

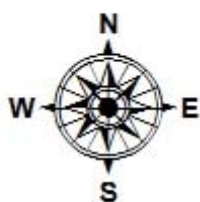
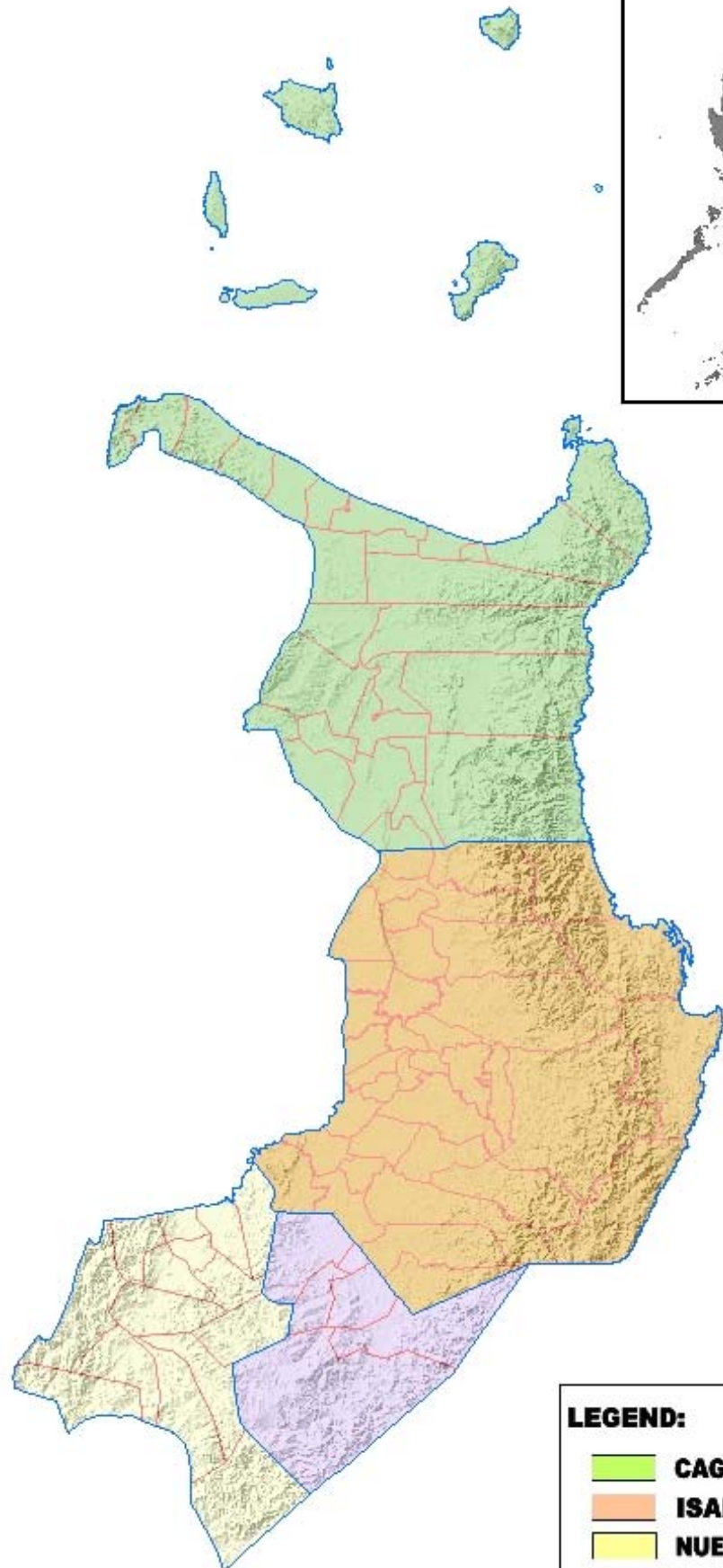
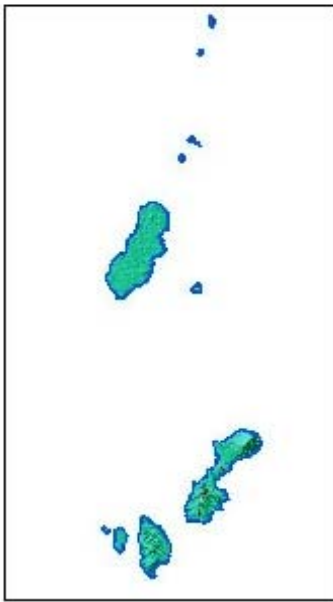


# Cagayan Valley Regional Development Plan 2011-2016





**Cagayan Valley**  
**Regional Development Plan**  
**2011-2016**



**LEGEND:**

|   |                      |
|---|----------------------|
|  | <b>CAGAYAN</b>       |
|  | <b>ISABELA</b>       |
|  | <b>NUEVA VIZCAYA</b> |
|  | <b>QUIRINO</b>       |
|  | <b>BATANES</b>       |



Republic of the Philippines

## REGIONAL DEVELOPMENT COUNCIL 02

NEDA Region 02, Regional Government Center, Tuguegarao City 3500

Telephone nos.: (078) 844-12-43, 844-13-36, 846-74-97 Fax no: (078) 844-93-00

Come visit our site: [www.rdc2.gov.ph](http://www.rdc2.gov.ph) Email: [neda\\_ro2@yahoo.com](mailto:neda_ro2@yahoo.com)

RDC2 Resolution No. 02-01-2011

### “ADOPTING THE REGIONAL DEVELOPMENT PLAN 2011-2016: CAGAYAN VALLEY REGION”

**WHEREAS**, the Cagayan Valley Regional Development Plan (CVRDP) as the blueprint for development for the next six years (2011-2016) spells out the thrusts and priorities of the Cagayan Valley in support to the Philippine Development Plan (PDP);

**WHEREAS**, the CVRDP anchors its development agenda on the Social Contract to the Filipino People of the Aquino Administration, where eradication of poverty is prime to its strategic development initiatives and interventions for the region;

**WHEREAS**, the CVRDP translates the PDP into regional interventions that would ensure a more effective and efficient plan implementation by all partners and stakeholders;

**WHEREAS**, through a series of multi-sectoral consultation with the government and private sector stakeholders conducted through the RDC 2 Sectoral Committees, necessary inputs and concerns were generated and integrated into the CVRDP;

**WHEREAS**, the successor CVRDP will serve as reference in crafting its companion document, the Regional Development Investment Program, that translates the RDP goals, objectives and strategies into specific programs and projects that spells the sectors' and agencies' commitments to the achievement of the national government's Social Contract to the Filipino People;

**NOW THEREFORE**, the RDC2 in session assembled, **RESOLVES** as it is **HEREBY RESOLVED** to adopt the Regional Development Plan 2011-2016: Cagayan Valley Region.

**APPROVED UNANIMOUSLY** this 9<sup>th</sup> day of March 2011 at Cauayan, Isabela.

CERTIFIED CORRECT:

  
ARD MARYANNE E.R. DARAUAY  
RDC2 Secretary

Approved:

  
RD MILAGROS A. RIMANDO  
RDC Vice-Chairperson and Presiding Officer



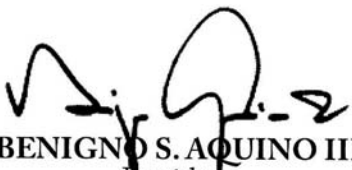


## Message

I commend the NEDA Regional Development Councils and all stakeholders in the 17 regions for coming together to formulate your respective Regional Development Plans. May this partnership among regional and local institutions, the private sector, and civil society ensure the continued success of these programs and the distribution of their benefits throughout the country.

Along with the Philippine Development Plan, the RDPs will guide our development efforts in the next five years, and will act as a common roadmap for our country's development and for the establishment of the necessary infrastructure that will help us achieve our goal of increasing economic and social opportunities for our people. Guided by our commitment to the UN Millennium Development Goals, our concerted efforts will not only help accelerate economic growth, but will also give our provinces improved access to quality education, health, and social services.

We came to government with a mandate to eradicate poverty and create a better future for our nation. As we carry out key reforms in the bureaucracy, we also strive to set in place an environment of sustainable and equitable progress in the coming years. Together, let us fulfill the potential of our great nation.



**BENIGNO S. AQUINO III**  
President  
Republic of the Philippines

**MANILA**  
May 2011



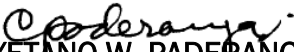
# Message

The Regional Development Plans (RDPs) represent the aspirations of Filipinos in different areas of the country. As accompanying documents of the Philippine Development Plan (PDP) 2011-2016, the RDPs also provide the spatial dimension to the national plan by identifying the regions' contributions to our goal of a high, sustained and broad-based growth. This "inclusive growth" involves rapid economic expansion that must reach population groups throughout the country through the provision of productive employment opportunities, thereby reducing poverty.

The attainment of our goals requires massive investments in infrastructure, social services and other productive activities. The PDP, along with the RDPs are the key instruments that will guide the proper and equitable allocation of resources to ensure improvements in the welfare of our people. Likewise, our plans shall direct our efforts in protecting the environment, reducing climate and disaster risks, promoting good governance and ensuring peace and stability.

The RDPs provide the framework for local development. We thus enjoin the local government units to align their local plans and programs with the RDPs. We likewise seek the support of regional institutions and the private institutions in the realization of the plans which many of them have helped prepare. We need to strengthen our multistakeholder cooperation particularly as we promote public-private partnership to improve the provision of services for our people.

I thank the Regional Development Councils (RDCs) for spearheading the preparation of the RDPs and we count on their continued leadership in coordinating development efforts in the regions.

  
CAYETANO W. PADERANGA, JR.  
Secretary of Socioeconomic Planning and  
NEDA Director-General

# Foreword




Aligned with the social contract with the Filipino people of the national government, the Regional Development Plan (RDP) 2011-2016 for Cagayan Valley Region provides the development blueprint for the next six years in this part of the country. The Cagayan Valley RDP lays out the required development strategies which are consistent with the thrusts and priorities contained the Regional Development Agenda (RDA) 2010-2020 which outlines the specific direction the region will be pursuing to harness its competitive advantages.

In support to the thrusts and priorities of the national government, the RDP was formulated and designed to chart the region's direction for reforms to accelerate economic growth and attain fiscal strength, improve the condition of the region's infrastructure, enhance delivery of basic social services, peace and order and efficient management and rational utilization of natural resources.

The plan bares the region's performance during the last planning period and proceeds to the challenges and the strategic interventions to usher the region towards the attainment of its vision at the end of the six-year plan period.

The RDP is the result of a series of Workshops and Public Consultations participated in by the Regional Line Agencies (RLAs), Local Government Units (LGUs), Private and Business Sectors, State Colleges and Universities (SUCs), Media and other stakeholders of the region who unselfishly shared their knowledge and insights that contributed to the enhancement and eventual completion of the plan.

Lastly, the real worth of the RDP 2011-2016 lies in its implementation. May I therefore enjoin all stakeholders to join hands in pursuing the identified strategies to give the people of Cagayan Valley the quality of life and future they deserve.

  
**RD MILAGROS A. RIMANDO**  
RDC Vice-Chairperson and Presiding Officer

# TABLE OF CONTENTS

| Chapter No. | CONTENT   | Page No. |
|-------------|---|----------|
|             | Administrative Map of Region 02                           | i        |
|             | RDC II Endorsement  | ii       |
|             | Message of the President                                  | iii      |
|             | Message of the NEDA Director-General                      | iv       |
|             | Foreword  | v        |
|             | Table of Contents   | vi-vii   |
|             | List of Tables and Figures                                | viii     |
|             | <b>Cagayan Valley Regional Development Plan 2011-2016</b> | <b>1</b> |
|             | <b>The National Development Agenda</b>                    | <b>1</b> |
|             | Vision  | 1        |
|             | <b>Development Strategies</b>                             | <b>2</b> |
|             | <b>The Regional Development Framework</b>                 | <b>3</b> |
|             | Our Vision  | 3        |
|             | The Planning Environment                                  | 4        |
|             | Location, Land Area and Political Subdivisions            | 4        |
|             | Population  | 4        |
|             | Physical Resources  | 5        |
|             | Development Opportunities                                 | 11       |
| <b>1</b>    | <b>Macro-Economy</b>                                      |          |
|             | <b>Assessment and Challenges</b>                          | 1-1      |
|             | Gross Regional Domestic Product                           | 1-1      |
|             | Inflation   | 1-2      |
|             | Employment  | 1-3      |
|             | Poverty Levels  | 1-4      |
|             | <b>Strategic Interventions</b>                            | 1-5      |
| <b>2</b>    | <b>Competitive Industry and Services Sector</b>           |          |
|             | <b>Assessment and Challenges</b>                          | 2-1      |
|             | <b>Strategic Interventions</b>                            | 2-3      |
| <b>3</b>    | <b>Modern and Competitive Agriculture and Fisheries</b>   |          |
|             | <b>Assessment and Challenges</b>                          | 3-1      |
|             | Palay and Corn  | 3-2      |
|             | High Value Commercial Crops                               | 3-3      |
|             | Livestock and Poultry                                     | 3-3      |
|             | Fisheries   | 3-4      |
|             | Food Sufficiency Levels                                   | 3-4      |
|             | <b>Strategic Interventions</b>                            | 3-5      |
|             | Productive and Viable Farmlands                           | 3-5      |
|             | Energize Aquaculture and Capture Fishery                  | 3-6      |

| <b>Chapter No.</b> | <b>CONTENT</b>   | <b>Page No.</b> |
|--------------------|--|-----------------|
| <b>4</b>           | <b>Infrastructure Support</b>  |                 |
|                    | <b>Assessment and Challenges</b>   | 4-1             |
|                    | Land Transportation  | 4-1             |
|                    | Sea Transportation   | 4-2             |
|                    | Air Transportation   | 4-2             |
|                    | Irrigation   | 4-3             |
|                    | Flood Control  | 4-4             |
|                    | Information and Communications Technology                                  | 4-4             |
|                    | Power  | 4-4             |
|                    | Disaster Preparedness and Disaster Risk Reduction                          | 4-5             |
|                    | <b>Strategic Interventions</b>   | 4-6             |
| <b>5</b>           | <b>Good Governance and the Rule of Law</b>                                 |                 |
|                    | <b>Assessment and Challenges</b>   | 5-1             |
|                    | Revenue Collection   | 5-1             |
|                    | LGU Capability Building  | 5-2             |
|                    | Professionalization of the Bureaucracy                                     | 5-3             |
|                    | <b>Strategic Interventions</b>   | 5-4             |
| <b>6</b>           | <b>Social Development</b>  |                 |
|                    | <b>Assessment and Challenges</b>   | 6-1             |
|                    | Education  | 6-1             |
|                    | Training   | 6-2             |
|                    | Health   | 6-3             |
|                    | Nutrition  | 6-5             |
|                    | Access to Water Supply and Electricity                                     | 6-6             |
|                    | Asset Formation  | 6-7             |
|                    | Livelihood and Microfinance  | 6-8             |
|                    | <b>Strategic Interventions</b>   | 6-9             |
| <b>7</b>           | <b>Peace and Security</b>  |                 |
|                    | <b>Assessment and Challenges</b>   | 7-1             |
|                    | Peace and Order and Law Enforcement  | 7-1             |
|                    | Security   | 7-2             |
|                    | <b>Strategic Interventions</b>   | 7-3             |
| <b>8</b>           | <b>Environment and Natural Resources</b>                                   |                 |
|                    | <b>Assessment and Challenges</b>   | 8-1             |
|                    | Forest Management  | 8-1             |
|                    | Mineral Resource Management  | 8-2             |
|                    | Geological Hazard Mapping  | 8-2             |
|                    | Protected Areas, Coastal Resource Management and Biodiversity Conservation | 8-7             |
|                    | Land Management, and Ecosystem Research and Development                    | 8-7             |
|                    | <b>Strategic Interventions</b>   | 8-8             |

# LIST OF TABLES AND FIGURES

| Table/<br>Fig. No.       | TITLE OF TABLES AND FIGURES  | Page<br>No. |
|--------------------------|--|-------------|
| <b><u>A. TABLES</u></b>  |  |             |
| 1.1                      | Employment, Unemployment and Underemployment. Region 2 (Annual Average): CY 2006-2009                | 1-3         |
| 1.2                      | GRDP Targets, Region 02, CY 2011-2016  | 1-4         |
| 1.3                      | Poverty Targets, Region 2 CY 2010-2016   | 1-5         |
| 2.1                      | MSME Development and Job Generation Performance Region 2, Target vs. Actual CY 2005-2009             | 2-2         |
| 3.1                      | Production and Productivity, Selected Commodities<br>Target vs. Actual, Region 2, 2005-2009          | 3-2         |
| 3.2                      | Fishery Production, Target vs. Actual, Region 2, CY2005-2009   | 3-4         |
| 3.3                      | Food Sufficiency Levels Region 2, Selected Commodities, CY 2005-2009                                 | 3-5         |
| 6.1                      | Region 02 - Middle level Skills Development Indicators, 2005-2009                                    | 6-3         |
| 6.2                      | Land Acquisition and Distribution: CY 2005- September 2010   | 6-7         |
| 6.3                      | Leasehold Operation: 2005- September 2010  | 6-7         |
| 7.1                      | Crime Volume, Crime Rate and Crime Solution Efficiency Region 2, Actual Accomplishment, CY 2004-2009 | 7-1         |
| 7.2                      | Apprehensions on Poaching Incidence in Region 02 Waters Actual Accomplishments, CY 2006-2009         | 7-3         |
| <b><u>B. FIGURES</u></b> |  |             |
| I.1                      | Strategic Framework  | 3           |
| I.2                      | Elevation Map  | 7           |
| I.3                      | Slope Map  | 8           |
| I.4                      | Groundwater Map  | 9           |
| I.5                      | Schematic Diagram Showing the Cagayan River and Its Major Tributaries                                | 10          |
| 1.1                      | Gross Regional Domestic Product, Actual vs. Target   | 1-1         |
| 1.2                      | Inflation Rates, Region 2 CY 2004-2009   | 1-2         |
| 2.1                      | Northern Luzon Tourism Clusters  | 2-6         |
| 4.1                      | Irrigation Coverage, Region 2 CY 2005-2009   | 4-3         |
| 8.1                      | Flood and Landslide Susceptibility Map of Region 2   | 8-4         |
| 8.2                      | Erosion Map of Region 2  | 8-5         |
| 8.3                      | Active Faults and Liquefaction Susceptibility Map of Region 2  | 8-6         |

# CAGAYAN VALLEY REGIONAL DEVELOPMENT PLAN 2011-2016

---

## THE NATIONAL DEVELOPMENT AGENDA

### VISION

In his “Social Contract with the Filipino People”, President Benigno S. Aquino III states his vision for the Philippines as “a country with an organized and widely shared rapid expansion of our economy through a government dedicated to honing and mobilizing our people’s skills and energies as well as the responsible harnessing of our natural resources.”

The attainment of the vision requires every Filipino to seriously focus on “doing the right things, giving value to excellence and integrity and rejecting mediocrity and dishonesty, and giving priority to others over ourselves.” The social contract specifies changes that lead to the following:

- A. Transparent and accountable governance
- B. Upliftment and empowerment of the poor and vulnerable
- C. Growing the economy through:
  - 1. Public infrastructure development
  - 2. Strategic public-private partnerships
  - 3. Policy environment for greater governance
- D. Creating a sustainable development for reform
  - 1. Peace
  - 2. Justice
  - 3. Security
  - 4. Integrity of natural resources

# DEVELOPMENT STRATEGIES

The Philippine Development Plan for this plan period focuses on meeting the national development agenda based on three primary strategies that are centered on:

A. The Attainment of High and Sustained Economic Growth that Provides Productive Employment Opportunities.

Sustained high economic growth that provides full and productive employment will be realized by raising the levels of private investment and entrepreneurship especially among micro, small and medium enterprises (MSMEs). This will be supported by the reduction of the public sector deficit; the provision of efficient and adequate infrastructure along the areas of power, transport and logistics; the improvement of investor confidence by minimizing corruption, ensuring political stability, and enforcing the rule of law; and effective management of market information.

B. The Equalization of Access to Development Opportunities

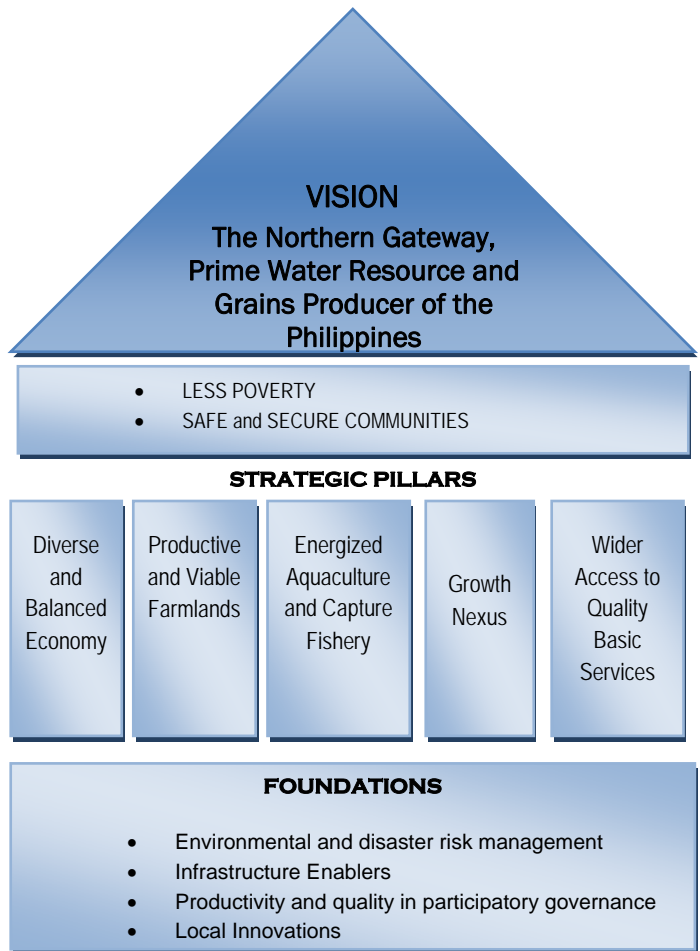
Access to development opportunities by each citizen living within and outside the country will ensure that the expansion of employment opportunities translates to poverty reduction. The focus will be on improving human capabilities, especially of the poor, through the provision of better education, primary health care and nutrition, and other basic social services. It is also important to level the playing field by improving access to infrastructure, credit, land, technology, and other productive inputs. Unbiased but facilitative policies that promote competition will be formulated as government improves governance and strengthens institutions.

C. The Formulation of Effective Social Nets

Equitable access to development opportunities will be complemented by the implementation of responsive social safety nets that foster a more inclusive growth for Filipinos in residence and those abroad. These social safety nets should be adequate, appropriate, equitable, cost-effective, compatible with incentives, sustainable, and adaptable to ensure the protection of extremely vulnerable groups. The expected deteriorating effects of climate change in the future stress the need for social safety nets that support and capacitate the vulnerable sector to emerge out of poverty.

