Conference on Climate Change, Development and Official Statistics in the Asia-Pacific Region

Seoul, Republic of Korea
11-12 December 2008

Report

I.   Introduction

1.   The Conference on Climate Change, Development and Official Statistics in the Asia-Pacific Region, organized by the United Nations Statistics Division (UNSD) in collaboration with the Korea National Statistical Office (KNSO) was held in Seoul, Republic of Korea on 11 and 12 December 2008. The Conference was hosted by the KNSO.

2.   The international statistical community, recognizing the importance of the role of official statistics in climate change issues, organized the international Conference on Climate Change and Official Statistics held in Oslo, Norway, from 14 to 16 April 2008 as a first step in the global discussion. The discussions and recommendations of the Oslo conference contributed to the formulation of a programme to strengthen the use of official statistics in this area of highest policy relevance. The purpose of the Conference on Climate Change, Development and Official Statistics in the Asia-Pacific Region was to discuss the recommendations of the Oslo conference and contribute to the finalization of a roadmap for mainstreaming climate change in official statistics. The roadmap will be submitted to the 40th session of the UN Statistical Commission in February 2009 for further discussion.

3.   The Conference was attended by 216 participants representing 18 countries (national statistical offices, environmental ministries, research and academia) and 5 international organizations.

4.   The Conference was opened by Jae Hyung Lee, President of the Statistical Research Institute. Introductory speeches were made by Dae Ki Kim, Commissioner of the KNSO and Paul Cheung, Director of UNSD to outline their objectives for the Conference. The opening remarks stressed the importance of high quality, timely, and reliable statistics for informed policy and decision making at the national, regional and global levels and the need for a programme of work for official statistics to provide, within its competency, the information required for the monitoring, measurement and analysis of the issues related to climate change.

5.   The Conference was organized in five sessions. A brief summary of the presentations, discussions and conclusions of the sessions are given in the subsequent paragraphs.

II.   Session One: Setting the scope

6.   The first session was chaired by Eszter Horvath (UNSD). The first speaker Byung Gook Lee (Prime Minister's Office, Korea) explained the national climate change policy framework of Korea that is based on the concept of Low Carbon Green Growth in which green technologies are the drivers of future growth by creating new jobs and increasing competitiveness. The Plan of Action to achieve the policy objectives covers improvements in energy efficiency, increase of R&D investments in green technologies, development of the key climate industries, improvements of the quality of life as well as strengthening the monitoring of progress towards the targets.

7.   In his presentation Jinhua Zhang (UNEP Regional Resource Centre for Asia and the Pacific) described the most critical climate change challenges that the countries of the Asia Pacific region face. He presented UNEP's strategy and actions to combat climate change in the region. He concluded by emphasizing the role of statistics and specified the most important statistics that are needed to support climate change monitoring, analysis, and policy and decision making related to the mitigation of and adaptation to climate change.

8.   Olav Ljones (Statistics Norway) spoke about the international scientific and policy background and the role of IPCC and UNFCCC. He gave a summary of the discussions at the Oslo Conference on Climate Change and Official Statistics and concluded with a number of open-ended questions on the scope of climate change related statistics and the role of official statistics in the measurement and analysis of climate change related issues. These questions included, among others (i) the relationship between meteorological/hydrological observations and official statistics; (ii) what could be achieved by the better use of existing statistics (data and methodology) and where is there a need to develop new statistical standards and data collections; and (iii) how can it be ensured that environment and climate change related statistics would satisfy the criteria of official statistics.

9.   In her summary the chair pointed out that the presentations not only gave an overview of the main driving forces and impacts of climate change and the different mitigation and adaptation response strategies in the region but also outlined the demand for specific statistics created by the scientific and policy framework of climate change. Responding to this demand is not an easy task, and the response is very much dependent on the general development of statistics in the countries. She invited the participants to address the questions raised by the presentations during the discussions in the upcoming thematic sessions.

III.   Session Two: Analysis of the social, economic and environmental impacts of climate change

10.   Session Two was chaired by Peter Harper (Australian Bureau of Statistics). The session was divided into two parts, three presentations each, followed by discussions. Raymundo J. Talento (National Statistical Coordination Board, Philippines) gave an overview of the existing mechanisms and structures available that can strengthen the involvement of the Philippine Statistical System (PSS) in the measurement of the impacts of climate change; discussed the challenges facing the PSS in this direction; presented a rough conceptual framework for climate change statistics and used this framework to identify existing statistics (both official and non-official) that are related to climate change analysis, to select indicators and to identify gaps. During the discussion the importance of a reference framework for climate change related statistics was stressed. It was suggested that the inventory of existing statistics be complemented by an inventory of statistical standards and classifications.

