systems, cabin system); seat parts, lavatories, interior fit-out, panel assemblies; electronics; air frames and sub-assemblies</p> <p><u>Value chain:</u> MRO (maintenance & repair operations); linking/business matching of Tier 3 (machining, surface processing – raw materials) with Tier 2 (parts making) and Tier 1 (module-making) enterprises</p>
Electronics	Freeport Zones and major SEZs in the region	<p><u>Supply chain:</u> Electronics and electrical auto parts; aerospace electronics; batteries; consumer electronics; storage devices; T&D electric equipment components (switchgear and fiber optic cables) and telecommunications networking equipment</p> <p><u>Value chain:</u> Fusion areas of IT and manufacturing; R&D; IC design; facilities for advanced products and technologies; auto electronic components, EMS, Tier 1 auto electronics; backward linkages in common electro-mechanical products</p>

Source: 3IDP for Investment Corridors in Central Luzon master plan

Outcome 3: Inter-sectoral linkages enhanced

Promote agglomeration or co-location of industry and services

The Central Luzon Regional Physical Framework Plan 2020-2040 and the Integrated Infrastructure and Investment Development Planning for Investment Corridors in Central Luzon master plan identified economic corridors or strategic development areas in the region. The corridors seek to promote regional economic integration, distribute development benefits across the region, at the same time foster production efficiency. The RDC III will work with the LGUs and government agencies in building the necessary environment, physical and economic, that will encourage the development of said economic corridors.

Strengthen academe–industry linkages

Skills upgrading and enhancement of the ‘man/womanpower pipeline’ for industries will be promoted. Efforts toward this will include collaboration between the academe and industry players in mapping out the priority industries and skills requirements, assessment of the skills gaps, and design of programs for skills development, upskilling and reskilling that would respond to the needs of industries. Collaboration among academic institutions, TESDA 3, DTI 3, DOLE 3 and industry players will be carried out in the design and implementation of skills programs that would match industry needs.

Legislative Agenda

Table 8-2: Legislative Agenda to Revitalize Industry

LEGISLATIVE AGENDA	RATIONALE/ KEY FEATURES	RESPONSIBLE AGENCY
Ratification of the Regional Comprehensive Economic Partnership (RCEP)	The RCEP negotiations were launched in November 2012 and concluded eight years after, in November 2020, at the height of the coronavirus disease (COVID-19) pandemic. RCEP is a free trade agreement between 15 countries comprising the ASEAN-10 and Australia, China, Japan, South Korea, and New Zealand. Joining the RCEP can significantly enhance the market access of the Philippines	Department of Trade and Industry (DTI)

LEGISLATIVE AGENDA	RATIONALE/ KEY FEATURES	RESPONSIBLE AGENCY
Amendment of the Philippine Qualifications Framework (Republic Act 10968)	The Philippine Qualifications Framework will be updated to incorporate the Philippine Skills Framework and will serve as a common reference that employers and workers share to ensure the match between jobs and skills.	DTI
Amendments to the Philippine Economic Zone Authority (PEZA) law	This entails updating of the 27-year-old PEZA law to adopt to the digitalization of the locators.	PEZA
Internet Transactions Act	The bill seeks to establish an effective regulatory policy for commercial activities conducted through the internet or electronic means.	DTI
Enterprise Productivity Act	This aims to strengthen the productivity improvement and gainsharing between workers and enterprises.	DTI
Science and Technology Parks Act	This proposes the establishment of science and technology parks nationwide to largely promote the culture of competitiveness and innovation through the active promotion of investments from tech-based enterprises and knowledge-based institutions.	DOST

Results Matrix

Table 8-3: Results Matrix: Revitalize Industry

Table 8-3 presents the indicators and targets under the Plan period to revitalize industry.

INDICATOR	BASELINE (YEAR)	TARGETS							MEANS OF VERIFICATION	RESPONSIBLE AGENCY/ INTER- AGENCY BODY	
		2023	2024	2025	2026	2027	2028	EOP			
Outcome 1: Domestic Market Production and Supplier Base Expanded											
Total approved investments in the region increased (in PHP)	166.9 billion (2021)	increasing							Investment performance per region	Philippine Statistics Authority (PSA), Department of Trade and Industry (DTI)	
Total approved investments in Investment Promotion Agencies (IPAs) in the region increased (in PHP)									Total approved investments by source	PSA, DTI	
Clark Development Corporation	9.6 billion (2021)	increasing									
Subic Bay Metropolitan Authority	16.7 billion (2021)	increasing									
Authority of the Freeport Area of Bataan	0.77 billion (2021)	increasing									

INDICATOR	BASELINE (YEAR)	TARGETS							MEANS OF VERIFICATION	RESPONSIBLE AGENCY/ INTER- AGENCY BODY
		2023	2024	2025	2026	2027	2028	EOP		
Number of LGUs with ordinances/ executive orders supporting the "Buy Lokal" movement of DTI	63 (2022)	78	86	95	105	116	130	130	DTI 3 Report	DTI
Outcome 2: Moving up the value chain achieved										
Gross value-added (GVA) growth rate of industry sector increased (%)	13.8 (2021)	10-11	10-11	10-11	10-11	10-11	10-11	10-11	National Income Accounts	PSA, DTI
GVA growth rate of manufacturing sector increased (%)	17.1 (2021)	TBD	TBD	TBD	TBD	TBD	TBD	TBD	National Income Accounts	PSA, DTI
Employment generated by industry sector increased ('000)	1,166 (2019)	increasing							National Income Accounts	PSA, DOLE
Share of medium enterprises to total number of MSMEs in the region increased (%)	0.30 (2021)	0.4	0.45	0.5	0.55	0.6	0.65	0.65	Updating of the List of Establishments (ULE)	PSA, DTI
Number of MSMEs doing e-Commerce	14,695 (2021)	19,022	19,973	20,972	22,020	23,121	24,277	24,277	DTI Report	DTI
Outcome 3: Inter-sectoral linkages enhanced										
Number of Regional inclusive innovation centers and knowledge hubs/innovation, science, and technology parks established	1 (2021)	Increasing							DTI 3/ DOST 3 Report	DTI, Department of Science and Technology (DOST)

09

Reinvigorate Services

CHAPTER 9

Reinvigorate Services

While the pandemic brought out the vulnerabilities of the services sector, it also highlighted the crucial role it plays as an engine of growth. Services fuel the growth of other industries at the same time helps promote societal well-being. Thus, in the next six years, focus will be in promoting the transformation of the sector into one that is more efficient, robust, agile and responsive to the needs of the economy and the public as a whole.

Assessment and Challenges

Services sector continues as lead contributor to the region's economy. Despite the sector's contraction by 10.5 percent in 2020, services continued to account for the largest share in the GRDP of Central Luzon. The sector even recorded a higher share in the period 2020-2021 amid the pandemic with 46.3 percent. This is about 2 percent higher than the figures registered for the period 2017-2019.

However, in terms of growth, the sector registered a slower growth in 2017-2021 (3.4 percent) than in 2010-2016 (6.5 percent) because of the contraction of the economy in 2020 brought about by the health emergency. Driving the sector's growth through these periods were financial and insurance activities, professional and business services, human health and social work activities, information and communication, and accommodation and food service activities, with an average annual growth of 10.5 percent, 10.4 percent, 8.9 percent, 7.7 percent, and 5.5 percent, respectively.

Nevertheless, the top contributors to the sector's GVA are wholesale and retail trade, repair of motor vehicles (12.7 percent); real estate and ownership of dwellings (6.1 percent); and professional and business services (4.6 percent).

Services sector is biggest employer as it accounts for more than half of the region's

working population. As the sector accounted for the biggest share of the GRDP, it also employed the largest number of workers in the labor force. It accounted for 61 percent in 2019, while employing an average of 2.7 million employees from 2017 to 2019. The services sector also accounted for the largest employment in all provinces in Central Luzon, with Bulacan and Pampanga registering the highest number.

In 2020, thousands in the sector lost their jobs as a result of the pandemic, with the consequent travel restrictions and business closures. Although the economy is now showing signs of a resurgence with the easing of controls, the challenge remains for the government and the private sector on how to make the sector more resilient and agile in the face of geopolitical and business threats and risks.

Tourism was hardest hit during the Covid-19 pandemic. Tourism is one of the sectors severely impacted by the pandemic, with wide-ranging disruptions across the industry value chain, as well as in livelihoods, public services and opportunities in all continents (World Tourism Organization, n.d.). In Central Luzon, the impact was most felt in the accommodation and food service as output declined by 45 percent in 2020, with the 68 percent drop in tourist arrivals. From 4.1 million tourists in 2019, the number of visitors fell to 1.3 million

in 2020 with the closure of borders, airports, and hotels, as well as restrictions enforced on mass gatherings, land travel and related services across the country. Heavily affected were the provinces of Aurora, Bataan, and Zambales, which are the region's popular destinations for beach tourism.

The industry started regaining traction in 2021 as travel restrictions were lifted and the economy gradually reopened. This led to visitor arrival increasing by 56 percent from the previous year with reported 2.1 million travelers. But as the world still reels from inflation, economic slowdown, and other tensions, the industry continues to face the challenge of fully recouping its losses and building back better.

Competitiveness and resiliency of tourism industry needs boosting. Aside from the vulnerability of the sector to health and economic crunches, several challenges continue to hamper the competitiveness and resilience of the region's tourism sector. These include infrastructure gaps such as limited access to and lack of sewerage system and waste management, inadequate seaport and airport transfer facilities, and limited facilities for MICE.

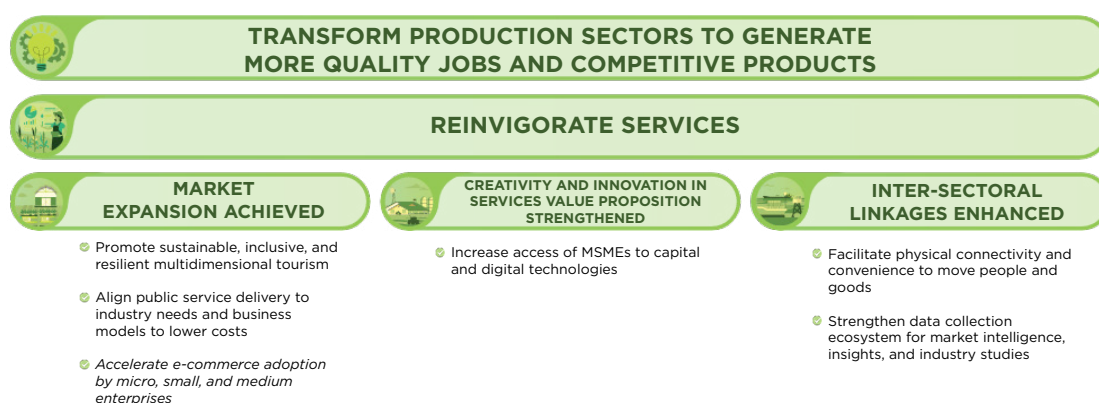
In the era of technological advancements and innovation, encouraging tourism enterprises to adapt to positive technological changes that will help them be more efficient, agile, and competitive also present a challenge to the sector.

Strategy Framework

Reinvigorating services will be promoted to accelerate the recovery of the regional economy, facilitate the growth of the primary and secondary industries, and create more decent

jobs for the populace. This will be pursued by (i) expanding the market, (ii) promoting creativity and innovation, and (iii) enhancing inter-sectoral linkages (see Figure 9-1).

Figure 9-1: Strategy Framework to Reinvigorate Services



Strategies

The services sector of the region is anticipated to pick up speed and demonstrate growth between 7 percent and 8 percent in the coming years. As

such, the following strategies will guide efforts to reinvigorate the services sector of the region:

Outcome 1: Market expansion achieved

Promote sustainable, inclusive, and resilient multidimensional tourism

Diversify product portfolio

DOT 3, in collaboration with the LGUs in the region, will endeavor to diversify its tourism products to expand its market base and the economic opportunities that go with it. This will be done by (i) tapping the region's wealth of natural endowments and cultural heritage, and (ii) transforming them into tourism products capable of creating jobs and livelihood opportunities for the people of Central Luzon.

Furthermore, the RDC III will implement policies and programs that will transform Aurora as a favored destination for ecotourism and water sports, the provinces of Tarlac, Bataan and Zambales for sun and beach, and cultural heritage, and the areas of Pampanga, Bulacan, and Tarlac for culinary as well as for meetings, incentives, conventions, and exhibitions (MICE).

Improve local tourism governance

Good governance ensures that economic opportunities are translated to investments. This in view, the LGUs will be further engaged to enhance the delivery of public goods and services supportive of the growth of the tourism industry. They will be encouraged to develop medium and long-term roadmaps that will strengthen their respective tourism value-chains, and recognize the importance of intensively dovetailing their existing tourism circuits with other sectors such as agriculture and crafts to bolster the growth of the local economy.

At the subnational level, the DOT 3 will encourage the local chief executives to align their respective sector development plans with

the tourism corridor development plan of the region. Additionally, it will work with TIEZA and the LGUs in funneling appropriations that will enable the development of necessary infrastructures (such as water, sanitation, solid waste management, healthcare facilities, renewable energy, and early warning systems) to improve the carrying and adaptive capacities of tourist destinations.

Intensify tourism marketing and promotion

Tourism marketing and promotions will be intensified with the use of e-tourism and other innovative services in the bid to modernize traditional distributional systems and expand market reach. For this reason, the DOT 3 will need to forge partnership with the DICT to develop online platforms and applications that will digitize many, if not all, processes and value chains in the tourism and hospitality sector of the region. It will likewise work with tourism stakeholders to take stock of digital resources available, and collect data that will help both the government and the sector players understand the needs and desires of consumers.

To bolster the information drive on the region's tourism products, the DOT 3 will collaborate with the Tourism Promotions Board (TPB) and private associations in the industry for the development of multi-media advertisements and conduct of travel fairs and exhibits. Furthermore, it will initiate meetings with airlines, travel agencies, tour operators, hotels and resorts operators, food concessionaires, embassies, academic institutions, theme parks and entertainment operators, cruise liners, shipping firms, insurance companies, travel essentials retailers, as well as foreign-based travel agencies to introduce the tourism circuits of the region.

Align public service delivery to industry needs and business models to lower costs

Streamline requirements and procedures and reduce transport and logistics costs

To promote ease of doing business and thereby cross-sectoral growth, the DTI 3 will engage all agencies and offices concerned, including LGUs, to (i) streamline and simplify regulatory processes and requirements, such as permits and licenses and documentary requirements, and (ii) reduce fees for cold storage, freight forwarding, trucking, warehousing, and domestic shipping businesses. Towards this end, digitization of institutional and regulatory requirements - seen to help eliminate bottlenecks and minimize transaction costs in the registration and licensing of businesses - will also be promoted.

Accelerate e-commerce adoption by micro, small, and medium enterprises

E-commerce and digital payments have become the standard in the new normal. Hence, MSMEs will be encouraged to adopt e-commerce as a tool to increase their market reach and make their operations more efficient through existing platforms.

Concerned regional line agencies such as DTI 3, CDA 3 and TESDA 3 will collaborate to identify MSMEs and cooperatives in the services sector that will be provided with trainings and seminars on the adoption of e-commerce as a complementary tool for expanding customer base and penetrating new markets.

Outcome 2: Creativity and innovation in services value proposition strengthened

Increase access of MSMEs to capital and digital technologies

Building competitiveness of the services sector requires creativity and innovation. Hence, DTI 3, in partnership with DOST 3 and SUCs in the region, will further strengthen government-industry-academe networks to help MSMEs gain access to new and cutting-edge knowledge and technologies as well as

to financing assistance, to facilitate business growth and development. It will advance the operations of the Central Luzon Technological Hive of Regional Innovation for a Vibrant Ecosystem (THRIVE Central Luzon)—an inclusive innovation center in the region led by the Bulacan State University—to provide guidance to MSMEs on pursuing innovation undertakings.

Outcome 3: Inter-sectoral linkages enhanced

Facilitate physical connectivity and convenience to move people and goods

To promote efficient movement of people and goods, continued improvement of access

and connectivity across all provinces will be pursued. DPWH 3, DOTr, DICT, and relevant line agencies will work further to develop seamless regional inter and intra-connectivity in terms of physical infrastructure (e.g., transport and mobility) and digital infrastructure (e.g.,

internet connectivity and digitalization of tourist service areas in the region).

In the medium term, the DPWH 3, DTI 3, DOT 3, LGUs and economic zone authorities will pursue a convergence initiative to assess the needs of the region related to physical connectivity and develop projects that will support the advancement of the services sector, and transform Central Luzon into a more economically and socio-culturally integrated region.

Strategies in improving access and connectivity are further discussed in Chapter 13: Expand and Upgrade Infrastructure.

Strengthen data collection ecosystem for market intelligence, insights, and industry studies

The academe will be tapped to conduct researches and policy studies that will support the growth, innovation and competitiveness of the region's services sector. In line with this, the region's state universities and colleges and private higher education institutions will collaborate in developing a platform for sharing information on the sector's current state and challenges, the opportunities that can be exploited, and the plausible actions and innovations that can be pursued to boost sector performance.

Legislative Agenda

Table 9-1: Legislative Agenda to Reinvigorate Services

LEGISLATIVE AGENDA	RATIONALE/ KEY FEATURES	RESPONSIBLE AGENCY
Update RA 10372 (An Act Amending Certain Provisions of RA 8293, otherwise known as the "Intellectual Property Code of the Philippines, and for Other Purposes")	This aims to commercialize technologies and support the development of creative industries. This will enhance the attractiveness of the Philippines as an investment destination that places high value on intellectual property creation, protection, utilization, and commercialization, as well as prevent piracy in the physical and digital markets.	Intellectual Property Office of the Philippines
Open Access in Data Transmission Act	This seeks to level the playing field in the data transmission and telecommunications market. Its passage will strengthen value chain linkages in the industry and services sectors and facilitate the realization of the full potential of e-commerce and digital trade.	Department of Information and Communications Technology (DICT) and National Telecommunications Commission (NTC)
Internet Transactions Act	The bill aims to define the scope and coverage of internet transactions, apart from the sale or exchange of digital products, and lay down the code of conduct and qualifications for businesses who wish to engage in e-commerce. It also proposes the creation of an E-commerce Bureau to handle complaints on internet transactions, protect consumer rights, and facilitate the speedy resolution of complaints, among others.	Department of Trade and Industry (DTI)
International Maritime Competitiveness Act	This will address the expensive shipping rates in the Philippines due largely to the imposition of "excessive, arbitrary, and unreasonable" shipping charges by foreign shipping lines, such as the "destination and origin charges," container deposit fees, container cleaning fees, detention and demurrage charges, and port congestion charges.	Maritime Industry Authority

Results Matrix

Table 9-2: Results Matrix: Reinvigorate Services

INDICATOR	BASELINE (YEAR)	TARGETS							MEANS OF VERIFI-CATION	RESPON- SIBLE AGENCY/ INTER- AGENCY BODY
		2023	2024	2025	2026	2027	2028	EOP		
Chapter Outcome: Services Reinvigorated										
Gross value added (GVA) growth rate in the services sector improved (%)	5.8 (2021)	7-8	7-8	7-8	7-8	7-8	7-8	7-8	National Income Accounts	Philippine Statistics Authority (PSA), Department of Trade and Industry (DTI)
Employment generated in services sector increased ('000)	2,848 (2019)	increasing							National Income Accounts, Labor Force Survey	PSA, Department of Labor and Employment (DOLE)
Number of tourist arrivals improved (in thousands) *	2,100 (2021)	2,160	2,270	2,390	2,510	2,630	2,760	2,760	Report on the Regional Distribution of Travelers	DOT
Aurora	42.78 (2021)	44.92	47.17	49.53	52.00	54.60	57.33	57.33		
Bataan	101.75 (2021)	106.84	112.18	117.79	123.68	129.87	136.36	136.36		
Bulacan	133.79 (2021)	140.48	147.50	154.88	162.62	170.75	179.29	179.29		
Nueva Ecija	98.00 (2021)	102.90	108.05	113.45	119.12	125.08	131.33	131.33		
Pampanga	829.25 (2021)	870.72	914.25	959.97	1,007.8	1,058.3	1,111.3	1,111.3		
Tarlac	38.14 (2021)	40.05	42.05	44.15	46.36	48.68	51.11	51.11		
Zambales	817.24 (2021)	858.10	901.01	946.06	993.36	1,043.0	1,095.2	1,095.2		

10

**Advance Research
and Development,
Technology, and Innovation**

CHAPTER 10

Advance Research & Development, Technology, and Innovation

Research and development, technology and innovation have shaped and driven economic development and provided solutions to the world's social and environmental problems. Critical as these are in inducing economic and social transformation, investing on R & D, technology development and innovation shall be pursued in earnest. Further collaboration shall be promoted between R&D institutions and the private sector in the development of relevant technologies and innovations that would spur economic growth and promote social development.

Assessment and Challenges

Improved Innovation Ranking. The Philippines' global ranking in the Global Innovation Index (GII) - an annual ranking of countries by their capacity for and success in innovation published by the World Intellectual Property Organization - has improved from 73rd in 2017 to 59th in 2022. Based on the GII 2021 report, the Philippines produces more innovative outputs relative to its level of investments. The country performed well in four areas: business sophistication, knowledge and technology outputs, and creative outputs.

Increased funding for research and development. Support for R&D has grown in the recent past (2015 to 2018) according to a study of the Department of Science and Technology (DOST), the Philippine Statistics Authority (PSA), and the University of the Philippines in Los Baños (R&D Survey report, 2018). The 2018 survey data revealed that the national R&D expenditure, also known as the gross expenditure on R&D (GERD), has more

than doubled from PHP21.9 billion in 2015 to as much as PHP58.9 billion in 2018.

Among the regions in the country, Central Luzon registered the second largest R&D government expenditure amounting to PHP5.20 billion in 2018, next to NCR's PHP5.30 billion. It, however, recorded the largest private sector R&D expenditure amounting to PHP13.80 billion in the same year. Relative to the region's gross output, the region's GERD was recorded at 0.94 percent of GRDP in 2018, up from 0.12 percent in 2015. The national target by 2028 is 1 percent.

Strengthened industry-academe-government linkages and establishment of innovation hubs in the region. Efforts and initiatives to link R&D players in the region to strengthen the regional innovation ecosystem have gained more traction in recent years through Republic Act No. 11337, also known as the Philippine Innovation Act. Better industry-academe-government linkage is now seen with

the establishment of the Regional Inclusive Innovation Centers (RIIC) in the region lodged at the Bulacan State University. Known as the Technological Hive of Regional Innovation for a Vibrant Ecosystem or THRIVE Central Luzon, the center serves as a network of innovation agents working together to pursue commercialization of market-oriented research and development outputs. Through this convergence, the Center aims to foster sustainable partnerships that will encourage productivity and competitiveness among micro, small, and medium enterprises (MSMEs).

In addition to THRIVE Central Luzon, there are also academe-based technology business incubators (TBI) that were established as part of the innovation ecosystem and that serve as venues or mechanisms for developing startup enterprises. Add to this is the DOST Collaborative Research and Development to Leverage Philippine Economy (CRADLE) Program that provides support to technological advancement and innovation of local companies. Through this program, the academe and/or RDI, in partnership with a Filipino company, undertakes research and development to improve the company's products, processes, and services to become more competitive in their respective industries. Through CRADLE, research outputs from the academe are directly translated to commercially viable goods in the market.

Decreased number of tertiary graduates in STEAM programs. While there is growing attention to and funding for R&D given its importance in promoting economic and social growth, there prevails a declining number of graduates in Science, Technology, Engineering, Agri-Fisheries/Arts, and Mathematics (STEAM). From 7,837 graduates in 2016, the number dropped to 2,569 in 2021. Said decline is attributed to the decrease in the number of enrollees, inadequate facilities, and lack of trained teaching staff. Addressing this concern is essential in sustaining the quantity, as well as quality, of human capital necessary for undertaking R&D, in developing new technologies and innovations. Aggressively encouraging students to engage in S&T careers by enrolling in STEAM programs as well as broadening the scholarship programs available for these degree programs would be a step in this direction.

IP application and adoption remains low. The output of R&D is commonly measured in terms of patents granted to Filipino residents. IP registration is encouraged to protect researchers and inventors of their research outputs, inventions or creations from infringement or unlawful copying or use, as well as to give these their due recognition. Registration is also important for an IP owner to share their ideas to the public while protecting their own interests (upd.edu.ph/research/intellectual-property). Albeit its importance, IP registration, however, remains low in the region, with Intellectual Property Rights (IPR) filings in 2021 at 370 dropping below those registered in 2019 and 2020.

Strategy Framework

The goal is to transform the production sectors to generate more quality jobs and competitive products in the next six years. Advancing

research and development, technology and innovation is critical to achieving this goal. R&D provides the tools for delivering goods

and services crucial in advancing growth and societal welfare. Measures to boost R&D shall

be guided by the strategies shown in Figure 10-1 and discussed in the following section:

Figure 10-1: Strategy Framework to Advance Research and Development, Technology, and Innovation



Strategies

Outcome 1: Basic research and development and knowledge creation strengthened

Nurture a supportive environment for R&D

For R&D to be truly relevant, the tools necessary to discharge the function must be available and accessible. Such include human capital and physical assets that would allow R&D to move forward and generate usable and practical outputs. Relative to this, the RDC III will work towards upgrading the human capital and built facilities in the region to promote and advance R&D. Initiatives will include developing R&D networks, augmenting funding, providing rewards and incentives, building manpower capacity, and modernizing R&D infrastructures with the help of DOST 3 and SUC, and LGUs.

Spatially, the RDC III will support the full development of the Science City of Munoz in the province of Nueva Ecija as the center of agricultural research and technology that will produce information and technological breakthroughs to advance rural development, productivity, and food security in the region.

Additionally, it will back the construction and operationalization of a virology and vaccine institute in New Clark City in Capas, Tarlac. It will work with BCDA and DOH 3 to ensure the completion of the facility which will serve as the country's foundation of research and innovation on human, animal, and plant viruses in the next 10 to 15 years.

Continue to increase funding support for R&D and commercialization of its outputs

The RDC III will continue to push for the provision of sufficient appropriations to regional line agencies and government instrumentalities that advance R&D and innovation in the region during the annual budget review process. Furthermore, it will ensure that initiatives related to this thrust will be consistent with the 12 key operational areas of DOST's *Pagtanaw 2050: The Philippine Foresight on Science, Technology, and Innovation*.

Aggressively promote STEAM courses to improve number of R&D personnel

The DepEd 3 and CHED 3 will pursue programs and projects that will encourage the youth to take up STEAM courses in their secondary

and tertiary education years. These agencies will work with the DOST 3 for the provision of scholarship grants to students who will enter the S&T programs.

Outcome 2: Technology extension, adoption, utilization, and commercialization scaled-up

Promote technology transfer, extension, and commercialization of publicly funded technologies

The DTI3 and the DOST 3 will continue to create platforms and fora for public-private sector exchange on R&D products and innovation. This will facilitate the transfer and utilization of mature technologies, and therefrom, the recouping of research investments through the benefits they will generate. Support to extension activities will also be augmented to ensure that the products of research capture the attention of target users/beneficiaries. Information on the technology development or transfer process will be considered as well. Thus, a database for the researches, technological advancements, and innovation outputs to be supported by a web-based platform will be established in order to increase the visibility of knowledge products and reinforce the bid for adoption and commercialization.

Moreover, the RDC III will utilize THRIVE Central Luzon to harmonize existing innovation assets, and link the stakeholders with the innovation base of the region. It will likewise encourage the SUCs in the region to consider the current initiatives of the University of the Philippines as models for enhancing the protection, deployment and marketing of research and creative works of their students

and personnel to address low IP application and adoption.

Furthermore, the DOST 3 will proactively act as a conduit for technology transfer transactions between RDIs and adopters as provided by the Republic Act 10055, or The Philippine Technology Transfer Act of 2009.

Strengthen the provincial S&T offices

Provincial Science and Technology Offices (PSTO) are mandated to identify the science, technology and innovation needs in the provinces, implement DOST programs that will be beneficial in rural areas, and develop the institutional linkages among provincial offices, academe, and local government units. PSTOs are also expected to lead the promotion and transfer of technologies and services to enhance the technology-livelihood enterprises in the countryside, and formulate Science, Technology, and Innovation (STI) plans, programs and projects designed to promote science, technology, and innovation culture among their respective constituencies. Hence, support for their maintenance and upgrading will be promoted and accelerated both by the DOST 3 and the provincial governments in the region.

Outcome 3: Innovation and entrepreneurship accelerated

Accelerate business mentoring and scientific technical assistance

DOST 3 and DTI 3 will strive to facilitate access to government programs such as One-stop Laboratory Services for Global Competitiveness, Shared Service Facilities, Advanced Device and Testing Laboratory, Electronics Product Development Center, Regional Standards and Testing Laboratories, and other specialized laboratories for product development and improvement. The former's Small Enterprise Technology Upgrading Program will be expanded to enable more MSMEs to access government assistance. This aid comes in the form of technical support for compliance with product and quality standards, packaging, and labeling, as well as training and consultancy services.

Establish and promote innovation hubs and other similar collaborative platforms

As innovation or knowledge hubs serve as venues for the generation and development of ideas, the RDC III will provide support to their

development. This is to inspire skills and talents in the region to engage in R&D and innovation.

In the near-medium term, the resources of the SUCs, HEIs and the private sector will be tapped to jumpstart the establishment of dedicated spaces where experts, researchers, students, and employees can experiment, create and prototype new ideas. The hubs will be equipped with the latest technology, tools, and resources that will allow individuals and teams to explore new ideas and bring them to life.

Encourage more innovative financing mechanisms and private sector investments

Private investment in R&D and innovation will also be encouraged to complement public investment. This will be done through partnerships or collaboration in R&D undertakings deemed to help the private sector increase its productivity and competitiveness. Incentives will be given to firms that will funnel heavy investment on R&D that will produce breakthroughs, and deliver technological change and improvements.

Legislative Agenda

Table 10-1: Legislative Agenda to Advance Research and Development, Technology, and Innovation

LEGISLATIVE AGENDA	RATIONALE/ KEY FEATURES	RESPONSIBLE AGENCY
Amending Section 177 and Section 216 of Republic Act No. 8293, otherwise known as the Intellectual Property Code of the Philippines, as amended by Republic Act No. 10372, and for Other Purposes	<p>The bill seeks to amend the following sections of the IP Code: (a) Section 177 to consider rampant digital reproduction of copyrightable works; and, (b) Section 216 of the IP Code, as amended, to address increasing concerns on secondary liability and online copyright infringement issues, such as those related to P2P networks and ISPs.</p> <p>This bill considers the right of copyright owners to prevent others from copying, uploading, scanning, digitizing, or distributing their creative work.</p>	Intellectual Property Office of the Philippines

LEGISLATIVE AGENDA	RATIONALE/ KEY FEATURES	RESPONSIBLE AGENCY
Establishing the Science for Change Program and Appropriating Funds Therefor	The bill seeks to institutionalize the Science for Change (S4C) Program of the DOST to address the inadequacies in the field of research and development, and enable the nation to be globally competitive and equipped to provide knowledge-driven solutions and evidence-based responses in resolving the nation's challenges.	DOST

Results Matrix

Table 10-2 presents the indicators and targets for science, technology, and innovation under the Plan period to advance research and

Table 10-2: Results Matrix: Advance Research and Development, Technology, and Innovation

INDICATOR	BASELINE (YEAR)	TARGETS							MEANS OF VERIFICATION	RESPONSIBLE AGENCY/ INTER- AGENCY BODY
		2023	2024	2025	2026	2027	2028	EOP		
Outcome 1: Basic research and development and knowledge creation strengthened										
Increased Gross Expenditure on Research and Development (GERD) as a proportion of the gross regional domestic product (GRDP)	0.94 (2018) UPLB Report	0.4		0.5		0.6		0.6	PSA DOST R&D Survey (Biennial)	DOST
Number of R&D personnel in the region increased per million population	100 (2018) UPLB Report	120		150		180		200	DOST R&D Survey	DOST
Percentage Increase in the number of STEAM graduates in the region	2,569 (2021)	10%	10%	10%	10%	10%	10%	10%	CHED/SUCs and HEIs in Region 3	CHED
Increased number of R&D Centers established/upgraded/maintained									DOST DA SUCs RDIs	DOST/CHED Regional R&D Consortia
- NICERs	3	3	4	4	5	5	6	6		
- Innovation Centers	2	3	4	5	6	7	8	8		
Outcome 2: Technology extension, adoption, utilization, and commercialization scaled up										
Academe-Industry-Government R&D linkages increased and strengthened		10%	10%	10%	10%	10%	10%	10%		
Increased number of technology business incubators (TBIs) established/maintained	3	5	6	6	7	7	8	8	DOST DA SUCs	DOST
Regional inclusive innovation center-established and maintained	1	1	1	1	1	1	1	1	Only 1 RIIC per region is put up	THRIVE CL Bulacan State University
Percentage increase in the number of publicly funded R&D results transferred and commercialized	No data available	10%	10%	20%	20%	30%	30%	30%	DOST DA SUCs RDIs	DOST
Number of Intellectual Property Rights Filings	370 (2021)	TBD	TBD	TBD	TBD	TBD	TBD	TBD	IPOPHL	DTI IPOPHL
Outcome 3: Innovation and entrepreneurship accelerated										
Number of start-up enterprises established/assisted									Annual reports	DTI TBIs
Percentage increase in the number of R&D programs and projects implemented in the region	TBD	5%		10%		15%		15%	DOST DA SUCs RDIs	DOST/CHED Regional R&D Consortia
Increase in the number of incubators and accelerators	3	5	6	6	7	7	8	8	DOST DA SUCs	DOST
Increase in the number of private investments on R&D	<2% UPLB Report	5%		10%		15%		15%	DOST R&D Survey	DOST

11

**Promote Trade
and Investments**



CHAPTER 11

Promote Trade and Investments

Central Luzon shall continue to harness its export and investment potential. Its wealth of resources, coupled with its pool of skilled human capital, infrastructure development, and presence of special economic zones render the region a haven for export processing and investments. Tapping into and developing this potential, particularly for value addition of primary agricultural products, will invigorate the region's economy and serve to generate jobs needed to lift people out of poverty.