# THE REGIONAL DEVELOPMENT FRAMEWORK

A major challenge is to make the economy more stable, more diverse and to make it grow steadily. Since most of the poor are in the rural areas, the modernization of agriculture is essential to reduce poverty in the region. The overall strategy consists in reducing poverty and ensuring safe and secure communities as shown in Figure 1. The regional vision will be achieved through this strategy of ensuring the well-being of the people in the region while transforming the economy in an equitable and sustainable manner. These would be possible with economic prosperity that the five strategic pillars of diverse and balance economy, productive and viable farmlands, energized aquaculture and capture fishery, growth nexus and wider access to quality basic services would bring. Firming up the base for the region’s economic growth are the four foundations of environmental and disaster risk management, infrastructure enablers, productivity and quality in participative governance and local innovations. These four are the overarching guiding principles in the development of the Cagayan Valley Region.



**Figure I.1 Strategic Framework**

## Our Vision

Expressing the aspirations of the region’s people until 2020, the Cagayan Valley Region envisions to be **“The Northern Gateway, Prime Water Resource and Grains Producer of the Philippines”**.

Under the North Luzon Agribusiness Quadrangle (NLAQ) program, Cagayan Valley Region was assigned the role as a major agricultural bowl given the abundance of agriculture lands that are suitable for the growing of traditional and high value crops including marine and forest resources for fishery and agro-forestry production. The Cagayan Valley has been consistently producing and supplying other parts of the country with big volume of grains thus earning the distinction and new role as the “Northern Food Basket of the Philippines.” Further, the proposed creation of the Cagayan River Basin PMO is expected to ensure proper utilization of the water resources of the region and therefore further increase its yield and harvest. Meantime, the Cagayan SEZFP has a seaport and soon an international airport, and has great potentials to serve as a port of

entry of passengers and cargo, not only for the Free Port but for the rest of Luzon as well. It is expected to emerge as another gateway in the north.

Our goal is to enhance the well-being of the people in the Cagayan Valley as we transform the economy in an equitable and sustainable manner that provides for a healthy, well-educated citizenry, who would serve as the productive manpower core for the region's economic activities.

With improved economic standing of the populace, government dependence is lessened to development essentials, that enable primordial attention particularly infrastructure and social services. This would lead to safer and more secure communities while lessening poverty levels.

In ensuring the safety and security of communities at all times, disaster risk reduction and climate change adaptation measures need to be in place most specially at the Barangay level. The local government units in coordination with all the mandated government agencies and cooperating private organizations should work together under the four major phases of disaster risk reduction as defined in the DRR framework.

## **THE PLANNING ENVIRONMENT**

### **LOCATION, LAND AREA AND POLITICAL SUBDIVISIONS**

Cagayan Valley lies in the Northeastern tip of the Philippines. It is bounded by three big mountain ranges namely, Cordillera on the west, Caraballo on the south and Sierra Madre on the east. On the north is the Babuyan channel where the Cagayan River drains.

The region is composed of five provinces namely: the island province of Batanes, the mainland provinces of Cagayan, Isabela, Nueva Vizcaya and Quirino. It has 10 congressional districts, 3 cities, 90 municipalities and 2,343 barangays. The Cagayan River flows through the four mainland provinces and is the largest river system in the country.

The region's land area is the fourth largest in the country with about 2,683,758 hectares which is 9% of the total land area of the Philippines. Of this total area, 965,965 hectares are alienable and disposable (A & D) lands, and 1,717,793 hectares are forestlands. The forest land areas are further categorized into Production forest, with 929,630.802 hectares and Protection Forest, with 788,162.198 hectares.

### **POPULATION**

As of the 2007 Census, the Cagayan Valley region posted a population of 3.05 million and a population density of 114 persons per square kilometer (Table 1). Between 2000 and 2007, the region's average population growth rate was at 1.17, slower than the 2.25 APGR during the last decade (2000-1990).

Region 2 had the fourth lowest population level among all regions in 2007, constituting only 3.44% of the country's population for the same year. If its 2000-2007 population growth rate is maintained, the Cagayan Valley Region will only double its population by 2066.

In 2007, the province of Isabela had the largest population among all provinces in the region with an estimated population of 1,160,997 (excluding the cities of Cauayan and Santiago).

Isabela accounts for 38% of the region's population and occupies 37.37% of its total land area (Table 2).

Together with Cagayan, they account for 68% of the population, while occupying 70% of the regional land area. The population growth trends suggest that both Isabela and Cagayan still remain the biggest drivers of population growth in the region. Only the province of Batanes showed a decrease in its share of the total regional population and exhibited a decline in its population between 2000 and 2007. All other provinces exhibited an increase in their population by an average of 1.22.

Tuguegarao City had the highest population among the three cities with an estimated population of 129,539 in 2007. It accounted for 4.25% of the regional population and 35% of the combined population of the three cities. However, population of the cities of Cauayan and Santiago grew faster than that of Tuguegarao with an average population growth rate of 1.36 and 1.47, respectively between the censal years 2000-2007. These are higher than the regions' APGR of 1.17 for the same period.

Isabela had the highest population density (131 persons per square kilometer) which is higher than the regional average of 114 persons per square kilometer, but lower than the national figure of 295 persons per square kilometer. The province of Quirino had the lowest population density (53 persons per square kilometer) among the five provinces of the region.

Among the provinces, the population of Quirino is growing the fastest with an APGR of 1.39. This is in stark contrast to the dwindling population of Batanes which shrank to 0.43 (APGR).

For the cities, Santiago City is the fastest growing city with an APGR of 1.92 and a population density of 494 persons per square kilometer. However, Tuguegarao City had the highest population density in 2007 which is estimated at 895 persons per square kilometer.

By 2020, the regional population would have grown to an estimated 3.15 million with Isabela still accounting for the largest share of the population at 43%. Together with Cagayan, they account for 78% of the region's population in 2020 increasing by 10 percentage points over 2007's figure.

Tuguegarao City will still have the largest share of the combined population of the three cities at 36% and be the most populated area in the region with a population density of 1,047 persons per square kilometer.

## PHYSICAL RESOURCES

The topography of the region is generally sloping. About 40 percent of the land is mountainous or with slopes greater than 30 degrees. This is followed by undulating to hilly terrain (8 to 30 degrees slope) and lowlands (below 8 degrees slope) at 31 and 29 percent of total area respectively (Figures I.2 and I.3). Lands with elevation from 0 to 500 m. above sea level (ASL) represent about 92 percent of the total area while only 8 percent have an elevation between 500 to 1000 m. ASL (Figure I.2).

The region has the largest possible dam and reservoir sites among all regions in the country. It also has the biggest river basin, the Cagayan River Basin, with a drainage area of about 2,730,00 hectares and groundwater reserve of 47,895 MCM (Figure I.4). Groundwater storage

capacity is placed at 11,850 MCM with estimated gross inflow of 7,186 MCM and net inflow of 3,593 MCM per year. The Cagayan River has three major tributaries: Ilagan River, which drains a major portion of the eastern watersheds, Magat River that draws water from the southern portions and Chico River covering northwest areas (Figure I.5).

Both inland and marine waters make up a considerable resource. Rivers, swamps and lakes have an aggregate area of 22,724 hectares. There are about 890 kms. of coastline and rich fishing grounds, particularly within the Babuyan and Balintang Channels on the north and the Palanan and Divilacan Bays on the east, including its territorial seas within the 200 kms. Exclusive Economic Zone (EEZ).

Majority of the proclaimed Watershed Reserves are situated in the province of Nueva Vizcaya. A total of 515,520 hectares has been proclaimed in said province. These are the Casecnan River Watershed Reservation, Dupax Watershed Reservation and Magat River Forest Reserve which has the largest area. There is only one watershed reserve in the Province of Isabela, the Tumauni Watershed Reservation covering 17,670 hectares. This area covers the municipalities of San Pablo, Cabagan, Tumauni, Maconacon and Divilacan. NIPAS (National Integrated Protected Areas System) areas include the idle and wilderness areas in Palanan with 50 kilometers radius covering Cagayan and Isabela. In the Province of Cagayan, two (2) Watersheds have been proclaimed and these are located in the municipalities of Lallo and Gonzaga, having a total area of 15,987.0 hectares.

There are several minor faultlines but most of these are inactive, only the Digdig Fault is active as manifested by the 1990 killer earthquake (see Figure 8.3). There are also about four minor volcanoes located in the province of Cagayan and off its northern coast. While these volcanoes are considered dormant, the Mt. Pinatubo tragedy and the reported smoke emissions of one of these volcanoes (Mt. Didicas) off Camiguin Island, necessitate the conduct of studies and preparation in anticipation of possible volcanic activity in the future.

The region falls under four climate types generally characterized by Type III, not very pronounced seasons or dry from November to April and wet during the rest of the year in the region's western flank or valley areas; Type IV with rainfall more or less evenly distributed throughout the year in the region's eastern flank, Type II in the island municipalities of Batanes Province and Type I with two pronounced seasons, dry from November to April and wet during the rest of the year in the western portion of the province of Nueva Vizcaya and the northwest tip of Cagayan province. Rainfall varies from 1600 mm. in the valley areas to 4400 mm. in the mountainous areas. Regional annual average rainfall is 2600 mm. Temperature ranges from a low of 17°C during the period of November to February, to a high of 35°C during the months of April to June, with May as the warmest and January the coldest months. High humidity prevails, ranging from 70% and 90%, with an annual mean of 76%. Tropical storms are common between May and November, averaging about twelve per year.

The Sierra Madre Mountain Range is not only endowed with rich forest and water resources. It is where significant deposits of metallic and non-metallic mineral resources are concentrated. The ultramafic rock complexes in the Sierra Madre range are host rocks to chromite, nickel and other related deposits. Rich deposits of gold, silver, copper and white clay can be found in Nueva Vizcaya, Quirino and the southern parts of Isabela while iron deposits and related minerals are found along the northern coasts.



Figure I.3 Slope Map

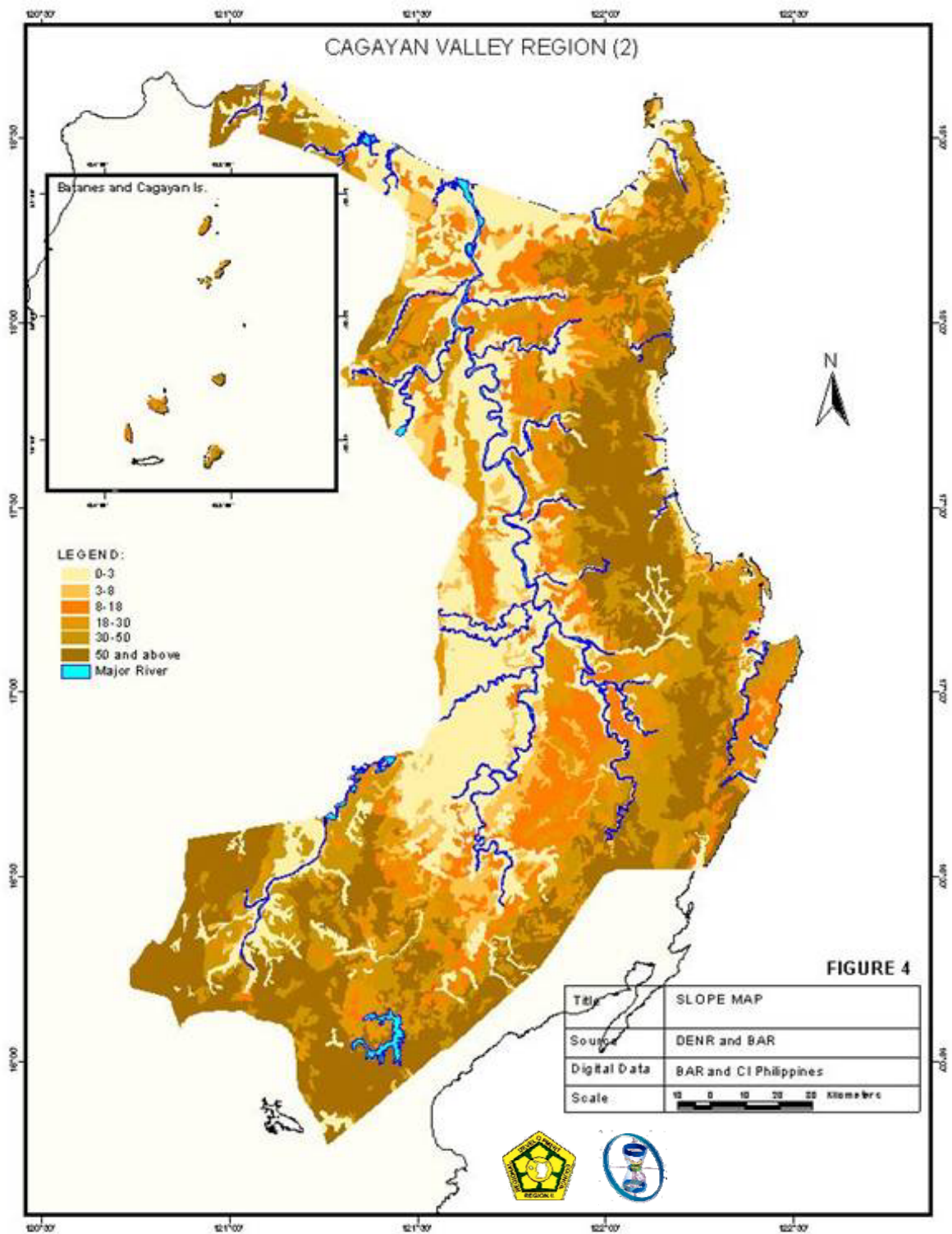


Figure I.4 Groundwater Map

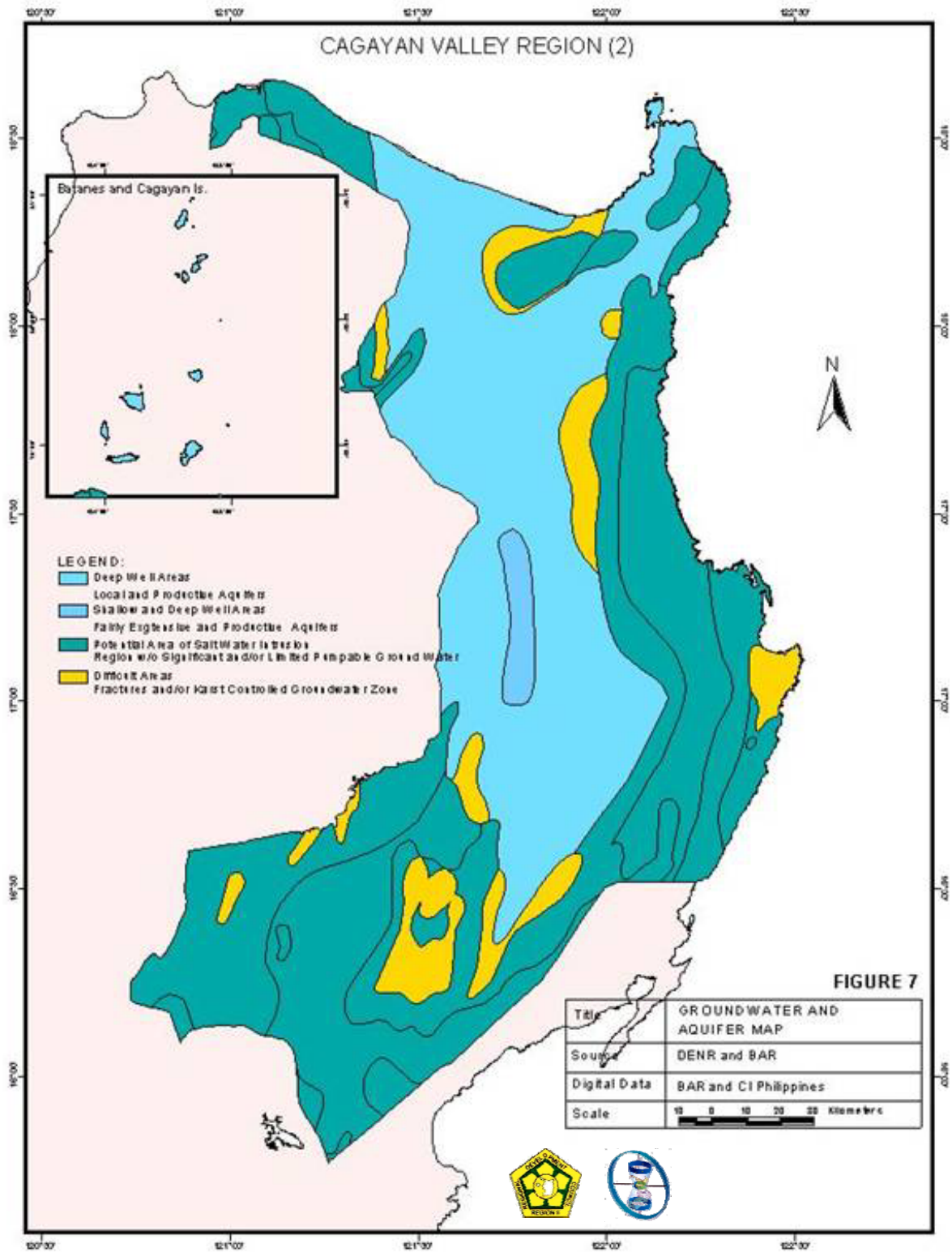
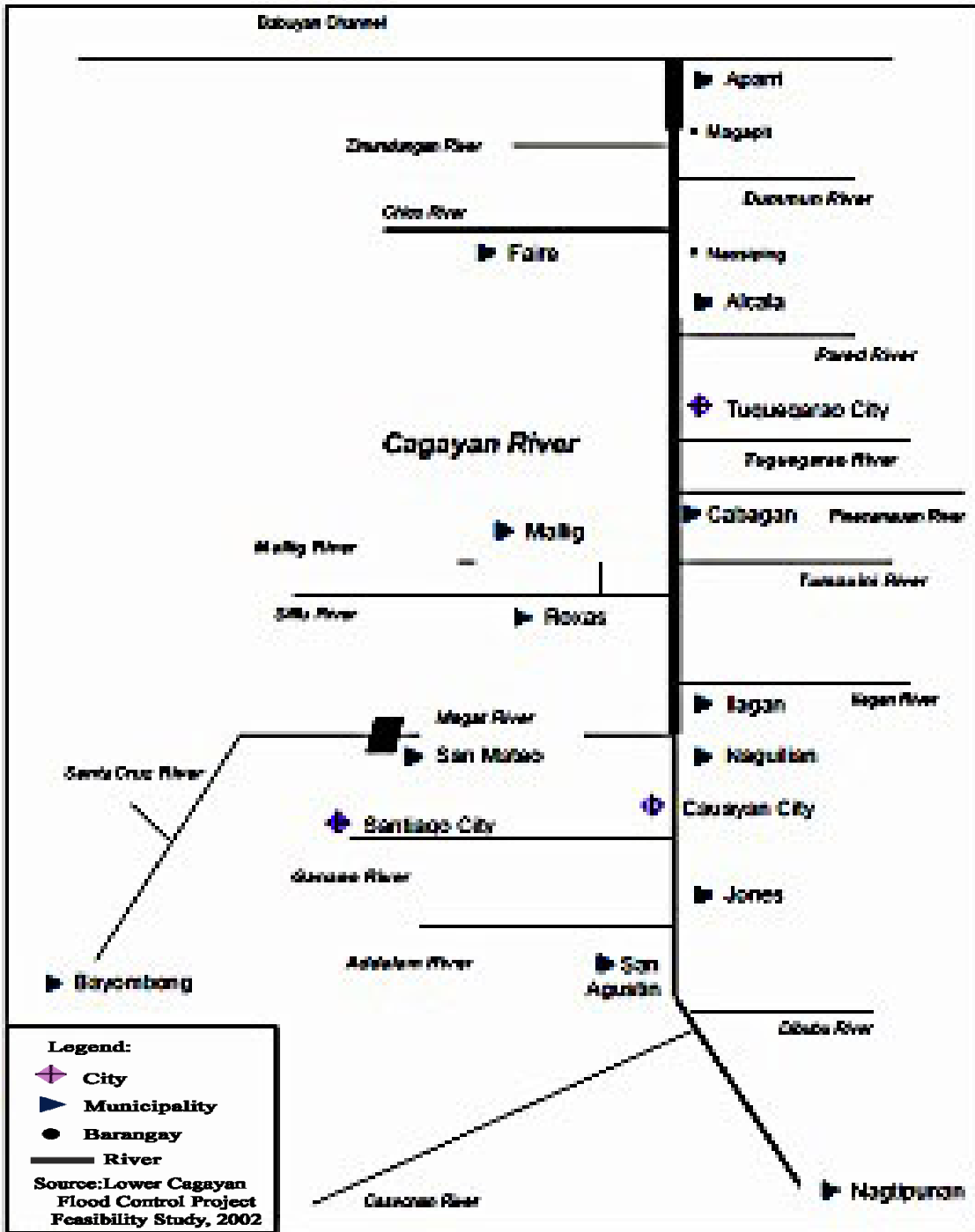


Figure I. 5 Schematic Diagram Showing the Cagayan River and Its Major Tributaries



## DEVELOPMENT OPPORTUNITIES

The region's natural and physical resource endowments are the major elements that define its development opportunities. These are further primed by the 2010-2020 economic gains where the region has been propelled to become the nation's Northern food basket and main producer of rice and corn.

Furthermore, the productive activities in the Cagayan Special Economic Zone and Free Port have given the region a significant agri-based industrial, commercial and tourism potential.

CSEZFP as transshipment center is expected to lead to the envisioned international economic integration of the region with neighboring countries. The development of Port Irene into an international port is the primary anchor for the region's infused economic activity. CEZA's gaming industry has spurred foreign tourist presence and the opening of international flights to and from China which is currently the main origin of tourists arrivals in the CSEZFP area.

In addition, the region has high marine and fresh water fishery development potential particularly for capture fishery and aquaculture. Contributing to the freshwater fishery potential is the 520 km Cagayan River and its 25 major tributaries and 27,300 sq. km. of drainage area. In addition is the 22,724 has. of wetlands. On the other hand, marine fishery development includes the 890 km. coastline which is rich in various species of marine life. Thus, deep sea fishing development can be explored and promoted in the Pacific Ocean and the Babuyan/Balintang Channel.

The forestry potential of the region has a total of 721,023 has. of production forest of which considerable portions are used as plantation forest (50,976 has.), range and grazing land (346,382) and farm forest (35,864). Such areas can be planted with prime and fast growing species of wood to support the timber-based industries of the region. These are the major opportunities that the region can capitalize on to improve agri-business.

Given its role as agri-business center, the region is placed in equal comparative advantage with the other North Luzon regions, aside from enabling increased agriculture production and productivity in unison with its partners. Also, the successful start-up of the Tuguegarao City Dairy Industry is seen to pump prime the agri-business activities of the region, aside from the sustained performance of the agriculture sector, given its wide agricultural expansion area (573,066 has.), particularly for grains, poultry and livestock, and high value commercial crops.

