CLIMATE CHANGE ASSESSMENT FOR SORSOGON, PHILIPPINES: A SUMMARY



CITIES AND CLIMATE CHANGE INITIATIVE

UN HABITAT
FOR A BETTER URBAN FUTURE

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INTRODUCTION

1.1 CITIES AND CLIMATE CHANGE

Millions of people around the world are already, or will be, affected by climate change. Urban areas, which typically feature high concentrations of populations and buildings, are particularly vulnerable. Climate change is expected to compound the overall vulnerability of urban areas through rising sea levels, more frequent and stronger weather events, and inland flooding, among other challenges. At the same time, cities are major sources of greenhouse gases, and therefore must stand at the forefront of mitigation efforts. Mitigation and adaptation to the effects of climate change must take into account the vulnerable natural and human systems existing in our urban areas and their surroundings.

In many countries, cities are located in coastal areas, beside rivers, on steep slopes or other risk-prone areas. Infrastructure such as roads, water networks, transmission lines, schools and hospitals providing basic services for urban populations, are vulnerable to extreme climatic events such as floods, storms or landslides. Cities located in tropical coastal areas are particularly vulnerable to cyclones or rising sea levels, the frequency and intensity of which have been on the increase over the past three decades. In addition, salt water intrusion restricts the availability of fresh water in coastal areas, jeopardizing food security as once-fertile land becomes barren due to high salt content. Cities located in the hinterland or along rivers may be vulnerable to flooding. Conversely, areas where climate change is expected to reduce rainfall may be affected by drought, shrinking water tables and food scarcity. In urban areas, the poor are the most vulnerable to the effects of climate change, and particularly slum dwellers in developing countries.

1.2 UN-HABITAT'S CITIES AND CLIMATE CHANGE INITIATIVE

Cities and local authorities have the potential to influence the causes of climate change and to find how to protect themselves from its effects. The Cities and Climate Change Initiative, a key component of UN-HABITAT's Sustainable Urban Development Network (SUD-Net), promotes enhanced climate change mitigation and adaptation in developing-country cities. More specifically, the Initiative supports the development of pro-poor innovative approaches to climate change policies and strategies. This Initiative builds on UN-HABITAT's rich experience in sustainable urban development (through the Environmental Planning and Management approach of the Sustainable Cities Programme and the Localizing Agenda 21 Programme) as well as on well-recognized capacity-building tools. The Initiative develops, adapts and disseminates the methodologies that put city managers and practitioners in a better position to cope with climate change.

The Cities and Climate Change Initiative also promotes collaboration by local authorities and their associations in global, regional and national networks; the triple rationale is (1) to enhance policy dialogue so that climate change is firmly established on the agenda; (2) to support local authorities' efforts to bring about these changes; and (3) to enhance awareness, education and capacity-building in support of climate change strategies. A major outcome of the initiative will be the development of a set of tools for mitigation and adaptation.

This report comes under the Cities and Climate Change Initiative. Four pilot cities were selected in 2009, and one of their first assignments was for each to assess its vulnerability to climate change. In addition to Sorsogon, the other three cities are Esmeraldas, Ecuador, Kampala, Uganda and Maputo, Mozambique. The aim is to provide insights on climate

change adaptation and mitigation capacity in cities in developing and least developed countries. The rationale behind this report is to disseminate the early lessons of the Cities and Climate Change Initiative.