Assessment and Challenges

Exports

Central Luzon exports account for 11 percent of the country's total exports, majority of which come from the provinces of Pampanga and Zambales on account of the special economic zones (SEZs) located here. For Pampanga in particular, major sources are the electronics manufacturing companies in the Clark Freeport Zone (CFZ).

Electronics top the list of export products accounting for 69 percent, followed by machinery / transport equipment / apparatus & parts (9 percent), garments / textiles (4 percent), petroleum (4 percent), and other consumer goods manufactured (4 percent).

The pandemic and other prevailing external shocks had the export market reeling, experiencing a decline in revenues. While the opening of the economy somehow eased the stress in the market, the threat of a downturn still looms large because of the economic slowdown happening in other parts of the globe. Out of the 19 monitored export sectors, 4 reported declines in terms of export value in 2021. These include electronics, garments / textiles, ceramics and other consumer goods manufactured. Hopes

are high, however, that the crises in the external markets will not become protracted as to deeply hurt and debilitate said industries.

This leads to the challenge of expanding the market base of the region's export products to include the domestic market as fallback when crisis hits, as well as diversifying the product mix. The region's huge basket of raw produce and byproducts, for example, offers promise both in the domestic and export markets especially when transformed to higher-value goods.

On the other hand, the region's wood-based products, such as furniture and furnishings, are facing threats of declining raw material supply and the consequent high cost of production. The garments industry is also facing pressure from competition posed by other countries. The big challenge, hence, is how to keep these sectors afloat noting the industries' cross-sectoral linkages and labor base.

Investments

Central Luzon continues to be one of the top investment destinations in the country with investments pouring into the region's special

economic zones. Currently, there are 21 SEZs that are operational and 37 economic zones/IT parks or centers that are in the development stage. When completed and fully utilized, this will translate to more investments and jobs and to the region's inclusive growth - as said ecozones cut across the region.

While investments have been on the uptrend (from PHP139.14 billion in 2016, investments grew to PHP167.08 billion in 2021), growth was noted to be slow with a few exceptions such as in 2019 and 2020. During this two-year period, large investments flowed in because of the airport development in Pampanga (Clark International Airport) and Bulacan (Bulacan International Airport).

This aside, investments have been rather languid in ecozones outside of CFZ and Subic Bay Freeport Zone (SBFZ), notably the Freeport Area of Bataan (FAB) and Aurora Pacific Economic Zone and Freeport (APECO). Large tracts of land in said ecozones remain

unproductive, waiting to be developed and for investments to flow in. For these areas, access and connectivity remain a constraint, discouraging the inflow of investments.

Concerns are also among ecozones that investments will become even harder to come by with the implementation of CREATE law, which harmonized the incentives of investment promotion agencies (IPAs) and LGUs. This time, the IPAs will have to compete not just among themselves but with the LGUs under a uniform incentive scheme.

The challenge under this scenario is in harmonizing the efforts of all concerned in a way that will transform the region into a bustling investment hub. Such is crucial in the face of opportunities presented by the potential relocation of investments in other Asian countries. This holds promise for the country, and the region in particular, banking on its labor and resource advantage.

Strategy Framework

The promotion of trade and investments in goods and services shall be pursued with more vigor in the next six years. Efforts on this shall be guided by the strategies as outlined in the following strategy framework (Figure 11-1).

These strategies shall center on strengthening the export sector and increasing investments, development areas in the region which show promise of catapulting the region to greater heights when fully tapped and developed.

Figure 11-1: Strategy Framework to Promote Trade and Investments



Strategies

Outcome 1: Export sector strengthened

Diversify export products

Diversifying the region's export products to include resource-based products would increase the sector's resiliency in the face of external shocks, encourage value addition of primary resources, as well as sustain and encourage surplus creation of said resources. Such is critical in the face of external markets' protectionist stance during a food crisis. With this approach, the region can maximize opportunities both in the external and internal markets. In support, the region shall strive to enhance access to services that promote export growth and the development of attendant source industries. Measures toward this are described in the previous chapters on advancing the production sectors' growth.

Strengthen value and supply chain linkages

The region shall ensure that enterprises in the export ecosystem are linked and supply needs are addressed. This strategy shall include encouraging industries in ecozones to link with input sources in areas outside the ecozones. This is to encourage local area growth as well as train domestic input suppliers to 'think global' and upgrade local products and services to export quality standards. Further, the region shall promote "big brother-small brother" tie-ups among businesses in the supply chain. This is for the same purpose of encouraging quality upgrades especially among small enterprises. This will expand their market and encourage incorporation of value-adding processes to enhance competitiveness. The

expansion of programs providing assistance to MSMEs and cooperatives with potential for export transitions, such as the DTI's Shared Service Facilities and DOST's Technology Business Incubation Program, would help in improving competitiveness and value-addition of businesses in the supply chain.

Improve support services and infrastructure for export development

This shall involve eliminating bottlenecks in the system that are impeding export development. As pointed out in earlier chapters, initiatives shall continue on streamlining business permitting and licensing procedures to include digitalization of LGUs' and other concerned offices' processes. Further development of the region's infrastructure backbone shall also be pursued to facilitate export promotion (infrastructure development is further discussed in Chapter 13). Towards promoting food processing or value-adding of agricultural products for the domestic and export market, the region shall push for the development of the food processing terminal proposed for establishment in the New Clark City.

Outcome 2: Total investments increased

Investment promotion focusing on regional industry priorities

Investment promotion shall focus on the priority industries as prescribed in the Strategic Investment Priority Plan (SIPP) and the Philippine Inclusive Innovation Industrial Strategy (i³S). For Region 3 the focused areas are bamboo, furniture, aerospace, processed food, garments and textile, and shipbuilding, as well as coffee, cacao, coconut, and wearable and homestyle.

Build the foundation to accelerate ecozone development / investment promotion

This shall include improving access and connectivity, either physical or digital, within investment corridors and growth centers; improving the quality of governance and settlements; providing for the critical support infrastructure such as electricity, water supply, sanitation, solid waste management, disaster reduction and mitigation; and developing the human capital that matches industry needs.

Legislative Agenda

Table 11-1: Legislative Agenda to Promote Trade and Investments

LEGISLATIVE AGENDA	RATIONALE/ KEY FEATURES	RESPONSIBLE AGENCY
Urgent ratification of the Regional Comprehensive Economic Partnership (RCEP) Agreement	Joining the RCEP will be beneficial to the Philippines to enhance its market access and investments. As of date, only the Philippines has not yet deposited its Instrument of Ratification to the Association of Southeast Asian Nations Secretariat. In 2020, RCEP accounted for 30% of the world's population, 30% of gross domestic product, 29% of trade, and 33% of global inward investments	Department of Trade and Industry (DTI)
National Quality Infrastructure (NQI) Act	Establishment of an NQI will help boost best practices and competitiveness. Compliance with standards can be a source of advantage (especially in context of e-commerce). This will also facilitate secure market access and utilization of free trade agreements	DTI, Department of Science and Technology, Development Academy of the Philippines
Export and Industry Development Act	Amendments to the law will provide targeted and strategic policy, program, and project support, including non-fiscal incentives, for the development of local industries toward export competitiveness. Most of the provisions of the Export Development Act have lapsed already	DTI
Executive Order (EO) for a whole-of-government, harmonized, and structured Investment Facilitation Mechanism, including resolution of critical issues and concerns for identified priority investments.	Issuance of an EO will provide cross-cutting facilitation services for priority investments.	

Results Matrix

Table 11-2: Results Matrix: Promote Trade and Investments

INDICATOR	BASELINE (YEAR)	TARGETS							MEANS OF VERIFICATION	RESPONSIBLE AGENCY/ INTER- AGENCY BODY
		2023	2024	2025	2026	2027	2028	EOP		
Outcome 1: Export Sector Strengthened										
Merchandise exports increased (in USD billion)	.32 (2018)								PSA/Ecozones	PEZA, DTI
Variety										
Number of commodities with revealed comparative advantage increased										
Number of locators procuring local raw materials									Ecozones	PEZA, DTI
Outcome 2: Total Investments Increased										
FDI to GRDP increased										DTI-BOI/PEZA
Number of locators in ecozones increased									Ecozone reports	PEZA

PART IV

Enabling Environment

12

**Promote Financial
Inclusion and
Improve Public
Financial Management**

CHAPTER 12

Promote Financial Inclusion and Improve Public Financial Management

Financial inclusion is a development concern which became more pronounced during the height of COVID-19 pandemic. To be financially inclusive means to have active access to a variety of financial services for wide-ranging needs such as cash transfer, savings, financing, investments and insurance. During the pandemic, access and the use of financial products became critical, especially for those in the lower income class, the unemployed, and other marginalized sectors that have been affected the most by the pandemic.

As the region's economy remains fragile and faces headwinds including high inflation and the ongoing coronavirus disease pandemic, sound public financial management will be critical to sustain economic recovery and social transformation.

Assessment and Challenges

Financial Inclusion

Account ownership significantly increased from 2019 to 2021 but continues to be low. Having access to a transaction account is considered a basic indicator of financial inclusion. Based on the 2021 Financial Inclusion Survey conducted by the Bangko Sentral ng Pilipinas (BSP), account ownership in the country significantly increased to 56 percent in 2021 from 29 percent in 2019. The recorded close-to-double growth of account ownership is the highest in the country to date. This was 4.5 times higher than the 6.0 percentage points increase in 2019 from 2017. In Central/North Luzon, account ownership also increased to 47 percent in 2021 from 26 percent in 2019. E-money accounts are the most-owned accounts, with users growing more than fourfold in just two years based on the survey. There are disparities, however, in account ownership across demographic segments and locations. For example, Mindanao residents

(67%) were more likely to own an account than those from North and Central Luzon (47%).

The most common reasons cited for not owning an account are: 1) lack of funds or not having enough money; 2) lack of documentary requirements; 3) lack of knowledge on the process; 4) perceived lack of need for an account which is linked to limited awareness of accounts as means for payment and remittance transactions; 5) expensive; 6) distance; and 7) lack of trust.

Strengthening financial education is among the strategic objectives being pursued by the Bangko Sentral ng Pilipinas (BSP) as stipulated in the National Strategy for Financial Inclusion (NSFI) 2022-2028. The Central Luzon Regional Development Council (RDC III) supports the NSFI to ensure that government measures, policies, programs, and other efforts on financial inclusion are coordinated and harmonized. The RDC III acknowledged the need to promote

NSFI's adoption in local programs and policies to ensure effective implementation of its strategic objectives. It also recognized the significance of financial inclusion in achieving the long-term vision of Ambisyon Natin 2040.

The RDC III adopted financial inclusion as a priority development agenda in the Central Luzon Regional Development Plan 2023 - 2028 and enjoined government agencies and local government units in Central Luzon to consider financial inclusion objectives in their plans, programs, and projects.

Incidence of savings among adults remains low. In 2021, only 34 percent of adults in North and Central Luzon were recorded to have savings. The figure is lower compared to the national average of 37 percent. People who do not have access to financial services are much less likely to save money and are therefore less likely to have the resources to keep their family healthy, safe, and educated.

Access to financial services is limited particularly among marginalized and vulnerable individuals and micro, small and medium enterprises. An important element of financial inclusion is access to financial services. The more liquid money is accessible in an economy, the more investments are made—therefore bringing about economic expansion. In Central Luzon there are several access points such as 1,362 banks (as of September 2022) and 44 non-bank financial institutions (as of December 2021). The number of commercial bank branches per 100,000 adults was registered at 14.7 and the number of ATMs per 100,000 adults was at 24.49 in 2021.

Despite the presence of banks and non-bank financial institutions in the region, the capacity of individuals and businesses to obtain financial services such as credit, deposit, payment, and insurance remains to be a challenge. Individuals belonging to the disadvantaged or marginalized sectors like smallholder farmers are mostly unbanked or underbanked (see Chapter 7).

Based on the 2020 State of Agriculture Finance prepared by the Department of Agriculture (DA) and the Agricultural Credit Policy Council (ACPC), the decline in bank lending to agriculture is observed in most areas outside of National Capital Region specifically in Central Visayas (-13%) and Central Luzon (-11%).

Similarly, some enterprises, particularly the micro, small and medium enterprises (MSMEs), are also considered unbanked or underbanked. The MSMEs, which make up 99.97 percent of the region's industry sector, have limited access to finance that constrains them to be more competitive and innovative. The stringent requirements of the financial institutions make it difficult for small enterprises to avail financial services (also discussed in Chapter 8).

Lack of identity documents hampers account ownership. The Financial Inclusion Survey 2021 cited that one of the most common barriers for owning a bank account is cost concerns and lack of documents. Lack of identification requirements is one of the most common barriers for owning a bank account as cited in the Financial Inclusion Survey 2021. As of September 2022, the Philippine Statistics Authority 3 recorded 8,464,287 number of registrants in the Philippine Identification System (PhilSys) or 69 percent of the region's target population to register. Among the provinces, Bulacan had the highest number of registrants with 2,423,998, followed by Pampanga with 1,937,083 and Nueva Ecija with 1,576,109. Only 2,518,941 PhilSys IDs have been printed and delivered as of August 2022.

Public Financial Management

Effective delivery of public services is closely linked with economic growth and poverty reduction. National and local government units that have strong public financial management tend to deliver services more effectively and equitably.

Regional line agency budget utilization rates have improved. Government budgeting is the process of allocating finite resources to attain the economic and social goals of the country. It also involves the execution of budgeted expenditures in such a way that creates the most economic impact from the production and delivery of goods and services. Higher utilization of cash allocation indicates greater capacity of agencies to implement their programs and projects, hence utilization rates of agencies are regularly monitored and serve as basis in determining future amounts of allocated budgets and performance ratings. As of November of 2022, the utilization of cash allocations among agencies reached 94 percent. This is an improvement from 88 percent for the same period in 2021, based on the report of the Department of Budget and Management.

The RDC III reviews the annual budget proposal of regional line agencies (RLAs), and state universities and colleges (SUCs) in the region. For FY 2021, the average budget utilization rate obligation of RLAs was recorded at 97 percent and SUCs at 96 percent. However, the batting average of General Appropriations Act (GAA) vis-à-vis RDC-endorsed budgets of RLAs and SUCs from 2018 to 2022 was only at 46 percent.

Majority of LGUs are highly dependent on internal revenue allotment share. The local governments play a key role in steering economic growth at the sub-national level. They implement place-based policies to ensure better delivery of public services. Increasing decentralization and enhancing local government capability are indispensable to accelerate and sustain the quality of economic progress. Adequate local resources are likewise necessary to address the growing need for public services and respond to the demand for more effective governance.

The Internal Revenue Allotment (IRA) of provinces have been increasing for the period 2017 to 2021, from PhP11,909 million to

PhP16,814 million with an average growth rate of 9 percent. The LGUs rely heavily on the IRA or their share from the national revenue. In 2021, all provinces in the region were IRA-dependent with more than half of their current operating income, ranging from 64 percent (Bataan) to 95 percent (Aurora).

Low locally sourced revenue collections of LGUs. Notwithstanding the high IRA dependency ratio, the region ranked third in posting positive Locally Sourced Revenue (LSR) collections of PhP24.05 billion (9 percent of LGUs' total LSR) in 2021, next to CALABARZON with PhP40.23 billion (16 percent) and NCR with collections of PhP103.77 billion (41 percent). The provinces of Bulacan, Pampanga and Zambales were among the top 10 LGU provinces in terms of highest LSRs, collection efficiency of LSRs, and year-on-year growth rate in LSR. The LSRs are collected from the real property tax, local business tax, fees and charges and receipts from economic enterprises.

Utilization of the Local Development Fund of LGUs is improving. Priority development projects of LGUs can be financed through the Local Development Fund (LDF) provided that these are included in the approved local development plan and Annual Investment Program. Improvements in the utilization of the 20 percent component of annual IRA for LDF was noted in all provinces, except for Bulacan. According to BLGF report for 2019 and 2020, the provinces of Aurora (from -45% to 56%), Pampanga (from -22% to 36%), Tarlac (from -37% to 39%) and Zambales (from -41% to 68%) posted positive growths.

The provinces of Bataan and Nueva Ecija were able to fully utilize their LDF in 2019 and 2020. Bataan's utilization rate increased from 107 percent to 141 percent while Nueva Ecija's use of LDF for its priority development projects grew from 91 percent to 100 percent.

Debt services is given the highest priority among LGU expenditures. LGU expenditures are categorized to the general purposes of local governments such as general public services, education, health, nutrition and population control, labor and employment, housing and community development, social security or social services and welfare, economic and debt service. For the period 2018 to 2020, Debt Services or the expenditures for the repayment of loans, interest, and other service charges for debts of LGUs, accounted for the biggest share, tantamount to 38.4 percent of the total expenditures of provinces. In contrast, Economic Services registered 5.2 percent.

Implementation of e-Governance in the LGUs remains a challenge. Digitizing government financial services can deliver faster, safer and more reliable social transfers, and help reduce operational costs. The Integrated Business Permits and Licensing System (iBPLS) Program of the Department of DICT aims to hasten the issuance of documents such as business and building permits, and barangay clearances from processing to payments. As of 2022, there were 62 LGUs (out of 130; or 48 percent) implementing the iBPLS (also discussed in Chapter 15).

Strategy Framework

As part of an enabling environment for sustained economic recovery and social transformation, financial inclusion must be promoted, and public financial management improved. Toward these goals, financial inclusion will be deepened and

broadened while efficiency, accountability, and transparency in public financial management will continue to be improved. The strategies proposed in the diagram below are expected to bring about these outcomes.

Figure 12-1: Strategy Framework to Promote Financial Inclusion and Improve Public Financial Management



Strategies

Outcome 1: Financial inclusion broadened and deepened

Promote financial literacy and improve financial education

Among the reasons cited for low account

ownership are lack of knowledge on the process and perceived lack of need for an account which is linked to the limited awareness of

accounts as means for payment and remittance transactions. This indicates that people's ability to make financial decisions is determined by their financial literacy and highlights the need for and importance of financial education. Increasing financial literacy will not only involve improving knowledge and understanding of financial concepts and risks but also developing skills, motivation, and confidence to apply such knowledge and understanding. Making effective decisions will improve the financial well-being of individuals and families.

Consistent with the National Strategy for Financial Inclusion (NSFI) 2022-2028, financial literacy programs will be expanded to cover schools, workplaces, and the community. Various social media platforms will be used to increase citizen's financial literacy. In addition, financial literacy programs will be customized to target specific audiences by identifying specific needs, objectives, and evaluation metrics. NEDA together with BSP will continue to spearhead the celebration of the Economic and Financial Literacy Week (EFLW) every second week of November to develop consciousness on economic and financial literacy.

Establish savings groups

The establishment of savings groups is one pathway for the basic sectors to build up their financial resources. Savings groups can take advantage of new financial technology and money apps to connect savings group members to formal financial service providers. This provides enhanced security through cashless payments and transfers and improves bookkeeping through automated accounting. Civil society organizations working with the basic sectors will be encouraged to continue organizing, capacitating and supporting saving groups.

Improve access to financial services

Technical assistance and other capacity-building activities will be provided by the government to financial institutions to help them develop or test new products and services. These undertakings can widen access to finance for underserved individuals, particularly those belonging to the marginalized sector. Investors and businesspeople will be encouraged to establish financial institutions to increase the number of banks, automated teller machines (ATM) and other access points. The private sector will be tapped to boost investments specifically for innovations in financial services to stimulate growth in the market.

The programs and projects for unbanked and underbanked individuals and enterprises will be prioritized to provide them access to financial services. For instance, DA 3 in partnership with ACPC will enhance the implementation of agricultural credit and financing programs such as SURE COVID-19, Kapital Access for Young Agripreneurs, Agri-Negosyo Loan Program, Sikat Saka Program, and Agrarian Production Credit Program. Granting accessible and affordable financial services to small farmers and fisherfolks can help them improve their production and increase their profits. Additional capital can support the modernization and growth of their agri-fishery projects making them successful agri-preneurs. The financing programs will be assessed to identify improvements in terms of implementation.

Fastrack the implementation of PhilSys registration and issuance of National ID

The roll-out of the PhilSys aims to streamline transactions, improve delivery of social services, promote societal inclusivity, and expand financial inclusion especially for the marginalized sectors. To facilitate the distribution of the ID, various modes of physical

delivery such as designation of claiming areas in barangays and house-to-house delivery will

be implemented by the PSA provincial offices.

Outcome 2: Financial innovation accelerated and strengthened

Promote digitalization and innovation of micro, small, and medium enterprises in financing, microfinance, and microinsurance

Digital finance has the potential to address challenges of micro, small and medium enterprises MSMEs related to financing constraints. Limited access to credit is usually due to information asymmetry between the MSME borrower and the lender, and the cost of lending process from credit assessment both of which can be potentially addressed by digitalization of finance.

To promote digitalization of finance, investments in ICT and other digital infrastructure will be a top priority with the objective of providing

universal access to affordable high-speed quality internet. Further investments in fiber networks, cloud computing, and data centers will be encouraged.

The adoption of digital payments including small value transactions will be promoted to improve efficiency, enrich customer experience, and reduce costs over the long term. Improved digital platforms will help generate more savings and investments among financially underserved and unbanked populations.

The security in e-banking and financial online transactions will be improved to ensure that the personal, financial or security information of account owners are safe and protected from any type of fraud.

Outcome 3: Efficient, accountable, and transparent public financial management ensured

Improve financial management of regional line agencies

Continuous monitoring of budget utilization will be pursued over the medium term to determine the efficiency of line agencies in implementing programs, projects and activities.

RDC III's function of reviewing agency proposed budgets will be strengthened to ensure that allocations are consistent with regional priorities. The Council will continue to enhance its budgeting process to increase the 46 percent batting average of GAA vis-à-vis RDC III -endorsed budget proposals of RLAs and SUCs (see Chapter 15).

Strengthen the capacity of LGUs to raise more revenues and improve tax administration

Local governments' corporate powers, specifically of provinces with low locally sourced revenue i.e., Aurora, Nueva Ecija and Zambales, will be harnessed to lessen dependence from share in the collection of national taxes and raise the necessary funds to enable them to respond to the increasing demands for more and better services and improve operation. Towards this end, LGUs will be capacitated and assisted to be able to venture into various modes in the exercise of their corporate powers such as the

following: alliance or clustering mechanisms, build-operate and transfer scheme, joint venture, bonds, loans and credit, securing grants and forming corporations. Existing local economic enterprises or LEEs will be studied to determine appropriate policies and programs to improve their operation, profitability and sustainability.

Tax collection in local governments will also be improved to generate additional revenues that will finance public investments in infrastructure, human capital, and basic social services. This will be done by assisting LGUs in the adoption of new digital tools to improve data collection, processing of information, updating of tax maps and property valuation, collection of taxes and fees, preparation of reports. Digitization of LGU operations is also expected to enhance transparency and reduce red-tape and corruption. The iBPLS will be

installed to the remaining LGUs in Central Luzon to systematize the processing of business license and management of data and files (see Chapter 15).

The DILG 3 with other concerned agency will continue to provide technical assistance and capacity building interventions to LGUs with low levels of utilization of development funds particularly Pampanga, Tarlac and Aurora in formulating integrated socioeconomic, physical plans and corresponding investment programs. Local governments will be enjoined to fully utilize the funds appropriated for the 20 percent Development Fund in the implementation of their priority development projects especially in the light of the full devolution of functions brought by the implementation of the Mandanas-Garcia ruling of the Supreme Court (also discussed in Chapter 15).

Legislative Agenda

Table 12-1: Legislative Agenda to Promote Financial Inclusion and Improve Public Financial Management

LEGISLATIVE AGENDA	RATIONALE/KEY FEATURES	RESPONSIBLE AGENCY
Bank Account, E- Wallet and other Financial Accounts Regulation Act	This act regulates the use of bank account, e-wallet and other financial accounts and provides penalties for violations such as those on money mules and social engineering, thereby ensuring the safety of the public's hard-earned money and their trust and confidence in the financial system,	BSP
Bank Deposits Secrecy Bill	This bill will strengthen the capacity of the banking system in preventing fraud and other unlawful activities.	BSP
E-Governance Act of 2022	This act aims to establish an integrated, interconnected, and interoperable information and resource-sharing and communications network.	DICT
Internet Transaction Act or E-Commerce Law	This act proposes to create an E-Commerce Bureau that will regulate internet commercial activities and protect consumers with online transactions.	DTI
Digital Payments Act	This act intends to actively promote the use of digital payments in the country and expand economic participation particularly to unbanked individuals.	BSP
Local ordinances – digitalization, PFM-related (updated revenue code)		

Results Matrix

Table 12-2: Results Matrix: Promote Financial Inclusion and Improve Public Financial Management

Indicator	Baseline	Annual Plan Targets						Means of Verification	Responsible Agency/ Inter-Agency Body
	(Year)	2023	2024	2025	2026	2027	2028		
Outcome 1: Financial inclusion deepened and broadened									
Proportion of adults (15 years and older) with an account at a bank or other financial institutions or with a mobile money service provider increased (%)	47% (2019, North and Central Luzon)	55%	-	65%	-	70%	-	Financial Inclusion Survey, BSP	BSP
Percentage of adults with savings	34% (2019, North and Central Luzon)	35%		37%		39%		Financial Inclusion Survey, BSP	BSP
SDG 8.10.1.1 Number of commercial bank branches per 100,000 adults	14.7 (2021)	17	18	18	20	21	22	BSP report	BSP
SDG 8.10.1.2 Number of automated teller machines (ATMs) per 100,000 adults	24.49 (2021)	27	28	29	30	31	32	BSP report	BSP
Deposit Liabilities of the Banking System	871.82 Billion (as of March 2022)	NT	NT	NT	NT	NT	NT	Geographical Distribution of Deposit Liabilities, BSP Website	BSP
Loan Portfolio of the Banking System	204.87 Billion Pesos (as of March 2022)	NT	NT	NT	NT	NT	NT	Geographical Distribution of Loans, BSP Website	BSP
Loan to Deposit Ratio	0.235	NT	NT	NT	NT	NT	NT	Geographical distribution of Loans and Deposits	BSP
Number of Public Information Campaigns (PICs)	52 (CY 2022)	NT	NT	NT	NT	NT	NT	BSP-NLRO Accomplishment Report	BSP

INDICATOR	BASELINE (YEAR)	ANNUAL PLAN TARGETS						MEANS OF VERIFICATION	RESPONSIBLE AGENCY/ INTER-AGENCY BODY
		2023	2024	2025	2026	2027	2028		
Outcome 2: An efficient, accountable and transparent public financial management									
Notice of Cash Allocation (NCA) Utilization	94% (November 2022)	95%	95%	96%	96%	97%	98%	DBM Report of Status of NCA Utilization	DBM
NTA Dependency Rate	64 – 95 % (2021)	64 – 93 %	64 – 91%	64 – 89 %	64 – 87%	64 – 85 %	64 – 86%	BLGF report	BLGF
Aurora	95%							BLGF report	BLGF
Bataan	64%							BLGF report	BLGF
Bulacan	75%							BLGF report	BLGF
Nueva Ecija	89%							BLGF report	BLGF
Pampanga	69%							BLGF report	BLGF
Tarlac	81%							BLGF report	BLGF
Zambales	86%							BLGF report	BLGF
Locally Sourced Revenue	PhP24.05 billion (2021)	Increase by 2% from previous year	Increase by 2% from previous year	Increase by 2% from previous year	Increase by 2% from previous year	Increase by 2% from previous year	Increase by 2% from previous year	BLGF report	BLGF

13

**Expand and Upgrade
Infrastructure**



CHAPTER 13

Expand and Upgrade Infrastructure

Infrastructure is crucial to regional development, this being the backbone of an economy. Adequate and quality infrastructure stimulates economic growth and creates jobs by itself and as a result of the economic activities that it fuels. With equitable access, it also promotes inclusive growth as it lays the foundation necessary for the promotion of the general welfare. As it is, Central Luzon shall strive to build quality and accessible infrastructure to help achieve the goals of sustainable development and inclusive growth across the region. Focus in the next six years shall be on completing the implementation of various projects that will enhance physical connectivity, including farm-to-market roads; improving digital connectivity; building and upgrading health, education and sanitation facilities; and ensuring access to sustainable water and power sources.

Assessment and Challenges

Physical Connectivity

Road network (roads and bridges) improvements are currently being rolled out. Efforts to improve the land transport system are continually being carried out to provide the public with a fast, safe, and efficient transportation system. To preserve and protect the original structure and prevent early deterioration, the Department of Public

Works and Highways (DPWH) undertakes maintenance works on national roads and bridges.

As of December 2021, there were 2,388.53 kilometers of the national road being maintained by the agency, representing an increase of 44 kilometers relative to the statistic in the previous year due to reclassification of local roads to national roads.

Table 13-1: Status of National Roads in Central Luzon, as of December 2021 (in kilometer)

REGION/ PROVINCE	PAVED		UNPAVED (GRAVEL)	TOTAL	% PAVED
	CONCRETE	ASPHALT			
Central Luzon	1,190.24	1,197.380	0.906	2,388.53	99.96
Aurora	213.818	41.286	0.029	255.13	99.99
Bataan	177.680	145.955	-	323.64	100.00
Bulacan	193.415	149.507	-	342.92	100.00
Nueva Ecija	206.726	336.337	0.877	543.94	99.84
Pampanga	185.214	144.750	-	329.96	100.00
Tarlac	178.424	222.713	-	401.14	100.00
Zambales	34.965	156.832	-	191.80	100.00

Source: DPWH 3

Beginning 2017, the agency used the international roughness index (IRI) to guide the evaluation and management of the region's road systems. The region's national road pavement (concrete/asphalt) condition was in fair condition from the year 2016 to 2019, with average IRI ranging from 3.92 to 3.63 ratings (Table 13-2).

Table 13-2: Region 3 Average IRI, 2016-2019

YEAR	AVE. IRI
2016	3.92
2017	3.48
2018	3.48
2019	3.63

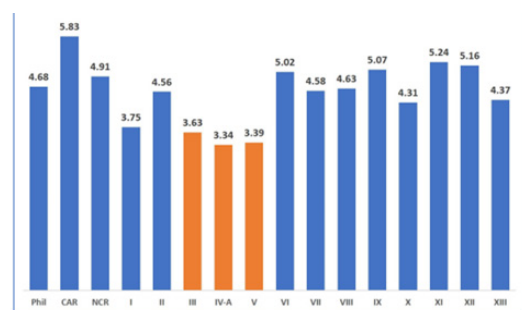
Source: DPWH 3

The IRI acceptable value of not more than 3 is yet to be achieved. There was an improvement in 2017 and remained the same in 2018 with an IRI rating of 3.48. In 2019, the rating was 3.63 based on the result of the survey conducted for the 359.31 kilometers of national paved roads. This meant that there was a decline in quality compared to that of 2018. Shown in Figure 13-1, Central Luzon was among the regions with IRI ratings closest to the ideal index of less than 3. The other regions were CALABARZON and Bicol which achieved IRI ratings of 3.34 and 3.39, respectively.