11.   Mohan Singh (Central Statistical Organization of India) described in his presentation India's targets in climate change mitigation and adaptation. The sources of climate change related statistics are multiple in India but despite the country's vulnerability to natural disasters there was no central database on natural disasters. The CSO has taken the initiative to develop a framework for the compilation of hazards and disaster statistics on a regular basis and is working together with the National Institute of Disaster Management to set up a database. The database will contain both physical and monetary data. By linking the climate related variables and the data on damages one can perform a detailed analysis at the district level. The effect of climate change related disasters and hazards on the economy, ecosystems and human lives can be analyzed for different environmental zones.

12.   Matt Wootton (Ministry of Agriculture and Forestry, New Zealand) spoke about the benefits of presenting statistical information in a geospatial context. His example-based presentation focused on how to incorporate and analyse statistical data in a spatial way. It was intended to get the audience thinking about another dimension in their analysis, the sometimes forgotten "spatial" dimension. Topics covered included data building, attribute enrichment, and overlay analysis with agriculture and climate-based visuals. The participants agreed that geospatial presentation adds value to the statistical data and widens the possibility of linking and analyzing data. For that, however, finer level of spatial detail in statistics and more metadata are needed.

13.   Matthias Bruckner's (UN DESA Division for Sustainable Development) presentation focused on the benefits of using sustainable development indicator sets as a basis for developing climate change related indicators at the national level. One of the benefits is the ability to address the interdependences and mutual impacts of sustainable development and climate change related measures Climate change related indicators contained in several national indicator sets were presented. Countries use a broad range

of indicators related to climate change, but indicators vary greatly across countries. Most countries focus on climate change mitigation, while there are only a few examples of indicators related to the areas of adaptation, financing and technology, where further methodological work is needed.

14.   Helmuth Mayer (Federal Statistical Office, Germany) gave an excellent example of how the analysis of existing statistics can help better understand the causes of GHG emissions and their trends. He presented the overall trends of GHG emissions by sectors. For Germany exports are a main driver for domestic production. The effect of the changes in the production of exports on the CO_2 emissions were analysed with the means of decomposition analysis. Social, economic and demographic factors influencing the demand for household energy were also analysed.

15.   The last speaker in Session Two, Julie Hass (Eurostat), focused on environmental accounting as a system approach to climate change related statistics. Differences between system boundaries, classification systems, terminologies and definitions have all contributed to the challenges countries face when implementing an accounting or systems approach to statistics that are developed within specialized fields. Some examples of how these problems had been solved with regard to the environment were described. Applying this same type of thinking – but for climate change rather than the environment – was presented as a suggested starting point to help consider concrete steps that can be taken to increase the available information from official statistics regarding climate change.

16.   The presentations in Session Two illustrated the different, but interdependent steps/approaches in the development of climate change related statistics, such as: setting up a conceptual framework; developing indicators; taking an inventory of existing data; identifying gaps; developing new statistics; and making better use of data by adding the spatial dimension, applying a system approach or using more detailed statistical analysis. The discussion focused on how the international statistical community can best assist countries in this process. Participants agreed that there is a need for international guidance on the conceptual framework for climate change related statistics and on a limited set of well selected statistics (variables or indicators) for which countries would be able to produce high quality data on a regular basis.

IV.   Session Three: The economic aspects of climates change mitigation and adaptation

17.   The session was chaired by Olav Ljones (Statistics Norway). Carbon emission trading will be one of the more important responses to climate change in many countries. The European Emissions Trading Scheme came into force in 2005. Since then, other countries throughout the world have also introduced or begun designing emission trading schemes. The global carbon dioxide (CO_2) emission allowance market constitutes a complex market for CO_2 permits. In his presentation Thomas Olsen (Statistics Denmark) introduced the Environmental-Economic Accounting framework as a tool for analysing both the physical and the monetary aspects of the permits and their flow through the economy. The Environmental-Economic Accounting framework enables the user to make

consistent analyses of the economic activity, consumption of energy, air emissions and the flow of CO_2 permits.