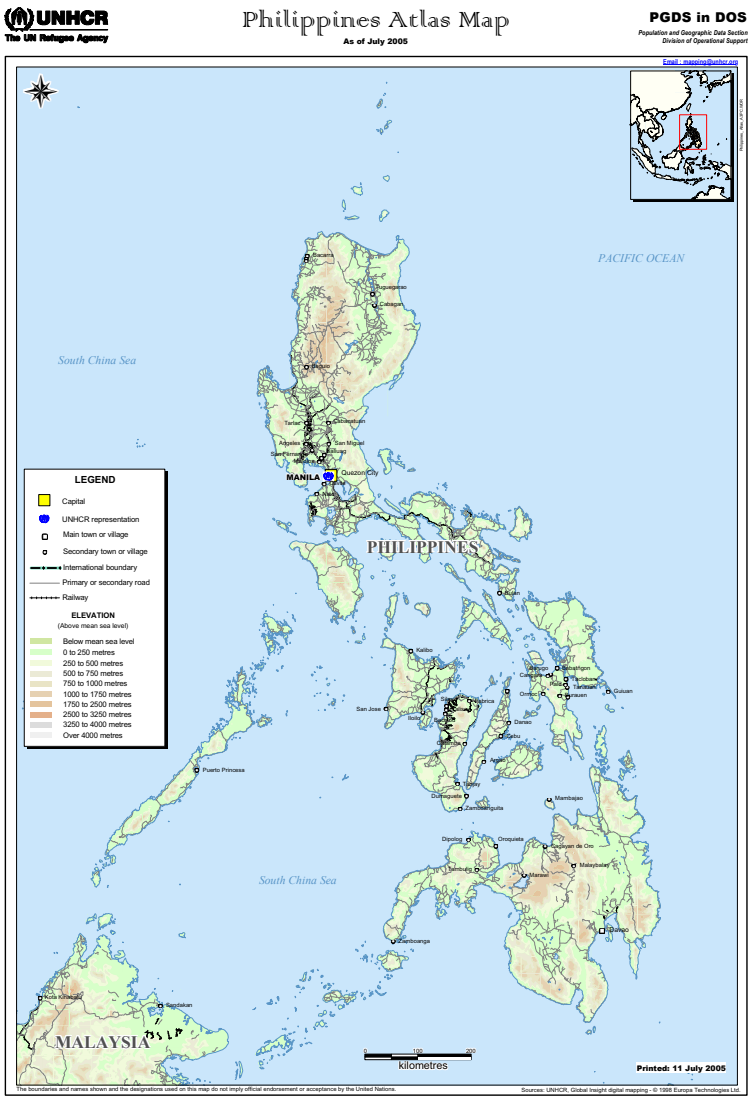
1.3 ASSESSMENT METHODOLOGY

The Philippine assessment was carried out at two levels; the national and the city level.

The national assessment reviewed existing national documents, researched on climate change and current policies, and utilised focus group discussions with key urban development stakeholders (government institutions and individual experts). It used as reference the most recent climate projections of the Philippine Atmospheric, Geophysical and Astronomical Services Administration and the National Urban Development and Housing Framework (2009-2016) support studies.

At the City Level, the assessment looked into a small coastal city, Sorsogon City in the Bicol Region. The assessment used a participatory Vulnerability and Adaptation process looking into the city's exposure, sensitivity, and adaptive capacity of the area vis-a-vis projected climate scenario, previous climate related disaster events and more importantly people's account of the past events and observations.

FIGURE.1 Map of Philippine



2.0

BACKGROUND

2.1 GEOGRAPHIC BACKGROUND

The Philippines in Southeast Asia, is geographically located approximately between latitude 4°23'N and 21°25'N and longitude 12oE and 127°E. It is composed of 7,107 islands, with a land area of 299,764 square kilometres. Its length measures 1,850 kilometres, starting from the point near the southern tip of Taiwan, China and ending close to northern Borneo.

The Philippine coastline is 36,289 km long. Three prominent bodies of water surround the archipelago: the Pacific Ocean on the east, the South China Sea on the west and north, and the Celebes Sea on the south. This position accounts for much of the variations in geographic, climatic and vegetational conditions in the country.

Except for the Cordilleras in Luzon and the mountainous regions of Mindanao, traditionally preferred sites for settlements in the country are the coastal plains, with the result that 80% of the settlements are located along the discontinuous 36,289 km coastline. These sites are the fastest growing in terms of population, commerce, infrastructure and and presence of facilities within a two-kilometer radius as determining factors. Urban areas therefore are classified as follows: (1) If a barangay[3] has a population size of 5,000 or more, then it is considered urban, or (2) If a barangay has at least one establishment with a minimum of 100 employees, it is considered urban, or (3) If a barangay has five or more establishments with a minimum of 10 employees, and five or more facilities within the two-kilometer radius from the barangay hall, then it is considered urban. From this definition, urbanization in the Philippines is largely fuelled by population growth. An increase in the urban population proportion is evident - with 37.44 percent in 1980 increasing to about 55 percent of the total national population in 1996, and at about 64% in 2007. Further into the future, it is projected that 84% of Filipinos will be living in urban areas by 2050. Migration to urban centres from rural areas is driven by relatively higher wages, more educational opportunities and readily available basic services. About 75% of the country's economic outputs are attributed to urban areas and incomes have been estimated to be 2.3 times that of rural areas (Webster, Corpuz and Pablo 2003).