Road quality based on the 2021 RoCond survey of the total national roads, 1,146.3 kilometers (48 percent) were assessed as good, 787.3 kilometers (33 percent) as fair, 240.9 kilometers (10 percent) as poor, 100.6 kilometers (4 percent) as bad. The remaining 113.41 km (5 percent) were not yet assessed, as these were under rehabilitation/upgrading. Table 13-3 shows the conditions of national roads per province. The DPWH shall prioritize those provinces having roads in poor and bad conditions to prevent further deterioration. Poorly maintained roads could cause vehicular accidents which oftentimes result in traffic congestion, and sometimes loss of lives. It slows down local economic development as basic goods and services would not be delivered on time.

Bridges are vital links in road networks, making travel by land easier and faster. All bridges along national roads have been converted from temporary to permanent. As of December 2021, there were 743 bridges covering 38,043 linear meters - an increase of 17 bridges or 1,975 linear meters from the year 2018. Based on the 2021 survey, 503 of these bridges were classified as good, 214 bridges as fair, 23 as poor, and 3 as bad (Table 13-4). Similar to roads, those in poor and bad conditions should be prioritized.

Figure 13-1: Average International Roughness Index by Region, 2019



Source: DPWH 3

Table 13-3: National Road Length by Condition per Province (in kilometers), 2021

REGION/PROVINCE	GOOD	FAIR	POOR	BAD	NO ASSESSMENT	TOTAL
Central Luzon	1,146.30	787.30	240.94	100.58	113.41	2,388.53
Aurora	103.93	120.44	21.20	2.29	7.27	255.13
Bataan	111.52	146.41	23.52	25.15	17.04	323.64
Bulacan	179.40	110.99	29.20	7.81	15.53	342.92
Nueva Ecija	331.72	113.35	46.38	25.44	27.05	543.94
Pampanga	157.16	91.00	37.15	19.54	25.12	329.96
Tarlac	134.64	166.10	68.42	19.95	12.02	401.14
Zambales	127.93	39.01	15.08	0.40	9.38	191.80

Source: DPWH 3

Table 13-4: Bridge Condition in Region 3 by Province, 2021

PROVINCE	GOOD		FAIR		POOR		BAD		TOTAL	
	NO.	LM	NO.	LM	NO.	LM	NO.	LM	NO.	LM
Central Luzon	503	25,297.40	214	11,146.76	23	1,353.12	3	246.20	743	38,043.48
Aurora	39	2,815.65	34	2,827.64	1	60.54	1	164.00	75	5,867.83
Bataan	57	1,653.42	61	1,415.75	9	437.65	2	82.20	129	3,589.02
Bulacan	70	3,278.57	44	1,911.52	4	63.94			118	5,254.03
Nueva Ecija	102	5,289.50	30	1,564.83	2	92.49			134	6,946.82
Pampanga	85	4,815.89	27	2,144.42	6	552.00			118	7,512.31
Tarlac	79	3,609.32	16	1,039.10					95	4,648.42
Zambales	71	3,835.05	2	243.50	1	146.50			74	4,225.05

Source: DPWH 3

Aside from national roads being maintained by the DPWH, new roads are being constructed to improve the road network. A seamless transport system not only within the region but also to other regions. Completion of these roads will alleviate traffic along the major thoroughfares. To further enhance economic activities in the region, completing these projects is necessary. Among the projects are: (i) Capas-Botolan road which provides direct east-west access between Tarlac and Zambales passing through mountainous areas. The 81-kilometer road will also provide access to New Clark City. Once completed, travel will be reduced from 4 hours (using the MNR and SCTEX route) to about 2 hours and 40 minutes; (ii) Sta. Cruz-Mangatarem Road provides direct links between Region 1 and Central Luzon passing through rolling hills and mountainous areas. The 19.45-kilometer road will further enhance trading and business activities between the

two provinces; and (iii) Dingalan-Baler Road, a coastal road that connects the Municipalities of Dingalan, San Luis, and Baler in Aurora Province. Currently, residents of the coastal barangays take ocean trips using motorboats to reach one barangay to another. Once the coastal road is completed, access to public services will be enhanced and it will open up new economic opportunities to the isolated and remote areas of the province.

The abovementioned projects are only some of the several high-impact projects being implemented in the region. There are other ongoing projects that will further improve productivity and connectivity, and boost economic activities. These are: (i) diversion and bypass roads, alternate routes avoiding congested areas, (ii) farm-to-market roads, the construction of local roads that link production areas and markets to enhance the efficiency of

transporting agricultural products, (iii) new access roads leading to tourism destinations, including the upgrading of existing local roads to tourism areas, (iii) access roads leading to industrial areas to further facilitate a balanced development, and (iv) those projects identified in the Pampanga Megalopolis Plan, that aimed to connect all cities and municipalities of the province, among others.

In addition to national roads and bridges, expressways were built and maintained in Central Luzon to spur economic growth, linking Metro Manila and adjacent regions. A

total of 275 kilometers of expressways are fully operational and are to be extended by 2023 and beyond. Table 13-5 shows the inventory of the proposed and existing expressways and other road networks in Central Luzon. The connectivity of these roads is shown in Chapter 2 (Regional Spatial Development Framework), Transportation Framework Map. All operational expressways in the region are privately maintained under concession agreements either with DPWH or with the Toll Regulatory Board through build-operate-transfer arrangements.

Table 13-5: Inventory of Proposed/Existing Expressway and Other Road Network as of December 2022

NAME	DESCRIPTION	LENGTH (IN KMS)	REMARKS
North Luzon Expressway (NLEX)	A 4 to 8-lane toll expressway that connects Metro Manila to the provinces of Bulacan and Pampanga	83.7	Operational with ongoing upgrading of the Candaba viaduct section
Subic-Tipo Expressway	A 2-lane expressway that connect SCTEx to Olongapo City and Subic Freeport Zone	8.8	Operational
Subic-Clark-Tarlac Expressway (SCTEx)	A 4-lane expressway linking Hermosa, Bataan and Tarlac City.	93.7	Operational
Tarlac-Pangasinan-La Union Expressways (TPLEX)	Extension of NLEX and SCTEX from Tarlac City to Rosario, La Union	41.0 (88.85 whole stretch)	Operational
Central Luzon Link Expressway (CLLEX), Phase 1	Project will link Cabanatuan City, Nueva Ecija to Tarlac	30.7	Partially operational, Tarlac to Aliaga section (18 kms)
Central Luzon Link Expressway (CLLEX), Phase 2	Extension of Phase that will connect Cabanatuan City and San Jose City	35.7	For implementation
North Luzon East Expressway	A 4-lane limited-access toll expressway linking Bulacan and Nueva Ecija. It will also be connected to the CLLEX.	92.1	Under development
Arterial Road Bypass Project (ARBP)/ Plaridel Bypass	Two-lane road connecting Pan Philippine Highway to NLEX	24	Widening of from 2 to 4-lane is ongoing. Two-lane if opened to traffic last March 2018
Bataan-Cavite Interlink Bridge	Connecting Central Luzon and CALABARZON crossing Manila Bay	32	Detailed Engineering Design (DED) is ongoing

Source: DPWH 3

Expressways in Central Luzon (NLEX, SCTEX, TPLEX, CLLEX) including the ARBP are included in the Luzon Spine Expressway Network (LSEN). The LSEN is a planned network of interconnecting expressways within the main island of Luzon which aimed to shorten travel time between Manila and La Union from

7 to 3 hours and between La-Union to Bicol from 20 to 8 hours through the construction of a high-standard highway network.

The 30.7-kilometer Central Luzon Link Expressway (CLLEX) of the DPWH is ongoing with 98 percent accomplishment

as of September 2022. This is targeted to be completed by March 2023. Once completed, the project will facilitate a continuous and seamless traffic flow from Metro Manila passing through the existing expressways at NLEX, SCTEX/TPLEX. The project will also shorten travel time from 70 to 20 minutes between Tarlac City and Cabanatuan City. Meanwhile, the CLLEX Phase 2 if implemented will also decongest traffic along the Pan-Philippine Highway.

The ARBP or the Plaridel Bypass is a 24.61-kilometer two-lane road that will link the NLEX in Balagtas, Bulacan with the Philippine Japan Friendship Highway or Maharlika Highway in San Rafael, Bulacan. The project is targeted to be completed by 2023. Once completed, it will ease traffic congestion in Bulacan and spur economic growth in the province's hinterlands and reduce the travel time from Manila to Bulacan by 45 to 50 minutes. The project is 75 percent complete as of December 2022.

Another intervention is the 32-kilometer inter-island iconic Bataan-Cavite Interlink Bridge which will be implemented to cut travel time from 5 hours to 30 minutes. This bridge will connect the provinces of Bataan in Central Luzon and Cavite in CALABARZON, passing through Manila Bay. The bridge will introduce new expansion and economic growth opportunities outside of the Metropolis. The detailed engineering design (DED) is targeted to be completed in the first quarter of 2023.

Congestion remains an urban transport challenge. Traffic congestion remains a challenge in several areas of the region. Due to inadequate, fragmented and unreliable public transport system, people prefer to use private vehicles for mobility. This trend, however, caused severe traffic congestion in many cities of the region such as in Angeles City, City of San Fernando, Mabalacat City, and portion of the Manila North Road.

The increasing number of private vehicles on the road and limited road capacity cause heavy traffic. In an annual report of the Land Transportation Office in 2021, it revealed that Central Luzon is home to 1,378,438 motor vehicles, second among regions with highest number of vehicles registered. With an area of 22,014.63 square kilometers, the region has a vehicle density of about 60 vehicles per square kilometer. To alleviate the problem of the increasing volume of vehicles and attain efficiency in public transport, the development of an integrated intermodal mass-transportation system with trains and buses shall be considered.

Another cause of traffic congestion is poor traffic management. Traffic management remains inefficient in some areas, i.e. (i) traffic control devices such as traffic signs, signals, and road markings, often do not conform to the standards or meet the needs of a particular area, (ii) presence of road obstructions along the road right-of-way (RROW) e.g. electrical/utility posts, parked vehicles, illegal vendors, trees, and establishments; (iii) lack of awareness on traffic rules and regulations by both motorists and pedestrians.

The traffic problem is notable in the Central Luzon Industrial Corridor, which hosts three of the country's largest freeport zones: The Subic Bay Freeport Zone, Clark Freeport Zone, and the Freeport Area of Bataan.

Investments in railway projects are underway.

Rail-based mass transport system is part of the package of solutions that will address severe traffic congestion. Thus, development planners and policymakers are pushing for the development of rail networks that will be integrated with other modern transport modalities to enable the efficient movement of people and goods and services within the region and beyond.

Currently, the DOTr is implementing the PNR Clark Phase I and Phase II projects, which are part of the 147-km long North-South Commuter Railway project are targeted to be partially operational in 2026. These two segments will connect Tutuban in Quezon City, City of Malolos and Clark Freeport.

An extension from Clark to New Clark City in Capas, Tarlac is also being conceptualized to support the smart development in the northern part of the region.

Furthermore, the agency is pursuing the completion of MRT Line 7—another railway project that will connect the North Triangle Common Station in North Avenue, Quezon City and the City of San Jose del Monte, Bulacan. The project aims to decongest the streets of Metro Manila, and spur additional business and commercial development in Bulacan.

In its thrust to expand the rail system in the region, the DOTr is proposing the development

of Subic-Clark Railway project which will link Subic Bay Freeport Zone and Clark Freeport Zone. It intends to provide passenger and freight services to support the bid of Central Luzon to become a world-class logistics hub and strategic trade center.

Commercial operations of Clark International Airport (CRK) fall short of pre-pandemic levels. CRK registered a decline in level of operations as a consequence of COVID-19 pandemic. The commercial flight volume decreased to 2,386 in 2021 from 35,738 in 2019. The passenger traffic waned from more than 4 million passengers in 2019 to just about 200,000 two years later.

Nevertheless, the region is confident that CRK will take a leap as travel restrictions ease and the economy gradually reopens. The full operations of the new passenger terminal in May 2022 and the arrival of new airlines in the skies of Clark are expected to strategically restore and boost economic activities at CRK.

Table 13-6: Flight, Passenger and Cargo Movement, 2019 and 2021

FLIGHT CLASSIFICATION	2019			2021		
	FLIGHT	PASSENGER	CARGO (TONNAGE)	FLIGHT	PASSENGER	CARGO (TONNAGE)
Total	35,738	4,000,211	26,322	2,386	192,542	36,975
Domestic	23,856	2,220,338	10,939	472	18,453	7,005
International	11,882	1,779,882	15,383	1,914	174,089	29,970

Source: CIAC

Potential of Port of Subic is yet to be realized. The Port of Subic is the most dynamic port in the region. However, its full potential is yet to be realized as it remains underutilized.

The dilemma worsened when the pandemic hit the region. In 2021, the ship calls in Subic Port was recorded at 1,973. It is slightly lower than the

figure in 2020. In terms of non-containerized or bulk cargo, a 10 percent decrease in volume was recorded in the same year. Meanwhile, the containerized cargo volume reached 253,274 TEUS in 2021. It is 11.9 percent higher compared to the figure recorded in 2020. (Table 13-7).

Table 13-7: Shipping and Trade Performance, CY 2020-2021

INDICATOR	CY 2020	CY 2021	% INCREASE/ DECREASE
Ship calls	1988	1973	-0.75
o Domestic	787	747	-5.08
o Foreign	1,201	1,226	+2.08
Cargo (MT)	7,093,746	6,344,524	-10.56
o Domestic	1,029,758	1,058,046	+2.75
o Foreign	6,063,988	5,286,478	-12.82
Container (TEUs)	226,174	253,274	+11.98
o Domestic	428	550	+28.5
o Foreign	225,746	252,724	+11.95
Passenger			
o Embarked	8,745	-	-100%
o Disembarked	8,745	-	-100%

Source: SBMA

Digital Connectivity

Majority of the households do not have access to internet. In 2019, the DICT conducted a nationwide information and communications technology household survey (NICTHS) to generate baseline information on the access and usage of ICT infrastructures, products and services in the country. The results of the study revealed that 76 percent of the households in Central Luzon had no access to the internet. Such circumstance progressed due to (i) high cost of subscription; (ii) high cost of equipment; (iii) inadequate knowledge of household members on the technology; (iv) unavailability of internet access in some areas in the region; and (v) a belief that internet not a necessity.

With these pieces of information at hand, DICT bolstered the implementation of Free Wi-Fi for All Program in the region. The agency forged partnerships with the local government units (LGUs) to expedite the execution of the initiative.

In the account of DICT, there are already 117 LGUs offering free Wi-Fi service to its constituents and about 2.7 million devices have connected to these digital connectivity infrastructures in 2021.

Water Resources

Demand for water increases as population and industries expand. Water use in the region was estimated at 20,168.34 million cubic meters (MCM) annually based on awarded water permits as of December 2017 (Philippine Water Supply and Sanitation Master Plan published in 2021). About 16 percent was dedicated for power generation, and the rest for irrigation, industrial and domestic uses.

By industry, the bulk of water supply is consumed by the agriculture sector. A fraction equivalent to 7.08 percent is utilized by the domestic sector. Nonetheless, the demand for water is expected to grow exponentially as the region's populace and industries expand. Large volume of water will continue to flow in urbanized cities such as Angeles, San Fernando, Mabalacat, Malolos and Tarlac. Thus, there is a need to search for additional reliable sources to ensure sufficiency of water supply in Central Luzon.

Shortage of water supply looms in the region. The adequacy of the current water supply within the region is greatly affected by various economic activities. According to the Climate-Responsive Integrated Master Plan for the Pampanga River Basin (CRIMP-

PRB), the discharge of water from wells has diminished in areas affected by saltwater intrusion, especially in low-lying coastal areas of Pampanga and Bulacan. Saltwater has also advanced further inland because of the over-extraction of groundwater where water quality is also affected. Other factors contributing to possible water shortage are the high percentage of unaccounted water from pipe leakages that are left unrepaired, and the excessive water use of unmetered and illegal connections.

Many households are still unserved by water districts (WDs). Access to safe water is one of the Sustainable Development Goals (SDG) identified (Goal 6). For the year 2021, the Local

Water Utilities Administration (LWUA) had reported that about 45 percent of the potential household population in Central Luzon were not yet served by water districts (WDs). Only about 1.2 million households were served by WDs out of the potential 2.2 million household population.

Among the provinces in the region, Bulacan and Bataan had the highest number of households served by WDs in 2021 with 65.6 percent and 59.8 percent, respectively. The provinces of Tarlac and Pampanga had 54.88 and 52.63 percent, respectively. Aurora deserved attention as only 7.31 percent of the potential households were served (Table 13-8).

Table 13-8: Number and Percentage of Households Served, by Province

PROVINCE	CY 2005			CY 2015			CY 2021		
	POTENTIAL HH POP.	SERVED BY WD	%	POTENTIAL HH POP.	SERVED BY WD	%	POTENTIAL HH POP. *	HH SERVED BY WD	%
Aurora	10,751	850	7.9	15,893	1,241	7.8	17,784	1,300	7.31
Bataan	95,138	34,269	36.0	146,686	74,151	50.8	170,464	101,930	59.80
Bulacan	424,351	218,502	51.5	698,473	402,236	57.6	826,411	542,626	65.66
Nueva Ecija	230,938	55,799	24.2	338,030	112,173	33.2	408,247	188,543	46.18
Pampanga	238,069	98,196	41.2	382,023	210,165	55.0	528,511	278,141	52.63
Tarlac	147,869	37,858	25.6	209,828	77,180	36.8	229,375	125,883	54.88
Zambales	81,984	17,315	21.1	128,516	30,709	23.9	149,847	40,497	27.03
TOTAL	1,229,100	462,789	37.7	1,919,449	907,855	47.3	2,330,639	1,278,920	54.87

**Based on projected % increase in HH population from 2019-2020*

Source: LWUA

There are 88 Local Government Units (LGUs) with operational water districts in the region as of December 2021. Among the provinces, Bulacan and Bataan had the highest number of operational WDs. While Aurora and Nueva Ecija showed the highest gap of 75 and 41 percent among the provinces in the region.

Table 13-9 shows that out of the 130 LGUs in the region, 42 of them do not have an operational water district. The remaining gaps should be addressed gradually to supply the remaining LGUs.

Table 13-9: Number and Percentage of LGUs with Water District, by Province

REGION/ PROVINCE	NO. OF LGUS	NO. OF LGUS WITH OPERATIONAL WATER DISTRICTS	LGUS WITH OPERATIONAL WATER DISTRICTS (%)	NO. OF LGUS WITHOUT WDS	LGUS WITHOUT (%)
Central Luzon	130	88	67.69	42	32.31
Aurora	8	2	25.00	6	75.00
Bataan	12	9	75.00	3	25.00
Bulacan	24	21	87.50	3	12.50
Nueva Ecija	32	19	59.38	13	40.63
Pampanga	22	14	63.64	8	36.36
Tarlac	18	11	61.11	7	38.89
Zambales	14	12	85.71	2	14.29

Source: LWUA

Sewerage treatment and sanitation facilities remain inadequate. Central Luzon ranked 3rd with 91.84 percent of its households with sanitary toilets, according to 2018 DOH (2018) report. This was higher than the national average of 83.93 percent but is still several points below the national target of 97 percent and 100 percent by 2022 and 2030, respectively. Bulacan had the highest percentage of households with toilets at 96.64 percent, followed by Pampanga at 93.55 percent. Zambales, at 84.52 percent, had the lowest percentage – lower than the region's average but higher than the national average of 83.93 percent. Access to sanitary facilities reduce illness and death from disease leading to improved health, reduce poverty, and promote economic development in the end. It was observed that sanitation facility projects are not given much attention at the local level. In addition, there is a lack of public awareness or appreciation of the benefits of improved sanitation.

As mentioned earlier, only 55 percent of the potential household population in Central Luzon have access to Level III water supply. Level III are piped water supply with a private water point, like a household service connection.

The National Sewerage and Septage Management Program was crafted to enhance the capability

of the LGUs in building and operating wastewater treatment systems. However, in 2020, the Environment Management Bureau 3 (EMB 3) reported that there are only 10 sewerage facilities and eight septage facilities in the region. Of the sewerage facilities, two are not operational.

Limited funding slows down irrigation development. In 2021, the National Irrigation Administration (NIA) 3 reported a 70.30 percent irrigation coverage of the region's potential irrigable areas of 483,830.18 hectares. According to the National Irrigation Master Plan 2020-2030, the annual increase for irrigation development is targeted at 2.8 percent at the national level. However, irrigation development in the region only averages 1.21 percent as computed from the reports submitted by NIA Region 3. At the current pace, the region will achieve the total coverage of its irrigable area only by the year 2045. The agency cites lack of funds as the reason for the slow irrigation development. The budget proposal submitted by NIA Region 3 showed that only 34 percent of the total FY 2022 proposed budget of the agency was funded under the General Appropriations Act.

By province, Tarlac has the lowest irrigation coverage at 47 percent. In terms of hectareage, Tarlac and Nueva Ecija have the biggest expanse

of areas remaining to be developed or covered by irrigation with 60,878 hectares and 42,160 hectares, respectively. These provinces are the region's major producers of rice, the country's food staple.

Attaining full irrigation development will contribute to reducing the cost of producing crops which may increase the income of farmers and farm workers who are among the poorest (see Chapter 7). It will also contribute to improving the competitiveness of the agriculture sector by increasing productivity and reducing the cost of production.

Most parts of the region are vulnerable to flooding. Central Luzon has been hit by typhoons that caused significant damage to its economy. Aside from farmlands being flooded, there were areas which became isolated or

inaccessible. The region also experiences southwest monsoons or *Habagat* which can also inundate the land. Southwest monsoon's peak period starts in June and ends in September.

The projected flood vulnerability of the provinces in the region over a 100-year flood are shown in Table 13-10. The provinces with the highest percentage of land area which are susceptible to flooding are Pampanga, Nueva Ecija, Tarlac and Bulacan. Among the provinces in the region, Pampanga is likely to be the most vulnerable, with 90 percent of its land area submerged. The acceptable percentage of susceptibility of each province to a 100-year flood is 10 percent. The provinces of Aurora and Bataan are the provinces that will be less susceptible to flooding.

Table 13-10: Flood Vulnerability of the Provinces in Central Luzon, 2020

PROVINCE	LAND AREA SUSCEPTIBLE TO FLOODING PERCENT	SUSCEPTIBLE TO HIGH FLOODING		
		PERCENT	METER/S	DAY/S
Aurora	5	4	1-2	more than 3 days
Bataan	10	5	1-2	more than 3 days
Bulacan	40	15	1-2	more than 3 days including major highways
Nueva Ecija	75	20	1-2	more than 3 days including major highways
Pampanga	90	30	1-2	more than 3 days including major highways
Tarlac	50	10	1-2	more than 3 days
Zambales	20	10	1-2	more than 3 days

Source: 3IDP

The Flood Control Management Cluster of the DPWH was tasked to lead the activities in mitigating the impacts of flooding in the region. One of its initiatives was the formulation of the Flood Control Master Plan under the Pampanga Delta Development Program (PDDP). It details the development of flood control infrastructures in the region, covering 83 cities and municipalities. The implementation of the

PDDP will continue to prepare for the 100-year flood that poses destruction in areas highly susceptible to flooding. Major flood control projects in the region include: Pampanga Delta Development Project (PDDP), Phase I; PDDP, Phase II (covering Macabebe and Masantol in Pamp., Calumpit, Pulilan, Plaridel, City of Malolos, Hagonoy, and Paombong in Bulacan); Integrated Disaster Risk Reduction – Climate

Change Adaptation (IDDR-CCA) Measures in the Low-lying Areas of Pampanga Bay; Pinatubo Hazard Urgent Mitigation Project (PHUMP), Phase I and II (covering Mabalacat and

Magalang (Pamp.) Bamban, and Concepcion (Tar.), and Pinatubo Hazard Urgent Mitigation Project (PHUMP), Phase III (Table 13-11).

Table 13-11: Major Flood Control Projects in Central Luzon, (as of December 2021)

PROJECT	AREA COVERED	IMPLEMENTATION PERIOD	PROJECT COST, (IN MILLION PESOS)	REMARKS/ STATUS
Pampanga Delta Development Project Phase I	Pampanga and Bulacan	1990-2002	2,900	Completed
Pampanga Delta Development Project Phase II	Macabebe, Masantol, Calumpit, Pulilan, Plaridel, Malolos City, Hagonoy, and Paombong	2023 - 2030	65,900	Proposed
Integrated Disaster Risk Reduction -Climate Change Adaptation (IDDR_CCA) Measures in the Low-lying Areas of Pampanga Bay	Macabebe, Masantol, Calumpit, Pulilan, Plaridel, Malolos City, Hagonoy, and Paombong	2018 - 2022	4,776	On-Going
Pinatubo Hazard Urgent Mitigation Project (PHUMP) - Phase I & II	Bamban & Concepcion (Tarlac); Bacolor, Mabalacat, Macabebe, Magalang, Minalin, Porac, San Fernando, Sasmuan, Sta Rita, & Sto. Tomas (Pampanga)	1996 - 2006	6,952	Completed
Pinatubo Hazard Urgent Mitigation Project (PHUMP) - Phase III	Lubao, Sasmuan, Guagua, and San Fernando (Pampanga)	2009 - 2016	4,084	Completed

Source: DPWH-UPMO

Integrated water resources management strategy remains weak. The Central Luzon Regional Development Council (RDC III), through the Pampanga River Basin Committee (PRBC), oversees the implementation of the integrated water resources management (IWRM) strategy in the Pampanga River Basin (PRB). The PRBC serves as the platform in discussing basin-related concerns and coordinating policies, programs, and projects pertaining to water security, watershed and wetland management, and flood mitigation, hazard management, and climate adaptation in the PRB. The PRBC also reviews and monitors projects and outcomes and regularly updates the PRB Development Report and PRB Results Matrix manually gathered from the Regional

Development Reports. An annual fund from the River Basin Control Office (RBCO), through the Department of Environment and Natural Resources (DENR) 3, is released to support the operations of PRBC. However, the funding from RBCO had decreased from P600,000.00 per annum in the years 2018 to 2020 to P40,000.00 in 2023.

The PRBC formulated and launched the Climate-Responsive Integrated Master Plan for the Pampanga River Basin 2016-2030 (CRIMP-PRB) in 2017 to serve as the region's guide in the PRB's IWRM. The master plan contains strategies and an investment program to realize the PRB's vision of being the most economically advanced and resilient river basin in the

country. Although efforts are being undertaken to coordinate related efforts through the PRBC and the master plan, the implementation of IWRM remains weak as the current institutional arrangement is fragmented. Furthermore, issues on poor institutional coordination mechanisms such as weak linkages between and among national government agencies, civil society organizations, and LGUs as well as weak water rights regulation capacity persist as challenges.

Furthermore, the lack of reliable data and the absence of a systematic and regular monitoring system hamper the planning and monitoring of water resources at all levels. One of the recommendations stipulated in the CRIMP-PRB is to strengthen the capability of National Water Resources Board (NWRB) on database management as the lead agency in water resources management. The NWRB is currently implementing the Integrated Water Resources Management Information System in the Pampanga River Basin (IWRMIS-PRB) project funded by the Korea International Cooperation Agency (KOICA). The project aims to produce a decision-support tool for science-based water allocation and water resource assessment that will enhance planning and management of water resources in the PRB. The system is expected to be operational in 2024.

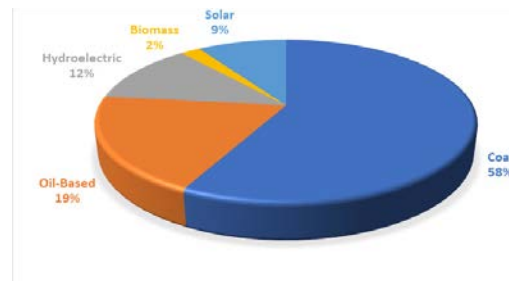
Energy

The energy sector is largely dependent on coal. Central Luzon's power supply comes from the Luzon Grid. As of December 2021, the region has 57 existing power plants. These plants have a combined installed capacity of 4,635 megawatts (MW) with 4,135 MW dependable capacity.

Shown in Figure 13-2 Central Luzon is highly dependent on fossil fuels, like coal and oil-based sources, at 58 and 19 percent, respectively. Renewable energy from biomass, solar, and hydro contributes 23 percent. The aim of

reducing dependency on fossil fuels as well as developing and utilizing renewable energy (RE) forms part of the Sustainable Development Goals (SDGs). To ensure access to affordable, reliable, sustainable, and modern energy for all is Goal 7.

Figure 13-2: Central Luzon Grid Dependency, Percent, 2021



Source: Department of Energy (DOE)

Electricity rates in the Philippines are the third highest in Asia, following Japan and Singapore (GlobalPetroPrices.com, June 2022). Main reason cited was the reliance on imported coal and diesel. There is a need for the country and the region to explore viable domestic RE generation from solar, wind, run-of-river hydro, geothermal and biogas projects.

SDG Goal 7.2 aims to increase substantially the share of renewable energy in the energy mix. To promote RE development and innovation, the Department of Energy (DOE) updated the National Renewable Energy Program (NREP) and its implementing roadmap. These are guideposts for a country-wide approach to achieve the goal of increasing the installed RE capacity by 2040. The NREP lays down the foundation for developing the country's RE resources, stimulating investments in the RE sector, developing technologies, and providing the impetus for national and local renewable energy planning that will help identify the most feasible and least-cost RE development options.

In terms of access to electricity, there are about 256,000 households that remain unelectrified. The region has 1,937,087 potential coverage (number of households) based on the 2020 Census of Population and Housing (CPH).

Of this total, about 87 percent are served or provided with electricity (Table 13-12). Efforts are to continue to achieve universal access to electricity by 2030 (SDG 7.1).

Table 13-12: Summary of Household Electrification Coverage and Actual Served, 2020-2021

PROVINCE	POTENTIAL COVERAGE/NO. OF HOUSEHOLD BASED ON 2020 CPH	ACTUAL SERVED 2020		ACTUAL SERVED 2021		INC./DEC. (2020-2021)
		NO.	%	NO.	%	
Aurora	57,037	59,908	105.0	63,235	110.9	3,327
Bataan	208,941	207,197	99.2	214,900	102.9	7,703
Bulacan	Franchise area of MERALCO, no data available					
Nueva Ecija	572,583	447,599	78.2	466,044	81.4	18,445
Pampanga	573,920	455,114	79.3	466,873	81.3	11,759
Angeles City	Franchise area of AEC, no data available					
Tarlac	359,561	286,384	79.6	296,598	82.5	10,214
Zambales	165,045	166,728	101.0	173,517	105.1	6,789
Olongapo City	Franchise area of OEDC, no data available					
Total	1,937,087	1,622,930	83.8	1,681,167	86.8	58,237

Note: Figures for Pampanga and Zambales do not include Angeles City and Olongapo City

Source: Potential coverage - from 2020 CPH; No. of actual served 2020 & 2021 - from NEA 3

Social Infrastructure

Gaps in social infrastructure (health facilities) are steadily being addressed. Primary health care services and other public health programs are provided through the rural health units (RHUs) and barangay health stations (BHSs) as the first point of contact for government-provided health services. The DOH reported that there were 2,069 BHSs and 281 RHUs in Central Luzon in 2021. The coverage for BHS and RHUs in the region is at 66.70 percent and 44.60 percent, respectively. There is a need to establish additional 1,033 BHS and 349 RHUs to meet the ideal ratio of 1 BHS per barangay and 1 RHU for every 20,000 population as stated in the Philippine Health Agenda 2016-2022.

With the goal to improve access to quality hospitals and health care facilities, the Department of Health (DOH) continuously implements the Health Facility Enhancement Program (HFEP). There was a total of 84 HFEP completed in 2022.

Attainment of standard classroom-to-pupil ratios for primary and secondary levels needs to be sustained. The national classroom-to-pupil ratio targets for School Year (SY) 2019-2020 was 1 classroom for 25 kindergarten students, 1 classroom for 30 Grades 1-3 students, and 1 classroom for 40 Grades 4-6 students. The region achieved all these targets in 2020. For secondary education, the region

registered one classroom for 44 High School (HS) students. This ratio also met the standard of 1:45 set for both junior and senior HS levels. The attainment of standard classroom-to-pupil ratio needs to be sustained given the resumption of face-to-face classes.

Based on the PIDS study (2022) on School Infrastructure in the Philippines, the 2019 National School Building Inventory showed that Central Luzon has 1,535 buildings for condemnation and 1,188 buildings condemned or for demolition, totaling 2,723 buildings for replacement. This translates to an estimated 8,169 classrooms to be replaced in 2021.