# Chapter 1: Macroeconomy

The behavior of the whole regional economy is determined by the performance and relationships of aggregate indicators such as regional income signified by the Gross Regional Domestic Product, labor and employment levels, poverty levels and inflation.

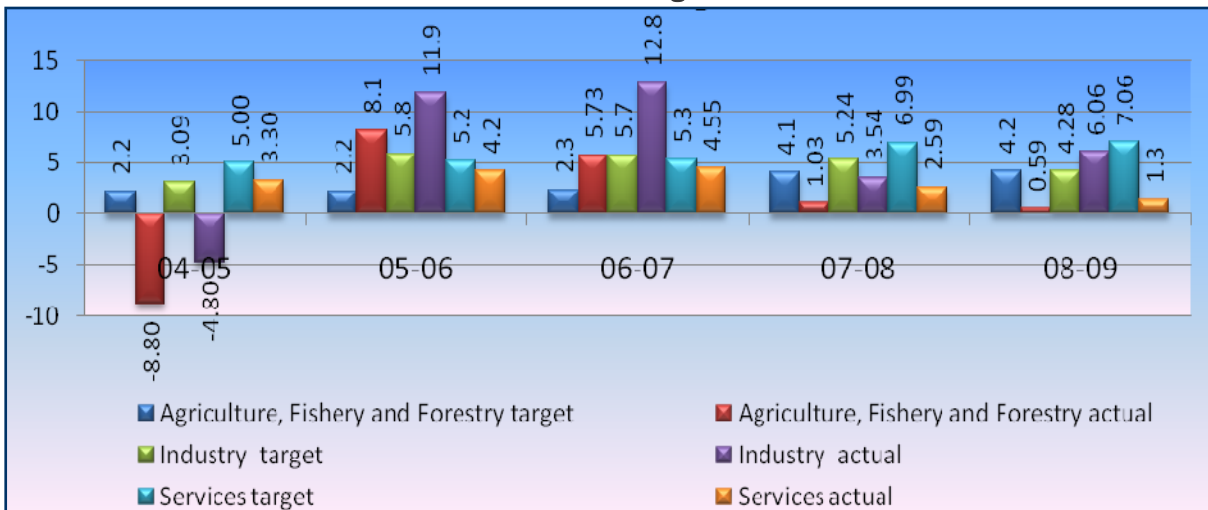
This chapter of the CVRDP presents the major achievements of the region in terms of the above indicators, and the significant considerations behind such performance levels. Moreover, it points out the major macroeconomic challenges encountered and provides for possible strategies in facing such challenges.

## ASSESSMENT AND CHALLENGES

The region performed basically well during the plan period (2004- 2010) with mixed performances in the levels of regional income, inflation and labor and employment.

### Gross Regional Domestic Product

Figure 1.1 Gross Regional Domestic Product  
Actual vs. Target



Agriculture accounts for more than half of the region's GDP, where any slow-down will counteract any gains made by the industry and services sectors. From CY 2004-2009, the region's GDP only grew by an average of 2.7% per year. While industry and services grew at an average of 6.1% and 3.2% yearly, agriculture's low growth rate (average of 1.4% annually) has pulled down the averages. Without any drastic or radical changes to the current situation in the region, the economy would continue to weaken as GRDP growth contracted from a 7.7% increase between 2005-2006 to just 1.9% for 2008-2009.

With AFF contributing over 50% of the GRDP, the GRDP is largely affected by the underperformance or losses in the agriculture sector especially during unfavorable weather and climatic conditions. During the occurrence of Typhoon Juan, total damage to agriculture was estimated at Php 9.24 Billion, with value of losses in crops at Php5.44Billion or 58.93% of the total agricultural production losses. There were also damages on basic infrastructures vital for economic activities. The value of the damages revealed the level of vulnerability and indicates the level of preparedness of the communities in the region. Aside from the geographical location of the region, being located at the “Typhoon Belt”, its topography which is mostly mountainous and low plains poses as a risk during the occurrence of typhoons. These characteristics are aggravated by deforestation. As such, the mountainous provinces such as the municipalities in the provinces of Nueva Vizcaya and Quirino of the region are prone to rain-induced landslides while the low-lying areas especially in the provinces of Cagayan and Isabela are prone to flooding. Even after the onslaught of Typhoon Juan, many of the communities in the region were submerged in flood waters, which severely affected agricultural areas causing huge losses in agricultural assets. In effect, many of the farmers, fishermen and livestock and poultry raisers lost some income and their source of food.” (Strategic Action Plan for the Rehabilitation and Recovery of Typhoon Juan: 2010).

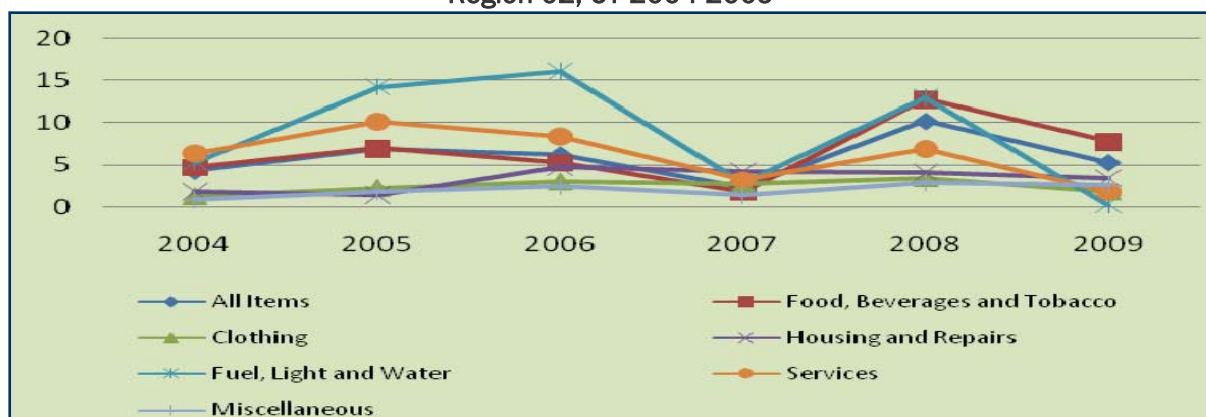
On the whole, from CYs 2004-2009, the region was only able to surpass its GVA growth targets twice i.e. 2005-2006 and CY 2006-2007. All other periods were off-target by an average of 20.62%. Cagayan Valley remains a low contributor to the country’s GDP at 1.99%, along with Region XIII (1.31%) and the Autonomous Region of Muslim Mindanao (0.87%). This shows that the comparative advantage of the region as producer of raw materials was not optimized because of lack of processing industries (e.g. food processing, feed mill).

Despite these conditions, the region remains resilient and resolved to achieve its goals. Of note is the region’s becoming the country’s top corn producer and 2<sup>nd</sup> rank in Palay Production. The cultivation of Palay and Corn also accounts for most of the employment absorption in agriculture at 60%.

## Inflation

Inflation remained at a single digit level for the 6-year period except in 2008 where the region experienced double digit inflation the Global Financial Storm was posing impacts in all economies of the world. Nevertheless, inflation was stable in the rest of the periods with the volatile commodity groups of Food, Beverages and Tobacco (FBT) and Fuel, Light and Water

**Figure 1.2 Inflation Rates  
Region 02, CY 2004-2009**



---

(FLW) showing manageable increases. FBT and FLW went up by an average of only 0.7 and 1.04 percentage points, respectively during the period. Indices of other commodity groups have risen by an average of 0.24 percentage points per annum during the same time frame.

However, with world crude oil prices imposed a significant pull on commodity prices especially along Fuel, Light and Water group, the region's ability to sustain single digit inflation throughout the next plan period will be a formidable challenge.

## Employment

The region's employment picture from CY 2006 to CY 2010 showed steady rates throughout the period and peaking rate at 97.2% in CY 2009 due to increases in investments and economic activities in the region.

The Cagayan Special Economic Zone and Freeport (CSEZFP) together with some huge investments in the Board of Investments and the Micro, Small and Medium Enterprises (MSMEs) have been the primary factors in the generation of jobs in the region. The Comprehensive Livelihood and Emergency Employment Program of the government especially during the Global Financial Storm also contributed to the improvement of the region's employment picture with 73,000 generated jobs as of CY 2010.

In CY 2009, the region trailed only ARMM (97.7%) in terms of employment rate at 97.2%. While employment level slid down by 0.9% percentage points in CY 2010, the region together with Region IX topped the other regions at a 96.3% employment level.

On the quality of employment (shown in the rate of underemployment), the region ranked 5<sup>th</sup> at 15.2% in CY 2009, following Region III (7.8%), NCR (12.5%), ARMM (12.8%) and Region VII (14.8%). However, in CY 2010, quality of employment improved with underemployment rate at only 14.7% with the region ranking 4<sup>th</sup>, next to Regions III, NCR and ARMM.

Moreover, the number of workers looking for more hours of work significantly decreased to 14.7% in CY 2010.

**Table 1.1 Employment, Unemployment and Underemployment  
Region 2 (Annual Average), CY 2006 – 2009**

| Labor Force Survey | Employment Rate | Unemployment Rate | Underemployment Rate |
|--------------------|-----------------|-------------------|----------------------|
| 2006               | 96.8            | 3.2               | 24.1                 |
| 2007               | 96.9            | 3.1               | 17.4                 |
| 2008               | 96.6            | 3.4               | 18.3                 |
| 2009               | 97.2            | 2.8               | 15.2                 |
| 2010               | 96.3            | 3.7               | 14.7                 |

Source: [www.bles.dole.gov.ph](http://www.bles.dole.gov.ph)

While the regional employment scenario is quite good in this period, with employment and underemployment at single digit levels, the region's work base is still less diversified with most of the employed in the agriculture sector, followed by the trading and services industry. As such, the diminished labor absorption from these sectors will mean a weak employment level in the region.

## Poverty Levels

Pursuant to the Millennium Development Goal target of reducing by half the 25.3% poverty incidence of CY 2000, during the past three years, the region was able to experience positive outcomes on its fight against poverty. The percentage of the households living below the poverty threshold fell to 15.2% in CY 2003. However, the dry spell and the occurrence of typhoon “Labuyo” in CY 2005 caused a negative pull on employment and family income. As such, poverty incidence among the households slightly rose to 15.5% in CY 2006.

However, with income opportunities through employment programs such as the Comprehensive Livelihood and Emergency Employment Program (CLEEP), the strengthening of Agrarian Reform Centers (ARCs) and the Pantawid Pamilyang Pilipino Program (4Ps) in the succeeding years, increase in family income exceeded family threshold requirements. Moreover, there were direct government interventions on wages of both the private sector employees through increases in minimum wage and government workers through the Salary Standardization Law in CY 2009. As such, poverty incidence among the households in the region fell to only 14.5% in CY 2009 notwithstanding the cruel effects of the El Niño phenomenon and the occurrences of typhoons “Pepeng” and “Ondoy”.

Worth noting for the past two survey periods is that none of the region’s five (5) provinces was listed in the 40 poorest provinces of the country.

## STRATEGIC INTERVENTIONS

The previous 6 years have proven potent economic gains for the region, making the next 6 years growth and development more achievable. While certain challenges still abound, particularly the effects of natural disasters and climate change, the region’s formulated strategic interventions are seen to directly address and respond to them and provide the needed push or solution thereof. The following GRDP and Poverty Targets are estimated that would imprint the region’s progress within the plan period.

**Table 1.2 GRDP Targets, Region 02 CY 2011-2016**

| Industry/Year                     | 2011  | 2012  | 2013  | 2014  | 2015  | 2016  |
|-----------------------------------|-------|-------|-------|-------|-------|-------|
| Agriculture, Fishery and Forestry | 4.33  | 4.52  | 4.74  | 4.98  | 5.24  | 5.29  |
| Agriculture & Fishery             | 4.35% | 4.55% | 4.77% | 5.00% | 5.27% | 5.32% |
| Forestry                          | 2.05% | 2.11% | 2.15% | 2.18% | 2.21% | 2.25% |
| INDUSTRY                          | 4.76% | 5.06% | 5.34% | 5.58% | 5.76% | 5.95% |
| Mining                            | 3.05% | 3.05% | 3.05% | 3.05% | 3.05% | 3.05% |
| Manufacturing                     | 5.00% | 5.09% | 5.53% | 5.67% | 5.82% | 6.02% |
| Construction                      | 4.80% | 5.23% | 5.51% | 5.82% | 6.03% | 6.25% |
| Electricity, Gas and Water        | 4.30% | 4.30% | 4.30% | 4.30% | 4.30% | 4.30% |
| SERVICES                          | 3.53% | 4.06% | 4.59% | 5.01% | 5.52% | 6.01% |
| Transportation                    | 4.43% | 5.78% | 6.68% | 7.45% | 8.30% | 9.00% |
| Trade                             | 4.34% | 4.81% | 5.52% | 5.92% | 6.53% | 7.00% |

|                        |       |       |       |       |       |       |
|------------------------|-------|-------|-------|-------|-------|-------|
| Finance                | 5.15% | 5.39% | 5.52% | 5.73% | 5.24% | 6.50% |
| Ownership of Dwellings | 2.18% | 2.75% | 3.24% | 3.82% | 4.47% | 5.00% |
| Private Services       | 3.31% | 3.32% | 3.33% | 3.34% | 3.35% | 3.36% |
| Government Services    | 2.50% | 2.50% | 2.50% | 2.50% | 2.50% | 2.50% |
| GRDP                   | 4.13% | 4.46% | 4.79% | 5.09% | 5.42% | 5.65% |

Note: Calculation of targets was based on actual figures from National Statistical Coordination Board

The fight to sustain an acceptable level of inflation and employment would not be achieved if the poverty level would not be reduced. For this next plan period, further reducing poverty levels in the region pursuant to the MDG target will be as follows.

**Table 1.3 Poverty Targets, Region 2: 2010-2016**

| Year | Projected Households (average family size @ 5.07) | Poverty Incidence | Magnitude of Poor Families |
|------|---|-------------------|----------------------------|
| 2010 | 622,506   | 14.13             | 87,960                     |
| 2011 | 629,540   | 13.77             | 86,688                     |
| 2012 | 636,654   | 13.42             | 85,439                     |
| 2013 | 643,848   | 13.08             | 84,215                     |
| 2014 | 651,124   | 12.74             | 82,953                     |
| 2015 | 658,482   | 12.65             | 83,298                     |
| 2016 | 665,922   | 12.33             | 82,108                     |

Note: Number of households was projected based from CY 2007 population survey while Household Size from CY 2000 Census Survey

These targets are likewise chartered to allay the vulnerability of the region towards typhoon, floods and rain-induced landslides, among others. Further to the realization of these targets are the precise and purposeful adoption and implementation of the following strategic interventions:

- Increase awareness and to encourage pro-active reduction and mitigation programs and activities from the vulnerable sectors, especially the farmers and fisher folks; and Information, Education and Communication on Disaster Risk Reduction and Climate Change Adaptation
- Match existing LGU development and Land Use Plans (PDPFPs and CLUPs) and zoning ordinances based on disaster risk and climate change considerations in order that programs, projects and activities along the different economic sectors of the provinces, cities and municipalities in the region will be attuned to such vulnerabilities.
- Gradual shift to industry and services diversification towards hotels and restaurants, health wellness and tourism, food processing, construction; and into the new economic growth sectors such as energy, IT-based industries (call center, cyber services, etc.), environmental services, financial services and creative industries.
- Ensure competitive tourism through the attraction of sightseers and shoppers, backpackers, beach lovers, domestic eco-tourists, recreation seekers, balikbayans, among others.
- Promote identified eco-tourism sites in the region (like Divilacan which is Isabela's authentic eco-tourism destination) through the production of brochures, flyer and souvenir items, among others.

- 
- Strengthen the industries' position in order to obtain market access, reap the benefits of the economies of scale and benefit for technology and innovations particularly huge investments such as Grains processing, Manufacturing, Bio-Energy Development and Multi-Industrial Clusters.
  - Strengthen coordination between Higher Education Institutions, CEZA and other institutions to attune the courses to be offered based on the labor requirements of the industries to avoid labor-industry mismatch in the region.
  - Shift from salaried workers to entrepreneurs to advance economic development with higher income generated.
  - Promote and advocate successful agriculture and aquaculture practices and other livelihood opportunities to address seasonality of employment and income in agriculture and fisheries.
  - Continue and intensify implementation of poverty reduction programs in the region such as the CLEEP, programs on ARCs, One Town One Product, 4Ps and assistance to small businesses and manufacturers, among others.
  - Maintain ample supply of basic food and services in the region to avoid price hikes among other commodity groups especially on FBT.

---

# Chapter 2: Competitive Industry and Service Sector

The industry and services sectors complement the region's strength in agriculture. The competitiveness of the industry and service sectors will also help bolster production and productivity from agriculture.

This chapter of the plan shows the challenges faced by the industry and service sectors and provides strategies to face such challenges to be able to withstand the demands and pressures of stiff market competition and provide the mechanisms to enable the denied development shift to these sectors.

## ASSESSMENT AND CHALLENGES

Investment grew by an average of 40% annually with the Cagayan Economic Zone Authority (CEZA) contributing more than half (50.84%) of the total investments during the period. CEZA investment figures grew by more than one thousand percent from 2005. The interactive gaming industry continues to be CEZA's prime investment attraction contributing more than half of the port's capital investment. However, existing disputes on real properties and clouds on title of potential areas for tourism and industrial development remains a problem for potential investors at the Cagayan Special Economic Zone and Freeport (CSEZFP).

While the CSEZFP has a strong potential for fiber-optics and IT-Based industries, the need for a strong and stable power supply has been recognized as a primary consideration for the establishment and operation of said industries. The reliability of the region's power supply still needs improvement to cope with the power requirements of the above industries.

On Business Name Registration (BNR) of Micro, Small and Medium Enterprises (MSMEs), trading and services accounted for 78% of the total investment from MSMEs in the period CY 2005-2009 at a total of PPh18.7 Billion. Relatively few enterprises and investments ventured into manufacturing and agri-based production despite the region's comparative advantage in raw materials, with manufacturing accounting for only 13% of the investments, agriculture based industries at 7% and construction with a mere 2%.

A total of 3,709 MSMEs were developed during the period surpassing the cumulative target by 136%. Attached to the development of these firms was the development of the quality of products and new market outlets aimed at improving the competitiveness of the region's micro, small and medium enterprises.

At the end of the plan period (2004-2009), the region exceeded the targets in the development of Micro, Small and Medium Enterprises (MSMEs) with a 377.33% accomplishment, (at 1,981 SMEs) surpassing the plan target of 525 firms in CY 2009. This figure includes OFWs who availed of financing programs of the Overseas Workers Welfare Administration, Enterprise developed under the "One Town One Product" program and MSMEs developed under DTI-CARP's enterprise development Assistance.

**Table 2.1. MSME Development and Job Generation Performance  
Region 2, Target vs. Actual CY 2005-2009**

| Indicators          | 2005   |        | 2006   |        | 2007   |        | 2008   |        | 2009   |        |
|---------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                     | Target | Actual | Target | Actual | Target | Actual | Target | Actual | Target | Actual |
| MSMEs Developed(no) | 105    | 227    | 210    | 372    | 315    | 322    | 420    | 807    | 525    | 1,981  |
| Jobs Generated      | 12,000 | 28,804 | 3,069  | 41,306 | 45,118 | 49,981 | 72,078 | 83,410 | 47,385 | 45,147 |
| MSME Development    | 4,500  | 3,614  | 900    | 15,000 | 36,000 | 32,800 | 26,889 | 29,946 | 28,233 | 30,571 |
| Other I & S         | 7,500  | 25,190 | 2,169  | 26,306 | 9,118  | 17,181 | 45,189 | 53,464 | 19,152 | 14,576 |

**Source: DTI-Region 02**

Attached to the development of firms was the development of the quality of products and the development of new market outlets. The Market Matching program helped sustain the region's furniture industry and has endorsed upland vegetables in Nueva Vizcaya to possible buyers.

Through the Export Pathways Program (EPP) firms were developed for exports. Among the exports were processed food (crispy shrimps, shrimp paste, sautéed shrimp and dried anchovies) to UAE and essential oils to Wisconsin, California and Missouri in the United States of America. There were also Trade and Investment Missions and Investment Promotion Rounds conducted to facilitate export sales. However, local products failed to meet international standards of product quality. Also, low productivity levels remained to be a problem of the region's mainstream industries. This fact has discouraged investors to pour their resources into the same industries.

While the regional investment scenario was good for the period CY2004-2009, investments were less diversified with most of these concentrated at the CSEZFP and the MSMEs established along trading and services. New investment sites and industrial estates are still wanting. Aside from locators at the CSEZFP, large investments seem to be deterred by the region's investment climate because the incentives, market base and business registration process are still weak in attracting investments to locate in the region. Business Registration processes in the region seem to be tedious and circuitous for possible investors.

Meanwhile, the insufficiency of local finances and capital to undertake more advanced businesses have been recognized as a problem for the region's industries and services. Inter-regional and foreign partners are necessary in such advancement, thus the need for more marketing and promotional activities.

The boom of the services sector stems from the development of the tourism industry in the region. Tourism leads to the generation of jobs and provision of income especially from services such as hotels and restaurant, transportation, tour-guiding and health and wellness, among others.

In CY 2010, a total of 708,521 tourists visited the region, up by 4.9% from around 675,243 in CY 2009. This corresponds to an average of 662,393 tourists visiting the region yearly from CY 2004 to CY 2010. The gains in the tourism industry during the period is due to the conducive political and peace and order situation, and improved infrastructures and utilities in the region. Moreover, through the concerted efforts of the DOT, LGUs and Tour Operators, tourism

---

promotions and marketing was intensified through development of tour packages, fair and festivals, and other special events.

Most of the tourists in the region were domestic tourists accounting for over 95% of the total tourists during the plan period. Through the promotional activities, tourists from other regions and “balikbayans” were enticed to see the region’s natural attractions.

Likewise, from CY 2004 to CY 2010, a total of 26,439 foreign tourists visited the region yearly. In CY 2010 alone, over 34 thousand foreign/international tourists coming mainly from North America, Europe and the Middle East came to the region. However, during the year, visitors from China and Hongkong decreased by 4.9% as the August, 2010 Hostage Crisis may have deterred tourists from said countries from coming.

While the region’s tourism industry has shown developments from CY 2004 to CY 2010, much is still needed to make the most of the region’s natural attractions. Some of the region’s attractions are not yet frequented by tourists because of their inaccessibility and the lack of amenities.

Access to tourism sites and destination remains a major challenge. The lack of all-weather road networks and access roads have been hindering visits to the ecological and natural attractions along the eastern seaboard and the areas along the Sierra Madre Mountain range.

