



LOCAL CLIMATE CHANGE ACTION PLAN (LCCAP)

2021 - 2025



FOREWORD

"We do not inherit the earth from our ancestors, we borrow it from our children."

-Native American Proverb

As the whole world is facing new threats and the humanity is battling against food and water scarcity, religious conflict, covid19 pandemic and the likes, the problem on climate change is still at the zenith of these global catastrophic risks. The impacts of climate change are global in scope and unprecedented in scale.

Climate change is one of the strongest development agenda of the 21st century; global scientific studies conducted by the Intergovernmental Panel on Climate Change (IPCC) have already confirmed that the change in global temperature is already unequivocal. In the Philippines, the manifestation of extreme weather events which cause losses in terms of livelihoods, infrastructure, and even lives has become more frequent in recent years. With the passage into law of Republic Act 9729 or the Climate Change Act of 2009, local government units (LGUs) were tasked to serve as frontline agencies in the formulation, planning and implementation of climate change action plans in their respective areas. Cognizant of the fact that climate change is a multi-sectoral concern, the involvement of all levels of government in the urban resilience planning process is crucial in order to attain higher probability of desired outcomes.

Many municipalities in the Bicol region views Naga City as the region's religious center which has been aptly dubbed as a Pilgrimage City. It is also the center of trade and commerce in Bicol and a fast-growing urban center. It is a common understanding that if the economic condition of Naga collapses then the neighboring municipalities will be affected. However, Naga city is exposed to various natural hazards such as typhoons, flooding, landslide, volcanic eruption and ground movement. Thus, it becomes imperative for the city to have a comprehensive climate change adaptation/mitigation and disaster risk reduction management plan to prepare its residents, physical assets and natural wealth from eventualities that could push back its economy and the quality of life of its people.

As such, the city to put in place its Local Climate Change Action Plan (LCCAP) which integrates climate adaptation/mitigation measures with disaster risk reduction and management measures. This said plan serves as critical intervention on identified sector and eco-system vulnerabilities. Some of the interventions are on-going and expanded while others are being funded by regular programs of the city. However, there are subprojects that would require external funding and technical support for the city to be able to achieve its plan. The subprojects will be further defined including its prioritization as the city continuous to update the various hazard maps and various plans. This is a five (5) year plan (2021-2025), after which the said plan shall be reviewed based on what was achieved vis-à-vis current needs and priorities.



TABLE OF CONTENTS

ACRONYMS	4
TABLES AND FIGURES	6
CHAPTER I: BACKGROUND AND RATIONALE	7
LEGAL MANDATE	7
THE NAGA CITY ACTION PLAN	7
GUIDING PRINCIPLE	8
THE LCCAP PLANNING FRAMEWORK	9
Planning context and approach	9
The Planning framework	10
METHODS EMPLOYED	10
PLANNING PHASES	11
PLANNING TEAM	11
CHAPTER II: LGU PROFILE	12
CITY PROFILE	12
History	12
The Making of a City	12
Mission and Vision	12
Geographical Location and land area	13
Territorial Composition	13
Topography	13
Population	13
Employment	14
Literacy	14
Health	14
Housing	14
Poverty Incidence	14
ENVIRONMENT AND NATURAL RESOURCES	15
Area under vegetation	15
Water Resources	15
Air Quality	15
Biodiversity	16
Solid Waste Management	16
Sanitary landfill	16
WATER RESOURCES AND SUPPLY	18
ENERGY SOURCES AND SUPPLY	18
EXISTING LAND USE	19
ECONOMIC DEV'T ISSUES AND DEV'T EFFORTS, THRUST/PLANS	20
ENVIRONMENT AND NATURAL RESOURCES ACCOUNTING	22
Land Use Account	23
SUMMARY OF ENRA RESULT	23
Climate	25
Existing Climate Change Policies, Programs and Projects	25
Ecosystem	25
Infrastructure	26
Tourism	26



NAGA CITY LOCAL CLIMATE CHANGE ACTION PLAN 2021-2025

Transport	27
DRRM/CCR	27
Agriculture	27
CHAPTER III: VULNERABILITY ASSESSMENT	28
SUMMARY OF FINDINGS	28
NATIONAL CLIMATE CHANGE SCENARIO	28
LOCAL CLIMATE CHANGE SCENARIO	29
Precipitation/Temperature Change	29
Rainfall Change	30
Sea Rising Level	30
Extreme Events	30
ELEMENTS, SECTORS AND INSTITUTIONS EXPOSED TO CC IMPACTS	31
Summary of Hazard Exposure	31
Barangays Exposed to Various Hazards	31
Population Exposed to various Hazards	31
SUMMARY FINDINGS OF VULNERABILITY ASSESSMENT	31
Sectoral CCVA: Health Sector	33
Sectoral CCVA: Water Resources Sector	34
Sectoral CCVA: Transportation Sector	34
Sectoral CCVA: Forestry Sector	35
Sectoral CCVA: Agriculture Sector	35
NAGA CITY GREENHOUSE GAS INVENTORY	36
Summary of findings	36
Net Emission	36
VULNERABILITY ASSESSMENT ON URBAN SYSTEM	37
Urban System: Ecosystem	37
Urban System: Energy	37
Urban System: Environment Health	38
Urban System: Land	38
Urban System: Public Safety and Security	39
Urban System: Shelter	39
Urban System: Water	40
ADAPTIVE CAPACITY ASSESSMENT	40
Urban System Scanning	41
Identifying Vulnerable Actors	42
CHAPTER IV: PLAN OBJECTIVES	45
SUMMARY OF CLIMATE CHANGE ISSUES TO BE ADDRESSED	45
LCCAP GOALS, OBJECTIVES AND OUTCOMES	47
CHAPTER V: CLIMATE CHANGE ADAPTATION AND MITIGATION ACTIONS	49
CAPACITY DEVELOPMENT	52
Capacity Building Needs	52
Legislative Requirement	52
Gender Mainstreaming	53
Results and Resources Framework	54
CHAPTER VI: MONITORING AND EVALUATION	60
MONITORING TEAM, PLANS AND TARGETS	60
REFERENCES	62