Solid waste management facilities remain inadequate. Waste generated in the region is increasing due to the rapid increase in population and industrialization. Solid waste, if not properly managed, can contaminate the soil

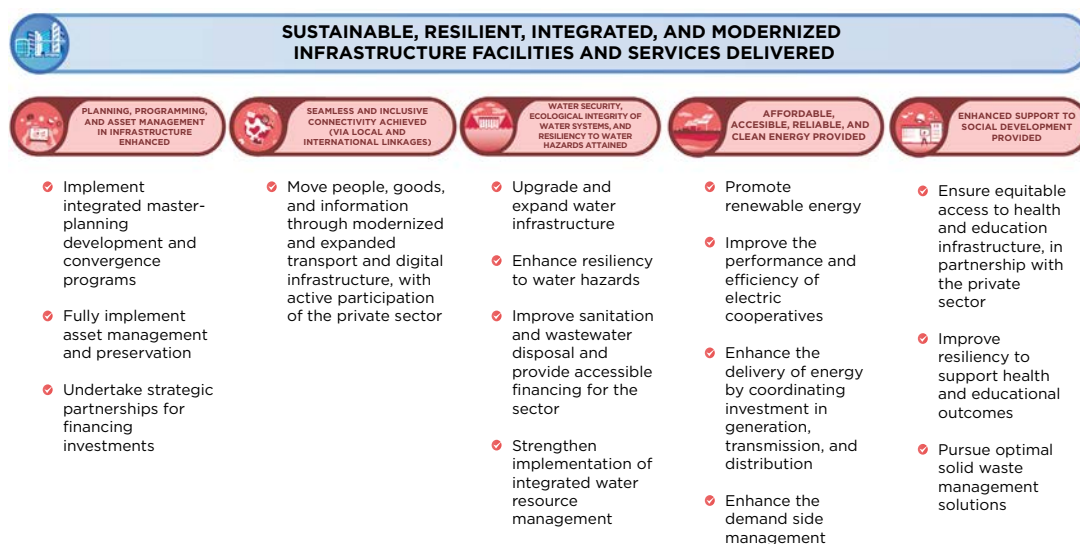
as well as the ground water and surface water. Contaminated groundwater or runoff creates risk to public health. Central Luzon has the third highest projected waste generation from 2020 to 2025 at 15.33 million tons, next to NCR and Calabarzon. At the city/municipal level, the City of San Jose Del Monte (1.07M tons) posted the highest waste generation, followed by Angeles City (0.78M tons), Tarlac City (0.59M tons) and City of San Fernando (0.55M tons). The volume of waste generated continues to increase while waste management facilities remain low. Currently, out of the 24 sanitary landfills, only 14 are operational (*see Chapter 4.3*). Improving solid waste management contributes to the attainment of SDG 11: Sustainable Cities and Communities (11.6.1 Municipal waste management) and SDG 12: Sustainable Consumption and Consumption (12.3.2 Food Loss and waste).

Strategy Framework

The goal of the infrastructure sector is to provide sustainable, resilient, integrated and modernized facilities and services. To achieve

this, the framework consists of cross-cutting and sub-sector-specific strategies that will benefit the region's economic and social sectors.

Figure 13-3: Strategy Framework to Expand and Upgrade Infrastructure



Strategies

Outcome 1: Planning, programming, and asset management in infrastructure enhanced

Implement integrated master-planning development and convergence programs

With the thrust of strengthening the sustainability and livability of the region's communities, the RDC III will spearhead the realization of the intent of the Central Luzon Regional Physical Framework Plan 2020-2040. It will offer the blueprint as a guide to RLAs, SUCs, GOCCs and LGUs for developing physical assets and defining land utilization.

To accelerate the development of key sectors of the regional economy, RDC III will execute the prescriptions of 3IDP and SUID. The strategic initiatives recommended by these masterplans will form part of the development planning processes such as public investment programming and budgeting to help them find their way in the NEP and GAA and ensure timely completion in the medium term.

To ensure complementation in the development and expansion of connectivity infrastructures, agencies such as DOT 3 and DTI 3 will pursue convergence programs with DPWH 3 and DOTr 3.

Fully implement asset management and preservation

To ensure that the public sector assets of the region will continue to produce their intended benefits and generate better societal outcomes, governance in infrastructure will be improved. It will be realized by formulating and implementing an efficient and effective resource management and preservation framework that will recognize the importance of employing a

“life cycle” approach to the development and use of public goods.

As such, the region will undertake two primary activities to guarantee that its current infrastructure stocks will not fall short of delivering their individual and collective promise of accelerating inclusive growth and sustainable development. Foremost is the conduct of routine maintenance to ensure that the physical assets operate as initially intended in a long-lasting manner. The other is the performance of capital maintenance to rehabilitate assets in order to extend their lives and capacity. These actions will be complemented by efforts that will build the technical capacity of implementing agencies in the region for properly operating the built infrastructure environment.

Along the context of increasing citizen demands for better infrastructure, the region will prepare an expenditure program with a medium-term perspective to warrant the availability of sufficient funds for the full operation of the physical facilities and the need for maintenance. This initiative will be spearheaded by the RDC III to ensure that the proposed actions will constitute an overall strategy for preserving public sector assets.

Undertake strategic partnerships for financing investments.

To address resource constraints in implementing strategic capital projects, the region will continue to tap feasible funding mechanisms. Thus, it will explore the possibility of undertaking partnerships with the private sector to augment

the available public sector resources for the development of critical infrastructure projects.

With public-private partnership as modality for financing public investments, the region will leverage the assets, efficiency, expertise and innovativeness of the private sector. It will optimize the use of high-level skills, specialization and technology from the business sector to deliver impactful programs and projects that are consistent with country's development objectives—at reduced cost and accelerated pace.

Cooperation agreements pursued to develop the new terminal building of the Clark International Airport and The Bunker in Bataan will be primed

as inspirations to RLAs, SUCs, GOCCs, LGUs and SDAs for realizing the thrusts of bringing capital goods and development services to the populace of Central Luzon. (PPP Center)

To complement efforts in shaping a stronger backbone for the economy, the region will continue to collaborate with international development partners such as ADB, WB, JICA, KOICA and the EU for external financing to capitalize on their comparative advantages and benefit from knowledge and technology transfers. It will harness international cooperation as one of the means to effect positive change in neglected sectors and the most vulnerable populations.

Outcome 2: Seamless and inclusive connectivity achieved (via local and international linkages)

Move people, goods and information through modernized and expanded transport and digital infrastructure, with active participation of the private sector

Road-based Transport. Internal access and circulation, along with interregional connectivity will be continuously improved by modernizing the region's network of land, air, and water transportation systems. An integrated regional land use and transportation master plan responsive to the National Transport Policy will be formulated to effectively manage growth in urban centers and ensure that the capacity of transport facilities can accommodate the demand for movement of passengers and goods to, from, and within the centers of socioeconomic activities¹. The master plan will likewise include the establishment of inter-regional bus transport terminals and intermodal hubs in major urban centers such as but not limited to: San Fernando City, Angeles City, Mabalacat City, Layac Junction

Dinalupihan, San Jose City, Cabanatuan City, and Mariveles , among others.

The region through the DILG 3 shall also ensure that Local Public Transport Route Plans (LPTRP) are formulated, approved, and adopted by all LGUs . The plan details the route network based on local demands according to specific modes of transportation and the required units per mode for delivering land transport services. This will contribute to decongesting traffic, especially in urban areas through improved mass transportation and rationalized route management systems. Area-specific interventions such as the bus rapid transit (BRT) proposal identified in the Pampanga Mass Transit Study and development of smart road facilities will also be pursued.

Furthermore, linkages between national, regional, and local urban centers as described in the Regional Spatial Development Framework will be provided by a network of high standard highways (HSH). In general,

HSH are highways which provide high level traffic services by assuring high speed mobility, safe and comfortable travel, to vitally support socioeconomic activities for sound development of strategic regions and the country as a whole².

The Central Luzon RDC will continue to support the implementation of the Philippine High Standard Highway Network Program of the DPWH. This includes the following HSH Class-1 component projects connecting regional centers proposed for the medium-term: Central Luzon Link Expressway (CLLEX Phase II), and the North Luzon East Expressway (NLEE) Phase 1 and 2. The proposed Dalton Pass East Alternative Road Project that will decongest the existing Dalton Pass by providing an alternative road connecting Tayabo, San Jose, Nueva Ecija to Aritao, Nueva Vizcaya and vice versa will also be supported. Business case studies for other strategic connectivity infrastructure projects such as the 2nd Central Luzon Link Expressway and the NLEX Phase 3, among others will be pursued.

Urban-rural linkages and accessibility will be enhanced by improving travel time between major urban centers and rural and suburban areas. The development of road networks along the east-west corridor of the region for instance, shall serve to connect production and consumption areas and support development of regional industries. The Central Luzon RDC shall support the improvement/upgrading of the following HSH Class-2 road networks linking the region's Strategic Growth Areas identified in the DRR-CCA Enhanced Central Luzon Regional Physical Framework Plan 2020-2040: Romulo Highway, Roman Expressway, Pantabangan-Maria Aurora-San Luis Road, Dingalan-Gabaldon-Tablang Road, San Jose-Lupao Road connecting to the Pangasinan-Nueva Vizcaya Road and MNR, and implementation of the Arterial Road

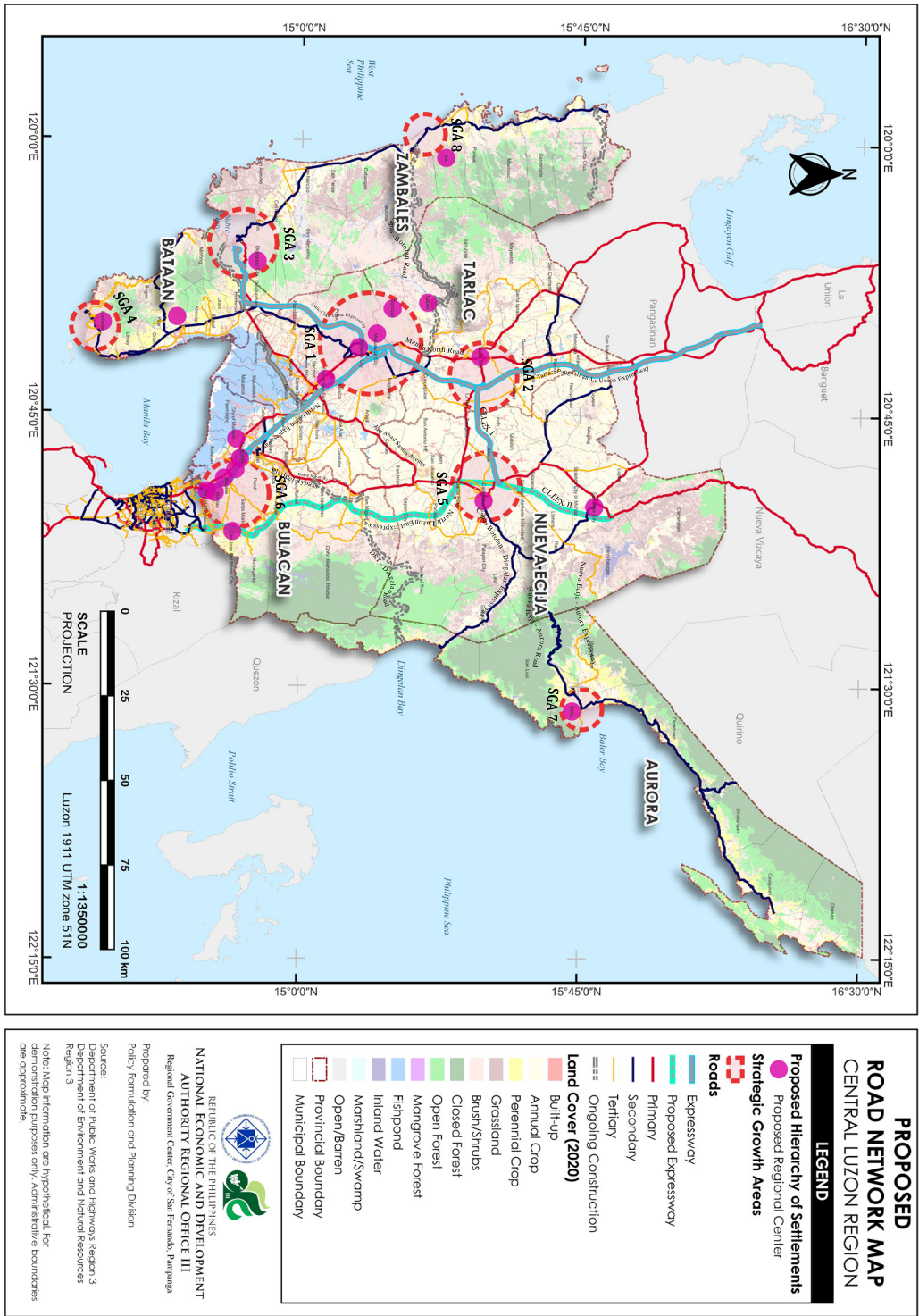
Bypass Project Phase III (Plaridel Bypass), and the Bataan-Cavite Interlink Bridge.

Other roads of strategic importance expected to be completed within the medium-term will likewise be monitored: Capas-Botolan Road, Sta. Cruz-Mangatarem (*Daang Kalikasan*) Road, Dingalan-Baler Road, San Ildefonso-San Rafael Diversion Road, San Ildefonso-San Miguel Bypass Road, Palihan-Mabiga-SBMA Access Road, Dingalan-Doña Remedios Trinidad Road, and the Lubao-Guagua-Minalin-Sto. Tomas Bypass Road.

Active Transport. Development of active transport networks such as sidewalks and bike lanes will likewise be prioritized within the region's urban centers and highly populated areas. These includes areas in the cities of San Jose del Monte, Angeles, Tarlac, San Fernando, Cabanatuan, and Olongapo, among others. Consistent with the National Transport Policy, inclusive mobility and accessibility will be achieved through the prioritization of people-mobility. Transport equity shall also be ensured through sound transport planning efforts. DPWH and LGUs will ensure that needs of the poor and well-being of persons with disabilities are considered during various stages of project development, implementation and operationalization.

Rail-based Transport. The region's once vibrant railway system provided by the north lines of the PNR will be upgraded and modernized to provide airport-to-airport express services, inter-urban commuter services, and cargo express delivery services. The Central Luzon RDC will continue to regularly monitor and fast-track the implementation of the North-South Commuter Railway (NSCR)- PNR North 1 and Clark Extension (PNR North 2) to provide seamless access between Mega Manila, New Clark City, and Clark International Airport.

Figure 13-4: Central Luzon Proposed Road Network Map



The 38 kilometer-long North-South Commuter Railway (PNR North 1) from Tutuban, Manila to Malolos City, Bulacan is targeted to be completed by 2026 while the 53 kilometer-long Clark Extension (PNR North 2) from Malolos City to Clark International Airport is targeted to be completed by 2028¹. Another rail project expected to be completed within the medium-term include the MRT Line 7 project from San Jose del Monte City, Bulacan to MRT Line 3 North Avenue station in Quezon City. The region will likewise support the development of the Subic-Clark Railway project to help decongest the ports of Manila and improve general, bulk, and containerized cargo traffic in Subic Port.

High-density Transit-Oriented Development (TOD) around selected stations of the NSCR will be encouraged to spur economic activities and rationalize concentration of population. In 2018, the Central Luzon RDC through the 15th RDC III Resolution No. 03-74-2018, endorsed and adopted TOD in planning inclusive, sustainable, and resilient growth centers in the region. The resolution likewise enjoined LGUs along the NSCR and major transport corridors to update and incorporate TOD in their respective Comprehensive Land Use Plans (CLUPs) and Zoning Ordinances (ZOs). While the PNR North 1 and 2 is expected to be completed and operational during the medium-term, the Central Luzon RDC through its Regional Land Use Committee (RLUC) shall follow-through government initiatives on TOD as well as explore other policy approaches such as land value capture, to recover and fund new infrastructure from public investment and government actions on such development.

Air Transport. The region will continue to promote the Clark International Airport (CIA) as one of the international gateways in the Greater Capital Region (GCR). At present, the newly built Passenger Terminal Building with a capacity of 8 million passengers annually

is instrumental in addressing the immediate need to expand the airport capacity serving the GCR and the Central and Northern Luzon Regions. To ensure that the CIA is able to meet aerodrome design safety standards set by international and local airport authorities, the following vital components of the ongoing/proposed infrastructure expansion will be supported: (1) rehabilitation and upgrading of the airfield ground lightings system; (2) construction of the 18-storey Clark air traffic control tower building facility; (3) installation of primary surveillance radar; and (4) construction of the CIA new runway. Furthermore, upon the full implementation of the Clark International Airport Corporation (CIAC) Master Development Plan, the CIA will be able to accommodate an estimated 80 million passengers annually².

In order to ensure accessibility of the CIA, establishment of a central intermodal terminal within the vicinity of Clark with 24/7 operations to provide secure and predictable transport services (e.g. buses, taxis, public utility vehicles, private cars) to airport users and passengers will be pursued. Improvement of access roads shall also be undertaken.

The Central Luzon RDC will support the implementation of the New Manila International Airport (Bulacan International Airport) which is included as one of the Infrastructure Flagship Projects. The airport located in Bulacan, Bulacan will complement the CIA in what could be a twin-airport system for the GCR in the long-term. The NMIA will have an initial capacity of 35 million passengers annually, and 100 million passengers per year once fully complete³. Currently, land development works have already commenced in the airport area.

Water Transport. Port facilities in Central Luzon will be improved for bulk and containerized cargo handling, transshipment and passenger line operations, and inter-island

passenger and cargo shipping. In terms of international connectivity, Subic port will serve as an alternative to Manila Port for cargoes coming from and bound to the Central and Northern Luzon regions to address port and road congestion in Metro Manila. The SBMA shall continue its efforts in improving the traffic handling capacity of Subic Port as well as in upgrading process flows and minimizing transaction time to attract more exporters. It may also consider implementing incentive schemes such as price discount policies to entice more stakeholders to use the Subic Port.

To upgrade and modernize other port facilities in the region, the following measures will be implemented:

- a. Expanding the port facilities in Limay, Bataan to provide a direct RO-RO service between Bataan and Cavite that will facilitate quicker and cheaper transfer of goods and cargo between the neighboring regions;
- b. Implementing detailed studies to assess feasibility of providing RO-RO facilities in various ports located in Aurora, Bataan, and Zambales; and
- c. Providing road access to these port systems to expand their service hinterlands.

Digital Infrastructure. The region will continue to promote the spread of ICT as a means to interconnect communities, businesses, and markets, including the poor, users in remote areas, and other disadvantaged groups. While the private sector will remain as the workhorse for supply of infrastructure systems in ICT, the region will provide the overall framework for improving digital connectivity through the following:

- a. Streamlining and harmonizing government requirements and processes on the issuance of permits and clearances by establishing one-stop shop offline and online facilities;
- b. Providing fiscal incentives for emerging technologies capable of establishing connections to far flung areas through the LGUs; and
- c. Implementing common and shared towers throughout the country to ensure access to cost-efficient ICT infrastructure.

The DICT and BCDA will lead the implementation of Luzon Bypass Infrastructure Project to ensure that all economic zones from Bulacan to Pangasinan, will have 5G connectivity⁴. Such is essential in the development of incubation/innovation/R&D centers.

Outcome 3: Water security, ecological integrity of water systems and resiliency to water hazards attained

Upgrade and expand water infrastructure

To ensure water security, there is a need to upgrade and expand water infrastructure which will result to an increase of supply of water to households and industries. This will be attained

through the following measures:

Bulk water production will be developed. Bulk water supply systems will be established by the water districts in partnership with the private sector to increase the supply of water, expand services to many households, and

preserve the aquifer through utilization of surface water as source. To ensure supply of water in the region, bulk water supply systems shall be established by building reservoirs or setting up water conveyance pipelines from existing high dams in the provinces of Tarlac and Nueva Ecija. Bulk water supply like the Bulacan Bulk Water project using surface water as source should also be developed in other provinces particularly in Pampanga and Nueva Ecija. As such, it is very crucial to improve the water quality of major rivers and to rehabilitate watersheds to have an alternative source of water other than groundwater for the region. In addition, improvement in distribution efficiency and water safety will be pursued. Delivery and distribution systems of water districts shall be rehabilitated to address system loss and reduce the cost of water distribution.

Clustering of LGUs to be served by water districts will be encouraged. To achieve universal access to clean water, communities located in rural and isolated areas will be provided with Level I or Level II water supply. The LGUs will be encouraged to form a cluster for them to be served by a water district and have access to an improved distribution system, lessened systems loss, and decreased water delivery cost.

Alternative irrigation systems will be tapped. In view of the huge demand of the irrigation sector as it consumes the greatest volume of water among all sectors in the region, attention will be given to the identification of cost-efficient alternative sources or systems of irrigation, including alternative water management systems. Along with accelerating the completion of the Balog-Balog Multipurpose Project, Phase II, tapping new multipurpose dams and trans-basin tunnels from the Sierra Madre Mountain range in the Eastern Luzon seaboard where precipitation is abundant and evenly distributed all-year round shall be pushed. Developing and providing

small water impounding structures and small farm reservoirs shall also be prioritized in areas not covered by large irrigation systems with sourcing preference for surface water and rainwater harvesting instead of groundwater extraction.

Enhance resiliency to water hazards

Central Luzon has areas that have low, moderate, high and very high susceptibility to flooding and other hydrometeorological hazards. Flooding in these low-lying areas is aggravated by inadequate flood control and drainage structures. (See Chapter 16). The following priorities will be implemented to improve the resilience of the region to water hazards such as flooding, sea level rise, tsunami, and storm surges:

- a. Implement integrated flood control measures in Tarlac River, Rio Chico River, Pampanga River, Candaba swamp, western river basins in Zambales, flood-prone areas of Aurora, and deltaic & coastal areas Bataan, Bulacan and Pampanga;
- b. Establish flood control and coastal protection infrastructures using a combination of nature-based solutions like earth, and vegetative flood walls and engineered gray structures such as concrete, in areas prone to tsunamis, sea level rise, and storm surges (e.g., Pampanga Bay, eastern and western Central Luzon seaboard);
- c. Expand and strengthen the existing flood forecasting and warning systems through expansion of coverage and installation of new equipment and weather stations to improve community preparedness;
- d. Retrofit and strengthen structurally vulnerable infrastructures like roads, bridges, flood control and drainage

structures, and buildings, among others to improve resiliency;

e. Establish evacuation centers and temporary shelters in all provinces and major cities and urban centers of the region;

f. Implement an integrated dam release management protocol and regulation procedure to optimize the flood control, power generation, irrigation, domestic water supply, and environmental flow services of dams in Central Luzon.

Improve sanitation and wastewater disposal and provide accessible financing for the sector

To provide the necessary water infrastructure facilities and services, PPPs such as Joint Venture Agreements shall continue to be tapped. Partnership between LGUs and water utilities is seen as a good scheme to collaborate and successfully finance, construct and operate sewerage and septage management systems. A low-cost, low maintenance septage treatment facility translates into affordable user fees. The key is the selection of simple wastewater treatment technologies with low construction and operation and maintenance costs. Significant efforts are required to create and market the wastewater charge system for commercial and residential sectors.

Central Luzon will also sustain its efforts to improve Manila Bay water quality by controlling soil and water pollution (e.g., industrial effluents, sedimentation, siltation, wastewater from piggeries and poultry, water runoff from agricultural lands laden with fertilizers and pesticides, and domestic or household wastes) as stipulated in the Supreme Court mandamus. The following measures will be pursued in terms of sanitation infrastructure development, to wit:

a. Industrial, agricultural, and commercial firms will establish their own wastewater treatment facilities, to be regularly monitored by DENR-EMB;

b. The establishment of sanitary toilets with 3-chambered septic tanks will be enforced at the LGU level in their capacity as the building official;

c. Establish sewerage systems through the local water distribution utilities under the assistance of the Local Water Utilities Administration (LWUA) initially in high density urban centers such as Olongapo City, Angeles City, San Fernando City, Mabalacat City, Tarlac City, Cabanatuan City, Balanga City, and Malolos City, among others, and thereafter in all water districts in the region.

In addition, the Philippine Water Supply and Sanitation Master Plan (PWSSMP) Region 3 Roadmap which provides an action plan to achieve universal access to safe, sufficient, affordable, and sustainable water supply, hygiene and sanitation by 2030 will be carried out. Specifically for Region 3, general strategies for implementation include strengthening leadership and governance, developing partnership and linkages, mobilizing resources, conduct of community-based research, campaigns and advocacy, among others. The roadmap will also cover environmental concerns such as watershed development, expansion and protection; solid waste management; and zero open defecation advocacies.

Strengthen implementation of integrated water resource management

The PRBC and NWRB will support the establishment of a water resource center in the region that will provide expertise and encourage research and development,

technology, and innovation on IWRM in the region. The center can be established on a state university or college (SUC) such as the Central Luzon State University (CLSU) or Bulacan State University (BulSU). It will be under the oversight supervision of the PRBC and shall be appropriated through a resolution and memorandum of agreement among NGAs, LGUs, and SUCs.

The PRBC will continue to provide technical assistance to the ongoing NWRB's IWRMIS-PRB project particularly in facilitating data gathering from PRB stakeholders and coordinating complementation activities with Comprehensive Land Use Plans (CLUPs) of LGUs. The system, once completed, would be very helpful for the PRBC and the planned water resources center in gathering information on water demand, water quality, hydrology, and socio-economic data that could be used for informed planning and decision making in the region.

The PRBC, through its Technical Working Group on Advocacy, will finalize the communication plan of the CRIMP-PRB to further popularize and mainstream IWRM in the region. It shall identify the roles of the PRB stakeholders in the realization of the master plan's goals. The communication plan will include sector goals, tools and medium, responsible line agencies, and desired outcomes. The PRBC will also endeavor to include the youth's participation, through the

Department of Education (DEPED), SUCs, and higher educational institutions.

The RBCO will continue to strengthen the operations of the PRBC in terms of financial and technical assistance to ensure that the committee would be able to carry out its mandates and bring about the sustainable development and management of PRB's watershed, wetland, water resources, among others, including socio-economic growth. The RBCO and PRBC will ensure that the policies and programs in the PRB are aligned and harmonized with the IWRM Planning Tools and Guidance and other development blueprints. The PRBC will continue to shepherd the projects contained in the CRIMP-PRB Investment Program that are geared towards the realization of the PRB's vision and goals. Additionally, it shall conduct capacity-building activities to ensure that all stakeholders, even local government units, develop their knowledge in and appreciation of IWRM.

NEDA will support the creation of the Department of Water Resources which will be responsible for the comprehensive and integrated planning, policy formulation and management of water resources in the country. The said agency will strengthen and harmonize water governance and integrate the fragmented institutional set-up in IWRM implementation.

Outcome 4: Affordable, Accessible, Reliable, and Clean Energy provided

Promote renewable energy

Increase supply of clean and renewable energy. The reliability and affordability of power supply in the region and the Luzon grid will be improved by exploring the development of other sources of energy. Furthermore, expanding the supply of clean and renewable

energy (RE) will lower dependence on fossil fuels and consequently decrease carbon emissions in Central Luzon.

The DOE, in partnership with the LGUs and the private sector, will lead the development and exploration of renewable energy sources in the region. The geothermal energy potential

of the region, such as the geothermal resources located in Bataan peninsula and the Zambales mountain ranges, will be explored. Similarly, wind farms in Zambales, Aurora, and Nueva Ecija, will be developed. These areas have varying elevations, vegetation and water bodies that may provide wind flow patterns that support commercial electricity production. Generation of electricity from biomass in Nueva Ecija and Aurora will also be expanded. To increase the current total installed capacity of Pantabangan, Casecnan, and Angat Hydroelectric Power Plants, additional multi-purpose or trans-basin tunnels to Central Luzon from Sierra Madre, where abundant rainfall is evenly distributed all year round, as well as building mini-hydroelectric power plants from NIA's existing irrigation facilities will be proposed. Establishment of waste-to-energy (WTE) technologies and facilities as a potential power source will also be explored (*see Chapter 4.3*).

Development of solar farms will likewise be encouraged. The growing popularity of rooftop photovoltaics and solar farms is a welcome development in Central Luzon. Based on the solar energy potential map produced by the U.S. National Renewable Energy Laboratory (Figure 11.4), several areas in Tarlac, Pampanga, Nueva Ecija, Bulacan, and Zambales fall under the middle range gain areas. Investments in solar farms or photovoltaic panels in these areas will be encouraged. Photovoltaic panels can potentially generate electricity between 5.0 – 5.5 kWh/sq. m/day in higher gain areas and 4.5 – 5.0 kWh/sq. m/day in lower gain areas. Projects to be undertaken in the region in the medium term include construction of solar farms in Pampanga, Bataan, and Zambales and establishment of a large-scale solar photovoltaic power plant in New Clark City in the province of Tarlac.

Encourage LGU and private sector participation in facilitating renewable energy generation. Private sector initiatives on game-

changing innovations that can speed up the market entry of cleaner energy and meet rising demand will be encouraged. With the relaxation of the restrictions on foreign ownership of inexhaustible energy projects, through the DOE Department Circular No. 2022-11-0034, the drive to enhance the share of RE in the energy mix will be accelerated. The cost of RE projects will be reduced by allowing the entry of foreign capital into the country's RE industry.

On the other hand, local government units (LGUs) in the region will be tapped to facilitate the implementation of the RE Act and the National Renewable Energy Program (NREP) 2020-2040 at the local level. Local RE planning forms part of the NREP 2020-2040 framework and roadmap. Local RE planning will support RE project development by streamlining the permitting procedure and proactively identifying and classifying suitable lands for RE development. The DOE and the Department of the Interior and Local Government (DILG) issued Joint Memorandum Circular No. 2020-01, also known as the LGU Energy Code, which provides guidelines for LGUs to facilitate the implementation of energy projects as well as strengthen and integrate national energy plans, programs, and policies into the local development plans. The DILG 3 will monitor the Central Luzon LGUs' adoption of the LGU Energy Code, which includes the activation of an LGU Energy Sector Committee and crafting of local RE plans/policies and programs.

Improve the performance and efficiency of electric cooperatives

Initiatives toward maintaining a stable power supply from generation, transmission, to distribution will provide reliability and affordability of electricity in the region. In partnership with the private sector, the National Electrification Administration (NEA) and other relevant agencies will help improve the performance and efficiency of electric

cooperatives (ECs), as distribution units, to bring down the cost of electricity. NEA, as part of its mandate, will strengthen the ECs and help them become technically and economically viable. It is important to address the inefficiency of the technical and non-technical components of distribution expenses in comparison to the costs of line operations and maintenance for ECs. Moreover, upgrading and expanding of distribution infrastructure of ECs through smart grid technologies e.g., preferred electricity, and investment in more efficient technologies will also be pursued.

Enhance the delivery of energy to off-grid areas and unserved communities

Efforts will focus on providing electricity to remaining off-grid areas and unserved communities in the provinces of Nueva Ecija, Pampanga, and Tarlac to achieve the household electrification coverage of 100 percent. Among the measures to achieve total electrification is the provision of subsidies as well as technical and financial support to distribution utilities/electric cooperatives. The reliability of existing power transmission network will also be improved in the region. The National Grid Corporation of the Philippines (NGCP) in Luzon will continue its efforts in strengthening and improving of the reliability and resilience of its transmission system by upgrading the region's transmission capacity, upgrading substations, provision of additional transformers or new transmission lines, and application of new technologies in further developing or upgrading of the transmission lines in the region. Existing power transmission services will be expanded to cover the unserved communities. Moreover, the appropriateness and sustainability of projects involving new or emerging technologies for missionary electrification will be ensured. The NEA may also tap the regional technical evaluators of the ECs to complement the manpower of NEA in

facilitating evaluation of electrification projects.

Enhance the demand side management

Sustain Energy Efficiency and Conservation (EE&C) Act implementation in the region.

The EE&C Law was enacted to institutionalize energy efficiency, enhance the efficient use of energy, and grant incentives to energy efficiency and conservation projects. In line with this objective, government agencies in the region will be encouraged to lead by example through the Government Energy Management Program (GEMP). The GEMP aims to reduce the government's monthly consumption of electricity and petroleum products. Promotion of energy conservation and energy efficient technology through the conduct of appropriate information, education, and communication (IEC) campaign and energy audits/surveys will be observed in the government offices. Moreover, the DOE, in collaboration with the private sector, will develop initiatives and technologies that will encourage consumers to optimize their energy use. IEC campaigns will also be conducted to highlight the role of energy efficiency and conservation in ensuring the sufficiency of supply of energy in the region.

Monitor LGU implementation of the EE&C Act.