The current air and sea transport services need to be improved for greater access to island destinations such as the Batanes group of islands and the municipality of Calayan in Cagayan. Though gifted with natural attractions, these islands are still difficult to reach with only low-powered small ferry vessels regularly plying the routes. While Batanes can be accessed by air transport through the Basco and Itbayat airport, these ports only cater to small aircrafts charging relatively high air fares.

Moreover, the lack of amenities that efficiently and sufficiently enhance tourists experiences discourage visits along the region’s destinations or make their visits in the region short stays.

Meanwhile, tourism in the region was usually for sightseeing, visits, vacation and pilgrimages. Other forms of tourism packages such as adventure and sports tourism, among others are still lacking.

## **STRATEGIC INTERVENTIONS**

The achievement of the region’s development vision will take full advantage of the presence of and initiatives in the CSEZFP as the growth nexus. Priority industries such as agriculture, fisheries, tourism and other economic activities will be physically and economically linked to the CSEZFP’s facilities and services for complementation. This strategy is anchored on the full development of the CSEZFP and the parallel development of specialized zones such as Santiago City’s I.T. Park, Aparri’s Ecozone, and the region’s other growth centers. The small-scale business enterprises should be supportive and complementary towards a common direction, which is to support the pivotal role of its node – the CSEZFP being the region’s transshipment hub both for domestic and global business interface, and the other growth centers in the five provinces.

The realization of the growth nexus will be anchored on the precise and purposeful adoption and implementation of the following strategic interventions:

- 
- Use and development of Port Irene as a global exit point of regional produce and products in the North;
  - Use of the Roll-On-Roll-Off Operation to create linkages of the region's small-scale producers and farmers to possible markets in the north and the other regions and the transport of tourists to different islands of the region;
  - Deliberate linkage and complementation of the different Centers starting from the municipal OTOPS and tourism packages to the activities of the CSEZFP and growth centers, and adoption of industry clustering mechanisms;
  - Promote viable and potential tourism and industrial zones both in the CSEZFP and the other identified growth centers;
  - Forge business partnerships especially between small-scale industries through the establishment of industry clusters and business alliances to make small livelihood and businesses sustainable;
  - Conduct Research and Development on technological innovations especially on product quality to make products internationally acceptable, and create a niche for products that are not yet produced by mainstream providers, e.g. In the case of rice farmers, instead of selling rice commonly sold in the region's markets, they can create their own market niche by providing the so called "Eden" rice to the country's huge food chains.
  - Streamline and unify the business registration process through the implementation of the new Business Permits and Licenses System.
  - Provide incentives such as tax incentives by Local Government Units to potential investors/businesses in tourism and industrial sites.
  - Enhance productivity and competitiveness of the industries through the development of technology packages, product innovation and packaging, training, ISO certification, patents, among others.
  - Promote joint venture and strategic alliances of SMEs with multi-national corporations and foreign companies because local investments would not be enough to finance the undertakings the region needs for business advancement.
  - Strengthen Public-Private Partnership in the provision of Infrastructure support systems such as roads and power infrastructures to cater to the needs of business advancement and development especially on I.T. based industries and fiber optics.

Meanwhile, the development of the region as a tourism destination is anchored on the following tourism cluster strategies (Figure 2.1)

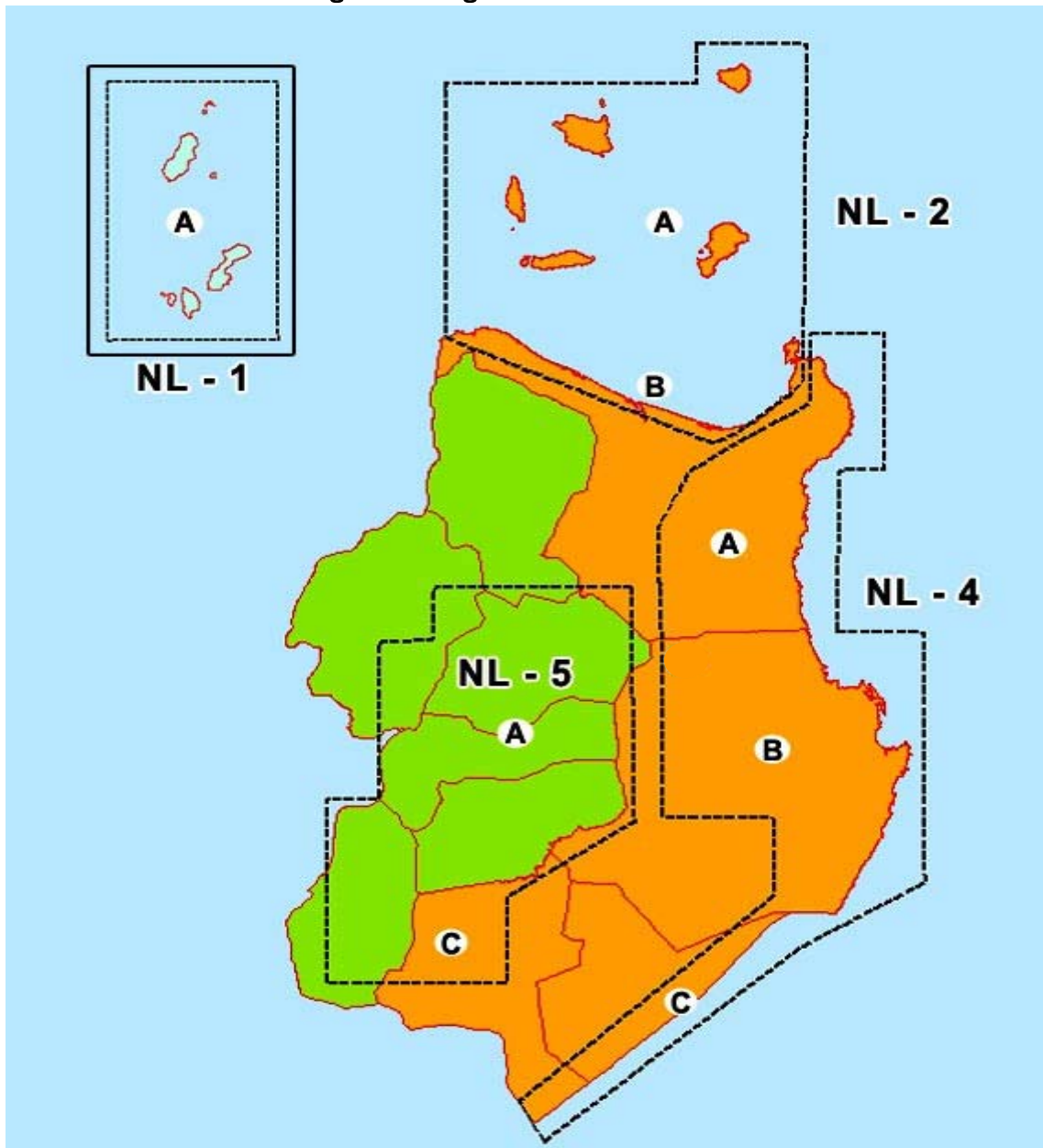
- Develop Island Resort and Marine Tourism in the Batanes Group of Islands through promotion of life experiences on the unique culture and heritage features of the Ivatan culture and homestay in the Stone Houses in Sabtang, Batanes.

- 
- Promote Coastal, Island and Marine Tourism in the coastal areas of Isabela and Cagayan and the Babuyan group of Islands through the improvement in jetty and passenger ferry services, tourist signage and information centers, solid waste management, restaurant and lodging and development of new tourist products such as Whales and Dolphin watching and improved beach and resort packages.
  - Develop Ecotourism, adventure and sports tourism for both adventure lovers and sightseers in the mainland provinces of the region by using the region's unique topographical features such as water rafting along the strong water currents of the Cagayan River and its tributaries, zip lining and bungee-jumping along the region's slopes and horse-back riding in the wide forest parks, calesa tour along tourism places.

The realization of the tourism clusters will hinge on the decisive implementation of the following strategic interventions:

- Fast track implementation of projects on road network and access roads and the upgrading of airports and sea ports for these ports to cater to bigger vessels and aircrafts (see Chapter on Infrastructure Support)
- Establish both government-owned and private amenities such spa, massage and wellness centers, along tourism areas.
- Encourage proprietors of resort accommodation facilities and concessioners for recreational activities, souvenirs/handicrafts
- Promote peace and security along tourism sites and potential industrial estates and provide government/ local police security assistance to groups of tourists through the formation of tourists escort groups by the Local Government Units.

Figure 2.1 Region 02 Tourism Clusters



Source: Draft National Tourism Development Plan

**Legend:**

- Tourism Activity Theme: Island Resort and Marine Tourism
  - NL-1A – Batanes Group of Islands
- Tourism Activity Theme: Coastal and Island Resort and Marine Tourism
  - NL-2A – Babuyan Islands
  - NL-2B – Cagayan Coastal Areas
- Tourism Activity Theme: Eco-Tourism, Adventure, Sight-Seeing
  - NL-4A – Tabuk-Tuguegarao
  - NL-4B – Ilagan
  - NL-4C – Quirino
- Tourism Activity Theme: Nature/Culture Sightseeing, Ecotourism, and Mountain Resort Tourism
  - NL-5A – Central Cordillera (Including some parts of Cagayan and Isabela)
  - NL-5C - Nueva Vizcaya

---

# Chapter 3: Modern and Competitive Agriculture and Fisheries

The region's agriculture and fisheries sub-sectors are the strongest under the economic sector as these comprise over half of the region's gross regional domestic product. The region reflects advantage in agriculture especially in Corn and Palay whose production levels were 1<sup>st</sup> and 2<sup>nd</sup> ranking, respectively, nationwide. The region realized substantial gains in the production of high-value commercial crops, livestock and poultry. Fisheries on the other hand reflected positive production levels with production gains in aquaculture and municipal fisheries.

The fisheries sector was not left behind with aquaculture and municipal fisheries reflecting production gains in the past years.

However, the performance level in agriculture and fisheries has always been challenged by the continuous threat of disasters and weather disturbances. This chapter of the RDP assesses how the sector fared in the previous plan period (2004-2009) and identifies the challenges faced by the sector and provides for strategies that would deal with such challenges.

## ASSESSMENT AND CHALLENGES

The region's agriculture sector performance for the period was mixed with production and productivity targets being achieved in certain years and with the region falling short of its targets in other years. The region was also able to produce a considerable volume of grains, fruits and vegetables to meet the demand of Metro Manila and Regions 1, 3 and CAR.

Meanwhile, the vulnerability of the region to typhoons, floods and rain-induced landslides, among others remain as a concern in the next planning period and the years to come.

The recent onslaught of typhoon Juan and the "tail-end of the cold front", left several communities in the region submerged by flood with estimated damages totaling Php 9.24Billion. Out of this, 58.93% (Php 5.44Billion) were on crops, particularly Palay and Corn. Likewise, damages on High-Value Commercial Crops such as fruits and vegetables totaled to Php1.494Billion.

On livestock and poultry, damages were on the produce such as milk, egg, meat and on animal and poultry sheds. Total estimated loss amounted to Php23.65Million; and Php 309.07 Million on fisheries.

There were also damages on agricultural support systems such as farm-to-market roads and communal irrigation systems.

**Table 3.1. Production and Productivity, Selected Commodities  
Target vs. Actual, Region 2, 2005-2009**

| Indicators                     | 2005    |         | 2006    |         | 2007    |         | 2008    |         | 2009    |         |
|--------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|                                | Target  | Actual  | Target  | Actual  | Target  | Actual  | Target  | Actual  | Target  | Actual  |
| <b>Palay</b>                   |         |         |         |         |         |         |         |         |         |         |
| Production (in Million MT)     | 1,445   | 1,848   | 1,517   | 1,954   | 1,506   | 2,053   | 2,167   | 2,080   | 2,319   | 2,069   |
| Productivity (MT/Ha)           | 3.78    | 3.90    | 3.87    | 3.36    | 3.95    | 4.03    | 4.00    | 3.87    | 4.10    | 3.88    |
| <b>Corn</b>                    |         |         |         |         |         |         |         |         |         |         |
| Production (in Million MT)     | 1,406   | 0,700   | 1,455   | 1,219   | 1,506   | 1,281   | 1,384   | 1,477   | 1,495   | 1,598   |
| Productivity (MT/Ha)           | 3.83    | 2.98    | 3.96    | 3.37    | 4.10    | 3.47    | 4.25    | 3.78    | 4.40    | 3.83    |
| <b>HVCC Production (in MT)</b> |         |         |         |         |         |         |         |         |         |         |
| Mango                          | 64,380  | 45,165  | 66,130  | 51,082  | 68,300  | 90,108  | 95,687  | 66,209  | 100,471 | 37,910  |
| Banana                         | 288,970 | 269,242 | 297,640 | 350,997 | 306,570 | 386,928 | 422,680 | 378,201 | 434,515 | 419,406 |
| Citrus (mandarins & oranges)   | 7,000   | 3,901   | 7,210   | 11,113  | 7,430   | 11,709  | -       | 10,781  | -       | 10,365  |
| Cassava                        | 15,007  | 28,836  | 15,457  | 31,975  | 15,921  | 30,475  | -       | 30,864  | -       | 38,545  |
| Peanut                         | 7,147   | 3,436   | 7,361   | 3,579   | 7,582   | 4,072   | -       | 4,056   | -       | 4,432   |
| Coffee                         | -       | 677     | -       | 1,040   | -       | 1,062   | 1,038   | 1,080   | 1,048   | 1,099   |
| Pineapple                      | -       | 21,060  | -       | 23,983  | -       | 28,630  | 33,411  | 30,815  | 34,079  | 32,574  |

Source: Bureau of Agricultural Statistics RO2 for Actual Production Figures

The following sub-sections show the performance levels and the challenges faced by the region on specific sub-sectors.

## Palay and Corn

Region 2 maintained her rank as the country's top corn producer contributing 22.72% of the nation's corn production. Corn production grew by an average of 10.25% per year from its 2004 harvest of 1.20 million MT. The cultivation of corn in the Cagayan Valley Region is characterized by the shift from white to yellow corn with the area harvested for white corn decreasing by 2.25% annually. Even with the high level of yellow corn production, the yield only grew by an average of 0.64% against white corn's average of 1.58%.

Within the region, Isabela had the highest average production (both yellow and white corn) at 0.866 million MT per year contributing nearly 69% of the region's total corn production. On the other hand, Nueva Vizcaya had the highest average yield of 3.70 MT per hectare.

For palay, the region lost her rank as the second top palay producing region in 2009 to Western Visayas Region, with a production of just over 2 million MT contributing 12.77% to the country's total palay output for the year. On the average, it produced 1.98 million MT of palay per year with a production growth of 1.85% per annum. Isabela still led all provinces in the region with an average yearly production of 1.06 million MT, and the highest average yields at 4.04 MT per hectare.

---

The main reason for the increase in production levels is the expansion of the area harvested that also grew by an average of 1.85%. However, productivity levels have not risen to the same degree as that of production and the area harvested. On the average, Palay yield only increased by 0.62% per year. The irrigated rice lands produced an average of 4.26 metric tons of palay per hectare, at its peak. The region can also produce 3.88 metric tons of yellow corn per hectare. While these figures were comparatively higher than the country's average yield, it is far from the 7 metric tons per hectare of palay and 12 metric tons of corn harvested by other Asian countries.

With the ageing of the region's irrigations systems and the rising cost of construction materials, upkeep of these systems would be costlier. The construction of new irrigation systems to attain wider irrigation coverage would not be enough if the region cannot continuously repair and rehabilitate its old irrigation systems to increase palay and corn productivity.

## High-Value Commercial Crops

On the average, the production of HVCCs in the region showed positive growth during the six-year period with mandarin, banana and calamansi having average annual growth rates of 46%, 15% and 12%, respectively. However, production levels of HVCCs cultivated in the Region have started to decline in 2008.

Productivity levels also grew by an average of about 11% with cacao, banana and mandarin increasing by a yearly average of 15%, 11% and 8%, respectively. As with the region's production levels, productivity levels have started to decline by an average of 5% from 2007 to 2009.

Comparing production and productivity levels among regions, Cagayan Valley is the top citrus (mandarins and oranges) producer in the country and second in peanut production. In terms of productivity, it ranks second in mango and citrus yields, third in cassava, fourth in banana and coconut, and fifth in pineapple and peanut.

While production and productivity figures are higher than those of the national average, there is a need to match the standard yields with the other Southeast Asian countries.

## Livestock and Poultry

The production levels of livestock and poultry were on a downtrend, averaging a 5.64% annual decrease for all commodities with the level for duck and chicken going down by 8% yearly and hog by 7%. The decline in pasture areas and the lesser demand for the commodities discouraged production and disposition of livestock and poultry during the period.

The reasons for the declines in production levels of livestock and poultry particularly for the period 2008-2009 are:

- Hog. The decline is an after-effect of the temporary closure of some farms due to high operational cost and zoning issues.
- Goat. Declining stock for disposition as a result of slaughtering young stock to meet demands of "kambingan" eateries.
- Chicken. Decline is due to high mortality and limited stocks of some poultry houses caused by the typhoon Pepeng.

- Duck. Lesser stock for disposition and dressing due to gradual decrease of inventory as a result of limited pasture area.

## Fisheries

The region managed to achieve its fishery production targets for three out of the five years that were assessed. Overall, it managed to exceed its targets by only 1% on the average.

Regional fishery production grew by an average of 8.51% per year with fish production from aquaculture going up by an average of 27%. However, CY 2009 saw a 3.5% decline in fishery production due to high cost of fuel and adverse weather condition. Due to these conditions, owners of the region's commercial fishing vessels had to resort to the use of smaller fishing boats that could only operate in municipal waters. The shift from commercial to municipal fishing saw an increase in the municipal fish production by an average of 9.08% from its 2004 level.

While significant progress has been made by municipal fisheries and aquaculture, commercial fish production declined by an average of 7% annually, bringing down the 2008 commercial fish production to just 16,305 MT in comparison to 2006's 18,983.62 MT. The decline in commercial fishery can be traced to the rising cost of fuel prices and unfavorable weather conditions. The design of commercial fishing vessels in the region is not suited for deep-sea or open ocean conditions.

**Table 3.2 Fishery Production  
Region 02, CY 2005-2009**

| Indicators                 | 2005   |        | 2006   |        | 2007   |        | 2008   |        | 2009   |        |
|----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                            | Target | Actual | Target | Actual | Target | Actual | Target | Actual | Target | Actual |
| Fishery Production (in MT) | 47,159 | 46,767 | 51,874 | 54,434 | 57,061 | 59,159 | 62,767 | 61,320 | 69,043 | 63,466 |
| Performance                |        | -0.83  |        | 4.94   |        | 3.68   |        | -2.31  |        | -8.08  |

Source: Bureau of Agricultural Statistics R02 for Actual Production Figures

## Food Sufficiency Levels

The region is more than self-sufficient in 7 out of the 12 commodities for the plan period. In fact, the region is a net exporter of rice, white corn, vegetables, fruits, root crops and tubers, duck meat and goat. However, sufficiency levels have declined between 2008 and 2009 by an average of 21.35%.

Sufficiency levels for rice decreased from a high of 235% in 2005 to just 182%. Given the changing climate, population increase and the conversion of agricultural lands for other purposes, the region, may only be able to supply its own needs, and forego the requirements of its neighboring regions in the near future.

The region is still deficient in poultry meat, carabeef, beef, pork and fish, and to fill the gap, the region imports these commodities from its neighboring regions and other regions of the country.

**Table 3.3 Food Sufficiency Levels  
Region 2, CY 2005-2009**

| YEAR    | SUFFICIENCY LEVELS, Selected Commodities |            |            |                |        |         |       |          |        |       |
|---------|--|------------|------------|----------------|--------|---------|-------|----------|--------|-------|
|         | Rice                                     | White Corn | Vegetables | Roots & Tubers | Fruits | Chicken | Beef  | Carabeef | Pork   | Fish  |
| 2005    | 235.26                                   | 155.81     | 122.57     | 161.54         | 294.55 | 14.00   | 68.00 | 77.00    | 61.00  | 41.32 |
| 2006    | 239.77                                   | 169.73     | 115.37     | 182.43         | 346.65 | 53.63   | 66.00 | 96.00    | 104.77 | 47.04 |
| 2007    | 269.99                                   | 186.14     | 120.37     | 113.17         | 622.10 | 54.33   | 59.86 | 97.16    | 99.95  | 50.00 |
| 2008    | 274.23                                   | 183.35     | 132.30     | 184.23         | 413.04 | 89.44   | 82.13 | 106.45   | 115.17 | 55.82 |
| 2009    | 182.35                                   | 244.94     | 103.05     | 141.77         | 310.75 | 43.27   | 63.61 | 91.68    | 75.75  | 62.67 |
| average | 240.32                                   | 187.99     | 118.73     | 156.63         | 335.27 | 50.93   | 67.92 | 93.66    | 91.33  | 51.37 |

Source: Production Data from BAS-R02

## STRATEGIC INTERVENTIONS

The above discussions show that the region has a strong potential in agriculture and fisheries.. While certain challenges pose as threats towards its progress, specific strategic interventions were devised to counter the challenges and provide for solutions towards the improvement of the sector. The following strategic interventions would make progress in the sector more attainable within this plan period.

### Productive and Viable Farmlands

- Increase productivity levels with more focus on high-yielding varieties of Palay and Corn, and the cultivation of high-value commercial crops such as mango, banana, citrus, peanut, coconut, coffee and tomato.
- Study, develop and adopt appropriate cropping patterns to reduce the risks on agricultural crops brought by hazards such as typhoons and floods.
- Plant more resilient crops especially during the rainy months of July to December in the low-lying areas of the region.
- Link agricultural production to agro-based industrialization such as food processing activities to encourage production and productivity amongst farmers to have greater potential for high returns and competitiveness.
- Identify and delineate viable and idle lands for cultivation of cash crops or plantation crops like coconut, cassava, cacao, etc. as well as for livestock and poultry raising.
- Establish markets for produce to encourage cultivation of high-value commercial crops through conduct of commodity chain studies/analyses by the Department of Agriculture and study the importation limits of the National Food Authority to make local produce more competitive in the domestic market.

- 
- Accelerate provision of agricultural support systems such as public investments on irrigation coverage, agricultural mechanization and modernization equipments, farm-to-market roads, agrarian reform and credit support and state-of-the-art post-harvest facilities such as cold storage plants, grain silos and temperature-controlled storage houses to safeguard the quantity and quality of the region's produce and command more competitive prices.
  - Increase public investment in agriculture support infrastructure such as farm-to-market roads, irrigation systems, market systems to sustain productivity growth in rice, among others.
  - Promote and advocate good and sound agricultural practices of local farmers for recognition and possible replication in other provinces and regions.

