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Gearing A National Statistical System Towards the Measurement of the Impact of Climate Change: The Case of the Philippines[2]

Concern for climate change has been gaining greater attention in the political agenda of most countries. Given its tropical climate, topography and geographic locale, high population density, poor socio-economic conditions and constantly evolving political environment, the Philippines is potentially vulnerable to the impact of climate change. A study by Greenpeace Southeast Asia claims that a one-meter sea-level rise, one of the effects of climate change, will affect 64 provinces of the Philippines, covering at least 703 municipalities3 and inundating almost 700 million square meters or 0.23 percent of the nation's total land area. Climate change, however, is not just an environmental issue since it has serious economic and social implications.

The alarming threat of the adverse effects of climate change in people's lives warrants a comprehensive strategic planning on the part of policy and decision makers. But planning can be truly effective only if it is based on high quality statistics. Unfortunately, environmental statistics and in particular, statistics on the impact of climate change are generally lacking both in terms of quantity and quality, particularly in developing countries. Part of the reason is that national statistical agencies have not been sufficiently involved in the generation of these statistics, not only because of resource constraints but also because of lack of subject matter expertise.

In the Philippines, a number of studies and efforts on climate change have been initiated by both government and non-government organizations. In 1994, the Manila Observatory, an academe-based non-profit, non-stock organization, released an inventory of greenhouse gases by source. As a country party to the United Nations Framework Convention on Climate Change (UNFCCC)[4], the Philippines submitted its

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[3] As of December 31, 2007, the Philippines had 1,494 municipalities and 136 cities.

[4] The **UNFCCC** or **FCCC** is an international environmental treaty produced at the Earth Summit in 1992 and took effect on 21 March 1994. The treaty is aimed at reducing emissions of greenhouse gases in order to combat global warming. The treaty as originally framed set no mandatory limits on greenhouse gas emissions for individual nations and contained no enforcement provisions; it is therefore considered legally non-binding. Rather, the treaty included provisions for updates (called "protocols") that would set mandatory emission limits. The principal update is the Kyoto

Initial National Communication to the UN body in 1999 containing a national inventory of anthropogenic emissions by source and removal by sinks of greenhouse gases and a description of steps taken or envisaged by the country to implement its commitment. The report also enumerated the sectoral issues and challenges related to the generation of data for the inventory. The government also created a Presidential Task Force on Climate Change (PTFCC) on 20 February 2007[5] that seeks to address and mitigate the impact of climate change in the country. Among the functions of the task force are to undertake/initiate strategic approaches and measures to prevent or reduce greenhouse gas emissions in the Philippines; design concrete risk reduction and mitigation measures and adaptations responses, especially short-term vulnerabilities, on sectors and areas where climate change will have the greatest impact; and, cause the integration and mainstreaming of climate risk management into the development policies, plans and programs of government. It is expected that statistical agencies and other government agencies will be involved in the generation of data pertaining to the task of the task force.

On the social impact of climate change, a paper by Greenpeace Southeast Asia in the Philippines entitled "Crisis or Opportunity: Climate Change Impacts and the Philippines", cited that the correlation study done on dengue and malaria by Amadore (2005)[6] showed that these two diseases were most sensitive to climate change as shown by the effect of temperature, relative humidity and rainfall on the incidence of these diseases. In fact, the several outbreaks of cholera, dengue, malaria and typhoid fever reported in 1998 (a La Niña year) has been attributed[7] to the extreme heat and water shortage brought by El Niño events.

Since 1995, the National Statistical Coordination Board (NSCB) has been generating environmental accounts for the Philippines.[8] And although the Philippines has yet to come up with a statistical framework and indicators system that will specifically link climate change with various social indicators, the necessary variables/statistics are officially available, for instance, environmental health statistics of the Department of Health (DOH) and human settlements data of the National Statistics Office (NSO). Indicators and statistics compiled by the NSCB through its Environment and Natural Resources Accounts (ENRA) and through the Philippine Framework for the Development of Environment Statistics (PFDES) would also be very useful.