In support of the government's energy efficiency and conservation program, LGUs will develop a local efficiency and conservation plan to be incorporated in the local development plans. An Energy Conservation Office will also be established in each LGU to oversee and monitor the implementation of the respective Local Energy Efficiency and Conservation Plan. Initiatives such as the adoption of energy management system/programs (e.g., adoption of energy efficient lighting system) on all public buildings owned by the LGU, including parks, recreational facilities, roadways and streets and ensuring compliance to the Green Building Code will be promoting EE&C implementation at the local level.

Outcome 5: Enhanced support to social development provided

Ensure equitable access to health and education infrastructure, in partnership with the private sector

Construction of health and education facilities will continue. The government will continue to address the need for additional health and school buildings. Specifically, for health facilities, DOH will focus will be on upgrading and constructing rural and barangay health units, reference laboratories, and quarantine stations. In addition, treatment and research centers for emerging and re-emerging infectious diseases, and vaccine production laboratories will be established. For education, DepEd will provide complementary facilities such as power, ICT, water and sanitation facilities. The DOH will continue its Health Facilities Enhancement Program (HFEP), while the DepED will carry on its School Building Program under the Basic Educational Facilities Fund (BEFF), in coordination with the DPWH. Government allocation for education and health spending will be prioritized, while aid and resources from the private sector, non-government organizations and civil society organizations will be sought.

Titling for public schools will be fast tracked.

A way to accelerate the implementation of the education infrastructure program is to promptly resolve legal impediments resulting from questioned ownership of public-school sites, particularly donated lands. They lack proper legal documentation of transfer of ownership to the Department of Education (DepEd), resulting to land disputes filed by relatives of the donors. Land titling for school building purposes will be fast tracked.

Improve resiliency to support health and educational outcomes

The region's education facilities will be improved and expanded and the provision of complementary facilities such as power, ICT, water and sanitation will be ensured to better withstand the impact of hazards and calamities. Critical health facilities will be upgraded to ensure the delivery of health services during calamities. LGUs will identify land best suited for the construction and expansion of health and education facilities, in cooperation with the national government and private sector. The location of these facilities will take into consideration not only accessibility and demand, but also resilience to natural hazards and risks, including those associated with climate change. All LGUs shall have permanent disaster-resilient evacuation centers, equipped with gender equality, disability and social inclusion (GEDSI)-responsive basic facilities constructed for families displaced during emergencies.

Pursue optimal solid waste management solutions

Development of additional sanitary landfills and other facilities in LGUs will be accelerated. The use of open dumpsites for solid waste exposes the population to various vector and water-borne diseases. For hospitals and industries, the government relies more on the use of sanitary landfills to dispose toxic and hazardous wastes. Hence, LGUs' development of additional sanitary landfills will be accelerated along with the forced closures

of open dumpsites. The “not in my backyard” attitude of host communities will be addressed through proper consultation and community education. Materials recovery facilities and transfer stations will be established to facilitate recycling, reuse, and composting as well as the transfer of residual waste to landfills. Moreover, the DOST needs to sustain the implementation of its project that will improve waste management in barangays. DOST developed a model waste management system in public markets through the provision of an in-vessel rotary composter that can process 600 to 700 kilograms of biodegradable wastes in 5-6 days, reducing odor and vermin attraction. The composter is designed to turn biodegradable wastes into “compost” which will also help communities with their urban gardening initiatives. Further, the Metro Clark Waste Management Corporation set up the largest

engineered sanitary landfill (with waste-to-energy) in the country, and has the potential to become a demonstration project for renewable energy initiatives.

Clustering of LGUs will be facilitated to take advantage of economies of scale. Most LGUs are dependent on outsourced waste disposal services. Thus, clustering of LGUs in planning for the establishment of solid waste facilities will be pursued to reduce large capital requirements. LGUs can host and charge neighboring municipalities fees. The DENR will assist LGUs in integrating efforts, services and resources to establish common facilities for sustainable waste management and take advantage of economies of scale. Moreover, LGUs will explore the development of biomass waste-to-energy that will convert wastes into usable heat, electricity, or fuel (*see Chapter 4.3*).

Legislative Agenda

Table 13.12: Legislative Agenda to Expand and Upgrade Infrastructure

LEGISLATIVE AGENDA	RATIONALE	RESPONSIBLE AGENCY
Public-Private Partnership (PPP) Act	This amends the BOT Law to enhance the framework governing PPPs, by fostering a more competitive and enabling environment for PPPs.	PPPC/NEDA
Amendment of RA 10752 (ROWA)	This addresses difficulties in complying with the law's strict requirements and expedites the implementation of infra projects to provide clearer, fairer and simpler terms for ROW acquisition.	DPWH
National Broadband Act	This proposes to institutionalize the National Broadband Program, public safety and emergency communications.	DICT
Creating the Department of Water Resources	This seeks to ensure safe, reliable, quality and affordable water supply for all. It shall be the primary agency responsible for the comprehensive and integrated planning, policy formulation and management of water resources.	NEDA
National energy policy and regulatory framework for facilities utilizing waste to energy	This mandates the DOE to encourage the adoption of waste to energy facilities and considers biodegradable organic fractions of industrial and municipal wastes as part of biomass resources.	DOE
Public Schools of the Future in Technology Act	This aims to integrate digital technology and innovation into public basic education, by ensuring adequate investment in digital and technological infra in public schools	DepEd
Summary Titling of Real Properties Occupied by Public Schools	This will enable the DepEd to have legal ownership over donated lands being utilized as public-school sites.	DepEd

Results Matrix

Table 13-13: Results Matrix: Expand and Upgrade Infrastructure

Indicator	Baseline (Year)	Annual Plan Targets						Responsible Agency
		2023	2024	2025	2026	2027	2028	
Outcome 1. Planning, Programming and Asset Management Enhanced, and								
Outcome 2. Seamless and Inclusive Connectivity Achieved								
Physical Connectivity								
Roads Paved and maintained (%), 2021								
Central Luzon	99.96	100	100	100	100	100	100	DPWH
Aurora	99.99						100	DPWH
Bataan	100.00						100	DPWH
Bulacan	100.00						100	DPWH
Nueva Ecija	99.84						100	DPWH
Pampanga	100.00						100	DPWH
Tarlac	100.00						100	DPWH
Zambales	100.00						100	DPWH
Roughness Index, 2019	3.63						Below 3	DPWH
Motor vehicles registered, 2022								
Utility Vehicles	266,091	274,074	282,296	290,765	299,488	308,472	317,727	LTO
Trucks	50,199	51,705	53,256	54,854	56,499	58,194	59,940	LTO
Buses Registered	2,054	2,116	2,179	2,244	2,312	2,381	2,453	LTO
Trailers	6,308	6,497	6,692	6,893	7,100	7,313	7,532	LTO
No. of LGUs with approved Local Public Transport Route Plan (LPTRP)	5 (2022)	22	44	66	88	110	137	LTFRB
No. of operators provided with Certification for acquisition of Modernized Jeepneys	104 (2022)	125	150	180	216	259	311	LTFRB
No. of Approved Expanded Equity Subsidy Application	60 units (2022)	120	144	173	207	249	299	LTFRB
Industry consolidation (no. of transport cooperatives/ corporations formed)	12,874 units (2022)	14,338	15,802	17,266	18,730	20,194	21,658	LTFRB
No. of PUV beneficiaries with credited fuel subsidy	23,631 (2022)	24,099	24,099	24,099	24,099	24,099	24,099	LTFRB

INDICATOR	BASELINE (YEAR)	ANNUAL PLAN TARGETS						RESPONSIBLE AGENCY
		2023	2024	2025	2026	2027	2028	
Establishment of active transport infrastructure (km)		37.5		104				DOTr AT PMO
Maintenance of existing active transport infrastructure (km)			9.38	9.38	35.38	35.38	35.38	DOTr AT PMO
Installation of end-of-trip cycling facilities (in sets)			7		21			DOTr AT PMO
Air passenger movement (domestic and international)	192,542						4,457,046	CRK
Cargo shipped via air (international and domestic) MT	36,975						241,887	CRK
Cargo shipped via water transport increased (international and domestic) (MT, cumulative)	6,344,524						TBD	SBMA
Containerized Cargo via water transport, TEUs, 2021	253,274						600,000	SBMA
Cargo, PPA Ports (million MT)	20.2	20.6	20.8	21.0	21.2	21.3	21.4	PPA
Digital Connectivity								
Households with Internet Access, 2019 (%)	24	27.6	33	43	60	84	100	DICT
Number of LGUs with Free Wi-Fi Services, 2021	117	130	130	130	130	130	130	DICT
Average wireless download speed (Mbps)	13	15	17.25	20	23	26	30	DICT / NTC
Outcome 3. Water Security, Ecological Integrity of Water Systems and Resiliency to Water Hazards Attained								
Households served by water districts (%), 2021								
Central Luzon	54.87						100	LWUA
Aurora	7.3						100	LWUA
Bataan	59.8						100	LWUA
Bulacan	65.7						100	LWUA
Nueva Ecija	46.2						100	LWUA
Pampanga	52.6						100	LWUA

INDICATOR	BASELINE (YEAR)	ANNUAL PLAN TARGETS						RESPONSIBLE AGENCY
		2023	2024	2025	2026	2027	2028	
Tarlac	54.9						100	LWUA
Zambales	27.0						100	LWUA
LGUs with Water Districts (No), 2021								
Central Luzon	88						130	LWUA
Aurora	2						8	LWUA
Bataan	9						12	LWUA
Bulacan	21						24	LWUA
Nueva Ecija	19						32	LWUA
Pampanga	14						22	LWUA
Tarlac	11						18	LWUA
Zambales	12						14	LWUA
Irrigation coverage, %, 2021								
Central Luzon	70.30	71.27	72.11	73.63	74.68	76.38	77.56	NIA
Aurora	80.45	82.38	84.08	85.97	87.85	89.59	91.57	NIA
Bataan	71.14	74.07	77.79	82.92	85.50	89.71	91.06	NIA
Bulacan	70.39	71.64	71.64	71.64	71.64	71.97	71.97	NIA
Nueva Ecija	109.18	110.25	111.62	118.85	124.41	135.45	144.32	NIA
Pampanga	97.86	98.33	98.68	99.10	99.46	99.94	100.35	NIA
Tarlac	47.23	47.58	47.98	48.39	48.65	49.12	49.30	NIA
Zambales	65.57	67.49	69.40	72.18	73.85	75.13	76.47	NIA
Outcome 4. Affordable, Accessible, Reliable and Clean Energy Provided								
Households with Electricity, millions, 2021 (Note: Bulacan excluded, under MERALCO)	1.68 (2021)	1.73	1.78	1.83	1.93	1.98	2.04	NEA
RE share to the energy mix of the region increased (%)	23 (2021)	increasing						DOE

INDICATOR	BASELINE (YEAR)	ANNUAL PLAN TARGETS						RESPONSIBLE AGENCY
		2023	2024	2025	2026	2027	2028	
Outcome 5. Enhanced Support to Social Development Provided								
Barangay Health Stations, 2021	2,069						3,102	DOH
Rural Health Units, 2021	281						630	DOH
Classroom-student Ratio (SY 2019-2020):								
Kindergarten	1:25	1:25	1:25	1:25	1:25	1:25	1:25	DepEd
Grade 1-3	1:30	1:30	1:30	1:30	1:30	1:30	1:30	DepEd
Grade 4-6	1:40	1:40	1:40	1:40	1:40	1:40	1:40	DepEd
High School	1:44	1:42	1:42	1:42	1:42	1:42	1:42	DepEd

¹Rule VI-Section 23.1 of the National Transport Policy. <https://neda.gov.ph/wp-content/uploads/2020/02/NTP-IRR-Final.pdf>

²JICA. Project for Masterplan on High Standard Highway Network Development (Phase 2) Final report p. 46 <https://openjicareport.jica.go.jp/pdf/12341590.pdf>

³Central Luzon RPMES 4th Quarter 2022

⁴<https://ciac.gov.ph/about-ciac/#::~:~:text=The%20newly%2Dbuilt%20Clark%20International,an%20estimated%2080M%20passengers%20annually.>

⁵<https://www.sanmiguel.com.ph/page/san-miguel-aerocity-inc>

⁶Final Situation Analysis Report. Consulting Services for the Integrated Infrastructure and Investment Development Planning (3IDP) for Investment Corridors in Central Luzon p.5-78

14

**Ensure Peace and
Security and Enhance
Administration of Justice**

CHAPTER 14

Ensure Peace and Security and Enhance Administration of Justice

The 2030 Agenda for Sustainable Development underscores the importance of promoting peaceful and inclusive societies, providing access to justice for all, and building effective, accountable, and inclusive institutions at all levels. It recognizes that peace and security are prerequisites for attaining sustainable development and gives direction to peaceful communities.

The Whole-of-Nation Approach will be pursued to ensure peace and security in the region. Swift and fair administration of justice will likewise be promoted to increase people's trust in government.

Sub-Chapter 14.1 Ensure Peace and Security

Peace and security are indispensable to sustaining development as it helps bring about positive economic, political, and social changes. On the other hand, incidents of fire and security hazards and violent conflict can disrupt effective delivery of products and services; destroy properties and infrastructure; disrupt business activities and institutions; and increase unemployment and displace families. These changes in the environment increase vulnerability of communities and fuels poverty.

To ensure peace and security, the government will further expand access to basic services and prioritize the delivery of social development packages to conflict-affected areas and vulnerable communities. Throughout the region, various mechanisms will be adopted to reduce security threats and maintain peace and order.

Assessment and Challenges

The Whole-of-Nation Approach in achieving sustainable and inclusive peace was institutionalized in 2018 through the issuance of Executive Order No. 70 to address the root causes of insurgency and put an end to the local communist armed conflict.

Sustaining the gains of the government against communist insurgency remains a challenge. The relentless efforts of national

and local governments in conducting focused military operations and the convergence of agencies in implementing peace and development programs also helped in clearing the region of communist rebels. The number of provinces declared as insurgency-free increased from two provinces in 2017 to five out of seven provinces in 2021. The provinces declared as peaceful, insurgency-free, and ready for further development were Aurora, Tarlac, Nueva Ecija,

Bataan, and Pampanga. Some barangays in Bulacan and Zambales were also cleared of insurgency in 2021. The cleared barangays in the region totaled 87 from 2018 to 2021. Likewise, the conflict-affected areas (CONAAs) decreased from 110 barangays in 2019 to 43 barangays in 2021. All LGUs in the region have declared the CPP-NPA as persona non-grata.

The implementation of the Community Support Program (CSP) and the Retooled CSP enabled the dismantling of *Kilusang Larangang Guerilla (KLG) Sierra Madre* and constricted the movement and expansion of KLG West and KLG Tar-Zam according to the Armed Forces of the Philippines (AFP). As a result, the number of guerilla fronts in the region was reduced from five in 2018 to only two in 2021.

Implementation of government programs have helped sustain peace and development particularly in GIDAs and CONAAs. The Enhanced Comprehensive Local Integration Program (E-CLIP) is one of the programs that encouraged the former rebels to restore their allegiance to the Philippine government. From 2019 to 2022, there were 183 immediate assistance, 59 livelihood assistance, four fast remuneration assistance and 652 other benefits from national government agencies and local government provided to 250 surrenderers.

Another program that helped sustain peace and development in Geographically Isolated and Disadvantaged Areas (GIDAs) and CONAAs is the Local Government Support Fund-Support to the Barangay Development Program (LGSF-SBDP). The LGSF-SBDP is a flagship program of the national ELCAC that aims to rehabilitate and develop former conflict-ridden communities. It provides funding for the construction of farm-to-market roads, health centers, electrification, water and sanitation facilities, schools, and livelihood projects in eligible communities.

For FY 2021, one barangay beneficiary that was cleared from the communist insurgency – Barangay San Mateo, Norzagaray, Bulacan was provided with 20 million pesos for its five priority projects under the LGSF-SBDP. For FY 2022, 47 target barangays in 13 municipalities in Aurora, Nueva Ecija and Zambales proposed a total of 253 projects. Among the projects proposed were 58 farm-to-market roads, 24 school buildings, 16 health stations, 24 water and sanitation systems, 19 electrification, 43 agriculture, livelihood, technical-vocational trainings, and 69 various assistances to indigent families.

Crime situation in the communities is improving. The average monthly crime rate decreased from 34.99 percent in 2017 to 26.36 percent in 2021. The provinces of Aurora and Zambales had the highest decline in the number of crimes committed in Central Luzon. The reduced crime volume is attributed to the strict community quarantine measures implemented during the pandemic and the enforcement of anti-criminality measures particularly the anti-illegal drug campaign.

The total number of crime cases cleared over total crime incidents improved from 78.84 percent in 2017 to 97.42 percent in 2021. Similarly, crime solution efficiency increased from 65.27 percent in 2017 to 81.81 percent in 2021. These positive developments can be attributed to law enforcement agencies' capability-building programs on investigation, intelligence, and police operation, and the use of advanced technologies in executing police functions.

To sustain the progress, the region's police force must be augmented to meet the ideal standard ratio of one police for every 500 population. The police-to-population ratio was estimated at 1:1,014 in 2021. Among the provinces and

highly urbanized cities in the region, only the province of Aurora and Olongapo City achieved the ideal ratio.

Fire incidents in the region continues to decline. Aside from crimes, fires are the most common threat to the safety and security of the residents of the region although the incidents had declined significantly over time. In 2021, the Bureau of Fire Protection Regional Office 3 recorded 843 fire incidents from 1,258 incidents in 2017. The province of Pampanga recorded the highest number of fire incidents with 279 while Aurora registered the lowest tally of fire incidents with 34 in 2021. Regular information campaigns by the Bureau of Fire Protection Regional Office to raise public awareness on fire prevention and safety tips led to the decrease in fire incidents.

Despite the declining number of fire cases in the region, the fireman-to-population ratio (FPR) and firetruck-to-population ratio (FTPR) needs to be improved. In 2021, the FPR was recorded at 1:4,570 which is below the 1:2,000 ratio set by the Housing and Land Use Regulatory Board. Only the province of Aurora was able to reach

the standard FPR. Meanwhile, the FTPR for the region was 1:38,373 which was way below the ideal ratio of 1:28,000. Despite low FTPR, four of seven provinces (Aurora, Bataan, Nueva Ecija and Zambales) achieved the standard ratio.

Mainstreaming of disaster risk reduction and climate change adaptation is critical in local area planning. All cities and municipalities in the region have established functional DRRM operations centers but only 69 percent of said LGUs have early warning systems, 89 percent have updated or completed Local Climate Action Plan, 66 percent have Local Disaster Risk Reduction Management Plan and 52 percent have DRR-CCA-enhanced Comprehensive Land Use Plans (also discussed in Chapter 16).

Despite various DRRM-related initiatives enhancing the preparedness and resiliency of communities to natural disasters, the region was still severely affected by tropical cyclones such as Typhoon Karding in 2022 which recorded a total of eight deaths, 66 injuries and affected 1,261,866 individuals from 333,087 families (RDRRMC3 Situation Report, October 2022).

Strategy Framework

Central Luzon showed progress in preventing and resolving internal conflicts, insurgencies, and maintaining security and safety of citizens from different forms of criminality and fire incidents. To sustain the gains achieved, the implementation of the Whole-of-Nation Approach to end local communist armed conflicts and insurgencies will be pursued. Likewise, citizens will continue to

be safeguarded from criminality and hazards through the extensive application of technology, citizen engagement, capacity building and enhanced planning in hazard prevention and mitigation.

Figure 14.1-1: Strategy Framework to Ensure Peace and Security



Strategies

Outcome 1: Protection and development of conflict-affected communities and conflict-vulnerable areas sustained

All local government units, regional line agencies, and private sector organizations will pursue the realization of inclusive and sustainable peace through the Whole-of-Nation Approach. The continuous engagement of various sectors and convergence among stakeholders will be strengthened to ensure achievement of the country's peace agenda.

Strengthen convergence of peace and development programs and intensify their implementation

The provision of viable social protection packages and alternative livelihood to former rebels will be continued through the E-CLIP. It will be enhanced to ensure that qualified beneficiaries are able to avail of the social protection package with no delay. The benefits may include immediate cash assistance, livelihood assistance, firearms remuneration, reintegration program, livelihood, medical and legal assistance, education and housing.

In addition, halfway houses will be established to accommodate the growing number of surrendering communist members in the region. The strategy is consistent with the resolution of the Central Luzon Regional Development Council in September 2021 supporting the proposed establishment of halfway houses for former rebels.

The implementation of CSP of the AFP and Retooled CSP of the DILG will be intensified to ensure that the needs of GIDA communities are addressed.

Barangays in CONAAs and GIDAs will be enjoined to propose programs and projects for funding under the LGSF-SBDP. The endorsement of proposed projects for funding will be fast-tracked to prevent vulnerable individuals to be recruited by terrorist or extremist groups.

Regular monitoring and evaluation of peace and development programs will be conducted to promptly address implementation issues.

Prioritize the delivery and increase access to basic services and social development packages in conflict affected areas (CONAAs) and Geographically Isolated and Disadvantaged Areas (GIDAs)

Priority in the delivery of basic services and implementation of various social development packages as well as information campaign will be given to barangays identified as CONAAs and GIDAs. Under the Capacitating Urban Communities for Peace and Development Program, local officials and stakeholders in these areas will be assisted to identify appropriate programs and projects that will improve access to essential government services and address root causes of conflict and underdevelopment. Social issues that are often exploited by communist terrorist groups such as land grabbing, displacement of Indigenous Peoples, environmental degradation, and idle housing projects will be addressed.

Under the Barangayanihan Caravan towards National Recovery concerned government agencies will converge to deliver the programs and projects identified by the LGUs and their

stakeholders. The concerned implementing agencies and local governments will be capacitated to perform project development, implementation and monitoring.

Ensure functionality of local task forces in ending local communist armed conflicts and insurgencies

The operation of regional and sub-regional task forces to end local communist armed conflicts (ELCAC) will be enhanced and their performance monitored. The local task forces at the province, city, municipal, and barangay levels play a critical role in managing and stopping conflicts and insurgencies within their respective jurisdictions. Priority will be given to the remaining 290 barangays that have not organized ELCAC task forces. The regional ELCAC will ensure that the local task forces are fully functional to be able to perform their mandates. Subsequently, the linkage between and among the task forces from the national to the barangay level will be enhanced for better cooperation and coordination. Efforts to make all barangays in the provinces of Bulacan and Zambales will be prioritized until both are also declared insurgency free. As of July 2020, the RTF-ELCAC has established a total of 137 local ELCAC task forces at the provincial, city and municipal levels, and 2,812 barangay task forces.

Outcome 2: Quality of life of people safeguarded from criminality

Intensify efforts in reducing crime using technology-based tools and equipment

Security sector agencies will continue improving their respective tools for criminal intelligence, such as crime mapping and analysis, to better understand swift changes in criminality and enhance sharing of vital information. The

objective is to strengthen efforts against illegal drugs, trafficking, terrorism, and other non-traditional threats such as cybercrime and transnational crimes. The Integrated Crime Management Information System (CMIS) installed at local police stations shall be enhanced to provide transaction processing modules that will generate crime database, tracking and monitoring system.

Increase citizen engagement and strengthen partnership between law enforcement agencies and local peace and order institutions to combat criminality and other threats

The government will shift from reactive policing to proactive policing by developing police-community partnerships. The Kapulisan, Simbahan at Pamayanan (KASIMBAYANAN) program of the Philippine National Police (PNP) will be strengthened to increase public involvement in safety and peacekeeping activities. The public will be persuaded and encouraged to take personal responsibility, both individually and in groups, in safeguarding themselves, their property and their neighborhood with the advice and assistance of the police. Government will advocate that crime prevention is a community responsibility and crime prevention measures taken by the community can limit and reduce opportunities for the commission of crime.

Barangay Peacekeeping Action Teams (BPATs) which are already established in all barangays of Central Luzon will be sustained to maintain peace and order at the community level in partnership with law enforcement agencies, local peace and order institutions and civil society organization.

Strengthen the capacity of police forces to counter and prevent all forms of crime

PNP-initiated policy reforms in human resource development including recruitment, hiring and staffing, and improvement of human resources management systems will be implemented without delay to address police force gaps, particularly in the provinces of Bataan, Bulacan, Nueva Ecija, Pampanga, Tarlac and Zambales, and Angeles City which have the lowest police to population ratios.

Likewise, upgrading of physical facilities and equipment - those that support police field operations will be pursued.

Outcome 3: Protection and safety from natural hazards and other emergencies ensured

Enhance the integration of fire protection, safety from natural hazards and other emergencies in local area planning area

Local governments will integrate fire, natural hazards, and other emergency prevention in local area development planning. Through this initiative, the LGUs and the BFP will have a better grasp of the current situation of the communities and be informed of the critical gaps in existing legislation and implementation capacity relative to preventing and responding to incidents of fire, natural hazards, and other emergencies.

Specifically, the integration of fire protection in the local planning function will allow communities to determine: (i) water supply sources, (ii) the appropriate distance between the zones designed for residential and public buildings, and the zones designed for industrial facilities and special purpose facilities (e.g., warehouses for the storage of flammable liquids, gases and explosives), (iii) the required distance between the facilities with different purposes inside the industrial zone and the special purpose facilities, (iv) the right width of roads that would enable access of fire fighting vehicles and enough space for firefighting crew to maneuver, and (v) the suitable land for the construction of facilities for fire brigades,

volunteer fire companies and their associations, as well as specialized fire brigades for civil protection, among others.

The capacities of LGUs to respond to the impact of climate change and disaster events

will be strengthened to ensure the safety and resilience of communities. Proactive planning by the local governments will be pursued to reduce vulnerability, and enhance preparedness for natural hazards and other emergencies, and reduce further exposure and damages.

Legislative Agenda

Table 14.1-1: Legislative Agenda to Ensure Peace and Security

LEGISLATIVE AGENDA	RATIONALE/KEY FEATURES	RESPONSIBLE AGENCY
Mandatory Citizen's Service Training Act	This aims to address the need to enhance the capacity in mobilizing and performing constitutional duty to render military or civil service to the country during calamities and disasters, national or local emergencies, rebellion, invasion, or war.	CHED, AFP
Allowing Graduates of K-12 Enhanced Education in the PNP Act	This seeks to level the playing field for the children of poor families who cannot afford to send them to college by lowering the education requirement for police applicants.	PNP
Critical Information Infrastructure Protection Act	This aims to protect the cybersecurity of the critical information infrastructure (CII) by adopting a minimum information security standard, creating a computer emergency response team and reporting of cybersecurity threats, and developing a capable pool of cybersecurity professionals and practitioners.	DICT

Results Matrix

Table 14.1-2: Results Matrix: Ensure Peace and Security

INDICATOR	BASELINE (YEAR)	ANNUAL PLAN TARGETS						MEANS OF VERIFICATION	RESPONSIBLE AGENCY
		2023	2024	2025	2026	2027	2028		
Chapter Outcome 1: Protection and development of conflict-affected communities and conflict vulnerable areas sustained									
Percentage of Barangay Development Program beneficiary-barangays provided with socioeconomic interventions	100% (2021)	100%	100%	100%	100%	100%	100%	RTF-ELCAC Accomplishment Reports	RTF-ELCAC, DILG
Number of barangays affected by internal armed conflict (or Conflict Affected Areas) reduced	43 (2021)						0	7 th ID, AFP Reports	7 th ID, AFP

Indicator	Baseline (Year)	Annual Plan Targets						Means of Verification	Responsible Agency
		2023	2024	2025	2026	2027	2028		
Chapter Outcome 2: Quality of life of people safeguarded from criminality									
Average Monthly Crime Rate reduced	26.36% (2021)	5% decrease from previous year	6% decrease from previous year	7% decrease from previous year	8% decrease from previous year	9% decrease from previous year	10% decrease from previous year	PNP Reports	PNP
Aurora	11.76%							PNP Reports	PNP
Bataan	20.28%							PNP Reports	PNP
Bulacan	22.36%							PNP Reports	PNP
Nueva Ecija	26.92%							PNP Reports	PNP
Pampanga	35.83%							PNP Reports	PNP
Tarlac	24.03%							PNP Reports	PNP
Zambales	28.07%							PNP Reports	PNP
Angeles City	28.89%							PNP Reports	PNP
Olongapo City	26.60%							PNP Reports	PNP
Crime Clearance Efficiency (%) increased	97.42% (2021)	6% increase from previous year	7% increase from previous year	8% increase from previous year	9% increase from previous year	10% increase from previous year	11% increase from previous year	PNP Reports	PNP
Crime Solution Efficiency (%) increased	81.81 (221)	6% increase from previous year	7% increase from previous year	8% increase from previous year	9% increase from previous year	10% increase from previous year	11% increase from previous year	PNP Reports	PNP
Police to Population Ratio improved	1:1,014 (2021)	1:500	1:500	1:500	1:500	1:500	1:500	PNP Reports	PNP
Aurora	1:284	1:500	1:500	1:500	1:500	1:500	1:500	PNP Reports	PNP
Bataan	1:1159	1:500	1:500	1:500	1:500	1:500	1:500	PNP Reports	PNP
Bulacan	1:2,268	1:500	1:500	1:500	1:500	1:500	1:500	PNP Reports	PNP
Nueva Ecija	1:988	1:500	1:500	1:500	1:500	1:500	1:500	PNP Reports	PNP
Pampanga	1:1,859	1:500	1:500	1:500	1:500	1:500	1:500	PNP Reports	PNP
Tarlac	1:961	1:500	1:500	1:500	1:500	1:500	1:500	PNP Reports	PNP
Zambales	1:819	1:500	1:500	1:500	1:500	1:500	1:500	PNP Reports	PNP
Angeles City	1:832	1:500	1:500	1:500	1:500	1:500	1:500	PNP Reports	PNP
Olongapo City	1:392	1:500	1:500	1:500	1:500	1:500	1:500	PNP Reports	PNP
Number of Fire Incidences*	843 (2021)							BFP Reports	BFP
Fireman to Population Ratio improved	1:4,570 (2021)	1:2,000	1:2,000	1:2,000	1:2,000	1:2,000	1:2,000	BFP Reports	BFP
Aurora	1:1,491	1:2,000	1:2,000	1:2,000	1:2,000	1:2,000	1:2,000	BFP Reports	BFP
Bataan	1:3,290	1:2,000	1:2,000	1:2,000	1:2,000	1:2,000	1:2,000	BFP Reports	BFP
Bulacan	1:7,984	1:2,000	1:2,000	1:2,000	1:2,000	1:2,000	1:2,000	BFP Reports	BFP
Nueva Ecija	1:3,929	1:2,000	1:2,000	1:2,000	1:2,000	1:2,000	1:2,000	BFP Reports	BFP
Pampanga (including Regional Office)	1:4,403	1:2,000	1:2,000	1:2,000	1:2,000	1:2,000	1:2,000	BFP Reports	BFP
Tarlac	1:4,450	1:2,000	1:2,000	1:2,000	1:2,000	1:2,000	1:2,000	BFP Reports	BFP
Zambales	1:3,594	1:2,000	1:2,000	1:2,000	1:2,000	1:2,000	1:2,000	BFP Reports	BFP
Fire truck to Population Ratio improved	1:38,373 (2021)	1:28,000	1:28,000	1:28,000	1:28,000	1:28,000	1:28,000	BFP Reports	BFP
Aurora	1:10,911	1:28,000	1:28,000	1:28,000	1:28,000	1:28,000	1:28,000	BFP Reports	BFP
Bataan	1:29,064	1:28,000	1:28,000	1:28,000	1:28,000	1:28,000	1:28,000	BFP Reports	BFP
Bulacan	1:51,247	1:28,000	1:28,000	1:28,000	1:28,000	1:28,000	1:28,000	BFP Reports	BFP
Nueva Ecija	1:32,080	1:28,000	1:28,000	1:28,000	1:28,000	1:28,000	1:28,000	BFP Reports	BFP
Pampanga (including Regional Office)	1:45,520	1:28,000	1:28,000	1:28,000	1:28,000	1:28,000	1:28,000	BFP Reports	BFP
Tarlac	1:40,288	1:28,000	1:28,000	1:28,000	1:28,000	1:28,000	1:28,000	BFP Reports	BFP
Zambales	1:33,112	1:28,000	1:28,000	1:28,000	1:28,000	1:28,000	1:28,000	BFP Reports	BFP

Sub-Chapter 14.2 Enhance Administration of Justice

An effective justice system will provide the foundation for a high-trust society to encourage stakeholders' participation in community-building and beef up investments in the region. This fosters a dynamic business environment that leads to increased employment opportunities and community involvement essential in achieving economic and social transformation.