## Energized Aquaculture and Capture Fishery

- Continue providing technical and financial assistance through credit mobilization from financing institutions such as, QUEDACOR, LBP – ACEF and DOLE.
- Maximize the eastern seaboard for fishery development.
- Revitalize commercial fishery towards the development of deep-sea fishing in the region's vast territorial waters including the country's 200 km Exclusive Economic Zone (EEZ) through the opening up of Ports/fishports/landings and shelter ports on the Pacific side.
- Strengthen the implementation of Monitoring Control and Surveillance and strictly enforce fishery laws to combat Illegal Unreported and Unregulated (IUU) fishing and illegal fishing and poaching within the Region's waters.
- Provide cold storage vans and construct refrigeration facilities and cold storage plants to store excess production.
- Promote the culture of fish species with high market and export value such as groupers, sea urchins, sea cucumbers, abalones, shrimps, mudcrab and oyster, tilapia, catfish and *pangasius* alongside the introduction of cost reduction technologies.
- Promote sustainable aquaculture activities including organic farming.
- Establish of fish sanctuaries in municipal waters and rationalize fishing activities in overfished commercial fishing areas through formulation of guidelines on the establishment and operation of Marine Protected Areas (MPAs)/Fish Sanctuaries/Refuge.
- Prohibit the shipping of crablets outside the region.
- Revitalize and strengthen municipal FARMCs and fisherfolk organizations by the LGUs to strengthen the co-management of fisheries and aquatic resources.

- 
- Develop Sta. Ana Mariculture Park and initiate the regeneration of the degraded coastal and inland ecosystems/resources.
  - Promote investments in fisheries such as the Hatchery Industry through the development and implementation of Public-Private Partnership (PPP) Projects.
  - Utilize SWIPs for aquaculture production.
  - Enhance Research, Development and Extension Program and Prioritization based on immediate needs of industry to promote investment on research such as on fish culture patterns to reduce losses due to flooding especially in the rainy months of the year, culture of Ludong and other High-Value Species, the system of releases of the water of Magat Dam to avoid damages aquaculture and domestic fisheries supply chain and expansion of markets, among others.

---

# Chapter 4: Infrastructure Support

## ASSESSMENT AND CHALLENGES

The interventions in the infrastructure sector within the plan period considerably improved agricultural productivity and accessibility within and outside the region. Several important transportation and irrigation projects were undertaken within the period but with varied accomplishments. The following subsections present this sector's performance and the underlying challenges therein.

### Land Transportation

The region has generally improved its access to CAR and the whole of northern Luzon with the completion and opening of the Aritao-Kayapa Section (completed in 2006) of the Baguio-Aritao Road and the Maddela-Aurora Road. Likewise, the opening of major intra-regional roads in the provinces of Cagayan and Nueva Vizcaya contributed to the improvement of access within the region. Of the four targeted major projects, only the Aritao project was completed, while the Bulanao-Pinukpuk (Kalinga)-Abbut-Tuao Road and Dalton Pass East Alignment, Digdig-Caranglan-Aritao Road projects were for FS updating, and the San Nicolas-Solsona-Cabugao-Abbut Road was not implemented because the project was found to be not feasible.

The region's main trunkline, the Maharlika Highway, had an above target accomplishment for concreting of unpaved portions at 495.241 kms. higher than the target of 385.66 kms. In terms of the construction of or repair and rehabilitation of bridges, of the 20 targeted, only 16 were accomplished until 2009.

Though the region has improved its access roads, it remains relatively deficient of safe and reliable access roads that would link isolated or remote communities to the mainstream of economic activities. This is shown in the region's road density of 0.48 km./sq. km., which is lower than the national average road density of 0.67 km./sq. km in CY 2001.

The mountain sections of the Maharlika Highway and the Laoag-Allacapan Road (which are the main exit and entry points in the south and the north, respectively) are highly vulnerable to slope erosion or landslides. Thus, these sections are prone to traffic closure, especially during the rainy season. Frequent closure causes delay in transporting goods and services and the lack of all weather ports and roads, likewise, hampers the mobility of people in the island and coastal municipalities of the region.

As to the number of registered vehicles in the region, a total of 222,682 units were registered from 2005 to 2009, 62.68 percent of these were motorcycles and tricycles, which are the primary mode of transportation in commercial centers of cities and municipalities.

---

## Sea Transportation

Six (6) out of the nine (9) targeted ports were constructed and rehabilitated. These include the: (1) development of Port Irene into an international port; (2) the initial implementation of the North Luzon Roll On-Roll Off Transport System in the eastern coasts of Cagayan, Isabela and Aurora; (3) the completion of the construction of a marginal wharf and concrete pavement of the Aparri Port; (4) the construction of the reinforced concrete stair landing of Valanga Port in Itbayat, Batanes; (5) the completion of the rehabilitation of Basco Port; and (6) the Sabtang and Ivana Ports in Batanes, which are scheduled for construction under the Social Reform Related Feeder Ports Development Project (*SRRFPDP*).

Meanwhile, the Development Bank of the Philippines (*DBP*) and the North Luzon Pacific Coastal Service, Inc (*NLPCSI*) signed in 2010 a PhP64.7 loan agreement for the acquisition of two (2) ferry-type vessels that will ply eastern coasts of Cagayan, Isabela and Aurora provinces. One (1) of the two (2) vessels shall start operation within 2011. This project that will link the Cagayan socio-Economic and Freeport Zone (*CSEFPZ*) and the Aurora Economic Zone would support the Road (RORO) terminal system component of *DBP's Sustainable Logistics Development Program (SLDP)*. The *DBP-SLDP* is an investment financing facility for a comprehensive and integrated transportation system as well as related infrastructure and support services.

The region has ten (10) operational public ports and three (3) private ports. The public ports are used for commercial and fishing docks, while private ports are used for mining and feeder for petroleum products.

The Aparri Port and Sta. Ana Port in northern and northeastern Cagayan, respectively, are the existing national ports in the region that are fully operational, while municipal ports that are operational are located at the coastal towns of Aparri, Cagayan and Palanan, Isabela.

The group of islands in Batanes, on the other hand, has limited sea transport facilities. The Philippine Navy's Landing Ship Tank (LST) calls on the island-province barely four times a year. Aside from this courtesy from the Philippine Navy, two maritime vessels owned by the local cooperative in the province are providing transportation for the Ivatans. The unpredictable and usually adverse weather condition in the Babuyan Channel and the absence of more efficient and reliable municipal ports and docking areas of the existing local ports render sea travel difficult and risky.

Likewise, the island-municipality of Calayan depends on motorized bancas as transport service to and from the coastal municipalities of Claveria and Aparri in Cagayan.

## Air Transportation

The region has four (4) public airports in operation, namely, Tuguegarao, Cauayan, Basco, and Bagabag Airports. The Tuguegarao Airport was classified as secondary, which services the region's institutional centers, while the three other airports were classified as tertiary, which cater to air transport needs of the localities. The Cauayan airport was upgraded in 2004 as it braced modern navigational facilities amounting to 58 Million Pesos.

A privately owned airstrip that was constructed along the eastern coast of Palanan, Isabela by the ACME logging concessionaire, meanwhile, operates commercially as it caters to private aircrafts.

Airports targeted during the period included Basco and Itbayat in Batanes that were completed in 2009 and 2010, respectively.

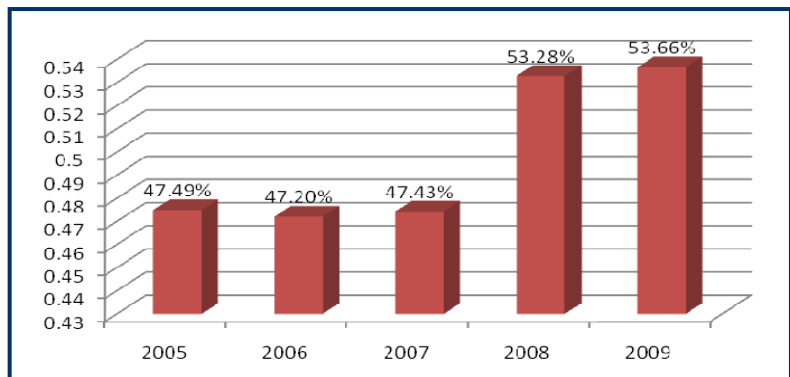
The upgrading or rehabilitation of Tuguegarao City, Basco, and Bagabag Airports including the San Vicente Airstrip in Sta. Ana, Cagayan, were completed in 2009, while Itbayat Airport in Batanes was completed in 2010.

Meanwhile, the construction of Lallo International Airport is the result of the Joint Venture Agreement with CEZA and the Cagayan Land Property Development Corporation. The batch and crushing plant of the airport have already been installed and are operational. The construction of the runway and terminal building, as well as the other ancillary support structures are on-going.

## Irrigation

The region managed to achieve 80% of its planned targets. With regards to the targeted 27,539 hectares of new irrigated areas, only 17% or 4,702 hectares of farmlands have been provided with irrigation water. About 67% of the targeted 155,175 hectares was covered by rehabilitated irrigation systems.

Figure 4.1 Irrigation Coverage, Region 02  
CY 2005-2009



Source: NIA Region 02

The region's irrigation coverage increased by an average of 3.40% per year with the highest irrigation coverage expansion between CY 2007 and 2008 at 12.33%. The increase could be partly attributed to the final completion of the diversion dam of the Addalam River Irrigation Project (ARIP) in Saguday, Quirino, serving a total of 5,830 hectares in Aglipay and Saguday in Quirino and Jones and Echague in Isabela.

Because of the old irrigation systems as well as the rising cost of construction materials, the maintenance of the existing irrigation systems would be costly on the part of the government. The construction of new irrigation systems is necessary in order to have a wider coverage, but should be coupled with continuous repair, rehabilitation and restoration of the old irrigation systems.

Meanwhile, the NIA has programmed PhP15,943.38M for 2011-2016 in Region 02 under the Rice Sufficiency Program of the Department of Agriculture.

---

## Flood Control

Along with Regions 1, 3 and CAR in Northern Luzon, Region 2 is highly vulnerable to heavy rains and strong typhoons due to its geographical location and topography. These regions lie along the country's "typhoon belt", which makes the area highly vulnerable to the occurrence of typhoons that visit Northern Luzon at an average of 5 to 8 typhoons in a year.

Aside from geographical location, the topography of the provinces of these regions which are mostly mountainous, poses as another risk factor during the occurrence of typhoons. The mountainous areas in the four regions which are similarly in a state of rapid deforestation and severe erosion have given rise to rain-induced landslides causing road cuts and road slips. As a result of the deforestation, low-lying areas along the Cagayan River in the provinces of Cagayan and Isabela in Region 2 are prone to flooding.

Cagayan River is one of the region's vital resources. However, the uncontrolled erosion of its riverbanks causes damage to agricultural lands. In the same manner, the river swelling and flooding destroys crops and infrastructure facilities. Only small-scale, piecemeal projects were implemented to address the flooding problems in the region. Large scale flood control projects such as the Lower Cagayan River Flood Control Program has not been implemented due to funding constraints.

## Information and Communications Technology

Around 453 cell sites provided by Globe, Smart and Sun Cellular are servicing 91 municipalities out of the region's 90 municipalities and 3 cities. All cities and capital towns are provided with broadband network services. Likewise, 42 municipalities are being serviced by the four (4) existing government-operated telecommunications facilities in the region. Despite this figure, Region 02 is one among the regions with the least number of internet connected public high schools.

Given the geographical location of public high schools and the limited number of municipalities being serviced by the four (4) existing government-operated telecommunications facilities, majority of the public schools in the region have no access to internet connections. Besides, these government telecommunications facilities are mostly concentrated in highly urbanized municipalities while only 11 municipalities are being catered by the Telepono sa Barangay.

Furthermore, Globe, Smart and Sun Cellular which are privately-owned only provide broadband network services to the 3 cities and capital towns of the region .

## Power

The targeted single digit regional average system loss for electricity was not achieved during the plan period as it stood at 16.24% at the end of 2007.

---

All the cities and municipalities of the region are connected to the grid. Of the 2369 barangays, 87 barangays that are located off-grid are still without electricity. Electricity for these un-energized barangays is provided through solar power or by micro-hydro facilities.

The cost of power in the region is high, despite its hosting the Magat Hydro Power Plant in Ramon, Isabela. The region also experiences deficiency in transmission lines that need to be upgraded from its current 69 kV to 230 kV. These negative factors discourage businessmen to invest in the region.

The Magat Dam in Isabela is a multi-purpose dam with a designed capacity of 360 megawatts (MW), while the Casecnan Transbasin Tunnel produces 150 MW run-of-the-river hydro electric power. The 510 MW hydro electric power produced by the two dams supplies the requirement of the Luzon power grid. Yet the power rates of the region are very much higher than that of Metro Manila and other regions in Luzon.

Several exploratory studies were undertaken for alternative fuel sources, especially for jatropha curcas and sweet sorghum in order to prepare the region for increased economic and industrial activity. The RDC2 formulated the draft Jatropha Industry Master Plan and the Kennedy Round 2 assisted project of the Isabela State University entitled Community Based Pilot Testing of Sweet Sorghum Production of Intermediary Products and Grains intended to advance biofuels development in the region. However, these projects are still in their exploratory and experimental stages and still need investors to see them to fruition.

## Disaster Preparedness and Disaster Risk Reduction

### *Disaster Risk Reduction and Management System*

The disaster preparedness and disaster risk reduction program was implemented in the region by virtue of Republic Act No. 10121: “An Act Strengthening the Philippine Disaster Risk Reduction and Management System Providing for the National Risk Reduction and Management Framework and Institutionalizing the National Disaster Risk Reduction and Management Plan, Appropriating Funds Therefore and for Other Purposes”.

The Regional Disaster Risk Reduction Management Council 02 (RDRRMC2) headed by the Office of Civil Defense Regional Center 02 (OCDRC2) has sustained the following achievements:

- The RDRRMC2 convened regularly regarding the preparedness measures to be undertaken by the Local DRRMCs and other stakeholders. The Local DRRMCs were alerted on the situation of their areas of responsibility (AORs) and their preparedness activities including pre-emptive evacuations when necessary.
- The concerned national/regional line agencies, LGUs, media, and individuals were continuously informed of the latest weather bulletins through SMS, facsimile, and other means of communication.
- Also, the RDRRMC 02 monitors the regional situation during calamity and alerted rescue groups from the PNP, BFP, PA, and other members of the Council for the needed search, rescue and evacuation operations. Likewise, the Provincial Health Offices (PHOs) were

---

alerted for the disposition of medicines for prospective augmentation of relief to disaster-stricken areas and DepEd for ready use of its school facilities as evacuation centers.

- A briefing with the print media and radio stations was regularly conducted as part of its advocacy. The disaster operations' communication systems and strategies was established and led by the Disaster Management Response Teams (DMRT/SWADS) of the DSWD 2 Field Office.

Despite the achievements of the RDRRMC 02, there were still some gaps and needs for rehabilitation and recovery due to other typhoons and calamities which remained unaddressed. In view of these, a Strategic Action Plan (SAP) for Northern Luzon was formulated to assess typhoon damages and losses and identify corresponding strategies and courses of action for the restoration of social and economic activities and the rehabilitation of key infrastructure.

Detailed information on the damage assessments along with the programs and projects for quick implementation, those for implementation within the short-term (*4 months to 1 year*), medium-term (1 to 5 years), and long-term (5 years and beyond) is provided in the said action plan.

## STRATEGIC INTERVENTIONS

The region's vision as "The Philippines' Northern Gateway" shall be achieved by taking full advantage of the presence and development of the Cagayan Special Economic Zone and Free Port and the Lallo International Airport. Likewise, the rationalization of investments on transport and digital infrastructure and utilities to improve access and mobility as well as networking within and outside the region shall be pursued.

On the whole, the interventions in the Infrastructure sector are seen to boost the region's economic foundation (i.e. agriculture) through the construction and rehabilitation of irrigation systems, provision of more farm-to-market roads, improved linkage and accessibility to and from the CSEZFP, among others. Improved and increased productivity in the Industry and Services Sectors are also expected with several enabling interventions in these sectors, especially the upgrading of Port Irene as the global exit of Region 2 produce and products.

The following sub-sections detail the requirements for the realization of the desired growth of the region in the next six years.

### Transportation

- Construct alternate routes to serve as entry & exit points to and from the region such as: the Northeastern Luzon Expressway, Dalton Pass East Alignment Road, Nueva Vizcaya-San Nicolas Road and other major routes (e.g. Ilagan-Palanan Road) to improve accessibility and mobility within.
- Upgrade, rehabilitate or pave national roads according to quality and safety standards.

- 
- Undertake road widening of national roads to address traffic congestion and safety in urban centers and designated strategic tourism destinations.
  - Complete on-going bridges along national roads.
  - Construct roads and bridges that would link production areas to the market centers.
  - Complete the Lallo International Airport facilities, including the Magapit-Mission Road and rehabilitate and upgrade the Tuguegarao, Basco, Itbayat, Bagabag and Cauayan airports.
  - Upgrade and improve existing sea ports and develop seaports to service the sea vessels proposed in the Batanes Islands, Calayan, Maconacon, Valley Cove and the earmarked.
  - Construct all weather ports and roads to improve access and mobility in and out of the island and coastal municipalities of the region, and access roads leading to tourist destinations.

## Power

- Provide efficient and affordable power supply through the electric cooperatives.
- Push for the lowering of the generation charge for Region 02 in consideration of its being the host region of the Magat Dam and Casecnan Transbasin Tunnel thru the Energy Regulatory Commission (ERC). Likewise, lower the existing systems loss cap of 14% to 9% as provided for in the EPIRA law including the strict enforcement of a zero percent Value Added Tax (VAT) on generation charge.
- Encourage LGUs to develop cheaper alternative renewable energy sources in Region 02 such as wind, solar, water and bio-diesel.
- Promote energy independence through the use of indigenous energy sources such as wind, solar and hydro power to serve off-grid and remote communities or those where the cost of transporting diesel or bunker fuel is too prohibitive.
- Strengthen energy efficiency programs to lower the cost of electricity by reducing systems loss and implementation of energy conservation programs.
- Improve power supply in the Cagayan Socio-Economic Zone and Freeport (CSEZFP) with the extension of 230Kv Transmission line from Tuguegarao to Magapit.

The Cagayan Freeport covering the whole of Sta. Ana municipality is powered by the National Grid Corporation of the Philippines (NGCP). It is connected to the Luzon Grid thru 140 kms. of 69kv sub-transmission line from Tuguegarao NGCP Substation to the CEZA Substation at Casambalangan.

Like in other economic zones in the country, one of the requirements that potential locators will look for at the CSEZFP is a reliable power supply. Major manufacturing and industrial

---

companies specifically computer-electronic based locators whose operations are highly sensitive to power fluctuations, could incur revenue losses if power disturbances occur on a regular basis.

Supply of power for the zone comes only from the NGCP Luzon grid. At present frequent power outages and voltage fluctuations is being experienced. This power supply unreliability is due to its remote location, far from the power grid, exposing these long sub-transmission lines to power faults and system losses.

To improve reliability of electrical supply to the ecozone it is essential that the transmission facilities of NGCP are improved and expanded as the demand in the CEZA area grows.

As the demand of power increases the improvement in supply would involve providing a higher voltage from NGCP to reduce voltage problem associated with large loads. As a minimum it would be expected that the Luzon Grid 230kv Transmission line be extended from Tuguegarao to Magapit area. These upgrades will greatly improve Load Capacity and Power quality at the Zone.

As per NGCP Transmission Development Plan of 2010, the extension of the 230 Kv line to Magapit is an indicative project scheduled beyond 2015. NGCP initial solution to improve power quality and reliability at CEZA is to up a 69 Kv capacitor at Magapit as an immediate measure in addressing the voltage problem being experienced at the zone. Other NGCP projects scheduled from 2011-2015 is the installation of a second 230 Kv transmission line from Santiago to Tuguegarao and the installation of additional 100 MVA Transformer at Tuguegarao NGCP substation

## Information and Communication Technology

- Construct speedy and reliable modes of telecommunications that would enhance the exchange of information between and among government units, public schools, business establishments and its citizens through public-private partnership.
- Plan and develop the region as one integrated global node consisting of Taiwan and China through the Cagayan Economic Zone Authority.
- Expand areas being serviced by the 4 existing government-operated telecommunications facilities and broadband services of Globe, Smart and Sun Cellular.

## Irrigation

- Expand regional irrigation coverage through the modernized upgrading and improvement of the operation of existing irrigation systems, and development and maintenance of communal irrigation systems through counterparting scheme of the local government units with the NIA and other funding sources.

- 
- Sustain the operation of pump irrigation system by subsidizing the cost of power for electrically driven pump irrigation systems.
  - Implement and develop national irrigation projects (e.g. Dabubu irrigation project) and hydro-electric irrigation projects with completed technical studies (e.g., Tumauni River Irrigation Project).

## Flood Control

- Fast track the implementation of flood control projects that were identified in the 2006-2030 Cagayan Valley Flood Mitigation Master Plan and upgrade the drainage facilities in disaster prone areas.
- Prioritize implementation of flood control projects in major and principal river basins based on the Cagayan Valley Flood Mitigation Master Plan and other flood control plans taking into account climate change and by adopting new technologies.
- Fast track the approval and implementation of the JICA-Funded Flood Risk Management Project which targeted 3 sites identified in the Cagayan Valley Flood Mitigation Master Plan.
- Provide non-structural interventions for flood averted through DENR and LGU collaboration.

## Disaster Preparedness and Disaster Risk Reduction

- Improve the transport of relief goods to inaccessible and hard-to-reach areas.
- Construct or rehabilitate vital infrastructures such as roads, bridges, and schools to be resistant to or to withstand extreme weather conditions.
- Ensure the immediate restoration of government facilities and installations that provide power and communication services during disasters.
- Provide ready-to-eat food to evacuees most especially those in evacuation centers, in addition to the relief supplies coming from various benefactors.
- Provide access to safe water, sanitation, and hygiene facilities to prevent the spread of diseases in the evacuation centers and to maintain healthy living conditions for affected families.

---

# Chapter 5: Good Governance and the Rule of Law

Greater productivity and quality in government is the backbone of development. As such, the enhancement of administrative capacities and service delivery system of regional and local governance; increased level of transparency, accountability and responsibility in government; and responsiveness and participation of stakeholders in governance shall be given due importance.

Good governance in the Cagayan Valley will result to improved government expenditures, lesser processing time for business transactions; and greater government credibility and respectability.

## ASSESSMENT AND CHALLENGES

### Revenue Collection

The combined efforts to increase local and national revenue taxes in the region have significantly contributed to the overall fiscal position of the country. Trends of revenue growth over the past years have been satisfactory, specifically for local taxes. This enabled the LGUs to meet the development requirements of their localities.

For the past five years since the start of the Regional Development Plan assessment in 2005, the region achieved an average of 108.42% local revenue collection rate. It was only in 2006 that the region failed to reach 100% annual collection as it registered a 94.14% collection rate. Real property tax shared almost fifty percent of the total local revenue collection.

Positive gain in local revenue collection was attributed to the efficient and proper Real Property Tax Administration (RPTA) by the Local Government Units (LGUs) which entails tax mapping, appraisal and assessment, tax records management and collection enforcement. The Bureau of Local Government Finance is engaged in the provision of Capability Building Program in the field of RPTA to strengthen LGU position in reducing national fiscal deficit.