Protocol, which has become much better known than the UNFCCC itself. It was adopted unanimously in 1997 and it finally entered into force on 16 February 2005.

One of its first achievements was to establish a national greenhouse gas inventory, as a count of greenhouse gas (GHG) emissions and removals. Accounts must be regularly submitted by signatories of the United Nations Framework Convention on Climate Change. ***Source:*** *UNFCCC website, http://unfccc.int., accessed date: March 3, 2008 and Wikipedia website, http://en.wikipedia.org/wiki/United_Nations_Framework_Convention_on_Climate_Change., accessed date: March 3, 2008.*

The Philippines aligned itself with more than 150 countries under the UNFCCCC process, signed the Convention on June 12, 1992 and ratified it on August 2, 1994. The Philippine Government likewise signed the Kyoto Protocol on 15 April 1998 and ratified it on 22 November 2001. ***Source:*** *Environmental Management Bureau, Department of Environment and Natural Resources website, http://www.cdmdna.emb.gov.ph. Accessed date: March 3, 2008.*

[5] Thru Administrative Order No. 171 signed by President Gloria M. Arroyo.

[6] **Amadore**, L.A. 2005. Economic and Social Impacts of Tropical Cyclones and the Warning System – the Philippine Situation, Quezon City.

[7] **Amadore**, L. A. 2005. Crisis or Opportunity: Climate change impacts and the Philippines. Greenpeace Southeast Asia.

[8] The accounts cover 5 resources, namely, fishery, forest, minerals, land and soil and water resources and several economic activities like agriculture, fishery and forestry (Upland Palay Farming, Intensive Shrimp Aquaculture, Hog Raising and Logging of Diptercocarp and Pine Forest); manufacturing (Tuna Canning, Textile Industry, Leather Tanning, Paint Manufacturing, Cement Manufacturing and Petroleum Refining) mining (Small Scale Gold Mining; electricity generation; and, transport services (Land-based Transportation).

However, no attempt has been made as yet by the statistical offices to directly relate climate change with these available social variables and indicators.

Given the urgency of assessing the impact of climate change to society and the strategic role that the statistical offices can and should play in the process, the present lack of capacity of statistical offices and resource constraints should not be a deterrent for the Philippine Statistical System (PSS) to be able to generate statistics towards the measurement of the impact of climate change. Through the system of designated statistics[9], the PSS can move towards the regular and timely generation of climate change-related statistics. Continuous research and studies that would involve not only official statisticians but also experts from the academe and research institutions should be done to advance our understanding of the nature, causes and impact of climate change.

The development agenda of the Philippines is articulated in the Medium Term Philippine Development Plan (MTPDP), the information requirements for the implementation and monitoring of which are served by the Philippine Statistical Development Program (PSDP). As the statistical blueprint of the MTPDP, the PSDP is prepared thru interagency collaboration including representatives from both the public and private sectors and spearheaded by the National Statistical Coordination Board (NSCB). The PSDP addresses the information requirements of the MTPDP and lays the necessary framework for generating statistics and indicators needed by various stakeholders and data users, including those from the private sector. Thus, the PSDP serves as a mechanism for defining priority statistical programs and activities of the PSS in the medium term. Besides the PSDP, the NSCB has several mechanisms at its disposal to carry out this task. Among these are the sectoral Inter Agency Committees (IAC) e.g., the IAC-Environment and Natural Resources Statistics (IAC-ENRS) and the IAC on Health Statistics which are coordinated by the NSCB and composed of producers and users of statistics from government agencies, academe and non-government organizations. They can be used as a venue towards the resolution of statistical issues on climate change.

This paper thus presents the mechanisms and structures that will be conducive to the involvement of the PSS in the measurement of the impact of climate change, with particular attention to the social impact. At the same time, it discusses the challenges facing the PSS in this direction. It also presents some statistics that are already available, both official and non-official.

[9] The system of designated statistics was passed under Executive Order 352, Designation of Statistical Activities That will Generate Critical Data for Decision-Making of the Government and the Private Sector. It lists the statistical activities that will be undertaken, the designated agency of government, the frequency, level of diseggregation and time lag of the statistics to be generated.