Efficient mechanisms across different levels of justice administration such as prevention, dispute resolution, and correction will reinforce the institutionalization of an effective justice system. Strengthening of justice institutions involve infrastructure development, human resource capacity building, community awareness and involvement, and adoption of information and communications technology as an enabler in streamlining legal processes in the region.

Assessment and Challenges

The Department of Justice – Office of the Regional Prosecutor Region 3 received a total of 68,207 cases and achieved a case disposition rate of 93 percent in 2021. The region had 173 prosecutors or a ratio of 394 cases assigned per prosecutor. The Public Attorney's Office (PAO) Region 3, on the other hand, assisted 493,509 clients in 2021. PAO Region 3 also implemented barangay outreach activities, mediation and conciliation sessions, jail visits and inspections, and legal aid information and dissemination campaigns to increase public awareness and reach out to indigent clients who needed legal assistance.

The Katarungang Pambarangay (KP) resolved a total of 70,698 out of 91,577 cases filed through the Lupon ng Tagapamayapa of the different barangays in Central Luzon. With the estimated cost of adjudication of PHP 9,500 per case¹, the government generated a savings of around PHP 870 million when these cases were settled through the KP alternative dispute resolution system instead of court proceedings. The KP case resolution rate was 77 percent in 2021, which was almost unchanged since 2017. The provinces of Tarlac, Nueva Ecija, and Pampanga were the top performers with

resolution rates of 86 percent, 85 percent, and 80 percent, respectively. The highly urbanized cities of Olongapo City and Angeles City had low resolution rates of 54 percent and 73 percent, respectively.

Average jail congestion rate in Central Luzon decreased to 424 percent in 2021 from the 2017 baseline of 1,076 percent. The decrease can be attributed to the decongestion program of the Bureau of Jail Management and Penology (BJMP), in part as a precautionary measure against COVID-19 among persons deprived of liberty (PDL). On parole and probation, the Parole and Probation Administration Region 3 accomplished a 95 percent disposition rate of investigation cases completed and forwarded to courts or the Board of Pardons and Parole.

Fragmentation of the criminal justice system.

The criminal justice system is fragmented as it is being administered by different branches of the government, the Executive and the Judiciary. The Justice Sector Coordinating Council (JSCC) was created to improve inter-branch coordination in justice administration. The JSCC established justice zones to facilitate sector-based solutions in selected areas. At

present, there are nine justice zones nationwide, and two of them are in Region 3 – Angeles City and Balanga City. Information systems are being operationalized to enhance sector efficiency in these areas. National data from the Supreme Court showed that the disposition rate for all court levels in 2021 was 39 percent, while the clearance rate of all courts was 93 percent.

Limited resources weaken the justice sector.

Backlogs persist in the different areas of the justice system. The DOJ is not able to meet the ideal 1:1 prosecutor/public attorney to court ratio. This results to backlogs in disposition of cases in the DOJ and the slow litigation in courts. Aside from the lack of lawyers, another cause of delay is the weak case build-up and the lack of digitalization in sector data and operations management.

Strategy Framework

The strategy framework in Figure 14.2-1 shows the different mechanisms and actions to be implemented to improve the efficiency in disposition of cases, the access to free and

affordable services, the quality of life behind bars, and the opportunity for productive re-integration of PDLs in the community.

Figure 14.2-1: Strategy Framework to Enhance Administration of Justice



Strategies

Outcome 1: Quality and efficiency in disposition of cases improved

Strengthen coordination to improve sector efficiency and accountability

The two JSCC justice zones - Angeles City and Balanga City - will be fully implemented to

maximize the benefits that can be generated through this enhanced coordinating mechanism. The concerned agencies that are part of the justice zones will ensure smooth flow of administration of justice and lessen the impact of fragmentation due to the processing of

cases across two branches of government. This will expedite legal proceedings especially in the area of violation of R.A. 9165 (Comprehensive Dangerous Drugs Act of 2012) which continues to be a major criminal concern in the region.

Best practices from these cities will be shared with other LGUs to serve as models for replication in improving justice administration areas. Cooperation between prosecutors and law enforcement agencies such as the PNP and NBI will be institutionalized to facilitate case build-up through proper collection, handling, and presentation of evidence, and subsequently, increase the success rate of prosecution.

One-stop shops for criminal justice, or “justice hubs”, will be established in select LGUs to house courts, prosecutors, public attorneys, police, and a jail for easier inter-agency coordination and synchronized operations. The justice hubs will also include an electronic central evidence unit to store and handle documentation of evidence coming from the different agencies for more efficient processing and utilization.

Improve human resource in the justice sector

The number of human personnel in the justice sector will be increased to meet the needs of the citizens. The required 1:1 ratio between the prosecutors/public attorneys to court will be attained. The number of courts and judges will likewise be optimized based on the population.

In addition to the increase in the number of personnel, capacity building will also be facilitated through continuing professional development programs. This will ensure that modern investigation and litigation techniques will be applied, and inefficient practices will be eliminated. A sector-based approach will also be adopted particularly in the settlement of commercial disputes, intellectual property cases, and cybercrime, among others. This will

enhance sectoral capacity and facilitate faster case disposition in these areas.

Advance the use of Alternative Dispute Resolution mechanisms

The DOJ and the Judiciary will enhance the filtering mechanism, where litigants will be required to first exhaust Alternative Dispute Resolution (ADR) venues before elevating cases to the judicial process. The Office for Alternative Dispute Resolution will heighten its capacity building and advocacy campaigns to promote ADR mechanisms.

The DILG will implement capability building activities to improve the performance of the Lupon Tagapamayapa in resolving cases through the Katarungang Pambarangay. Communities with low case resolution rates, particularly in the highly urbanized cities of Olongapo City and Angeles City, should be reassessed and prioritized for capability building. On the other hand, high-performing LGUs, such as those in Tarlac and Nueva Ecija will be given incentives for their exemplary performance and will be encouraged to share their best practices in implementing ADR. The DILG and the LGUs will likewise conduct information and education campaigns to educate the public on the importance of utilizing ADR venues.

Maximize the use of digital technology and build a robust, efficient, and disaster-resilient ICT architecture for the justice sector

Digitalization of data and process management in the sector will be improved, and automated technologies will be utilized in the courts, DOJ, and other law enforcement agencies. The National Justice Information System will be fully implemented in the region along with other innovations like the eCourt System and the Criminal Justice Information Exchange. A unified crime index database will be utilized to

support technology-based case management. Automated consumer complaints handling will also be adopted through the leadership of the DTI to facilitate faster grievance resolution.

Encourage private sector-led redress mechanisms

To implement an effective sector-based approach in justice administration, the private sector will be tapped to provide private mediation services

within their establishments. Businesses will be encouraged to setup consumer welfare desks to deliver immediate redress of grievances and prevent additional cases for the courts. Furthermore, business chambers in the region will be tapped to support the bid of the region to streamline justice administration by advancing among enterprises the implementation of effective mechanisms that will address disputes within their respective organizations.

Outcome 2: Access to free or affordable quality legal services by Filipinos improved

Expand legal assistance and establish free legal aid public directory and referral system

The DOJ will expand its legal services and setup Action Centers to act on complaints, requests for legal assistance, and queries of walk-in clients. Public information and advocacy on the justice system, including access to legal remedies and assistance, will be continuously enhanced. The use of agency websites and other media and communication platforms will be utilized

as tools to relay information on the dynamics of the country's judicial system. The Judiciary and the DOJ will establish and disseminate an online database of free legal aid providers to ensure that law enforcers, detainees, and other clients will have immediate access to these services and expedite the proceedings. The two JSCC justice zones in Central Luzon will likewise be promoted to increase the citizens' awareness and knowledge on the innovations in the justice sector and build-up confidence in the justice system of the region.

Outcome 3: Quality of life of PDL improved, and productive re-integration of PDL in the community ensured

Improve jail facilities and implement sector-based aftercare of released PDL

The BJMP will expand existing jail facilities to address the issue on jail congestion. Dilapidated jails will be repaired to adhere to international standards and protect the dignity and health of PDLs. Digitalization of jail records will be improved to facilitate efficient assessment of their status. The e-Dalaw system will be

expanded, and videoconferencing infrastructure will be utilized for visitations, hearings, and counselling to reduce risks associated with in-person contact such as communicable diseases and smuggling of prohibited items.

The BJMP will work with the DSWD, DOLE, TESDA and other related agencies in providing aftercare and community linkages to former PDL to ensure social acceptance and warrant the presence of livelihood opportunities.

Enhance citizen engagement in rehabilitation and social reintegration programs

Engagement of civil society organizations (CSOs) in the rehabilitation of PDL will be encouraged to increase the number of persons who will be qualified for the early release program. CSOs will also engage in the social

reintegration of released PDL and assist in the creation of support groups to ensure that they will be productive members of the community and will not commit another offense that will cause them to go back to prison. Private sector employers who choose to hire released PDL will likewise be provided with incentives to encourage other companies to replicate the practice.

Legislative Agenda

Table 14.2-1: Legislative Agenda to Enhance Administration of Justice

LEGISLATIVE AGENDA	RATIONALE/KEY FEATURES	RESPONSIBLE AGENCY
Justice Sector Coordinating Council (JSCC) enabling law	This will establish efficient institutional setup between different justice sector agencies involved in the successful and speedy administration of justice. It aims to enhance the coordination among agencies and improve the operations of Justice Zones in the region.	DOJ and DILG as JSCC principals
Justice Sector human resources rationalization	This will ensure that enough and highly capable personnel will conduct the administration of justice to effectively process workloads and eliminate delays and docket congestion in the courts.	DOJ, PAO
Expand Katarungang Pambarangay	This will allow more types of cases handled through the Katarungang Pambarangay ADR process and empower the Lupon Tagapamayapa to decrease the number of cases passed to the courts.	DILG
Unified Reintegration Strategy	This will increase the success rate of the reintegration of former PDL in the community. It also aims to establish effective monitoring systems for former PDL and provide incentives for the business sector that will employ former PDL making them more productive and participative members of society.	DOJ (lead), BJMP (lead), DTI, DOLE, DSWD

Results Matrix

Table 14.2-2: Results Matrix: Enhance Administration of Justice

INDICATORS	BASELINE	ANNUAL PLAN TARGETS						MEANS OF VERIFICATION	RESPONSIBLE AGENCY
		2023	2024	2025	2026	2027	2028		
Outcome 1: Quality and efficiency in disposition of cases improved									
Quality in disposition of cases improved									
Case completion period in judicial dockets improved	89 [2022]	89.5	90	90.5	91	91.5	92	Supreme Court Report	
Percentage of successful prosecution improved (convictions vis-à-vis acquittal)	85 [2022]	88.75	89	89.25	89.5	89.75	90	Department of Justice (DOJ) Region 3 Report	DOJ
Completion rate of cases handled improved								Public Attorney's Office	PAO

INDICATORS	BASELINE	ANNUAL PLAN TARGETS						MEANS OF VERIFICATION	RESPONSIBLE AGENCY
		2023	2024	2025	2026	2027	2028		
Efficiency in disposition of cases improved									
Percentage of criminal complaints resolved on preliminary investigation	92.43 (2022)	92.44	92.45	92.46	92.47	92.48	92.49	DOJ Region 3 Report	DOJ
Settlement rate of Alternative Dispute Resolution (ADR) cases improved									
Settlement rate of ADR cases by the Katarungang Pambarangay	77 (2021)	79	80	81	82	83	84	Department of the Interior and Local Government (DILG) KP Case Statistics Report	DILG
Chapter Outcome 2: Access to quality free or affordable legal services by Filipinos improved									
Public attorney-to-court ratio improved		1:1	1:1	1:1	1:1	1:1	1:1	PAO Report	PAO
Prosecutor-to-court ratio improved	1:2 (2022)	1:1	1:1	1:1	1:1	1:1	1:1	DOJ Report	DOJ
Chapter Outcome 3: Quality of life of PDL improved, and productive re-integration of PDL in the community ensured									
Average congestion rate in jail facilities reduced	381 (2022)	231	227	224	221	217	210	Bureau of Jail Management and Penology (BJMP) data	BJMP

¹<https://www.officialgazette.gov.ph/2014/05/23/government-saves-p3-1b-through-the-barangay-justice-system/>

15

**Practice Good Governance
and Improve Bureaucratic
Efficiency**

CHAPTER 15

Practice Good Governance and Improve Bureaucratic and Regulatory Efficiency

Good governance refers to the political and institutional processes and outcomes that are significant in attaining progress and development. With the government serving as enabler, facilitator, regulator, and collaborator - citizens, civil society organizations and the private sector can access services, enjoy quality life, and participate in development.

In the demonstration of good governance, there are checks and balances between and among the political system, civil service, and the private sector. It guarantees that corruption is minimized because accountability and transparency and the rule of law are adhered to by the civil service. In this scenario, the views of minorities are considered and the voices of even the most vulnerable sectors are heard as inputs in decision-making. Also, public services are accessible, responsive, and inclusive leading to the reduction of poverty and development that is sustainable.

The strategies laid in this chapter will be pursued to help the region practice good governance and improve bureaucratic efficiency.

Assessment and Challenges

Participatory governance is carried out in the region through civil society organizations and private sector representatives. Stakeholder participation assures that government processes and programs are responsive to the needs of people. Thus, citizens are involved in setting the development of plans, programs, and policies. Stakeholders from various disciplines and sectors are consulted on certain development concerns to ensure full social acceptability of programs and projects of the government. Stakeholders such as the private sector and civil society organizations (CSOs) also provide and engage in relief and long-term transformative changes by advancing their shared goals and interests. The CSOs, being the non-government actors, in development councils and local

special bodies (LSBs) are the mechanism to ensure participatory governance.

The DBM 3, DILG 3, and PIA 3 conducts an annual townhall meeting, “*Dagyaw*”, that serves as a platform for dialogue between the government and the Filipino people on relevant and timely information and concerns in the region. In recent years, *Dagyaw* was being conducted with the help of online platforms to attain wider audience reach.

The Regional Development Council (RDC) and the local development councils (LDCs) of LGUs increase and broaden the participation of the public through strong partnership with stakeholders and the frequent conduct of public

consultation. The RDC and LDCs along with their sectoral and special committees conduct regular and special meetings as prescribed and as necessary to tackle and resolve relevant concerns in the locale. Such representation from private sector and CSOs constitutes one-fourth of the RDC membership and one-half of the LDC membership. This proportion of representation ensures that the private sector and civil society are informed of the latest developments and their interests are taken into account when the development councils make critical decisions.

In terms of functionality standards, only 52 out of 137 (38 percent) LGUs in Central Luzon received high rating in LDC functionality in 2019. An LDC with high rating exceeds all criteria of functionality such as council composition, meetings, formulation of mandated plans, secretariat support, and an active executive committee.

Many LGUs have outdated local plans. Despite local government units' mandate to prepare the Comprehensive Land Use Plan (CLUP) and the Comprehensive Development Plan (CDP), only 73 out of 130 (56 percent) cities and municipalities in Central Luzon have updated CLUPs while 79 of the 130 (61 percent) have updated CDPs in 2022. The provinces of Aurora, Bulacan, Nueva Ecija, and Tarlac have the lowest number of LGUs with updated CLUPs. Similarly, the provinces of Nueva Ecija, Pampanga, and Tarlac have the lowest number of LGUs with updated CDPs at the end of the plan period.

The continuous capacity building provided by national government agencies led by the Department of the Interior and Local Government (DILG) helped raise the compliance rate of LGUs in preparing the CDP and CLUPs over the years. There is a need however, to further enhance these capacity development programs to ensure that all LGUs

will have updated mandated plans. The urgency in coming up with the plans is even more imperative in view of the implementation of the 2018 ruling of the Supreme Court on the Mandanas-Garcia petition where the delivery of basic services will be fully devolved. In addition to the preparation of plans, capacity development programs on monitoring the development outcomes, and the crafting of investment programs need to be enhanced.

LGU compliance with the Full Disclosure Policy is decreasing. The Full Disclosure Policy (FDP) directs all LGUs to post certain documents in conspicuous spaces within public buildings in the locality, or in print media of community or general circulation and in their websites. These documents include but are not limited to budget reports, procurement reports, and special purpose fund reports. In 2017, all LGUs in Central Luzon were found to be compliant with the FDP. However, DILG 3 reported that LGUs compliant with the FDP decreased in 2020 at 132, and even dropped to 131 LGUs in 2021.

Central Luzon yielded the highest number of SGLG awardees in the country. The Seal of Good Local Governance (SGLG) which started in 2014 is an award and recognition-based incentive program of DILG for all LGUs which aims to improve the performance of LGUs in the areas of transparency and accountability in the use of public funds; preparedness to challenges brought about by natural calamities; readiness and sensitivity to address the needs of the vulnerable and marginalized sectors of society; and implementation of health and education reforms, among others.

Unfortunately, with travel restrictions imposed to contain the COVID-19 pandemic, the 2020 and 2021 SGLG assessment activities were suspended. The program assessment resumed in 2022 and showed a generally upward trend in the number of recipients from 56 awardees

in 2017 (41 percent) to 62 awardees in 2022 (45 percent). In the same year, Central Luzon yielded the highest number of SGLG awardees in the country with 4 provincial governments, 6 city governments, and 52 municipal governments making it to the list.

LGU rankings in the Cities and Municipalities Competitiveness Index improved. The Department of Trade and Industry (DTI) measures the competitiveness of cities and municipalities through the cities and municipalities competitiveness index (CMCI) based on four criteria, namely: economic dynamism, government efficiency, infrastructure, and resiliency. Poor governance which negatively impact economic and social development, business development, and investment is said to be the most significant factor undermining the competitiveness of cities (UN Habitat n.d.).

Based on the 2022 Cities and Municipalities Competitiveness Index of the DTI, Central Luzon provinces and highly urbanized cities have generally improved their rankings, with five out of seven provinces and the two highly urbanized cities rose several notches up than their 2021 rankings. Bataan and Bulacan are included in the top ten most competitive provinces while Aurora ranked the most improved province in terms of its ranking from 67th place in 2017 to 18th spot in 2022.

Regulation and Ease of Doing Business remain a challenge. Micro, small and medium enterprises comprise 99.7 percent of the total establishments of the Central Luzon (PSA 2021). To facilitate the development of these enterprises and encourage innovation, the government maintains or attains a favorable investment environment which includes continuing reduction in regulatory compliance burden, reduction in cost of doing business, and the enhanced use of technology in doing business.

To reduce the cost of doing business, LGUs are directed to adopt the Integrated Business Permits and Licensing System (iBPLS) Program. As of 2022, only 62 out of 130 LGUs (48 percent) have adopted the system (*as also discussed in Chapter 12*). On the other hand, 126 out of 130 LGUs (97 percent) have an established Business One-Stop-Shop (BOSS). Generally, in LGUs which have yet to adopt the iBPLS and BOSS, entrepreneurs are encumbered with misaligned, redundant, and unnecessary permits and licensing procedures along with tedious and repetitive registration requirements.

Related to the use of technology, the DTI 3 reported an increase in online business name registration along with decrease in teller business name registration in the region mainly because of the mobility restrictions imposed due to the COVID-19 pandemic and also the ease of transaction. During the same period, it was also observed that there was an uptrend in the number of MSMEs doing e-Commerce.

Digitalization among LGUs is low. In 2022, the Department of Information and Communications Technology (DICT) 3 reported that 72 of the 130 (55 percent) LGUs in the region have websites. This figure is 11 percent higher than the number of LGUs with websites in 2019 (65 LGUs). Out of these 72 websites, 15 are hosted by DICT.

Although having a website is only one aspect of e-government implementation, it is one of the easiest to implement yet has enormous impact. Government websites provide the LGUs with a new mechanism for delivering basic services and sharing as well as collecting information from the public. Updated, reliable, responsive, secure and consistent websites also leave a lasting impression and perception of the credibility of an LGU.

Government agencies conferred with PRIME-HRM is increasing. The Program to Institutionalize Meritocracy and Excellence in Human Resource Management (PRIME-HRM) of the Civil Service Commission integrates and enhances the Personnel Management Assessment and Assistance Program (PMAAP) and the CSC Agency Accreditation Program (CSCAAP). It is a mechanism that empowers government agencies by developing their

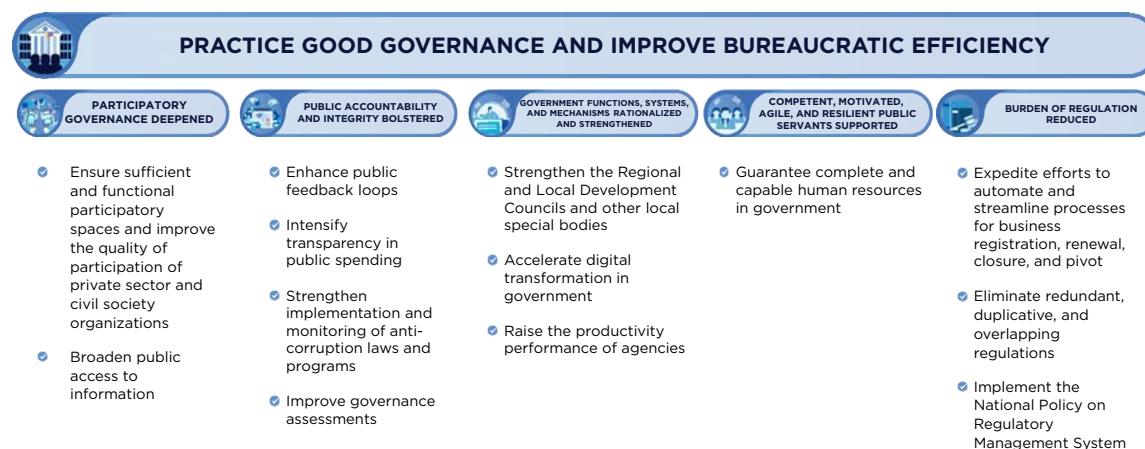
human resource management competencies, systems, and practices toward human resources excellence. The program entails greater engagement not just of the human resource management officer (HRMO) but also of the officials and the rank-and-file employees of the agency. In 2022, seven additional agencies have been conferred with PRIME-HRM in the region.

Strategy Framework

The figure below presents the strategies to achieve the following goals that will result in the practice of good governance and improvement of bureaucratic and regulatory efficiency: a) participatory governance deepened; b) public accountability and integrity bolstered;

c) government functions, systems, and mechanisms rationalized and strengthened; d) competent, motivated, agile and resilient public servants supported; and, e) burden of regulation reduced.

Figure 15-1: Strategy Framework to Practice Good Governance and Improve Bureaucratic and Regulatory Efficiency



Strategies

Outcome 1: Participatory governance deepened

The presence of sectoral and civil society representatives in development councils and special bodies warrants the adequate and genuine representation of the different sectors,

most especially from the marginalized groups in voicing out their distinct and priority concerns. Corollary to this, public access to information will be expanded to build mutual trust and

create clear and concise communication between the government and the public so as to increase the public's participation in relevant affairs and issues.

Ensure sufficient and functional participatory spaces and improve the quality of participation of private sector and civil society organizations

The participation of civil society organizations (CSOs) and the private sector in development councils, local special bodies (LSBs) and people's councils will be supported and promoted, and the policy guidelines to make CSO accreditation and local networking more convenient and inclusive will be enhanced. The monitoring of the compliance and functionality of these bodies will likewise be expanded by DILG 3.

The people's participation will serve as catalysts of development. The DBM 3 and DILG 3, with Open Government PH Partnership agencies, will mainstream the implementation of Participatory Governance Metrics for assessing the quality of participation in LSBs. Moreover, the DILG 3 will intensify capacity development interventions for CSO members of LSBs. CSO and private sector representatives in development councils and LSBs will undertake training needs assessment and undergo appropriate capacity-building to ensure that they are equipped and knowledgeable with sectoral processes and concerns as well as in gender and development (GAD).

To ensure that the operations of the development councils and LSBs are not compromised and infiltrated by entities against the state, a standard security check procedure will be required to CSO and private sector representatives, with the assistance from the National Intelligence Coordinating Agency 3.

Physical and virtual town halls such as “Dagyaw” will likewise be continued and conducted frequently as this forum serves as an open, neutral, and protected platform for dialogue on key national and local issues that aims to amplify transparency and build mutual trust between the government and citizens.

Volunteerism and “bayanihan” will be promoted by the National Economic and Development Authority (NEDA) 3 with the guidance of the Philippine National Volunteer Service Coordinating Agency. The region through the RDC will continue to give recognition to exemplary volunteer work of CSOs and private individuals to advocate volunteerism as a way of life.

Broaden public access to information

The COVID-19 pandemic accentuated the need for easily accessible public information in times where physical movement is restricted. In this context, the government will expand the utilization of websites and mobile technology in disseminating and collecting information and processing transactions. Capacity building programs for LGUs in the region without websites including designation of Information and Communications Technology personnel will be implemented.

Moreover, the LGUs in the region, through the supervision of DILG 3, will pursue and ensure the creation of an accessible, up-to-date, and accurate information database in their respective official websites which are crucial in the dissemination of relevant and timely information. Government agencies and LGUs will maximize the use of social media to ensure wider reach in relaying information to the public.

Outcome 2: Public accountability and integrity bolstered

The responsiveness, openness and transparency of government transactions play a pivotal role in showing accountability and responsibility. The government will implement anti-corruption drives such as the enforcement of relevant laws and policies on fiscal management, full disclosures, and ease of doing business. The actions stipulated in this outcome complement the abovementioned strategy in the first outcome of this chapter to broaden public access to information.

Enhance public feedback loops

To build the trust and confidence of citizens in government, the use of existing feedback mechanisms such as the Philippine Complaint Hotline (888 hotline), Philippine Complaint Center, DOLE's 1349, DILG's 911, CSC's Contact Center ng Bayan, will be enhanced to allow broader access by the public. Helpdesks and assistance centers in government agencies and LGUs, particularly those involved in public order and safety and tourism, will likewise be established in all offices. All received complaints and feedbacks from these platforms will be likewise verified and attended accordingly by the concerned agency for resolution. These services will be tied to enabling and responsive client satisfaction measures for the continual improvement of government service.

Intensify transparency in public spending

The DILG 3 will continue to push LGUs in Central Luzon to comply with the Full Disclosure Policy to sustain 100 percent compliance of LGUs in FDP. Likewise, DILG 3 will intensify monitoring transparency practices in LSBs, extending these to local bids and awards and project monitoring committees.

The region will also ensure that all line agencies and LGUs are compliant with the requirements related to Philippine Government Electronic Procurement System (PhilGEPs), Transparency Seal, and Citizen Charters, accomplishment reports, among others.

Strengthen implementation and monitoring of anti-corruption laws and programs

The DILG 3 will comprehensively shepherd the implementation and monitor the compliance of LGUs to DILG and DOF issued Joint-Memorandum Circular No. 2019-01 (JMC No. 2019-01) which provides the standards in the processing and issuance of business permits, construction permits, and certificates of occupancy. DILG 3, in partnership with BLGF 3, will continue to conduct series of orientation and workshops for LGUs on the salient features of RA 11032 and JMC No. 2019-01.

The observance of a code of conduct for all government employees and capacity development in integrity management and corruption controls will be pursued to reduce vulnerabilities to corruption. The DILG 3 will also enable and monitor the region's local Sangguniang Bayan or municipal council's quasi-judicial functions and act swiftly and judiciously on various corruption-related complaints filed against local officials.

Moreover, the Anti-Red Tape Authority (ARTA), in coordination with the Civil Service Commission and Philippine Statistics Authority will continue to conduct and involve all government agencies and LGUs in the ARTA Report Card Survey (RCS 2.0) to stamp-out bureaucratic red tape and ward-off graft and corruption across government. All agencies

and LGUs in the region will strive to get at least satisfactory rating in their report cards.

Improve governance assessments

The DILG 3 will maintain the implementation of the SGLG assessment of LGUs. This will further ensure that the evaluation framework reflects the political capacity indicators of LGUs' resilience to the COVID-19 pandemic and other risks, and service delivery standards amid the devolution transition resulting from the Mandanas-Garcia ruling of the Supreme Court. Likewise, DILG 3 will endeavor to develop the capacity of LGU non-passers to

address gaps in their governance. The DILG 3 will oversee the provision and monitor the results of capacity development interventions for LGUs and develop appropriate mechanisms to optimize and ensure efficient utilization of LGU resources.

The DILG 3 will continue to frequently conduct the Local Governance Performance Management System (LGPMS) such as the profiling of local development councils' functionality. This mechanism will serve as a tool in monitoring the performance and assessing the state of development of LGUs in the region.

Outcome 3: Government functions, systems, and mechanisms rationalized and strengthened

Improving bureaucratic efficiency can be realized if the government can exercise the most efficient use of its resources including operational costs, time, and human resources to showcase quality public service that induces development. Reviewing and streamlining the current functions, systems, and mechanisms through institutionalization, capacity development, digitalization, and enhancing productivity will be pursued to help the region attain such outcome.

Strengthen the Regional and Local Development Councils and other local special bodies

The presence and role of the Regional Development Council (RDC) will be strengthened as it pursues to be more proactive, dynamic, and relevant in national and regional development policymaking. All significant issues and concerns, and even strategic and high-impact projects will be carefully reviewed and discussed for resolution by the council. The review process of budget proposals of regional line agencies (RLAs) and state universities and

colleges (SUCs) in the region will be enhanced to ensure that regional priorities are responsive to local needs and consistent with the national objectives. The council will ensure that the project proposals will be implementation-ready for them to be included in the national expenditure program. The RDC will likewise continue to initiate consultation meetings, caucuses, and events to ensure that sufficient functional and sectoral representation is involved in the decision-making process.

In the same manner, all LGUs in Central Luzon will convene their LDCs and LSBs regularly to ensure that all stakeholders and partners are involved in tackling local concerns. Executive committees of the LDCs as well as the sectoral and functional committees are likewise organized or reconvened to support the development thrust of LGUs along with the immediate and accurate formulation of mandated local plans and programs.

Moreover, the region, through the Central Luzon Regional Development Council - Special Committee on Devolution (SComDev),

will facilitate and supervise the government agencies and LGUs concerning the Supreme Court's Mandanas-Garcia ruling and Executive Order (EO) No. 138, series of 2021. Personnel assuming devolved functions will be provided with capacity development interventions to ensure smooth transition of roles and deliver quality public service. The SComDev will also monitor and evaluate the implementation of the Devolution Transition Plans to address issues, concerns, challenges, and information gaps.

Vertical and horizontal linkages across different levels of government will be strengthened to align national, regional, and local priorities. LGUs in Central Luzon will ensure that their plans are aligned with the Philippine Development Plan 2023-2028, Regional Development Plan 2023-2028, Regional Physical Framework Plan 2020-2040, and other development blueprints in the region.

Accelerate digital transformation in government

The DICT will lead the preparation of e-governance systems to respond to the ever-increasing need for enhanced public service delivery and internet access especially during public emergencies and other disruptions. The implementation of the National Broadband Plan (NBP) and the Free WiFi for All Program of the DICT will be fast-tracked. In addition, the DICT will continue the monitoring and

promotion of website development in all LGUs in the region.

To increase the competitiveness of LGUs and catch-up with the fast-paced trend in product and service innovation, the LGUs will endeavor to simplify and automate the processing and issuance of business permits, construction permits, certificates of occupancy, and other permits to create a favorable business climate for huge investors and micro, small, and medium enterprises (MSMEs). In addition, shifting from the traditional face-to-face and manual government operations to digital platforms and automation of government processes and services will be prioritized to ensure public service continuity.

Raise the productivity performance of agencies

Government agencies and LGUs in the region will improve its Strategic Performance Management System mechanisms and criteria to ensure that the employee achieves the objectives set by the organization and the organization achieves the objectives that it has set in its strategic plan. Individual performance will be supplemented by monitoring and coaching, review and evaluation, and rewarding and development planning. Results from Client Satisfaction Measures will be used to identify opportunities for continual improvement.

Outcome 4: Competent, motivated, agile, and resilient public servants supported

Public servants will adhere to the highest standards of public service. They will also be flexible, adaptive, and ready to serve in any climate or situation. This also accounts for the set of skills and competencies identified as necessary during the COVID-19 pandemic

such as digital skills, agility, futures thinking, foresight, and innovation. Thus, sound interventions will be provided to the people who run and operate the bureaucracy to ensure their competence, motivation, agility, and resilience.

Guarantee complete and capable human resources in government

Continuing education, learning and development initiatives will be pursued by the region to support public servants in their own fields and expertise. Aside from developing technical and individual skills, soft skills such as critical thinking, problem solving, public speaking, technical writing, digital literacy, work ethic, and leadership will likewise be tapped and enhanced among workers in government to enable a more dynamic team.