The DOF-BLGF intervention on the updating of Local Revenue Code as a tool in improving local revenues and the computerization program has facilitated the assessment of real properties in the LGUs. This concerted effort on local revenue collection should be sustained in the succeeding years to finance the requirement of local economy.

For the national revenue collection, the region was able to achieve a 102.16% and 103.01% Tax Collection efficiency for CY 2006 and 2007 respectively; two out of the 6-year target with an average annual tax collection efficiency of 96%. A total of PhP12.3 billion was collected out of the aggregate target of PhP12.5 billion. Income taxes contributed the highest in terms of major national revenue source in the region.

---

The Isabela and Cagayan Revenue District Offices (RDOs) had the highest average share of tax collected. Isabela and Cagayan RDOs' combined share of the taxes collected in the region was estimated at an average of 81.99%, while the province of Quirino had the highest average increase of tax collection for the six-year period, averaging a 14.15% yearly increase.

However, the region failed to meet the 100% annual national revenue collection rate for the four years of the previous medium term. The Revenue District Office (RDO) No. 3 cited the very high imposition of annual revenue collection quota by the national government to the RDOs as the primary reason of the unattainment of annual national revenue targets in the region. The distribution of national revenue quota to the RDOs should be revisited to consider the diverse characteristics and capacities of the regions.

While the region fared well in generating revenues as it exceeded local revenue collection targets and high collection rate in national revenue generation, the region is also faced with the challenge of managing the limited financial resources of the government. Thus, responsive and effective use of public funds should be considered in spending.

To start with, there is a dire need for a full public disclosure on the financial status of all government agencies and offices, including GOCCs, GFIs and SUCs.

## LGU Capability Building

The Department of Interior and Local Government (DILG) of Region 2 continued to provide technical assistance to the local government units from provincial level down to the barangay.

The demand-driven Technical Assistance and Consultancy Services (TACS) of the DILG were intensified during the year. Consultancy on Management System; Development and Environmental Planning; Local Legislation; Local Fiscal Administration; Local Economic Enterprise Development; Policy Development and Public Accountability Management; Project Development and Management; and Information Technology Development were continuously extended to the LGUs, benefiting a total of 126 municipalities and barangays during the year.

The DILG also administered the Barangay Governance Performance Management System (BGPMS) in response to the specific needs of the barangays as identified by the local officials themselves. In 2009, a total of 93 orientation-briefings on BGPMS was conducted and as a result 1,387 pilot barangays adopted the BGPMS. Consequently, 730 barangays in the region were able to prepare their respective State of Barangay Governance Report (SBGR) while 922 barangays formulated their Capability Development Agenda (CapDev).

A collaborative intervention program of ASPAP/Academe, CV-ACE and RDC2-CODA was also extended to some 50 barangays. The intervention aimed at enhancing the administrative systems and capacities of the barangays in their core operations.

Likewise, the DILG has revitalized the Gabay sa Mamamayan Center (GMAC) in every barangay to integrate the institutionalization of the Barangay Citizens Charter as well as the activation of the Barangay Health Emergency Response Team (HERT). A total of 2,287 barangays have expanded their GMAC with the established barangay Citizens Charter, while 2,202 barangays have activated their respective HERTs.

---

Other interventions include the re-orientation of all LGUs on CURE program or the Anti-Red Tape Project of the DILG, the strengthening of the Local Government Human Rights Program, reactivation of the Anti-Drug Abuse Councils, advocacy on Climate Change Adaptation and Disaster Risk Reduction, institutionalizing the Gender-Responsive Local Governance, synchronization of Local Planning and Budgeting, continuing assistance on the Localization of the MDGs, continuing training for the newly elected and appointed LGU officials and functionaries, and capacitating LGUs to access financing from foreign and domestic sources, among others.

In monitoring the positive response of the LGUs, the DILG intensified the implementation of the Local Governance Performance Measurement System (LGPMS). This will serve as reference and basis in identifying the LGUs need for assistance.

To encourage the LGUs to further improve the delivery of quality services to their respective localities, the DILG promoted the distinct practices of each LGU through its program, Popularizing Good Practices in Local Governance: Facility for Adaptation and Replication (GO-FAR). A system on Competency Assessment for LGUs, was likewise implemented to determine the capacity of each LGUs in the region.

The region looks forward to the decentralization of authority and devolution of responsibilities to local government units, thus, the dire need to continuously capacitate the LGUs with technical knowledge and skills along the different facets of development. This is to prepare the LGUs in the devolution efforts by making them self-reliant from the national government.

## Professionalization of the Bureaucracy

Measures were adopted to enhance the efficiency and productivity of government line agencies, GOCCs and LGUs in the region. Various government offices with critical frontline services have intensified the implementation of the Anti-Red Tape Act (ARTA) where a Service Flow Chart was required to be posted in the most conspicuous place in the office premises. This is to further simplify processes and procedures for the public. As of May 2010, a total of 159 government offices in the region were able to post their respective service flow charts or a 76.81% compliance rate. Of the total, 95 were LGUs, 41 were national government line agencies, 19 GOCCs and 4 were SUCs. The Civil Service Commission (CSC) has targeted 100% implementation of the ARTA in all government agencies and offices within the next medium term.

Likewise, to effectively fulfill the requirements of the clientele and satisfy their needs, all the government offices in the region should adopt a Quality Management System (QMS) which is a requirement prior to the issuance of certification by the International Standardization Organization (ISO). However, most of the government offices in the region are still not ISO Certified.

Meanwhile, to ensure delivery of quality public service, the CSC has advocated the Performance Management System-Office Performance Evaluation System (PMS-OPES) during the year. A series of seminar-workshops were conducted which benefited 2,190 government officials and employees. From last year's 7.84% accomplishment on the formulation of the PMS-OPES, additional 34.3% has been accomplished from January to November of this year.

Correspondingly, government employees from local and national offices have undergone trainings, re-orientation workshops, fora and seminars to enable them to effectively and

---

efficiently carry out their mandated tasks. Among these was the conduct of Values Enhancement for Empowerment and Productivity, Re-orientation on Public Service Policies and Teambuilding Seminar, Alay sa Bayan Induction Program, and Forum on Public Service Ethics and Accountability. The CSC likewise extended technical assistance to government personnel on matters concerning public service ethics and accountability. These interventions led to an improved delivery of public services. However, the delivery of quality public service to the region's populace should further be improved by reducing the time in processing public documents such as permits and licenses, and speedy resolution or disposition of cases, among others.

To facilitate government transactions, the implementation of RA 8742, popularly known as E-Commerce Law, should be intensified where government offices would actually access government services online. However, many government offices still lack access to internet networks, especially LGUs, and for agencies with internet access, many still have no website and official email addresses for fast relay of communications.

Region 02 is also vulnerable to the occurrence of typhoons since it lies along the "typhoon belt" in the Philippine area of responsibility. During typhoons and other forms of calamities, volunteerism has been valued as a cost-effective human resource for development and an excellent example of public private partnership for more active engagement of the citizenry. The current administration has lauded the role of the Philippine National Volunteer Service Coordinating Agency (PNVSCA) in advocating the value of volunteering in the speedy delivery of basic social services. While volunteerism has been observed as a good instrument in nation building, several institutions are still not aware of this cost-effective resource in the provision of technical assistance, delivery of social services, undertaking humanitarian efforts and responding to disasters particularly at the local level.

The regional and local councils shall as well ensure the integration of disaster risk reduction programs in the plans and budgets of the line agencies and LGUs in order to improve the disaster-resiliency of the provinces of the region. In ensuring appropriate programs and projects to reduce the risk of calamities, it is important to conduct vulnerability assessment to high-risk areas of the region.

There is also a need to strengthen advocacy on disaster risk reduction and climate change adaptation in the region and to capacitate LGUs along disaster-preparedness, response, mitigation and eventually rehabilitation and reconstruction through the Regional Disaster Risk Reduction Management Coordinating Committee.

To further improve delivery of services, there is also a need for a strong partnership of public and private sectors in terms of consultation on programs and projects before its implementation and monitoring and evaluation of implemented projects. Likewise, it is imperative for the region to strengthen involvement of the private sector in terms of investment and advocacy activities.

## **STRATEGIC INTERVENTIONS**

To ensure growth in productivity and eventually economic growth, the region shall promote a safe and secure community and a stable policy environment for the protection of businesses. In doing so, the following interventions are being adopted:

- Continue implementing revenue-raising strategies, specially the computerization of the concerned revenue collecting agencies and LGUs shall be prioritized in the succeeding years.

---

Likewise, strict implementation of administrative and judicial remedies should be enforced to delinquent tax payers.

- Pursue reforms and strategies to make the government more responsive and efficient in addressing the needs of the people. It is important to manage the limited public resources through responsible spending, eradicate graft and corruption, strengthen local autonomy and deepen devolution.
- Implement strictly the RA 9485 where the formulation of the Citizens Charter, the ARTA Service Flow Chart and in the Conduct of Report Card Survey in all the frontline servicing agencies shall be carried out. The observance of the PMS-OPES in government offices will likewise monitor the delivery of basic services to the public, making the government offices responsive to the needs of their respective clientele.
- Provide technical assistance to LGUs on resource mobilization, tax mapping, valuation of real properties, tax collection enforcement and national and local fiscal policy formulation to improve LGU fiscal contribution in the entire region.
- Observe full public disclosure of government offices financial status. Transparency on government unit's financial condition in the region will provide room for appropriate action by the national government.
- Provide technical assistance to LGUs in the preparation of the Schedule of Market Value of the different classes of real property and the conduct of General Revision of Real Property Assessments every three (3) year period.
- Provide technical assistance and conduct of trainings to regional stakeholders who need consultation or assistance on matters concerning the development of the region.
- Implement E-Commerce Law in the region where line agencies will work hand-in-hand with the internet service providers (ISP) in the region namely Digitel and PLDT and for Globe and Smart for their wireless internet services.
- Encourage all RLAs, SUCs and GOCCs in the region to be ISO certified. The Regional Productivity Committee of the Regional Development Council (RDC) of Region 2 shall extend technical assistance to interested parties.
- Strengthen Public-Private Sector Partnership in the region and encourage government entities to enter into agreement with the private sector in advancing economic, social and infrastructure development in the region.
- Adopt volunteerism as a key strategy to achieve the goals of regional and national development. This strategy, inspired by the timeless Filipino tradition of "Bayanihan", shall be anchored on the dynamic partnership among government, the private sector and the community through complementation, maximization and integration of efforts and resources.
- Implement disaster risk reduction strategies to effectively mitigate the effect of disaster in the region. The organization of Disaster Risk Management Council down to the barangay level would surely respond to the emerging needs of the disaster prone areas before, during and after the occurrence of calamities.

---

# Chapter 6: Social Development

Region 02 has committed to achieve the Millennium Development Goals (MDGs) and its specific targets to help wipe out poverty and worst forms of human deprivation and lay the foundations for sustainable social development by the year 2015.

As a confirmation of commitment, the MDGs were integrated into and given top priority in development planning efforts and accompanied with efficient monitoring, localization and advocacy systems.

For the period 2004-2009, though the MDG has been a top priority of Region 02, the social development sector showed varied performance throughout the 5-year period under review as targets were exceeded in some years while unmet in other years. On the whole, the sector delivered a lackluster performance for the period as the succeeding sub-sections will show.

## ASSESSMENT AND CHALLENGES

### Education

#### *Public Elementary Schools*

For the period under review, the region performed well in terms of public elementary schools Program Indicators. The average Student-Classroom Ratio for SY 2004-2009 stood at 28.72, well within the planning standards of 45 students per classroom. Student-Teacher Ratio was also within the standard of 45 students per teacher at an average of 29.95.

However, available data does not show the disparity within school divisions and districts where classrooms and teachers are concentrated in accessible areas while those in the remote or hard-to-reach areas have severe shortages of classrooms and teachers.

The region's public elementary schools performed generally well for SYs 2004-2005 to 2008-2009. All performance indicators were on the uptrend except for school participation rates that fell by an average of 3.10% annually. For SY 2008-2009, public elementary school participation rate just stood at 70.19% which means that there are still 155,674 school-age children not attending school. At the current rate, the region would not be able to attain its 2015 MDG target of 100% participation rate for basic education.

While other performance indicators were on the rise, they grew by less than 1% annually. Retention, survival rates, transition, school leavers, promotion and graduation rates were still below 100%. Likewise, the average National Achievement Test (NAT) Mean Percentage Score (MPS) for the period just stood at 55.85; lower than the national mean and standard of 75 MPS.

The challenge therefore is how to improve the current situation of the region along participation rate, retention, survival rates, transition, school leavers, promotion and graduation rates and increase the NAT MPS to meet or even surpass the required national standard.

---

## Public Secondary Schools

Program Indicators showed that the region performed basically well within the 5-year period. Student-Classroom and Student-Teacher Ratios were within the planning standards. It was only during SY 2004-2005 that the region failed to meet the Student-Classroom standard of 45 students in a classroom. It should be noted, however, that if the region had an average Secondary School Participation Rate of only 50%, a severe shortage of both classrooms and teachers would have occurred.

Basically, public secondary schools had a mediocre performance for SYs 2004-2009. All performance indicators were below the standards. What is glaring is the downward trend for secondary participation and graduation rates that fell at an annual average of 0.46% and 0.96%, respectively. Likewise, the average NAT MPS of 45.72 is again lower than the national mean and standard of 75 MPS. On a brighter note, the average NAT MPS for SY 2008-2009 stood at 60.58 (average mastery), which is just 5.75 percentage points away from the national MPS of 66.3 and 14.42, short of the 75 (moving towards mastery) MPS.

Among the school divisions that had the best performance for SYs 2004-2009 is Batanes, even though it is the only division in the entire region that had a decreasing secondary cohort survival rate that fell from 95.65% in SY 2004-2005 to 87.91% in SY 2008-2009. The province also has the highest average survival rate for SYs 2004-2009 at 84.90%.

In terms of survival rates, the Division of Nueva Vizcaya had the lowest average participation rate for SYs 2004-2009 at 38.6%, well below the regional average of 45.72% for the same period. At the current rate, the region would not be able to attain a 100% Participation Rate by 2015 for both levels. The results of the FLEMMS 2003 (Functional Literacy and Educational Mass Media Survey) shows that the low participation is attributed to the following reasons: a.) no employment or still looking for work (30%), b.) lack of personal interest (22%), c.) illness or disability (2%), d.) school is very far (2%), e.) no school within the barangay (0.4%), f.) no regular transportation (0.2%), and others. The reasons behind the low participation rate as identified in the 2003 survey still holds true today. Looking for work, lack of personal interest, and illness or disability are still the main impediments in increasing public school participation rates. Hence; the challenge is how to address these problems in order to improve the public secondary school participation rate.

## Training

In view of the need to provide equitable access and provision of technical education and skills development (TESD) programs to the growing technical vocational education and training (TVET) clients in the region, direct training programs were provided using four training modalities namely: the school-based, center-based, enterprise-based and community-based with TESDA administered schools and training centers, in convergence with the LGU's.

The table below shows the number of TVET graduates and certification rates for the period 2005 – 2009. A total of 340,611 graduates were recorded, with an annual average of 68,122 graduates for the five-year period. It is worthy to note that the certification rate was increasing from 34% in 2005 to as high as 83% in 2009, with an annual average certification rate of 57%.

Table 6.1 Region 02 - Middle Level Skills Development Indicators, 2005-2009

| Program Indicator                      | 2005   | 2006   | 2007   | 2008   | 2009   |
|--|--------|--------|--------|--------|--------|
| <b>A. TVET Graduates</b>               | 61,184 | 74,633 | 92,113 | 30,455 | 82,226 |
| School-Based Programs                  | 6,120  | 13,549 | 15,266 | 23,081 | 22,914 |
| Enterprise-Based Programs              | 787    | 894    | 1,065  | 999    | 979    |
| Community-Based Programs               | 7,866  | 2,858  | 6,434  | 6,375  | 7,488  |
| Other TVET Monitored Programs          | 46,411 | 57,332 | 69,348 | -      | 50,845 |
| <b>B. Assessment and Certification</b> |        |        |        |        |        |
| Assessed                               | 11,324 | 12,258 | 20,927 | 24,705 | 31,170 |
| Certified                              | 3,818  | 3,992  | 13,008 | 17,967 | 25,791 |
| Certification Rate (in %)              | 34%    | 33%    | 62%    | 73%    | 83%    |

Source: TESDA Region 02

## Health

The health programs implemented during the period 2005-2009 have yielded positive results as targets in terms of spatial coverage for the period were generally attained. The shortfalls in the program targets were due mainly to budgetary constraints, coupled with low priority given to health programs by the LGUs as compared to other physical programs.

These health programs implemented in the 5 provinces and 3 cities of the region include Maternal and Child Health, Expanded Immunization Program, Control of Diarrhea Diseases/Respiratory Infections, Dental Health, Women's Health, Nutrition, Improvement/Rehabilitation of Health Facilities, Scaling up of Malaria Control and Increasing the Number of GMA Outlets in the region. The results of these programs in the region are manifested in key health indicators as follows:

*Crude Birth Rate.* The number of births for the 5-year period averaged 21 births per 1000 population increasing by an average of 0.25% per annum. The increase can be attributed to the withdrawal and phasing down of family planning supplies (condom, pills and injectables) from international donors, and due to the prevalence of early marriages. The province of Nueva Vizcaya had the highest average CBR at 23.44 followed by Quirino at 23.1 with Batanes having the lowest at 16.02. Among the 3 cities of the region, Santiago had the highest CBR at 27.62 followed by Tuguegarao at 19.04 and Cauayan at 18.89.

*Crude Death Rate.* The number of deaths per 1000 population increased from 3.99 in 2005 to 4.12 in 2009. Cardiovascular disease was the number one killer followed by pneumonia. It is noted that the increase in CDR could be due to the increase in chronic degenerative diseases such as lifestyle-related diseases. Across provinces, Batanes has the highest CDR at 6.91 followed by Cagayan at 4.36 with Nueva Vizcaya having the lowest at 2.91. Among the 3 cities, Santiago registered the highest at 7.38 followed by Tuguegarao at 5.4 with Cauayan having the lowest at 4.10. These figures are quite alarming, hence interventions should be determined to address the increasing CDR in the region.

*Infant Mortality Rate.* The number of deaths among children below one year old significantly declined from 5.98 infant deaths per 1,000 livebirths in 2005 to 4.64 in 2009, with pneumonia still the leading cause of death.

---

The decrease can be attributed to the declining incidence of communicable disease, particularly pneumonia. Moreover, the conduct of Under Five Mortality Review (UFMR) led to better care-giving practices and better nutrition and breastfeeding practices among mothers. The increase in the number of fully immunized children and infants given the 3<sup>rd</sup> dose of Hepatitis B had contributed to the declining IMR.

Among the cities, Santiago City had the highest average IMR with 14.81 and Tuguegarao City having the lowest at 5.64. Across provinces, Batanes had the highest average IMR at 23.61 with Nueva Vizcaya registering the lowest at 3.60.

*Maternal Mortality Rate (MMR).* In 2005, there were 34 maternal deaths due to pregnancy-related causes or 52 maternal deaths per 100,000 livebirths and this has risen to 0.61 in 2006. However, from 2007 to 2009, the region's MMR decreased by an average of 2.26%. For the entire five year period, the region's MMR decreased by an average 5.82% annually, which could be attributed to broadened access to modern medical facilities and technologies.

For the 5-year period, Cagayan had the highest average MMR at 0.45 per 100,000 live births, followed by Nueva Vizcaya at 0.42. The province of Batanes maintained zero MMR. The three cities in the region have higher average MMRs than the regional average of 0.37. Santiago City had the highest average MMR at 0.92 with Cauayan and Tuguegarao Cities having the same average MMR at 0.48. Leading cause of maternal mortality is still postpartum hemorrhage and eclampsia.

While the region's MMR decreased from 2007-2009, it is quite troubling that the number of pregnant women visiting the hospitals, RHUs and clinics for their T2 shots have decreased during the period. Likewise, the number of pregnant women and post-partum women given complete iron dosage decreased by an average of 3.22% and 7.18% respectively. The leading cause of MMR has been identified, yet available health services are not fully tapped. The region's MMR is very low, yet it involves life that should be preserved. In-depth analysis should be done so that the situation and motivation of the victims for not availing, or inability to avail of health services would be known for policy and program reforms.

On the other hand, along combating HIV/AIDS which is Goal No. 6 of the MDG and the target is to reverse the spread of HIV/AIDS by 2015, the region had four unconfirmed cases in 2009. These cases were unsupported by laboratory results and were considered as isolated cases. Thus, focus was directed on Sexually Transmitted Diseases (STD) particularly on reported cases of persons with vaginal discharge and urethral discharge. The region still registered low percentage ranging from 0.01 to 1.02 of these infectious diseases in 2005 up to 2009.

Likewise, historical data shows that malaria cases increased from 1999 to 2003. This was attributed to the continuous expansion of settlements into forested areas as well as the burgeoning population and unsanitary practices. Success in reversing the incidence of malaria has started in 2005 when a manageable 368 cases were reported. However, in 2009, this figure increased to 704 malaria cases. The abrupt increase in the number of malaria cases is attributed to the changing weather condition in the region where heavy rains were observed.

Tuberculosis was another serious disease in the region. Fortunately, the regional burden of tuberculosis is falling slowly. Incidence fell to 2,635 cases in 2009 from the 3,874 cases in 2005. Considerable drop was also observed when compared to the 2008 data of 2,722.

---

To address the problem on malaria cases, result-oriented activities like residual house spray, construction of bio pond, fogging, and advocacy during barangay assemblies, among others; were continuously carried out. However, despite these interventions, malaria cases are still high in the region. On the other hand, though Tuberculosis is falling slowly, yet the 2,635 cases reported in 2009 is still high. The challenge therefore is how to continuously reduce the figure or permanently eradicate the occurrence of these dreaded diseases.

## Nutrition

The MDG's target to halve the proportion of people living in extreme poverty by 2015 is still achievable. Latest regional data revealed that fighting extreme poverty has resulted to a positive outcome where only 25.5% was recorded in 2006 from the 30.4% poverty incidence in 2000. However, a slight increase in the number of poor population was observed in 2006 when compared to 2003 poverty incidence. It was in the third quarter of 2004 up to the end part of 2005 that the region experienced the destructive effects of calamities such as drought (El Niño) and flooding (La Niña). These events have drastically reduced the income of the region's population, rendering them incapable of satisfying their food requirements.

Various government interventions to alleviate poverty and hunger were already put in place but the challenge posed is how to sustain these interventions. The delivery of anti-poverty programs by the national government is hampered by limited funds. On the other hand, LGUs preferred to push projects that are concrete and visible to the public.

On the other hand, the region continued to show a positive trend in achieving the 7.15% proportion of underweight children by 2015. Using the International Reference Standards (IRS) in determining the nutritional status of Filipino children, the region posted a significant decline in malnutrition rate from 10.01% in 2005 to a manageable level of 7.86% as of June 2010. The region is on track and could possibly achieve or even surpass the MDG target as long as efforts along the nutritional status of children are sustained in the remaining years.

The following baseline data (DOH Region 2) as of June 2010 show the Nutritional Status of children in the region. For Pre-School Children (0-71 months old), a total of 405,867 were weighed under the "Operation Timbang" program, which covers the entire pre-school population of the region. The data revealed that most of the PSC (373,977 or 92.13%) were found to have Normal Weight; the rest were considered malnourished. Specifically, around 22,784 (5.61%) were Underweight, 5,823 (1.43%) were Severely Underweight, and 3,283 (0.81%) were Overweight.

For Elementary School Children (ESC) 419,633 (99.56%) of the total 421,484 pupils enrolled were weighed. About 360,184 (85.83%) were found at Normal Weight, and the rest (59,449 or 14.15%) were Malnourished, categorized into Severely Wasted (11,453 or 2.73%), Wasted (36,724 or 8.75%), Overweight (8,950 or 2.13%), and Obese (2,322 or 0.55%). Of the malnourished, 26,623 (13.22%) are females and 32,826 (or 15.04%), which means that the proportion of female and male malnourished ESC is 1:1.23 or about 4-female to 5-male ESC.

As to the proportion of ESC with Normal BMI (body mass index) across provinces, Batanes registered the highest (93.80%), followed by Quirino (92.52%), Nueva Vizcaya (89.64%), Cagayan (86.96%), and Isabela (83.39%). Among the three cities in the region, Cauayan has the highest (83.99%) proportion of ESC with Normal BMI, followed by Santiago (82.19%) and Tuguegarao (79.81%).

---

The relatively high (85.83%) proportion of ESC with Normal BMI in the region could be attributed to the continuous efforts along intensified advocacy on micronutrient supplementation, food fortification and salt iodization, good health practices, sustained partnership of agencies, LGUs and other stakeholders in the promotion/delivery of health and nutrition packages, and conduct of special campaigns like the Garantisadong Pambata.

Moreover, various interventions that are simple and cost-effective were made at key stages of the child's life to avoid malnutrition, such as the provision of vitamins for children between six and 24 months of age, breastfeeding within one hour after birth, exclusive breastfeeding for the first six months of life, and adequate complementary feeding have contributed to the success of nutrition program in the region.

Advocacy on micronutrient supplementation for children was strengthened in the past few years. This is to sustain gains of the region in its campaign to improve resistance of the children against infectious diseases especially among pre-schoolers. The LGUs are being tapped to ensure provision of vitamin supplementation, especially vitamin A, in the household level. Both public and private health care services also provide vitamin A during the immunization days of the child.

Progress was also noted along food sufficiency, adequacy of drinking water and accessibility to sanitation and other health services. It was observed that the health practices at home have direct influence to the nourishment of the members of the household.

Lastly, gender disparity was never a problem in all levels of education in the region. It has been recognized that the role of women in development is crucial. Thus, bolder steps have been made to strengthen the Gender and Development (GAD) program in the region. In all government programs, projects, activities and decision-making activities in the past, women were always involved. This will continue in the succeeding years.

## Access to Water Supply and Electricity

*Safe Potable Water.* As of the end of 2009, about 558,457 or 84.74% of the region's 659,024 total households had access to safe water supply. Access to clean, safe and potable water supply increased by an average of 0.41% per year. However, this rate of increase would not be enough to attain 100% access by 2015 given that the number of households is increasing by an average of 0.80% per year. Meaning, the gap of safe water provision is 50% less than the rate of household increase annually.

More than 61% of the region's households still source their water from Level I water systems but a growing number of households are now connected to Levels II and III water systems.

*Electricity.* All the cities and municipalities of the region are connected to the Luzon grid. Of the 2,369 total barangays, 87 are still without electricity and these are mostly off-grid areas located in far-flung barangays of Nueva Vizcaya, Isabela and Cagayan. Electricity is provided to some of these un-energized barangays through solar power or by micro-hydro facilities. The 87 barangays without electricity is still high knowing that Region 02 is an energy source.

An estimated 83% of the region's households have been connected to the grid; that is, from 464,702 households in 2005 to 547,856 households or an average increase of 2.96% per annum.

## Asset Formation

### Land

The land tenure improvement (LTI) is a component program of agrarian reform that seeks to secure the tenurial status of the farmers and farm workers in the lands they cultivate. The LTI is operationalized either through land acquisition and distribution (LAD) and leasehold operations. LAD involves the redistribution of government and private agricultural lands to landless farmers and farm workers. Leasehold operation, on the other hand, is an alternative non-land transfer scheme which seeks to improve the tenancy status of farmers. Leasehold covers all tenanted agricultural lands such those in the retained areas, not yet acquired for distribution under CARP, and those which may be validly covered under existing laws.

For the period 2005 to September 2010, as presented in the following tables, LAD program has distributed 36,726 hectares to 25,388 agrarian reform beneficiaries (ARBs), while the leasehold operation has a total of 3,579 ARBs covering an aggregate area of about 4,385 hectares.

**Table 6.2 Land Acquisition and Distribution: 2005 – September 2010**

| Province     | 2005-2008     |               | 2009         |              | Jan.-Sep. 2010 |              | Total         |               |
|--------------|---------------|---------------|--------------|--------------|----------------|--------------|---------------|---------------|
|              | Area (Has.)   | # Of ARBs     | Area (Has.)  | # Of ARBs    | Area           | # OF ARBs    | Area          | # Of ARBs     |
| Cagayan      | 9,815         | 6,737         | 50           | 539          | 43             | 57           | 9,908         | 7,333         |
| Isabela      | 14,081        | 9,385         | 1,115        | 718          | 343            | 328          | 15,539        | 10,431        |
| N. Vliszcaya | 4,818         | 4,116         | 2,398        | 655          | 835            | 633          | 8,051         | 5,404         |
| Quirino      | 1,863         | 1,483         | 693          | 391          | 16             | 11           | 2,572         | 1,885         |
| Batanes      | 161           | 253           | 495          | 82           |                |              | 656           | 335           |
| <b>Total</b> | <b>30,738</b> | <b>21,974</b> | <b>4,751</b> | <b>2,385</b> | <b>1,237</b>   | <b>1,029</b> | <b>36,726</b> | <b>25,388</b> |

Source: DAR Region 02

**Table 6.3 Leasehold Operation: 2005 - September 2010**

| Province     | 2005-2008    |              | 2009        |            | Jan.-Sep. 2010 |            | Total        |              |
|--------------|--------------|--------------|-------------|------------|----------------|------------|--------------|--------------|
|              | Area (Has.)  | # Of ARBs    | Area (Has.) | # Of ARBs  | Area           | # OF ARBs  | Area         | # Of ARBs    |
| Cagayan      | 2,420        | 1,821        | 373         | 374        | 216            | 184        | 3,009        | 2,379        |
| Isabela      | 528          | 468          | 66          | 52         | 69             | 46         | 663          | 566          |
| N. Vizcaya   | 219          | 231          | 60          | 62         | 29             | 25         | 308          | 318          |
| Quirino      | 348          | 270          | 57          | 46         |                |            | 405          | 316          |
| Batanes      |              |              |             |            |                |            | -            | -            |
| <b>Total</b> | <b>3,515</b> | <b>2,790</b> | <b>556</b>  | <b>534</b> | <b>314</b>     | <b>255</b> | <b>4,385</b> | <b>3,579</b> |

Source: DAR Region 02

---

## Housing

The housing need in the region, which is the annual housing backlog plus the projected yearly new households, is perennially increasing. The prevailing housing programs could not fully satisfy the region's need for decent housing. Hence, the government further enhanced and implemented low-cost housing programs such as the Abot-Kamay Pabahay Program funded pursuant to RA 6846 known as the Social Housing Support Fund Act and the PAG-IBIG Fund, among others.

However, despite the low-cost housing programs being pushed through by the national government and in tandem with the LGUs and the private sector, the region's housing need stood at 18,032 in CY 2006 and gone up to 19,330 units in CY 2010 (*Housing need per Region 2005-2010, HUDCC*) representing an annual average increase of 1.44 percent. It is seen that the housing gap would continue to increase every year if there wouldn't be bolder interventions from both Government and the private sector to curb this situation. As forecasted, by the end of 2016, the region's housing need would reach 21,061.

Needless to say, several factors may have affected the efficacy of the low-cost housing programs such as the equity requirements, population growth, doubled-up housing, dilapidated housing units, and high cost of construction materials. Moreover, the Filipino culture of having extended families, notwithstanding the uncomfortable situation as a result of crowded households, may have negated the purpose of the housing programs.

Furthermore, a considerable number of houses are vulnerable to flooding particularly along the low-lying areas and communities along the Cagayan River in the provinces of Cagayan and Isabela. Majority of houses in rural areas are built of light materials which are prone to damages during the onslaught of typhoons. In 2010, the aftermath of typhoon "Juan" (Megi) recorded a total of 26,235 totally damaged and 87,624 partially damaged houses in the region. The aftermath of the typhoon further contributed to the number of housing needs in the region particularly the hardest hit municipalities in the province of Isabela.

## Livelihood and Microfinance

For the period 2005 to 2009, a total of PhP 51,836,221 was extended for livelihood formation and enhancement to at least 8,713 families/beneficiaries in the region. Hereunder are the livelihood and micro-financing programs being implemented in the region catering to groups of at least 25 members in the informal and formal sectors.

The Self-Employment Assistance Kaunlaran (SEA-K) is a livelihood and capability building program being administered by DSWD and implemented through LGUs, aimed at enhancing the socio-economic skills of poor families towards establishing and managing sustainable community-based credit organization for entrepreneurial development. It has two components, the SEA-Kaunlaran (Level I) and SEA-Kabayan (Level II).

A total of PhP 9,430,000 seed capital for SEA-K Level I (SEA-Kaunlaran) projects have been released which benefited 2,113 families regionwide for the period 2005-2009. Moreover, 31 SEA-K Level II (SEA-Kabayan) beneficiaries received in 2008 a total of 667,000. SEA-K Level II beneficiaries are those who graduated from SEA-K Level I, being provided with additional seed capital for livelihood enhancement.

---

The Tindahan Natin Project, which started in 2006 is a national government initiative for food security, job generation and livelihood. It is implemented in partnership with the National Food Authority (NFA) and the National Nutrition Council (NNC) and is part of the Hunger Mitigation Program of the Arroyo Administration. For the period 2005-2009, a total of 383 Tindahan Natin outlets have been established regionwide with a total seed capital of P Php 7,551,380.

The various livelihood programs of DOLE have extended a total of Php 41,739,221 seed capital to a number of associations in the formal and informal sectors with at least 6,569 members. The major livelihood and micro-financing programs being implemented by DOLE include DOLE Priority Programs for 2009-2010, DOLE Integrated Livelihood Program (DILP) and Comprehensive Livelihood and Emergency Employment Program (CLEEP).

## STRATEGIC INTERVENTIONS

In order to address the challenges identified in the aforesaid sub-sectors and attain the region's social development goals for CY 2011-2016 and MDG commitments, the region has to push for the implementation of the following strategic interventions:

- Identify the average Student-Classroom Ratio and Student-Teacher Ratio by schools division and districts to determine where the classrooms and teachers are concentrated and areas which have severe shortage of classrooms and teachers.
- Monitor the implementation of the Conditional Cash Transfer (CCT) program of DSWD wherein part of the cash provided to families will be spent on education in order to attain the 2015 MDG target of 100% participation rate for basic education. The introduction of the K+12 strategy of the current administration and the eventual implementation of the Regional Education For All (EFA) Plan of DepEd Region 02 would likewise address the downward trend for public secondary schools participation and graduation rates completed with the increase in the budget allocation for education.
- Provide teachers with seminars, trainings and other related skills development to enhance their expertise to improve the region's mean percentage score (MPS) in the National Achievement Tests in both elementary and secondary level.
- Require all pregnant women to undergo a 100 percent pre-natal visit, ensure presence of emergency obstetric care in hospitals with trained staff, conduct of maternal review to find existing causes of maternal deaths and deployment of midwives in far-flung barangays shall be implemented to support maternal health care.
- Triple annually the current rate of increase of 0.41% access to safe water in order to attain the 100% MDG target by 2015. Likewise, watershed areas should be protected and programs on water conservation measures should be promoted.
- Allocate funds for the improvement of the socio-economic status of LGU constituents, particularly the poor. Likewise, LGUs should start utilizing their 20% allocation for the MDG-related programs and projects to enhance the socio-economic status of their constituents.

- 
- Intensify the malaria case-finding at the barangay level to immediately identify the households at risk of malaria. Similar intervention should be extended in determining and controlling the spread of tuberculosis. Health workers of LGUs should be equipped with knowledge and supplies to directly address malaria cases in their respective localities and trained to handle TB cases.
  - Establish solar panels, micro-hydro and wind mills as alternative sources of energy in far-flung barangays without access to electricity.
  - Establish more socialized housing programs and projects through the collaboration of LGUs, Gawad Kalinga and other housing institutions. These housing programs and projects should be affordable and acceptable to satisfy the comfort of the household.
  - Ensure the strong commitment of LGUs to align their programs, projects and activities along these needs. Moreover, there is a need to enhance coordination and cohesion of all government and non-government agencies involved in social development.

---

# Chapter 7: Peace and Security

To ensure growth in productivity and socio-economic growth, the region needs to secure peace and order, ensure a stable policy environment and improve the protection of lives, property and businesses.

Processes or systems that promote basic human rights as well as gender development will likewise enable the achievement of the planned growth and progress of the region.

## ASSESSMENT AND CHALLENGES

### Peace and Order and Law Enforcement

The region is still way below the plan target of 95% crime solution efficiency. Record from the PNP showed that average crime solution efficiency for the period was only 82%. An average monthly crime rate of 6.70% was registered during the entire period with the average monthly crime rate increasing by an average of 19% per annum. The region's crime volume (both index and non-index crimes) increased by an average of 15.61% per year with crime solution volume falling by an average of 1.36% per annum. Most of the reported cases, however, involved vehicular accidents resulting to physical injuries and less on heinous crimes.

**Table 7.1. Crime Volume, Crime Rate and Crime Solution Efficiency  
Region 2, Actual Accomplishment  
CY 2004-2009**

| Indicator                  | 2004   | 2005   | 2006   | 2007   | 2008   | 2009   |
|----------------------------|--------|--------|--------|--------|--------|--------|
| No. of Index Crimes        | 1,018  | 825    | 698    | 749    | 617    | 1,314  |
| No. of Non-Index Crimes    | 969    | 790    | 543    | 793    | 628    | 1,362  |
| Crime Volume               | 1,987  | 1,615  | 1,241  | 1,542  | 1,245  | 2,676  |
| No. of Crimes Solved       | 1,812  | 1,469  | 1,158  | 1,388  | 944    | 1,373  |
| Crime Solution Efficiency  | 91.19% | 90.96% | 93.30% | 90.05% | 75.82% | 51.31% |
| Average Monthly Crime Rate | 5.89%  | 6.10%  | 3.68%  | 4.57%  | 4.21%  | 9.06%  |

Source: Philippine National Police, Police Regional Office 2

The peace and order situation in the rural area has improved compared to the urban area where it worsened. This should be addressed immediately to sustain an environment that is supportive of economic growth. The challenge is for the law enforcers to work towards the attainment of a crime-free region.

Nevertheless, the PNP Regional Office 2 exerted effort to lay the foundation for sustained growth in the region by addressing the dire need for a stable political and security situation in all the provinces of the region. Serious campaigns and advocacy activities were continuously conducted to ensure stability and sound economic environment for investors.

---

The Philippine National Police (PNP), National Police Commission and Philippine Army, among other law enforcement agencies, were instrumental in maintaining manageable peace and order condition in the region. The success of the law enforcers in ensuring peace was largely attributed to the overwhelming support of the public. Every community in the region served as the guardian of their homes and became sensitive and vigilant with their surroundings.

Given the PNP and community collaboration, the region was successful in its major campaigns on crime prevention such as the campaigns against: Dangerous Drugs; Illegal Gambling; Illegal Logging; Carnapping; Highway Robbery; Illegal Fishing; Cattle Rustling; Prostitution or Vagrancy; Child Abuse; Loose Firearms; Top-Most-Wanted Persons; and Campaign Against Syndicate/Criminal Gangs, among others.

To further strengthen the PNP and community partnership, the Police Regional Office 2 institutionalized the PNP TXT 2920, a TIPSTER Project which immediately addresses the credibility issues by directly responding to the complaints and concerns of the citizen through text messaging. Likewise, an Anti-Crime Volunteers has been organized to support the PNP in times of crisis. This was composed of civilians and businessmen. Various rescue and relief operations were also extended to communities hit by natural calamities during the year.

Other community empowerment activities of the PNP include the conduct of lecture-type sessions to the different barangays in the region. The program was tagged as “Barangay at Pulisya Laban sa Krimen”. Likewise, the PNP intensified its Promotion of Human Rights during the period with IEC activities and the establishment of a Human Rights Desk in every police office and station in the region. The desk will cater to complaints related to human rights abuse and similar cases on human rights. Similarly, desk in every police station was also dedicated for cases on abuse against women.

## Security

The Philippine Army, on the other hand, is continuously monitoring and assessing the region’s security from terrorist threats as well as internal security threats from communist rebels. Considering the geographical location and the region’s land-lock characteristic with vast forest areas, the region is ideal for the refuge of the communist rebels from neighboring regions, particularly from the Ilocos and Cordillera regions. However, in 2010, the Philippine Army confirmed that the remaining New Peoples Army (NPA) Fronts have weakened but still active in propaganda. While the threat of terrorist and communist rebels in the region has lessened, there is a need to continuously encourage the return of the remaining rebels in the region to the government.

Along with the protection of the region’s territorial integrity, was the continuing effort of the regional stakeholders in ensuring the safety and security of the populace in terms of social services and economic opportunities, thus, the importance of broader access of the regional populace, especially the poor, to social services and economic opportunities to guarantee their socio-economic security.

For the region’s local waters, the Bureau of Fisheries and Aquatic Resources in collaboration with the Philippine Coast Guard, Philippine Navy and PNP-Maritime are continuously spearheading the enforcement of Fishery Laws in the territorial waters including the 200-mile EEZ of the country against Illegal Unreported and Unregulated (IUU) fishing activities. The BFAR MCS Patrol Boats were used to monitor the local waters to safeguard the region’s aquatic resources from

domestic and foreign exploitation. The constant monitoring of the region's waters resulted to the apprehension of 16 foreign vessels and the filing of appropriate charges to some 99 poachers from CY 2006-2009 with a total fine of PhP12.43 Million was collected from these violators. Despite the apprehension of poachers and filing of both criminal and administrative cases, poaching is still eminent in the region. The RDC has raised to the national policy makers the concern of poaching and the need to amend the Fishery Laws and its implementing guidelines.

**Table 7.2. Apprehensions on Poaching Incidence in Region 02 Waters  
Actual Accomplishments, CY 2006-2009**

| Indicator                                  | Calendar Year |          |         |          |
|--|---------------|----------|---------|----------|
|  | 2006          | 2007     | 2008    | 2009     |
| No. of Foreign Fishing Vessels Apprehended | 5             | 4        | 1       | 6        |
| No. of Poachers Apprehended                | 27            | 20       | 5       | 47       |
| No. of Cases Filed                         | 10            | 7        | 2       | 9        |
| - Criminal Cases                           | 5             | 4        | 1       | 6        |
| - Administrative Cases                     | 5             | 3        | 1       | 3        |
| Amount of Fines Collected ('000)           | 5,768.50      | 5,520.10 | No data | 1,143.75 |

Source: Bureau of Fisheries and Aquatic Resources, Regional Office 2

About 71,400MT of capture fisheries were being lost annually to poaching with an estimated value of PhP7.1 Billion.

## STRATEGIC INTERVENTIONS

In ensuring peace and security in the region, the following strategic interventions were identified through a series of stakeholders' consultation.

- Meet the standard size of 1 police officer in every 500 populace. With greater police visibility in crime prone areas, occurrence of crime will be prevented. In achieving an insurgent free region, the participation and support of the community shall be encouraged and maximized.
- Implement the 10%-90% deployment program of PNP personnel. Of the total strength of PRO2 uniformed personnel, 90% shall be assigned in the field, while 10% shall address security concerns at the Head Quarters.
- Conduct tactical trainings and other related skill development activities for the region's law enforcers to improve the region's peace and security.
- Formulate and implement the Human Rights Based Action Plan (HRBAP) that entails programs, projects and activities on the protection and promotion of human rights.
- Implement programs, projects and activities related to gender and development policies of the government. The five (5) percent of the agency fund allocation shall be carried out exclusively for GAD-related activities.
- Conduct of internal security operations to control the proliferation of rebels in the region. Along with their operations is a synchronized effort to encourage these rebels to return back

---

to the government through the Philippine Army's infrastructure services such as construction of farm-to-market roads, bridges and school buildings, among others; and their social services such as medical and dental and class-lecture missions.

- Implement programs, projects and activities to ensure the socio-economic security of the regional populace in terms of security of tenure for employed individuals, food security for all, security in terms of due process of law, and security from natural calamities, among others.
- Strengthen the implementation of Fishery Laws where the BFAR shall advocate on the legitimization and implementation of the Regional Plan of Action (RPOA) to prevent, deter and eliminate illegal, unreported and unregulated fishing activities in the regional waters.

---

# Chapter 8: Environment and Natural Resources

Sustainable resource management has been the key principle towards balance and healthy environment. Having been blessed with the Sierra Madre Mountains and the mighty Cagayan River, the region makes use of these endowments to boost its economy and provide necessary environmental services. If sustainably managed, it will serve as the region's refuge and can help create resilience against climate change and natural hazards. Well-managed watersheds ensure economic stability by supporting our agriculture sector, (the region's main economic contributor) to maximize its productions. This ideal concept however relies on good governance and collective action of multi-stakeholders.

Therefore, this chapter features the current state and vital strategies towards the maintenance and conservation of our remaining natural resources.

## ASSESSMENT AND CHALLENGES

### Forest Management

The region's performance in managing its forests was relatively difficult given the differing targets for 2005-2007 and 2008-2010. Performance for the period 2008-2009 was better than the earlier half of the plan period. All PPAs targets were met or even exceeded during the two-year period. Of note is the delineation of permanent forest boundaries wherein 2 watershed rehabilitation efforts fell by a cumulative 3,391 hectares (against a cumulative target of 4,271 hectares) and only 2,332 km out of the targeted 2,524 km forest boundary lines were delineated.