The creation of Human Resource management offices in LGUs will be pushed to develop competent and reliable employees at the local level. Increased employee engagement and rationalized awards and incentives programs will also be put in place to give merit to deserving public servants. All agencies will work towards conferment of awards under the Program to Institutionalize Meritocracy and Excellence in Human Resources Management (PRIME-HRM) of the Civil Service Commission (CSC).

The CSC 3, in partnership with DILG 3, will conduct conferences and fora in the region to mainstream and popularize PRIME-HRM.

Moreover, the DILG 3 will capacitate and empower LGUs in Central Luzon in the formulation and implementation of development plans and programs, especially the integration of disaster risk reduction and climate change action to local plans. This can be facilitated by periodic conduct of orientations, training, and workshops. Priority trainings will be conducted in provinces with low number of LGUs with updated plans such as Aurora, Bulacan, Nueva Ecija, Pampanga, and Tarlac.

The DILG 3, in partnership with the Commission on Human Rights 3, will also endeavor to capacitate LGUs in Central Luzon on innovative approaches in development planning and cooperation such as human rights-based approach. A recognition-based program can be initiated to award LGUs with excellent human rights-based approach in governance.

Outcome 5: Burden of regulation reduced

The government will strive to regulate business activities proactively and reasonably, without prejudice to its power to oversee. Government agencies and LGUs in the region will harmonize and automate its business registration processes and other transactions to eliminate redundant and overlapping regulations.

Expedite efforts to automate and streamline processes for business registration, renewal, closure, and pivot

The LGUs will expedite the automation of the processing and issuances of business permits, construction permits, certificates of occupancy, and other permits to create a favorable business

climate for investors and MSMEs (as also discussed in Outcome 3, Strategy 3 – Accelerate digital transformation in government). LGUs in the region will strive to create improvements in streamlining the processes of government transactions and adopt the Integrated Business Processing and Licensing System or iBPLS (see Chapter 12). The DILG 3 and DICT 3 will continue to shepherd the popularization of iBPLS among LGUs.

All LGUs in Central Luzon, as forefront in business registration, will adopt online registration and digital payment, and strive for ISO certifications of their processes, and establish electronic Business One-Stop-Shop (BOSS) which integrates all needed permits,

licenses, and transactions pertaining to registration, renewal, closure, and pivot.

Eliminate redundant, duplicative, and overlapping regulations

Supplementing the strategy to streamline processes, the LGUs will pursue to solve the perennial problem of slow transactions and simplify government transactions through digitalization. To address fragmented and unnecessary transactions, the processes will be made convenient and client-responsive that is open to public feedback and suggestions (as also discussed in Outcome 2, Strategy 1 – Enhance public feedback loops and Outcome 3, Strategy 3 – Accelerate digital transformation in government).

Implement the National Policy on Regulatory Management System

The National Policy on Regulatory Management System (NPRMS) was established in 2022 by ARTA to ensure all proposed and existing regulations are rational, fit-for-purpose, and do not add undue regulatory burden and cost to stakeholders. An established regulatory framework in the region would enable a favorable business climate that will prevent overlapping and restrictive regulation. With the guidance and support of ARTA, DICT 3 and DILG 3, the capacity of the government agencies and LGUs in Central Luzon in terms of regulatory management will be strengthened to apprise them of the Philippine Good Regulatory Principles (PGRP) and guide them in the forward planning, development, implementation, monitoring, evaluation, and ex-post review of regulations.

Legislative Agenda

Table 15-1: Legislative Agenda to Practice Good Governance and Improve Bureaucratic and Regulatory Efficiency

LEGISLATIVE AGENDA	RATIONALE	RESPONSIBLE AGENCY
E-Governance	This will promote the use of ICT in improving government service delivery and providing access to reliable data and information.	DICT
Freedom of Information	The bill will require government agencies to allow the public to review and copy all official information, to promote meaningful and increased participation in government decision-making and public accountability. This expands the coverage of EO 2, s. 2016 to the entire bureaucracy, and not just the executive branch.	All regional line agencies
Creation of Human Resource and Management Offices (HRMO) in LGUs	The bill seeks to establish HRMOs and mandate regular (plantilla) HRM officers in LGUs to develop competent and credible employees at the local level. It amends the Local Government Code's optional designation of such local officers.	DILG 3
Recognition of Indigenous People (IP) Mandatory Representatives	This will ensure that IP Mandatory Representatives are recognized in local legislative bodies and their capabilities for local legislation are harnessed for more effective representation and promotion of IP rights through policymaking.	DILG 3 & NCIP 3

Results Matrix

Table 15-2: Results Matrix: Practice Good Governance and Improve Bureaucratic and Regulatory Efficiency

INDICATOR	BASELINE (YEAR)	ANNUAL PLAN TARGETS						MEANS OF VERIFICATION	RESPONSIBLE AGENCY
		2023	2024	2025	2026	2027	2028		
Chapter Outcome: Practice Good Governance and Improve Bureaucratic Efficiency									
Subchapter Outcome 1: Participatory governance deepened									
Percentage of LGUs compliant with Local Development Council (LDC) functionality standards increased (High Scaling System)	38% or 52/137 (2019)	increasing						DILG Report	DILG 3
Percentage of LGUs with websites increased	55% or 72/130 (2022)	61% or 79/130	71% or 92/130	85% or 110/130	90% or 117/130	95% or 123/130	100% or 130/130	DICT	DICT 3
Subchapter Outcome 2: Public accountability and integrity bolstered									
Percentage of LGUs conferred with Seal of Good Local Governance increased	45% or 62/137 (2022)	41% or 56/137	41% or 56/137	41% or 56/137	41% or 56/137	41% or 56/137	41% or 56/137	DILG Annual Report	DILG 3
Percentage of LGUs compliant with Full Disclosure Policy increased	96% or 131/137 (2021)	100%	100%	100%	100%	100%	100%	DILG Annual Report	DILG 3
Subchapter Outcome 3: Government functions, systems, and mechanisms rationalized and strengthened									
Competitiveness ranking of provinces and highly-urbanized cities improved	Aurora – 18 th	Improving						Cities and Municipalities Competitive Index	DTI-NCC
	Bataan – 8 th								
	Bulacan – 10 th								
	Nueva Ecija – 28 th								
	Pampanga – 12 th								
	Tarlac – 16 th								
	Zambales – 53 rd								
	Angeles City – 25 th								
	Olongapo City – 30 th								
(2022)									

Indicator	Baseline (Year)	Annual Plan Targets						Means of Verification	Responsible Agency
		2023	2024	2025	2026	2027	2028		
Subchapter Outcome 4: Competent, motivated, agile, and resilient public servants supported									
Percentage of LGUs with Updated CLUPs increased	56% or 73/130 (2022)	85%	85%	85%	85%	85%	85%	DILG Annual Report	DILG 3
	Aurora – 4/8								
	Bataan – 9/12								
	Bulacan – 11/24								
	Nueva Ecija – 13/32								
	Pampanga – 20/21								
	Tarlac – 5/18								
	Zambales – 10/13								
	Angeles City – 0/1								
	Olongapo City – 1/1								
Percentage of LGUs with Updated CDPs increased	61% or 79/130 (2022)	85%	85%	85%	85%	85%	85%	DILG Annual Report	DILG 3
	Aurora – 7/8								
	Bataan – 10/12								
	Bulacan – 18/24								
	Nueva Ecija – 17/32								
	Pampanga – 11/21								
	Tarlac – 4/18								
	Zambales – 10/13								
	Angeles City – 1/1								
	Olongapo City – 1/1								

INDICATOR	BASELINE [YEAR]	ANNUAL PLAN TARGETS						MEANS OF VERIFICATION	RESPONSIBLE AGENCY
		2023	2024	2025	2026	2027	2028		
Number of agencies conferred with PRIME-HRM increased	7 additional agencies [2022]	7						CSC Report	CSC 3
Subchapter Outcome 5: Burden of regulation improved									
Percentage of LGUs implementing DICT-hosted IBPLS system increased	48% or 62/130 [2022]	increasing						DICT Report	DICT 3
Percentage of LGUs adopting electronic Business One-Stop-Shop (BOSS) increased	97% or 126/130 [2022]	100%	100%	100%	100%	100%	100%	DILG Annual Report	DILG 3
Number of online business name registrations increased	78,551 (Jan-Oct 2021)	increasing						DTI Report	DTI 3
Number of MSMEs doing e-Commerce increased	11,110 (Jan-Oct 2021)	increasing						DTI Report	DTI 3

16

**Accelerate Climate Action
and Strengthen Disaster
Resilience**

CHAPTER 16

Accelerate Climate Action and Strengthen Disaster Resilience

Across the globe, countries are witnessing increasingly damaging extreme weather events due to global warming. Higher global temperature is blamed for the destructive and widespread flooding, drought and other hazards linked to weather disturbances. Such extreme weather events have led to catastrophic loss of lives and economic loss, with the toll most felt in less developed countries, including the Philippines. Due to its geographic location --- facing the Pacific Ocean and other bodies of water and lying along the Pacific Ring of Fire --- the Philippines is susceptible to various natural hazards, with Central Luzon showing no exception. Unless mitigating actions are taken, the risks to life and economic security will continue to grow and stymie our path to sustainable development. This in view, efforts will be made in earnest to build disaster resilience, strengthen institutions toward said goal, and develop and implement measures that would contribute to mitigating climate change and lowering its impact.

Assessment and Challenges

Vulnerability to natural hazards. Due to its geographic location, Central Luzon is susceptible to all types of natural hazards: hydrometeorological hazards such as flooding, rain induced landslide (RIL) and storm surge; geological hazards such as earthquake, liquefaction, ground shaking, earthquake induced landslide; and volcanic hazards. With climate change, the region has also been experiencing extreme weather conditions. According to PAGASA, a mean temperature increase of 1.0 °C to 1.3°C is predicted across the region under the moderate emission scenario, but can increase to as high as 1.2 to 2.3 °C under the high emission scenario. In any case, an increase in temperature does not bode well for both social well-being and economic growth.

Hydrometeorological Hazards

Flooding. Central Luzon has areas that have low, moderate, high and very high susceptibility

to flooding. The Pampanga Delta, Candaba Swamp, and areas along major river systems such as the Pampanga River and its tributaries, are identified as highly susceptible to flooding. Among provinces in the region, Nueva Ecija has the largest area with high flooding susceptibility, followed by Pampanga and Bulacan. Flooding in these low-lying areas is aggravated by inadequate flood control and drainage structures and denuded watershed.

Rain-Induced Landslide (RIL). Hazard maps show Aurora, Zambales and Bataan as most susceptible to RIL owing to their mountainous terrain with steep and very steep slopes.

Storm Surge. According to the University of the Philippines Nationwide Operational Assessment of Hazards (UP-NOAH) report, the areas located along the coastline of the provinces of Aurora, Bataan, Bulacan, Pampanga and Zambales are susceptible to storm surge.

Tropical Cyclones. Data from the Pacific Rim Coordination Center – an organization supported by USAID, indicated that areas in the Eastern Luzon Seaboard (province of Aurora in Central Luzon) are more vulnerable to strong winds than those in the Western Luzon Seaboard (provinces of Zambales and Bataan) for typhoons originating from the Pacific Ocean.

Geologic Hazards

Active Faults. Phivolcs has identified seven active faults in Central Luzon: Iba Fault, East Zambales Fault, Philippine Fault, Dupax Fault, West Valley Fault, Casiguran Fault, Care Fault.

Offshore earthquake generators include the Manila Trench on the western side of the region and the East Luzon Trough on the eastern side. Movement of these offshore earthquake generators may cause tsunamis that could impact coastal cities and municipalities.

The Philippine Fault Zone, which passes through Aurora and Nueva Ecija, and the West Valley Fault System extending to Bulacan are active earthquake generators that have potentials to create multitude of earthquake-related hazards including ground shaking, liquefaction and landslide.

Liquefaction. Prone are areas along the coastline and river systems in the provinces of Aurora, Bulacan, Pampanga, and Zambales and low-lying areas of Tarlac and Nueva Ecija.

Ground Shaking. Sixty-nine percent of the province of Aurora is susceptible to intensity VIII and above ground shaking in the event that any of the following earthquake sources will move at the maximum projected magnitude (M): Casiguran Fault -M7.9; Philippine Fault Zone (PFZ)- Digdig and Gabaldon Fault- M7.9; East Luzon Trough-M8.3; and Nagtipunan

Fault (NF) Trending Fault of Nueva Ecija - M6.6. The province of Bulacan is susceptible to intensity VII to VIII and above ground shaking in the event of an earthquake, Pampanga to intensity VIII and above. On the other hand, around 73 percent of the land area of Zambales is susceptible to intensity VII to VIII and above ground shaking in the event that any of the following earthquake sources will move at the maximum projected magnitude (M): Iba Fault - M6.7, East Zambales Fault- M7.3t, Manila Trench -M8.2, West Boundary Fault - M7.5 and unnamed faults -M6.1, M6.5 and M6.8.

Earthquake-induced Landslide (EIL). Aurora is most prone to EIL, with 66 percent of its land area susceptible to high EIL. Other provinces with high susceptibility to EIL are Bulacan (4.1 percent), Nueva Ecija (1.4 percent), Pampanga (0.5percent) and Tarlac (0.17 percent).

Volcanic Hazards

The region has 11 volcanoes: one active, four potentially active, and six inactive. Mt. Pinatubo in Zambales, which erupted in 15 June 1991, is the only active volcano in the region. Its eruption is considered the second-largest volcanic eruption of the twentieth century. The four potentially active volcanoes are Mt. Negron in Zambales and Mt. Natib, Mt. Mariveles, and Mt. Corregidor in Bataan. The six inactive volcanoes are Mt. Arayat in Pampanga, Mt. Bangcay, Mt. Burgos, Mt. Cuyapo and Mt. Limpingan in Nueva Ecija and Mt. Pitongbayo I and II in Tarlac.

Considered still at risk to lahar by the MGB are Pampanga, Tarlac and Zambales. In Pampanga, the municipalities of Bacolor and Porac are most prone to small and large magnitude lahar, while Mabalacat, San Fernando and Sta. Rita to small magnitude lahar.

High cost of damages from natural hazards. The urgency of effective disaster risk management

cannot be overemphasized, considering the increasing frequency and intensity of climate-related hazards. As reflected in the Central Luzon Regional Physical Framework Plan (RPPF) 2020-2040, said hazards entail huge economic and social cost such that measures at adapting to climate change and mitigating the impact of potential disasters are a must and should be given priority attention.

From years 2017 to 2021 for instance, damages incurred due to weather disturbances in the region reached an estimated PHP6.31 billion. Of said amount, PHP5.07 billion was borne by the agriculture sector and PHP1.24 billion were recorded damages in infrastructure. In terms of social cost, 16 million persons were affected and 264,000 houses were damaged in the same period. On the other hand, in April 2019, a powerful earthquake struck Luzon Island (with epicenter in Castillejos, Zambales) that resulted in 18 deaths, 256 injuries and damages to about 3,000 houses and structures mostly in the province of Pampanga.

Prevention and response capacity needs beefing up. The region's hazard susceptibility mandates it, particularly its LGUs, to enhance their readiness to respond in case of disasters, much so prevent these from happening. The latter is helped by the formulation of climate change adaptation and disaster risk reduction and management (CCA-DRRM) plans, with these serving to provide directions for mitigating disasters. Currently, only 89 percent of cities/municipalities have updated/completed LCCAPs, 66 percent have LDRRMPs, while only 52 percent have DRR-CCA-enhanced Comprehensive Land Use Plans (CLUP).

Nonetheless, all provincial LGUs are equipped with early warning systems (EWS) for hydrometeorological hazards specifically flooding, the province of Bataan has in addition EWS for storm surge and tsunami, while the provinces of Aurora, Bulacan, Pampanga and

Tarlac have established Operations Centers capable of monitoring situations during disasters. The picture is however wanting at the subprovincial level as only 69 percent of cities/municipalities have EWS in place. Beefing this up while enhancing coordination among LGUs is needed to lessen the cost of disasters.

Other than EWS, each province has sets of rescue tools and equipment for different types of emergencies. The provinces of Bulacan and Pampanga have the most extensive set of rescue equipment available in the region ranging from water rescue, collapsed structure search and rescue, fire rescue and personal protective equipment (PPE) for their rescue teams. Augmentation is needed in the province of Aurora for collapsed structure search and rescue equipment, underwater rescue equipment and PPE of their rescue teams; Tarlac, Zambales, and Nueva Ecija for PPE and fire rescue equipment; Zambales for underwater rescue equipment.

Climate-responsive investments increasing but not enough. A total of PHP10.7 billion have been allocated for the period 2016-2020 for climate and disaster response-related expenditures. Said investment is reportedly higher than that made in previous years and accounts for 30 percent of total local investments. Of said amount, 86 percent went to climate change adaptation expenditures and 1 percent to mitigation. Although financing for CCA-DRRM measures have increased, more is apparently needed given the above-cited requirement for augmentation in hard tools and systems upgrading.

Diminishing forest cover. Based on land classification, the total forestland of Central Luzon is about 942,387 hectares or 43.9 percent of the region's total land area. In 2020, the total forest cover was 536,742 hectares or 57 percent of total forestlands. This means that through the decades, the region has already lost almost half of its forests. Nonetheless, efforts at forest

rehabilitation had somehow created a dent with the region chalking a one percent improvement in forest cover from 2015 to 2020. As it is, more definitely needs to be done as provinces like Pampanga and Tarlac continue to lose their forest cover to human incursions into forest lands.

Forests are natural carbon sinks and defense against natural hazards (they prevent landslides and serve as natural buffers, in case of mangrove forests, to storm surge and tsunamis). Thus, if not protected and rehabilitated, the region will continue to see more and take the brunt of climate change and disasters.

Damage to coastal and marine resources due to climate change and human activities. Rising water temperature is causing damage to coastal and marine resources and to subsequent decline in fish catch. Other than water temperature rise, the level of water in Manila Bay is also observed to grow, impeding water discharge from the Pampanga River, causing flooding in the Pampanga Delta area and damaging coastal livelihood and fish production. The problem is also exacerbated by land-based pollution caused by human activities in coastal areas. Although there are programs underway to address said concern, more is needed to ease the pressure

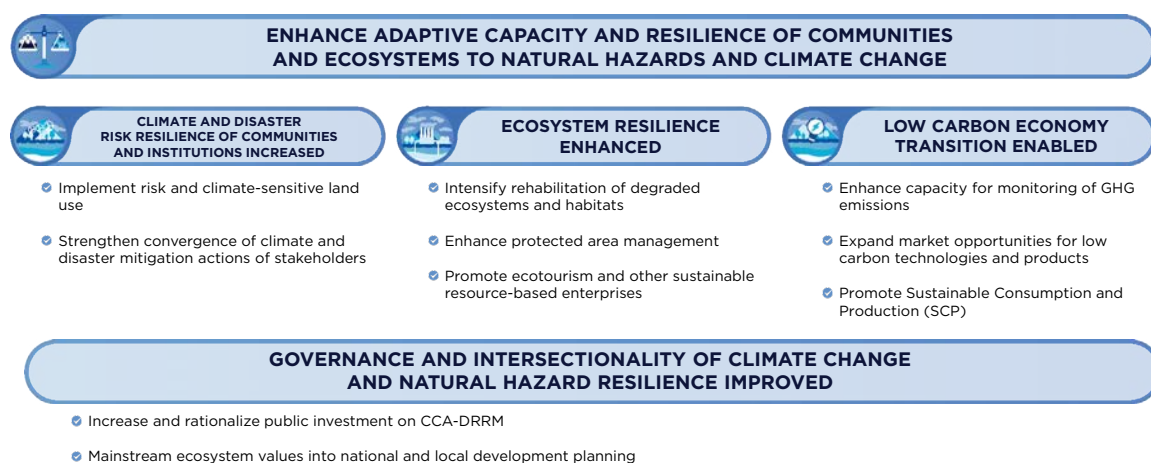
on and restore to health our coastal and marine ecosystems.

No effective assessment and management of GHG emissions in the region. The Philippines committed to reduce its greenhouse gas (GHG) emissions by 75% from 2020 to 2030 covering the sectors of agriculture, wastes, industry, transport, and energy, to promote a low-carbon economy and help achieve climate resiliency. To date, the conduct of regional GHG inventory in Central Luzon covers only few individual entities (agency-level) and has not been applied to local and regional government offices and other firms. Hence, effective measurement, assessment and management of GHG emissions in the region is lacking, even as the region is a major contributor to the country's agriculture and industry sectors (*See Chapters 7 and 8*) and thus a potential source of GHGs. In industry, GHG emissions come from the manufacture of cement and metals, both of which are produced in the region. In addition, the region is also the third largest source of municipal solid waste based on the Projected Waste Generation data from 2020 to 2025 of the Environmental Management Bureau (EMB). GHG emissions from wastes come from solid wastes, domestic and industrial wastewater, and human sewage.

Strategy Framework

Limiting climate and disaster risk is fundamental to social and economic development. Taking action on this ensures our collective long-term well-being and helps sustain and build our productive capacity.

Work towards this end will be guided by the following Strategic Framework which has as overall goal of *enhancement of adaptive capacity and resilience of communities and ecosystems to natural hazards and climate change*.

Figure 16-1: Strategy Framework to Accelerate Climate Action and Strengthen Disaster Resilience

Strategies

The following strategies will guide the region's actions towards building resilience to climate

change and natural hazards:

Outcome 1: Climate and disaster resilience of communities and institutions increased

Implement risk and climate-sensitive land use

We can prevent hazards from becoming a disaster by minimizing the exposure of risk elements, such as people and properties, to hazards. It is thus important to identify where the vulnerabilities are and to plan accordingly on how to minimize disaster risk. Basic to this is land use planning which involves determining the appropriate location of settlements and industries based on vulnerability to hazards. Priority attention will be given to Angeles City, San Fernando City and Cabanatuan City where rapid urbanization as well as expansion of built-up areas along road networks are expected to amplify flooding in terms of extent, frequency and inundation depth (Shrestha, 2019). As a whole, efforts will be made to complete the preparation of local land use plans, local disaster risk reduction and management plans,

and local climate change action plans, to guide actions on building resilience to climate change and disaster risk and to facilitate social and economic growth.

Strengthen convergence of climate and disaster mitigation actions of stakeholders

Huge as the costs of disasters and climate change impacts are, preparing for and responding to climate change and disasters require the integrated and coordinated actions of all stakeholders. In so doing, public and private collaboration will be promoted and communities engaged to actively participate and cooperate in mitigation efforts. Central to this is the role of OCD and DILG in mobilizing and coordinating mitigation efforts. Said agencies' capacity and linkage will be enhanced through the RDRRMC.

Further, convergence is crucial in pre- and post-disaster interventions such as in emergency response and public assistance during and immediately after calamities, in building awareness and capacities, and in post-disaster rehabilitation and reconstruction. Investing on awareness and preparedness on disaster risk management of local leaders and communities

alike may not only reduce response, recovery and rehabilitation costs but most importantly, loss of lives. Extensive and relevant community awareness, information, education and preparedness campaigns on hazards and DRR will be conducted with all the relevant agencies (e.g., OCD, DILG, MGB, DENR, DOST, LGUs) partaking in the effort.

Outcome 2: Ecosystem resilience enhanced

Intensify rehabilitation of degraded ecosystems and habitats

Maintaining a healthy and balanced natural ecosystem is also crucial to reducing disaster risk and occurrence and in mitigating climate change. Hence, all energy shall be driven to rehabilitating degraded forestlands, wetlands, and coastal and marine ecosystems. Specifically, efforts shall be made to reverse forest cover loss, particularly in critical watersheds and river basins, through local and national partnerships, and private sector and community engagement. Priority attention shall be given to rehabilitation and reforestation of critical denuded forests, especially upland forests within watershed forest reserves that feed the two major storage dams in Central Luzon- the Pantabangan and Angat Storage Dam.

In addition, protection and maintenance of existing reforestation sites (established through the E-NGP and other reforestation activities) shall be promoted in order for these to continue their life-sustaining functions and services, and contribute to mitigating disaster risk and climate change. In line with this, the adoption of the Ridge-to-Reef Integrated Ecosystem Framework, which provides a holistic approach to Integrated Water Resources Management (IWRM), shall be pushed as a policy at the local level for enhancing the region's natural ecosystems as a way of building our defense and resilience to climate change and disasters.

Enhance protected area management

In the same way and for the same purpose, protected area (PA) management shall be intensified. Efforts on this shall include mainstreaming of vulnerability and socio-economic assessment in protected area management plans; zoning and demarcation of PAs to prevent encroachment; stakeholder collaboration and capacity-building; creation of PAMBs for the remaining four protected areas that are still without management boards; and enforcement of relevant national and local laws including those for marine protected areas. Home to 24 PAs, DENR will continue conduct of carrying capacity assessment particularly of PAs offering ecotourism activities to the public.

Promote ecotourism and other sustainable resource-based enterprises

Ecotourism and other sustainable resource-based enterprises will be promoted as a way to provide sustainable livelihood, discourage encroachment into environmentally-constrained areas, and prevent economic activities destructive to critical ecosystems. This, too, shall be pursued to heighten awareness on the need to protect our natural resource base and therefore encourage participation in this endeavor. Towards this, new ecotourism sites in Mt. Arayat Protected Landscape, Bataan Natural Park, and Aurora Memorial National Park shall

be promoted, while redevelopment of existing destinations and ecotourism services will also be encouraged to ensure that environmental

conditions in the protected areas are not compromised due to tourism activities.

Outcome 3: Low carbon economy transition enabled

Enhance capacity for monitoring of GHG emissions

EMB will pursue building its capacity to conduct regular GHG inventory and to expand the same by including local and regional offices and private firms in the region still not covered by current monitoring. By so doing, more appropriate assessment and management of GHG emissions can be done that would contribute to the country's transition to a low carbon economy.

Expand market opportunities for low carbon technologies and products

Technology development will be promoted through partnership and collaboration among industries, civil society, and the academe. This includes extending support to the development of domestic manufacturing and production of green and climate-smart technology products for global markets. For agriculture, technological innovations like alternate wetting and drying (AWD) rice paddy will be promoted as a promising and well-studied water management technique which can effectively reduce GHG emissions. Also to be explored are technological solutions on post-harvest solutions designed to support organic, chemical-free procedures in storing, drying, and transporting agricultural commodities.

Promote Sustainable Consumption and Production (SCP)

Ensuring sustainable consumption and production patterns is stated as Goal 12 of the

Sustainable Development Goals (SDGs). As defined by the United Nations, SCP is about promoting resource and energy efficiency, sustainable infrastructure, and providing access to basic services, green and decent jobs and a better quality of life for all. SCP is deemed to help reduce future economic, environmental and social costs, strengthen economic competitiveness and reduce poverty. In the region, this shall be promoted through the following strategies:

- a. Establishment of sustainable market for recyclable and recycled products;
- b. Development, promotion and transfer of cleaner production technologies, including water and energy-efficient practices (e.g. rainwater catchment facility, cleaner fuels and engine, energy-efficient facilities/green buildings);
- c. Strengthen certification and establishment of information systems for green products and services;
- d. Promotion of green procurement in both private and public sectors;
- e. Promotion of environmentally-sustainable transport including mass transport system; and
- f. Promotion of incentives for eco-friendly government offices and communities.

Outcome 4: Governance and intersectionality of climate change and natural hazard resilience improved

Increase and rationalize public investment on CCA-DRRM

The speed and adequacy with which the government responds to calamities depends on the investment poured into CCA-DRRM measures. While this offers no guarantee against the impact of a disaster, investments correctly employed minimize disaster risk and impact. Hence, efforts will be made in identifying and prioritizing CCA and DRRM interventions and translating these to investment programs for government financing. Along with traditional 'gray' infrastructure, investments on green infrastructure or nature-based solutions shall be promoted to help combat climate change. A nature-based solution uses the tools that nature already provides to address issues resulting from poor land or resource use, climate change or societal challenges. These often enhance existing natural or man-made infrastructure and therefore ensures long-term economic, social and environmental benefits. An example of such intervention or project is the Integrated DRR Flood Mitigation and Ecosystem Restoration (with benefits for marginalized fishing communities) project, which apply the building-with-nature approach with the use of earth dikes and mangroves in Orani-Bataan and Pasac-Pampanga area.

Mainstream ecosystem values into national and local development planning

In the case of developing countries like the Philippines, wealth accounting is necessary to ensure that the services and products sourced from natural resources are valued and identified and that appropriate compensation and user fees are in place. Determining the value of the

region's natural resources vis-à-vis projected requirements to support future economic development would help manage trade-offs and facilitate conservation and proper management of these finite resources.

The following shall be pursued:

- a. *Develop policy for Payments for Ecosystem Services (PES).* Following the lead of the national government, DENR will institutionalize and implement incentives for the management of environment and natural resources. The PES include the schemes in which beneficiaries or users of the ecosystem services provide incentive/ payment mechanisms to people who will manage the ecosystems to ensure their continuous delivery of ecosystem services.
- b. *Institutionalize natural resources monitoring system.* This strategy will include strengthening of the Inter-Agency Committee on ENR Statistics (IAC-ENRS) and its five sub-committees on land/soil, water, energy and disaster, all led by the Philippine Statistics Authority (PSA). Moreover, advocacy on the disaggregation of ENR statistics by subnational and city/municipal level shall be pursued. Development of accounts for the Masinloc-Oyon Bay Protected Landscape and Seascape (MOBPLS) which was identified as a priority site for ecosystem accounting in the Philippines shall be pushed and later replicated to other protected areas in the region.

Legislative Agenda

Table 16-1: Legislative Agenda to Accelerate Climate Action and Strengthen Disaster Resilience

LEGISLATIVE AGENDA	RATIONALE	RESPONSIBLE AGENCY
Aurora Memorial Protected Landscape Act of 2019	The bill intends to recognize the importance of Aurora Memorial National Park's unique biological resources and its ecological, historical, sociocultural, and aesthetic importance to undertake steps for its protection and preservation.	DENR
Mt. Sawtooth Protected Landscape Act of 2022	The bill aims to consider the importance of Mt. Sawtooth as the host of diverse plant and animal species with all the educational, aesthetic, cultural and religious significance to undertake steps to ensure the protection and conservation of the mountain and its associated forest, its biodiversity, and the integrity of its ecosystems and associated cultural and religious practices.	DENR
Delineation of Specific Forest Limits Act	The bill intends to delineate the specific limits of forestlands for the conservation, protection, and development of the country's forest resources. Identifying the permanent boundary of forestlands will facilitate the determination of priority areas for protection, production, and utilization. This will also provide an enabling policy for the security of tenure to vulnerable forest-dependent communities. This is essential especially in the provinces of Aurora, Bulacan, Pampanga, Bataan and Zambales, delimitation will ensure that communities including indigenous peoples are given equal economic opportunities on the resources of the forestlands.	DENR
Sustainable Forest Management (SFM) Act	The bill aims to enhance forest ecosystems through reforestation and forest rehabilitation to mitigate climate change, improve and conserve biodiversity, enhance ecosystem functions and services, and provide long-term economic benefits.	DENR
Land Administration Reform Act	This bill aims to upgrade, systematize, and integrate the administration, management, and operations of the country's land resources. It also aims to improve, rationalize, and systematize land records, titling, documentation, and information systems into an open, updated, and reliable system. Land security enhances people's capacity to effectively manage their land resources and implement measures to adapt to climate change impacts.	DENR
Integrated Coastal Management (ICM) Act	This bill aims to institutionalize ICM as a national strategy to ensure the holistic and sustainable management of various ecosystems and natural resources through the "ridge-to-reef" approach. In addition, the bill pursues the development of an ICM Framework as a guide for LGUs in building the resiliency of coastal communities to climate change and other hazards.	DENR
Natural Capital Accounting (NCA) Act	This bill aims to enable greater stakeholder engagement and sustain budgetary support for the implementation of NCA activities at the national and subnational levels. The institutionalization of the NCA will enable the government to quantify and internalize the economic costs and benefits of environmental and climate change externalities into policies and decisions.	PSA, DENR

Results Matrix

Table 16-2: Results Matrix: Accelerate Climate Action and Strengthen Disaster Resilience

Indicator	Baseline (Year)	Targets						Responsible Agency
		2023	2024	2025	2026	2027	2028	
Climate and disaster risk resilience of communities and institutions increased								
Number of deaths, missing persons, and directly affected persons attributed to disasters per 100,000 population decreased								
Number of deaths attributed to disasters per 100,000 population decreased	0.00002 (2021)	0	0	0	0	0	0	OCD
Number of missing persons attributed to disasters per 100,000 population decreased	NDA	0	0	0	0	0	0	OCD
Number of directly affected persons attributed to disasters per 100,000 population decreased	5.58 (2021)	0	0	0	0	0	0	OCD
Percentage of cities and municipalities with completed/ updated Local Climate Change Action Plans (LCCAPs)	89% (2022)	100%	100%	100%	100%	100%	100%	LGUs, DILG
Percentage of cities and municipalities with completed/ updated Local Disaster Risk Reduction and Management Plans (LDRRMPs)	66% (2022)	100%	100%	100%	100%	100%	100%	LGUs, DILG
Percentage of cities and municipalities with approved DRR/ CCA enhanced CLUPs increased	56% (2022)	100%	100%	100%	100%	100%	100%	LGUs, DILG
Percentage of cities and municipalities with fully functional DRRM operation centers	100% (2022)	100%	100%	100%	100%	100%	100%	LGUs, DILG
Percentage (%) of LGUs with operating early warning systems (EWS) in place	69% (2022)	100%	100%	100%	100%	100%	100%	LGUs, DILG
Ecosystem resilience enhanced								
Proportion of Forestland to the Total Land Area	44% (2022)	44%	44%	44%	44%	44%	44%	DENR

INDICATOR	BASELINE (YEAR)	TARGETS						RESPONSIBLE AGENCY
		2023	2024	2025	2026	2027	2028	
Proportion of Forest cover to the Total Land Area	25% (2022)	25%	25%	25%	25%	25%	25%	DENR
Plantation establishment under the Enhanced National Greening Program (ha)	132,496.99 (2011-2022)	1,793.7	4,722.3	3,551.00	5,868.80	8,228.59	9,165.23	DENR
Area planted with mangroves increased (ha)	840.74 (2011-2018)	-	-	-	-	-	-	DENR
Employment from ecotourism and sustainable community resource-based enterprises increased	7,702 (2022)	8,501	7,405	27,939	25,651	12,785	2,419	DENR
Coverage of protected areas in relation to marine (total, hectares)	9,001 (2022)	9,001	9,001	9,001	9,001	9,001	9,001	DENR
Number residential land free patents issued to women and men	29,257 (2022)	1,000	2,510	4,645	6,869	7,142	7,091	DENR
Number agricultural land free patents issued to women and men	15,258 (2022)	1,900	1,990	2,310	3,297	3,325	3,436	DENR

NDA- NO Data Available

17

Futures Thinking and Foresight Approach to Development Planning: Causal layered Analysis

CHAPTER 17

Futures Thinking and Foresight Approach to Development Planning: *Causal layered Analysis*

The NEDA Regional Office III is applying strategic foresight tools in the formulation of the Central Luzon Regional Development Plan (CL-RDP) 2023-2028. The Futures Thinking and Foresight approach to development planning helps participants identify trends and emerging issues to align common vision for a desired future. Through the technical assistance from the Asian Development Bank (ADB) and NEDA Central Office, the planning exercise integrated the Causal-Layered Analysis as a tool in strategic foresight planning.

The Causal layered analysis identifies various causes of issues from the tangible and intangible. It is often depicted as an iceberg, with the problem represented by the visible part and the causes by the submerged parts (Sohail

Inayatullah). Analysis of issues is at four levels: the Litany, Systemic causes, Worldview, and the Metaphor or Myth. As illustrated in the ADB study, these levels are equally important and occur in the following order:

Figure 17-1: Four Levels of Causal layered Analysis



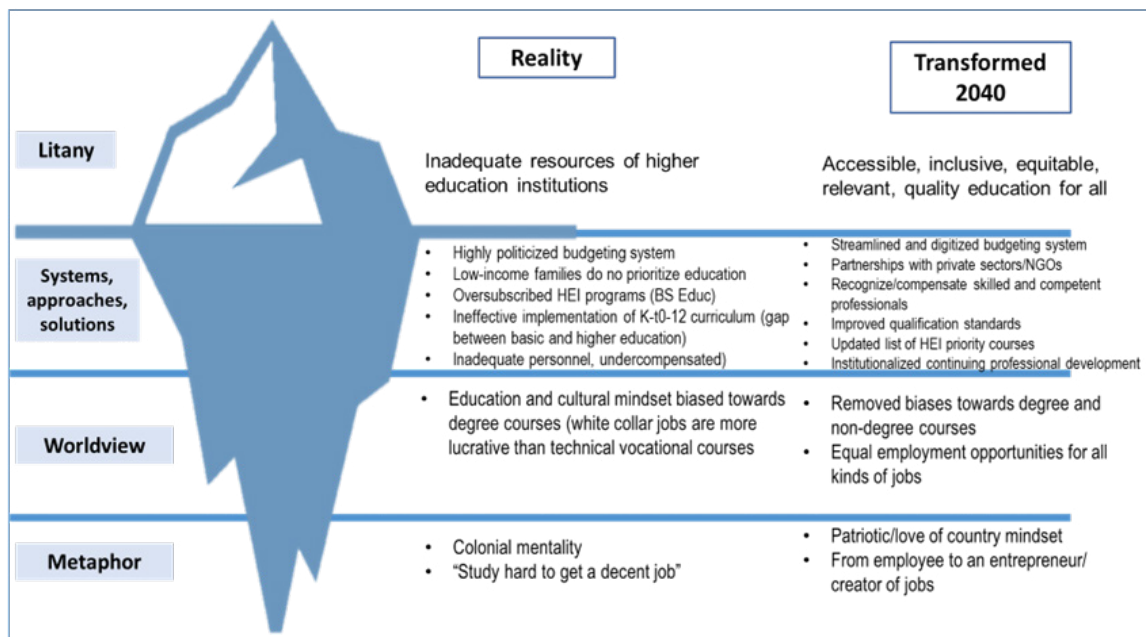
Source: ADB

As a participatory tool in planning, futures thinking and foresight strengthen cross-sectoral links, encourage the emergence of integrated solutions, and empower people to create the future they desire¹.

<i>Activity</i>	Regional Validation Workshop on the Formulation of the Central Luzon Regional Development Plan 2023-2028: <i>Integrating Causal Layered Analysis and Sustainable Development Goals in the Assessment of Regional Priorities</i>
<i>Participants</i>	150 participants from the Central Luzon Regional Development Council (RDC) which include representatives from the national government agencies, regional line agencies, academe, local government units and private sector representatives. The group worked through the four Regional Planning Committees of the RDC, namely: i) Economic Development; ii) Social Development; iii) Infrastructure Development; and iv) Development Administration.
<i>Location and date</i>	RDC Conference Hall, NEDA Regional Office III, 29 November 2022
<i>Objectives</i>	<ul style="list-style-type: none">• Enrich sector assessment to deep dive into priority issues• Empower participants to create the futures they want• Foster policy dialogue with more opportunities for policy innovations and long-term engagement
<i>Workshop conducted</i>	Participants initially identified all issues/challenges faced by each sector of the Regional Planning Committees. Participants then came up with priority issues (through dotmocracy or voting with dots), and subjected to the Causal layered analysis. For each of the priority issues (there were four representing the four planning committees in the region), different stakeholders developed the futures they want, and identified what needed to change, and strategies that should be applied to address the challenges.
The results of the Causal layered analysis on the identified priority issues are presented by sector: social, economic, infrastructure, and development administration.	

1. Social Development

Figure 17-2: Social Development



Preferred future

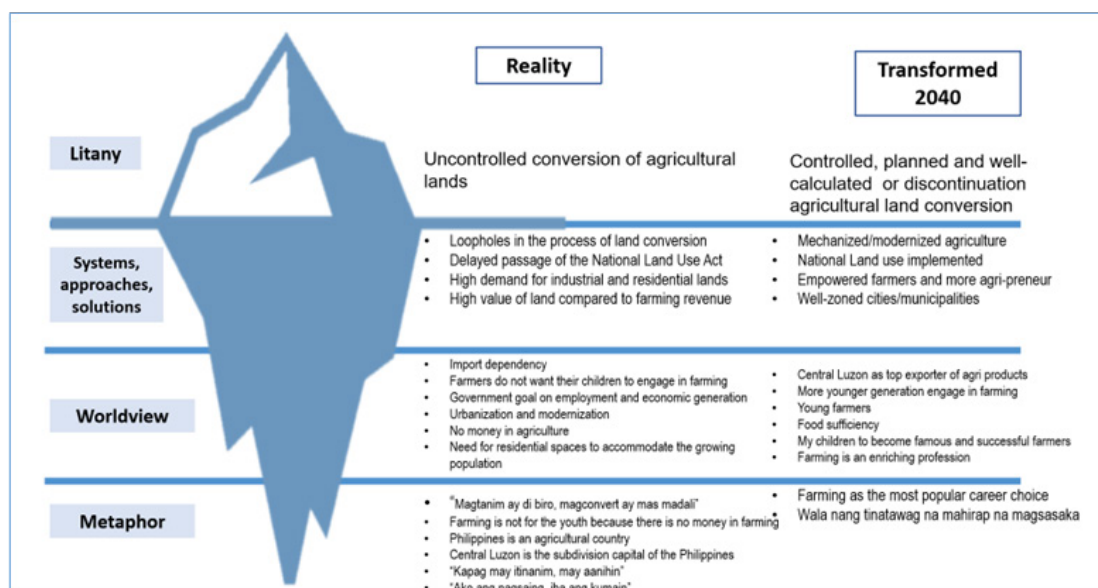
The future of the public Higher Education System. Consistent with the timeframe of the country's long-term vision, the region will have accessible, inclusive, equitable, relevant and quality education for all by 2040. To address inadequate resources, specifically in higher education institutions (HEIs) including state universities and colleges, improving the quality of HEI graduates shall be prioritized through partnerships with the private sector and non-government organizations. The list of priority courses will be updated to remove biases towards degree and non-degree courses, thus providing equal employment opportunities for all. The future desired is for the public higher education system produce more employers and entrepreneurs, rather than laborers, who would contribute to the drive for innovation or manufacture of globally-competitive products and services.

The preferred future would be achieved through the following:

- Strengthen HEIs and industry partnership
- Implement proper project procurement management plan
- Prioritize innovation by providing support to, and harnessing resources generated from, highly qualified HEI activities/programs
- Foster local government units' support to financing/supporting HEIs

2. Economic Development

Figure 17-3: Economic Development



Preferred future

The future of agricultural lands in the region

Congruous to the assessment results reflected in the Central Luzon Regional Physical Framework Plan (RPFPP) 2020-2040, one of the most pressing issues with the land resources in Central Luzon is agricultural land conversion. The proposed infrastructure projects in the region have already attracted numerous developers to acquire lands and leaving these undeveloped while waiting for the major infrastructure projects to come into fruition. As a result, agricultural lands that have already been acquired and left idle have ceased to produce grains and crops. Based from the data of the Philippines Statistics Authority, 3.3 percent of the region's agricultural lands have been lost in a span of 5 years – from 2010 to 2015 equivalent to 25,750 hectares. This does not augur well, if left unmanaged or unabated, to the country's food supply which relies on the region for a significant share.

The future desired is for the region to maintain its comparative advantage in agricultural production, underpinned by its resource endowment. Such is vital not only for the region's economic growth but more importantly in ensuring the country's food security. Doing so requires the region to protect its agricultural lands, particularly those identified as most suitable for said land use, and to continue at efforts for improving agricultural productivity

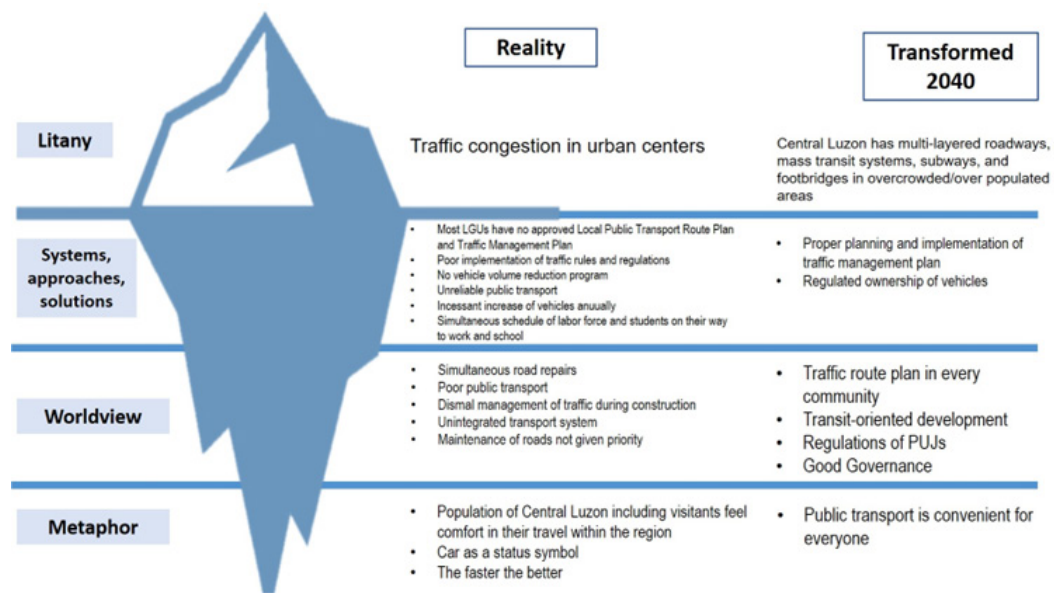
The preferred future would be achieved through the following:

- Review of overlapping government functions on the processes and approval of land conversion
- Advance policy reform thru the passage of the National Land Use Act (NLUA)
- Conduct of a thorough inventory of production lands, idle lands, and lands that

- have been converted for the formulation of a stricter monitoring system
- Encourage compact development, densification, and vertical development in land use plans, zoning, and development guidelines
- Introduce vertical farming to maximize agricultural lands and make use of urban open spaces
- Explore using market-driven land uses to limit allotment of lands during land use planning

3. Infrastructure Development

Figure 17-4: Infrastructure Development



Preferred future

Seamless Physical Connectivity in 2040

In line with the country's long-term vision "Ambisyon Natin 2040" and the sustainable development goals (SDGs), Central Luzon will have adequate, quality and climate-resilient infrastructure that promotes socioeconomic development.

The region's internal access including interconnectivity with neighboring regions, particularly Metro Manila or NCR, will be improved pursuing the concept of high standard highways. There will be multi-layered roadways

including subways in major urban centers where traffic congestion has worsened. Hi-tech footbridges with cycling lanes and sidewalks will be the norm, and partnerships with the private sector implemented to invest and operate mass transit systems so that commuters and pedestrians alike travel more conveniently and safely.

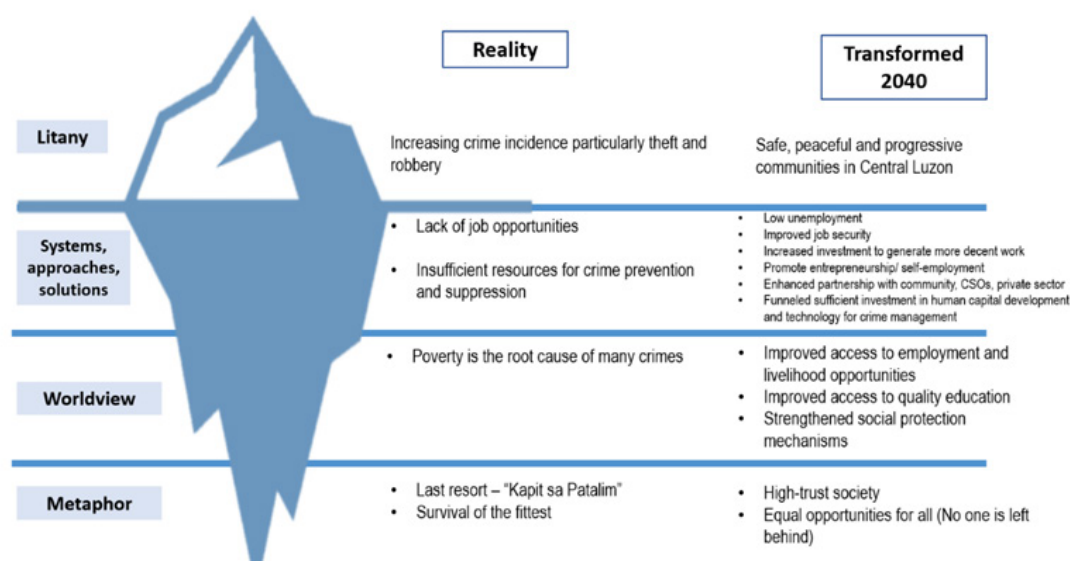
The preferred future of Central Luzon would be attained by way of the following:

- modernizing public transport by phasing-out of jeepneys, buses and other public utility vehicles (PUVs) that are at least 15 years

- old and replacing these with safer, more comfortable and more environmentally-friendly alternatives;
- ensuring reliability of public transport system that includes operational signalling devices (traffic lights/stoplights) positioned at strategic and critical locations;
- implementing effective local public transport route plan (LPTRP) and traffic management plan (TMP) in all LGUs, including vehicular volume reduction schemes;
- educating communities (commuters and vehicle owners) on traffic rules, regulations and responsibilities;
- regularly implementing road maintenance activities; and
- fast tracking rehabilitation and widening of major access roads and construction of additional bypasses.

4. Development Administration

Figure 17-5: Development Administration



Preferred future

The future of peace and order situation in Central Luzon

By 2040, the region is envisioned to have safe, peaceful, and progressive communities. This vision is aligned with the country’s long-term vision of *Panatag na Buhay* by having freedom from fear, and to the Sustainable Development

Goal 16 which aims for peaceful and inclusive societies. Poverty is often linked to crime. To alleviate poverty and consequently, reduce crime incidence in the region, access to (i) employment opportunities, (ii) livelihood programs, (iii) basic social services, and (iv) quality education particularly to those individuals belonging or perceived to belong to the marginalized sectors will be enhanced to improve their quality of life. Investments in

human capital development and technology for crime prevention and suppression will be prioritized to capacitate law enforcement personnel and provide them with adequate equipment to combat crime, and maintain peace and order at the community level.

The preferred future would be attained through the following approaches:

- creation of more job opportunities by attracting investments and promoting entrepreneurship or self-employment;
- mainstreaming of community and service-oriented policing system in crime prevention and suppression;
- promotion of partnership with civil society organizations and private sector to help in eliminating or reducing criminalities;
- use of technology-based tools and equipment in crime management; and;

- enhancement of mechanisms for criminal intelligence and information sharing to increase level of interaction and connectivity.

The output of the four sectors were included among the priority issues under the applicable chapters of the Plan:

1. Social Development: *Chapter 4: Promote Human and Social Development; Subchapter 4.2: Improve Education and Lifelong Learning*
2. Economic Development: *Chapter 7: Modernize agriculture and Agribusiness*
3. Infrastructure Development: *Chapter 13: Expand and Upgrade Infrastructure*
4. Development Administration: *Chapter 14.1: Ensure Peace and Security*

¹Futures Thinking in Asia and the Pacific: Why Foresight Matters for Policy Makers by the Asian Development Bank, April 2020.

PART V

From Plan to Action

18

Plan Implementation, Monitoring, and Evaluation



CHAPTER 18

Plan Implementation and Monitoring

The Central Luzon Regional Development Plan (CL-RDP) 2023-2028 was approved and adopted by the Regional Development Council (RDC) III on March 15, 2023. This comes after the same was presented in activities of the Regional Planning Committees and the Sectoral Committees of the RDC for discussion and consultation, and after issuance of the Guidelines for the formulation of the Philippine Development Plan and the Regional Development Plans 2023-2028.

The CLRDP as a guide ensures that the benefits of critical and broad-based reforms that were put in place six years ago will continue despite the global pandemic in 2020-2021. Under the governance of President Ferdinand Marcos Jr., whose eight-point economic agenda intends to pursue opportunities for economic transformation, the Plan will be able to help build a stronger and more robust, inclusive and resilient Philippine society.

The implementation of the CL-RDP requires efficient coordination and engagement with all stakeholders- regional line agencies, local government units, state universities and colleges, private sector representatives, and civil society organizations. During the period of implementation (2023-2028), the RDC with the stakeholders, will closely monitor the strategies, policies and programs identified in each chapter of the Plan to ensure that planned outcomes, as identified will be achieved.

The RDC, as the highest policy-making body in the region, serves as the counterpart of the NEDA Board at the regional level. It is primarily responsible for ensuring that the

strategies, policies and programs identified in the Plan to address the issues/gaps are implemented. This shall be undertaken through its various committees—Sectoral Committees (SECCOMS) on Economic Development, Social Development, Infrastructure Development, and Development Administration—including other mechanisms and bodies.

Continuous engagement with regional stakeholders such as the private sector, local government, academe and communities in general shall be actively undertaken through advocacy activities.

Plan Monitoring through the RDC's Sectoral Committees

The NEDA Regional Office 3 as the RDC Secretariat will work with various implementing agencies of the RDC 3 in the implementation of the CLRDP strategies, policies and PAPs, including the proposed legislation, and will monitor the progress of Plan implementation. Table 18.1 presents the NEDA 3 units and the sectoral committees who will discuss and champion the priorities in the CLRDP, which are as follows:

(1) The Sectoral Committee on Development Administration (SCDA) will oversee the implementation of the strategies on governance listed in Chapters 12, 14, and 15 through the following agencies:

- Department of the Interior and Local Government (DILG) 3, Civil Service Commission (CSC) 3, Department of Budget and Management (DBM) 3,

Commission on Audit (COA) 3, Bureau of Local Governance and Finance (BLGF) 3, National Competitiveness Council (NCC), Philippine National Police (PNP) 3, Bureau of Jail Management Penology (BJMP) 3, Bureau of Fire Protection (BFP) 3, National Police Commission (NAPOLCOM), National Intelligence Coordination Agency (NICA) 3, Philippine Drug Enforcement Agency (PDEA) 3, and Northern Luzon Command (NOLCOM).

The secretariat of the SCDA is the Development Research Division (DRD) of the NEDA RO3.

(2) The **Sectoral Committee on Economic Development (SCED)** will work on implementing and monitoring the *economic* strategies identified in six (6) chapters (Chapters 7,8,9,10,11 and 16) covering the sectors of Agriculture, Industry, Services, Investments, Science and Technology, and Climate Change through the following offices:

- Department of Agriculture (DA), Department of Agrarian Reform (DAR), Department of Trade and Industry (DTI) 3, Cooperatives Development Authority (CDA) 3, Department of Tourism (DOT) 3, Department of Environment and Natural Resources (DENR) 3, Environmental Management Bureau (EMB) 3, Mines and Geosciences Bureau (MGB) 3, Office of Civil Defense (OCD) 3, DILG 3, Department of Science and Technology (DOST), the Bangko Sentral ng Pilipinas (BSP), and Bureau of Local Government Finance (BLGF).

The Project Development, Investment Programming and Budgeting Division (PDIPBD) of the NEDA RO3 will serve as the secretariat for the SCED.

(3) The **Sectoral Committee on Infrastructure Development (SCID)** will play close attention

to the implementation and monitoring of *infrastructure* strategies and interventions in Chapter 13 through the following agencies:

- Department of Public Works and Highways (DPWH) 3, Land Transportation Office (LTO) 3, Land Transportation Franchising and Regulatory Board (LTFRB), Clark International Airport Corporation (CIAC), Philippine Ports Authority (PPA) 3, Subic Bay Metropolitan Authority (SBMA), Local Water Utilities Administration (LWUA), National Irrigation Administration (NIA) 3, NIA-Upper Pampanga River Integrated Irrigation System (UPRIIS), Department of Energy (DOE) 3, Department of Information and Communications Technology (DICT) Luzon Chapter, National Telecommunication Commission (NTC) 3, DOH 3, DepEd 3, and NHA 3.

The secretariat of the SCID is the Project Monitoring and Evaluation Division (PMED) of the NEDA RO3.

(4) The **Sectoral Committee on Social Development (SCSD)** will be the main coordinating mechanism in implementing and monitoring the social strategies found in three (3) chapters of the CL-RDP (Chapters 4, 5, and 6) and will work with the following implementing agencies:

- Department of Education (DepEd) 3, Department of Health (DOH) 3, National Nutrition Council (NNC) 3, Philippine Health Insurance Corporation (PHIC) 3, Department of Social Welfare and Development (DSWD) 3, Commission on Higher Education (CHED) 3, Technical Education and Skills Development Authority (TESDA) 3, Department of Labor and Employment (DOLE) 3, National Housing Authority (NHA), Department of Human Settlements and Urban Development (DHSUD), Commission on

Population and Development (POPCOM) 3, and National Commission on Indigenous Peoples (NCIP) 3.

The Policy Formulation and Planning Division (PFPD) is the secretariat of the SCSD.

The various agencies mentioned above were all involved in the formulation of the CL-RDP,

provided inputs in the identification of current development issues and challenges in the different sectors, and recommended strategies to address them. Hence, the regional line agencies that will serve as implementing agencies have vital roles not just in implementing the CL-RDP but also monitoring its progress through the regional Results Matrices (RMs).

Table 18-1: NEDA 3 Secretariat and Sectoral Committees Assigned to CL-RDP Chapters

CL-RDP CHAPTER	SECTOR COORDINATION MECHANISM	NEDA SECRETARIAT
Chapter 4.1 Boost Health	RDC III-SCSD	NEDA3-PFPD
Chapter 4.2 Improved Education and Lifelong Learning	RDC III-SCSD	NEDA3-PFPD
Chapter 4.3: Establish Livable Communities	RDC III-RLUC, SCED and SCSD	NEDA3-PFPD, PDIPBD
Chapter 5.1: Ensure Food security and Proper Nutrition	RDC III-SCED and SCSD	NEDA3-PDIPBD and PFPD
Chapter 5.2: Strengthen Social Protection	RDC III-SCSD	NEDA3-PFPD
Chapter 6: Increase Income Earning Ability	RDC III-SCSD	NEDA3-PFPD
Chapter 7: Modernize Agriculture and Agribusiness	RDC III-SCED	NEDA3-PDIPBD
Chapter 8: Revitalize Industry	RDC III-SCED	NEDA3-PDIPBD
Chapter 9: Reinstantiate Services	RDC III-SCED	NEDA3-PDIPBD
Chapter 10: Advancing Research and Development, Technology, and Innovation	RDC III-SCED	NEDA3-PDIPBD
Chapter 11: Promote Trade and Investments	RDC III-SCED	NEDA3-PDIPBD
Chapter 12: Promote Financial Inclusion and Improve Financial Management	RDC III-SCDA	NEDA3-DRD
Chapter 13: Expand and Upgrade Infrastructure	RDC III-SCID	NEDA3-PMED
Chapter 14.1: Ensure Peace and Security	RDC III-SCDA	NEDA3-DRD
Chapter 14.2: Enhance Administration of Justice	RDC III-SCDA	NEDA3-DRD
Chapter 15: Practice Good Governance and Improve Bureaucratic Efficiency	RDC III-SCDA	NEDA3-DRD
Chapter 16: Accelerate Climate Action and Strengthen Disaster Resilience	RDC III-SCED	NEDA3-PDIPBD

Plan Monitoring through Regional RMs and SDG Targets

The RM as an accompanying document/ monitoring tool of the PDP/RDPs, is an instrument designed to provide results orientation to the PDP/RDPs. It is anchored on results-based management (RBM), a strategy

focusing on performance by highlighting the achievement of results at different levels: outcomes and impacts. Chapter RMs are expanded to include aggregate outputs which will contribute to the achievement of outcomes.

LINKAGE OF RM WITH THE PIP AND ANNUAL BUDGET:

RM is a planning tool that guides the programming and budgeting process. In programming, the RM is used as a basic framework in identifying and updating the priority programs and projects in the PIP/ RDIPs. (The PIP/ RDIP serves as the primary medium term investment instrument of the government in achieving the End-of- Plan target outcomes set forth in the RM. It defines how the government intends to deliver the RM outcomes and outputs in terms of programs/ projects.) This is consistent with the government's Performance-Informed Budget Reform Agenda which shifted to output (and later on outcome)-based budgeting. With the focus on results, this reform agenda serves to bridge the chain of results from planning to budgeting: linking the desired outcomes in the RM, the strategies of programs and projects in the PIP, to the inputs, activities/ outputs of individual agencies needed to realize the outcome targets in the RM.

For each chapter of the CL-RDP, baseline and end of plan targets for the identified outcome and output indicators were provided. These were based on results of the socioeconomic reports assessments conducted for the CL-RDP 2017- 2022, assessments conducted on sector performance, and sector projections and forecasts, among others that were provided to NEDA.

These indicators will be monitored annually through the RDC and other mechanisms, such as:

NEDA Reports: The NEDA collects data from selected regional line agencies (PSA, Regional Tripartite Wages and Productivity Board (RTWPB), BSP, DTL, etc.) and prepares periodic reports such as the annual Regional Development Report (RDR) and Regional Economic Situationer (RES). Timely collection and distribution of these reports are necessary to aid public and private policy-makers in their decision-making tasks.

Regional Development Report – prepared annually, the report presents the results of assessment on the overall achievement of outcomes as evidenced by the attainment of targets vis-à-vis the CLRDP through the RM. The preparation process begins during the first quarter and is completed by the third quarter of the year when the RDC adopts and endorses the report. Accomplishments are also compared with previous year in order to determine trend. The year-on-year assessment ensures that end of plan targets are achieved and there is improvement in the challenges

and sector outcome. The report also includes policy recommendations moving forward.

Quarterly Regional Economic Situationer – The RES is a status report on the socio-economic health of Central Luzon. Production data, price of goods, investments flow, and employment are just some of the indicators analyzed to determine overall condition of the local economy.

Role of Other RDC Committees Aside from the previously mentioned RDC SECCOMS, other specially-mandated committees under the RDC have a role to play in the implementation and monitoring of the CL- RDP. These are:

Regional Project Monitoring Committee (RPMC) – This is the Committee mandated to operationalize Executive Order (E.O.) 376 of 1989 or the Regional Project Monitoring and Evaluation System (RPMES). As the monitoring arm of the RDC, it conducts desk monitoring and site inspection of major programs and projects. It is guided by the RPMES Operational Guidelines as provided by the National Project Monitoring Committee (NPMC).

Transitioning to digitization, quarterly updates on program and project implementation in the region will be submitted by the implementing regional line agencies through the electronic Regional Project Monitoring and Evaluation System (e-RPMES). Reports will be consolidated and submitted by the RPMC Secretariat to the National Project Monitoring Committee (NPMC).

To further improve the transparency and accountability in the implementation of priority programs

and projects at the sub-regional levels as mandated by the Garcia-Mandanas Supreme Court ruling, the RPMC through DILG will continue to ensure the functionality of the Local Project Monitoring Committees (LPMCs). The LPMCs of the seven provinces and two highly urbanized cities, if functional, can present their findings, issues and concerns, and recommendations for discussion and appropriate action of the RPMC.

Special Regional Committee on the Sustainable Development Goals – The NEDA Board Social Development Committee (SDC) through Resolution No. 2, series of 2019 enjoined NEDA Regional Offices to create a Regional Sub-Committee on the SDGs to assist in the advocacy, coordination, and implementation of the SDGs at the regional level. It will strengthen the linkage of development priorities and resource allocation and, by aligning all programs, projects and activities (PAPs) and development plans to the SDGs, line agencies and local government units will themselves become more active in their implementation (and monitoring), progress will be ensured.

Regional Land Use Committee (RLUC) 3 – This is a policy-making body under the RDC (EO 124 s of 1993) and the NEDA Board-National Land Use Committee or NLUC (EO 770 s of 2008) which is tasked to review land use plans of all provincial, independent component city (ICC) and highly-urbanized city (HUC) in the region. Chapter 2 of the CL-RDP contains the RDC- approved regional spatial development framework that

provides the policy environment for urban and regional physical planning in the four land use policy areas (settlements, production, protection and infrastructure development) consistent with the National Spatial Strategy (NSS) of connectivity,

concentration and vulnerability reduction, and the DRR-enhanced CLRPPF. All other sectoral and local development plans should be aligned with the physical framework strategy/plan and the CL-RDP.

COMMUNICATION AND ADVOCACY

To generate support for the CLRDP policies and PAPs, activities to engage the various stakeholders and the general public will be actively conducted in 2023 in priority locations in the region. Information, education, and communication materials will be prepared in support of these activities and by using various platforms, including social media.

For 2024 and beyond, advocacy activities will be undertaken by tapping SUCs (to engage the youth during educational seminars), the military (during school and community forums), media (through radio broadcast programs with the Philippine Information

Agency) and other partners in government and private sector.

The RDC will also actively engage Congress and local executive/legislative councils in the realization of the proposed legislative measures identified in the RDP to facilitate growth and development in the region. Through regular consultation meetings, the support of the Central Luzon Bloc (also the members of the RDC Advisory Committee) in the implementation of regional priority programs and projects and other policy development agenda generated by the RDC is critical.



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