The low performance in forest management is reflected by the continuous shrinking of forest cover in the region. Manifestation of its effects is the frequent occurrence of floods and prolonged droughts as well as the massive erosion, coral reef siltation and groundwater depletion. The meandering of rivers resulted to extensive riverbank erosions carrying with it the rich agricultural lands that add up to increasing environmental degradation. In 2003, the Cagayan Valley Region had the second highest forest cover at 1.15 million hectares representing 16% of the country's forests. Still, the region's forest cover dropped by almost 30% from 1999-2003. While the 2008 Compendium of Philippine Environment Statistics shows that the major cause of forest "disturbance" in the region is forest fire, we cannot discount the fact that illegal logging or timber poaching is a major cause if not the primary cause of forest degradation in the area. DENR 2010 Annual Report revealed a total volume of 736.28 cubic meters confiscated forest products and apprehended 63 conveyances.

Other sources estimate the annual reduction in mossy forests area by 1,010 hectares and pine grove areas by 253 hectares.

---

Another major contributor to forest degradation is the continuous population growth and migration of other Indigenous groups to the upland areas of Sierra Madre from the Cordillera. Slash and burn practices have contributed to the rapid forest cover loss and conversion of forest lands into agricultural purposes.

## Mineral Resource Management

The region sustained its good performance level during the plan period with marked increases in the number of Exploration Permits (EP) from only 6 in year 2006 to 12 in year 2009 and the conversion of FCF Mining Corporation's EP into a Financial Technical Assistance Agreement.

There are two mining companies operating in the region, namely, Oceana Gold Philippines and FCF Minerals Corporation with exemplary compliance to mining standards and protection of mining forest areas cited during the Philippine Mineral Industry and Environmental Awarding. The government continues to monitor these mining companies along with other large and small scale mining projects to ensure the overall environmental sustainability of the region.

The Development of Small Scale Mining Development Program sustained its programmed targets with an average of around 30 mining projects granted permits yearly or an average performance rate of 502% during the period under review. The years 2008 and 2009 saw the upsurge of small-scale mining activities particularly in the province of Nueva Vizcaya where gold panning and small-scale gold mining operations were being undertaken. While small-scale mining operation contributes to the economy, its ecological sustainability is being questioned. Adverse effects of the booming small-scale mining in the region include destruction of watersheds and quality of water. Chemical waste used in ore processing which are disposed of recklessly, harm river biodiversity. In addition, health risk is very high due to lack of safety measures and equipments instituted and used by small-scale miners.

## Geological Hazard Mapping

As part of the disaster risk reduction campaign, geological hazard assessment survey was conducted in 9 municipalities covering 111 barangays regionwide to ascertain their susceptibility to landslide and flood, bringing to 94% (2,115 out of 2,252 barangays) the region's cumulative coverage. Results of the survey conducted in 2009 showed 68 or 61% of the barangays are vulnerable to landslides while 81 or 73% are prone to flooding. Survey results were used as inputs in the generation of geohazard maps such as landslide and flood prone susceptibility maps, soil erosion maps and fault maps. In Figure 8.1, areas located near the Cagayan River and its tributaries are highly vulnerable to flood. About 40% of the total land area of the region is susceptible to flooding. High risk areas to flood have about 250,000 hectares and 650,000 hectares are moderately susceptible. Flood risk areas are usually located near the Cagayan river system. Relatively, highly susceptible areas to landslide in the region, as indicated by prominent red patches in the map, are commonly situated in hilly and mountainous parts of the region. The high susceptibility of these areas depends on factors such as land cover, soil type and slope gradient.

Soil erosion, as shown in Figure 8.2, reflects different levels of erosion in the region. Areas with poor vegetation, weak soil structure along the river systems have severe to moderate erosion.

---

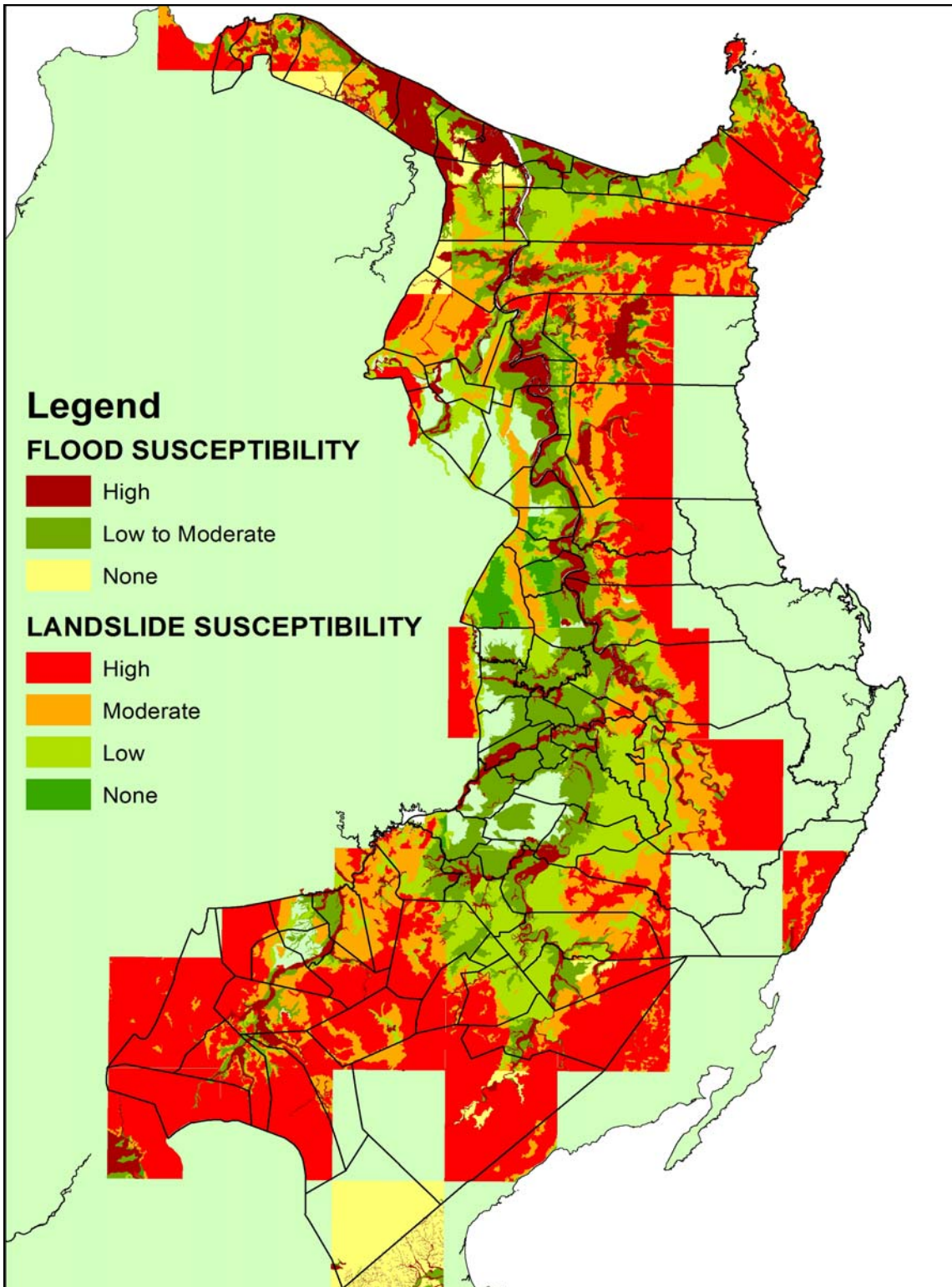
The average erosion rate for open grasslands is about 268 tons per hectare per year. Densely vegetated areas like the Sierra Madre is likely to have slight or no apparent erosion. Secondary forest has an average soil erosion of 3 tons per hectare per year.

Active fault lines in the region as shown in Figure 8.3, pose another threat together with the liquefaction as a possible effect of earthquake occurrence. Some of the prominent fault lines in the region include the Digdig fault in Nueva Vizcaya, Divilacan fault in Isabela and Dummun River fault in Cagayan. The alluvial plains of the province was spared from major fault lines which minimize the destructive effect of ground shaking to its existing infrastructures. In consideration of this, production of necessary hazard maps shall serve as basis in integrating disaster risk reduction in local plans and to come up with mitigating measures such as zoning, controlled development on affected areas, identification of buffer zones and others. In both cases, the national government issued proper advisories to concerned LGUs and communities for guidance and immediate implementation.

Geological hazards as presented from the survey are exacerbated by the region's vulnerability to typhoons which incur costly and substantial damages to agricultural crops, vital infrastructure and properties as a result of floods, landslides and other destructive effects. Tens or even hundreds of million pesos have been poured into relief and rehabilitation efforts annually. Just recently, in October 2010, super typhoon Juan (Megi) pounded the region with its destructive force which reached PSWS No. 4. The typhoons 2-day rampaged in the region left 197, 606 families and 892,838 person helpless against the purge of nature. The region's most affected areas were the coastal municipalities of the province of Isabela where typhoon Juan had a direct hit. Typhoon Juan inflicted 11 casualties and 147 injuries, the highest among other affected regions. Agriculture sector of the region suffered relatively high with a total of 151,962.65 hectares and total damages and production loss of Php. 3.985 billion. Droughts have also wreaked havoc on the region's economy with its agriculture sector suffering an 8.82% decline in the sector's GVA between CY 2004 and 2005.

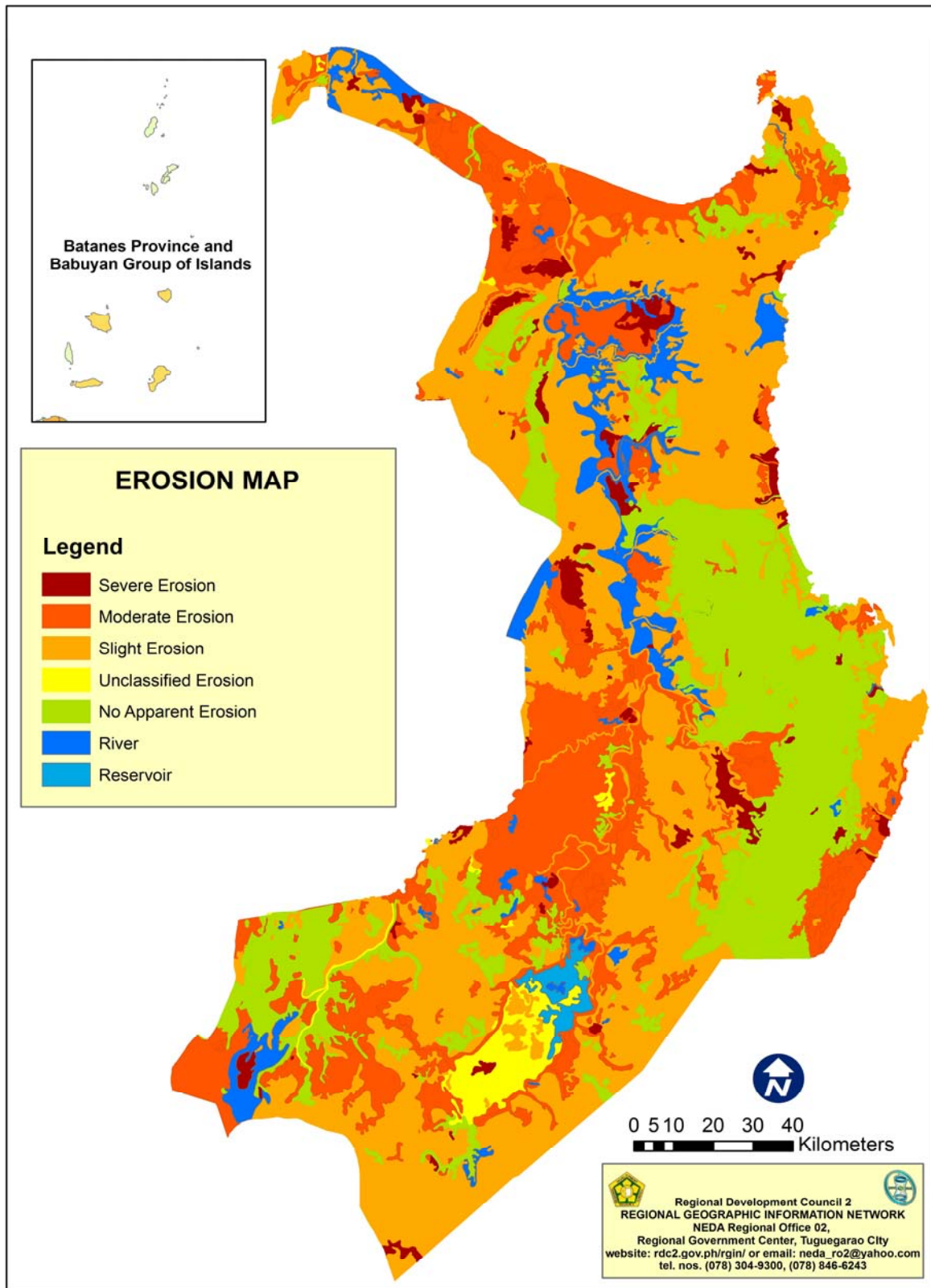
Complementary measures were carried out such as the provision of technical assistance to LGUs and NGOs for the conduct of geological survey and assessment on Gawad Kalinga Projects, Core Shelter Projects, Solid Waste Disposal Sites, and Sanitary Landfill Sites.

Figure 8.1 Flood and Landslide Susceptibility Map of Region 2



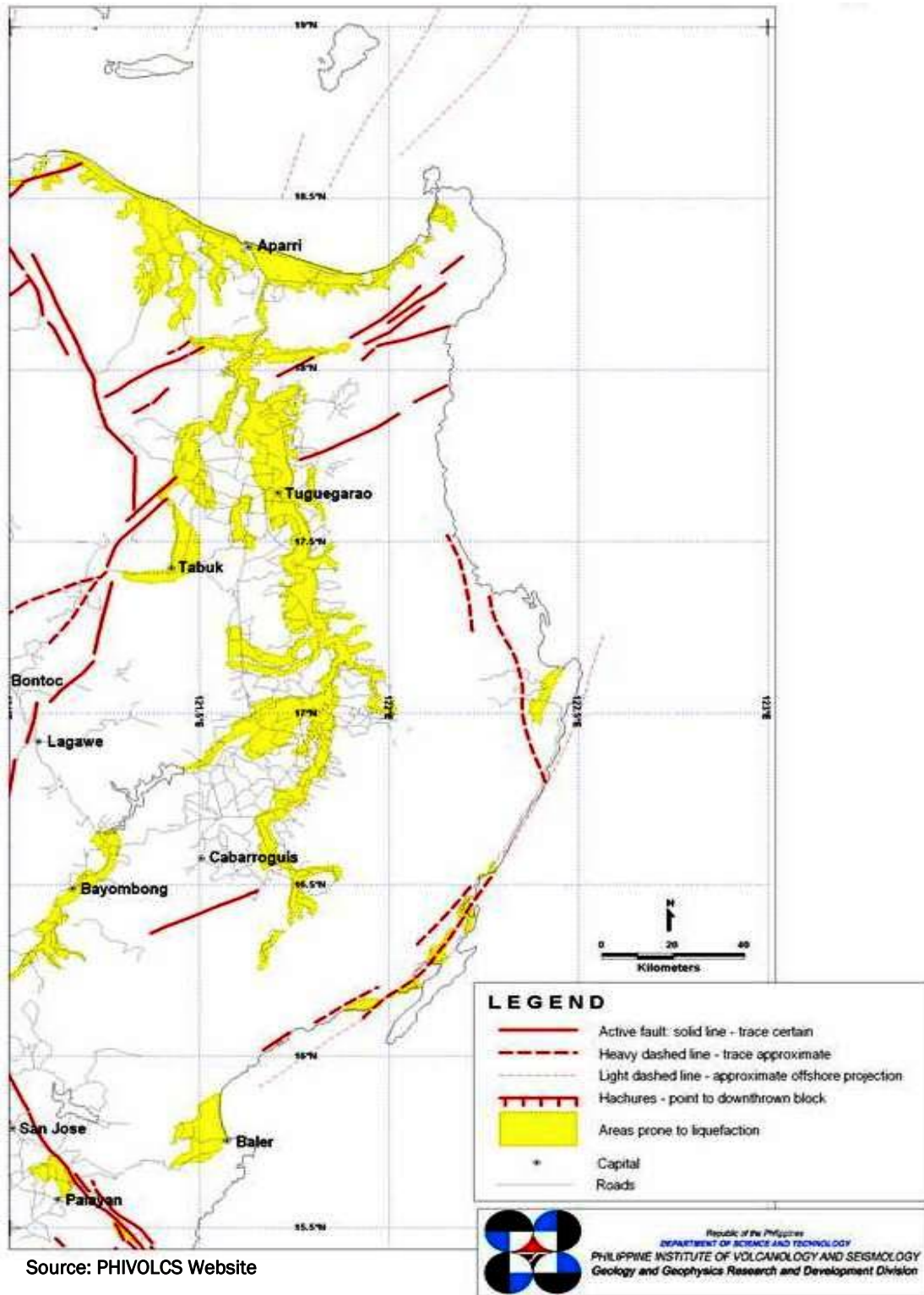
Source: RDC2 RGIN

Figure 8.2: Erosion Map of Region 2



Source: RDC2 RGIN

Figure 8.3: Active Faults & Liquefaction Susceptibility Map of Region 2



Source: PHIVOLCS Website

---

## Protected Areas, Coastal Resource Management and Biodiversity Conservation

During the period, Peñablanca and Quirino were declared as protected areas bringing the total area of protected areas under the NIPAS to 962,552 hectares. But these efforts seem to be insufficient towards the conservation of the whole stretch of Sierra Madre. A gap still exists as the Northeastern Protected Landscape and Seascape has not been proclaimed to form a solid block of protected area. This gap serves as the entry point of timber poaching and slash and burn farming. Pursuant to the provisions of the NIPAS Act, the region has been continuously assisting and empowering the PAMBs of the 14 protected areas within the region. Although this performance is below the 2008 and 2009 regional target of 56, the DENR has adjusted its target to 14 per year. In 2009, briefings on DENR AO 2008-26 that sets out the IRR of NIPAS Act were conducted for the PAMBs of Northern Sierra Madre Nature Park, Salinas Natural Monument and Peñablanca Protected Landscape to enhance their capacity in the management of protected areas.

Along biodiversity conservation, the percentage of accomplishments along monitoring of priority wetlands and migratory bird sites for avian flu and cave assessment and classification remained low due to limited LGU resources. Performance gaps in these areas, however, were offset by the following accomplishments: enforcement of wildlife laws and regulations, the preparation of cave management plan with the participation of NGOs, LGUs and community folks and continued operationalization of the Regional Cave Management Committee. Other support interventions include the Philippine Raptors Conservation's monitoring and identification of Philippine Eagle habitats/nest sites in various parts of Isabela and Cagayan and establishment of critical habitats for crocodiles.

On the other hand, government initiatives to promote an integrated coastal and marine resource management resulted in positive gains, particularly on coastal area assessment and profiling which resulted to the preparation of Municipal Coastal Environment Profile (MCEP), and establishment and management of marine sanctuaries. This can be attributed to the intensive IEC of different programs including Climate Change and active involvement of LGUs and other stakeholders. However, the LGUs' lack of resources and capacity to fully undertake integrated CRM particularly in the area of mangrove management and protection remains a challenge to be addressed. In addition, the conduct of trainings on Marine Mammal Stranding to LGUs in the coastal areas as an immediate and effective response in rescuing stranded marine mammals is imperative.

The years 2005-2008 saw minimal accomplishments along ecotourism development. It was only in 2009 that 9 ecotourism sites were developed against the target of just 2 sites to be developed. The modest accomplishments for the 2005-2009 may be attributed to the LGU's inability to undertake required activities due to funding constraints.

## Land Management and Ecosystems Research and Development

The region remained on track of its goal of rational and judicious allocation, utilization, management and disposition of land resources. A total 42,005 hectares of lands under CARP were titled and/or surveyed for the plan period surpassing its cumulative target of 37,500 hectares. Regular land disposition surpassed its cumulative targets for 2008-2009 by 82.50%

---

or a 182.50% accomplishment. In addition, regular and special projects under PRS '92 Systems undertook the recovery of old reference stations and establishment of reference monuments. A total of 475 regular and NAMRIA PRS '92 control points were established as compared to the total plan target of 435 control points.

Data generation and technology development for the environment and natural resources were undertaken through researches. The region posted 95% accomplishment of its targets. Improvements were particularly noted in the evaluation of alternative sources of raw materials and assessment of seed yield. Furthermore, other continuing research studies include the Vulnerability Assessment of the Lower Magat Forest Reserve in Diadi, Nueva Vicaya and the survey and mapping of selected biofuel species in parts of Quirino and Nueva Vizcaya.

## STRATEGIC INTERVENTIONS

Considering the regions current state of its natural resources, concrete initiatives must be implemented to further enhance and sustain its development. The proclamation of other protected areas in the Sierra Madre and conservation of its globally threatened species are among the practical strategies. Moreover, new laws are being formulated to go with the changing condition of our environment and attitudinal perceptions of people towards our natural resources. Furthermore, social programs aimed at localizing sustainable resource management, such as CBFM, SIFMA, Ancestral Domains and others, should be given attention to promote the involvement of the communities.

Given the aforementioned, the following are the strategic interventions to be pursued:

- Mainstream Disaster Risk Reduction/Climate Change Adaptation in Local Development Plans such as PDPFPs and Local Decision-Making Processes;
- Implement the Cagayan River Basin Master Plan;
- Proclaim other Protected Areas along the Sierra Madre Corridor;
- Implement the Integrated Coastal Resource Management Plans which include delineation of municipal waters to resolve fishery resource conflicts;
- Implement strictly the Fishery and Environmental Laws coupled with the training of Deputy Fish Wardens, Organize or strengthen Fisheries Aquatic Resource Management Councils (FARMCs), implement Monitoring Control and Surveillance (MCS) to include Vessel Monitoring System (VMS) and Fisheries Observer Programme (FOP) to combat illegal, unreported and unregulated fishing;
- Advocate for the Enactment of the Sustainable Forest Management Act;
- Research on Sedimentation and soil erosion, including baseline data for water quality;

- 
- Operationalize Executive Order No. 23 declaring a Moratorium on the cutting and harvesting of timber in the natural and residual forest and Creating the Anti-illegal logging task force nationwide;
  - Implement Executive Order No. 26 or the National Greening Program which include green benches;
  - Provide appropriate tenurial instruments to open access areas. Open access areas such as forest lands are very vulnerable to encroachers which practice slash and burn. In order to regulate this, tenurial instruments such as ISF or CBFM should be provided and sustainable resource management such as Agroforestry technology should be introduced.
  - Sustain continuing efforts for environmental education through formal and non-formal channels maximizing the partnership between government and the media practitioners;
  - Mainstream payment of environmental services; i.e. collecting user's fee for the use of environmental services such as watershed. Collected fees will be use in the rehabilitation and protection of the said environment or watershed.
  - Implement REDD++ (Reducing Emission from Deforestation and Forest Degradation and Biodiversity);
  - Deputize Indigenous People for forest protection activities within their ancestral domain areas;
  - Advocate for the enactment of the Sustainable Forest Land-Use Bill; and
  - Rationalize and harmonize existing policies dealing with environment and natural resources preservation and utilization.