18.   The discussion that followed the presentation focused on (i) the availability of data for these types of analyses; (ii) the consideration of price fluctuations and volatility of the market; and (iii) the usefulness of the method in countries without trading schemes. As to the availability of data on the trade of emission permits, while it is not publicly available as a rule, statistical offices should have access to this information. The presentation used a simple approach by applying the yearly average price; however one can chose to apply even daily prices if necessary. When countries decide to set up emission trading schemes the NSOs should be ready to participate in the development of the underlying registration and information system.

19.   The presentation by Torstein Bye (Statistics Norway) focused on the mitigation aspects and instruments in particular. The Stern report argues for a range of instruments, i.e. a combination of economic instruments, technology instruments, regulatory instruments etc. The presenter showed that principally all instruments create shadow prices in the market and may be perceived to be just a combination of the two simple tax and subsidy instruments, although the combination factor is endogenous. Implementation of these instruments creates a need for monitoring and production of statistics. A comprehensive set of consistent statistical tables were introduced that allowed to trace the driving forces of environmental consequences, the instruments introduced to combat the changes and the net effect. These data tables form an information base for those who are interested in background statistics and for analyses of the impacts of policy measures. The presentation gave some empirical illustrations by combining actual figures for Norway from a set of such consistent tables and drew conclusions from the tables on the share of burden by the different sectors.

20.   The discussion included questions on how to separate the carbon element in taxes and how to deal with indirect instruments and the time element, when the price effect follows after a time lag. The attention was drawn to the ongoing revision of the definitions and classifications of economic instruments and to the need to take the issues mentioned in the presentation into consideration in this work.

V.   Session Four: National greenhouse gas inventories, emission calculations and the role of national statistical offices

21.   The four presentations in this session dealt with the national reporting of greenhouse gas emissions with a focus on the institutional setup and data sources, and, in particular, the role that official statistics and the NSOs are playing in the system. The session was chaired by Seung Do Kim (Hallym University, Korea).

22.   The first presenter, Seong Ho Han (Korea National Statistical Office) described the current system of the Korean GHG emission inventory. The quality of the estimation is not sufficient enough and it has not been managed systematically. Therefore it is

necessary to improve emission data by setting up the system for ensuring the quality of the inventory through planning, preparation and management of inventory activities. Due to these reasons, Korea is now preparing to build the GHG National Inventory System which is required for Annex Ⅰ countries although Korea is a Non-Annex Ⅰ country. It is planned that the KNSO will play a leading role in the system and will be the entity responsible for national GHG emission reporting. The presentation focused on the difficulties that the KNSO will face in relation to institutional coordination, technical expertise, data availability, know-how on data quality assurance as well as the resources needed.

23.   Sonia Petrie (Ministry for the Environment, New Zealand) gave an overview of New Zealand's national GHG inventory system, emissions profile and current activity data collection and compilation methods. Emphasis was given to the agriculture and land use, land use change and forestry sectors. The challenges of collecting appropriate data to assess the effects of mitigation technologies within national greenhouse gas inventories were presented by using the example of nitrification inhibitors. It was stressed that combining official agricultural statistics with scientific and research data is essential for the calculation of emissions and for the capturing of mitigation technologies. For that the most important requirement is to obtain spatial data at a much more disaggregated level.

24.   Takeshi Enoki (Greenhouse Gas Inventory Office of Japan) presented the system of GHG reporting in Japan. GHG inventory compilation began as a small initiative led by the Environment Agency, but it has now become a national effort with all relevant organizations as active participants in the inventory development process. All relevant ministries/agencies, industry groups, and academia cooperate with the Ministry of Environment to develop and improve the GHG inventory every year. In addition, a committee specifically dedicated to considering GHG estimation methodology has played an important role in the improvement of the inventory. The activity data that are used by the Inventory Office are from published national statistics, statistics provided by ministries (some unpublished) and statistics provided by industry groups and individual businesses (some are confidential) and originally usually collected for other purposes. Timeliness and consistency of the statistics are the main issues. One of the main challenges is quality assurance.

25.   Riitta Pipatti (Statistics Finland) presented a GHG inventory system where the NSO plays the lead role. Statistics Finland is the single national entity with overall responsibility since 2005. Among the reasons are: the access to administrative data that is ensured by the Statistics Act; the well established procedures for data processing including confidentiality, verification and validation of data; and the objectivity in inventory reporting. The inventory relies mainly on the existing statistical system, but uses also direct queries, registers, research studies, monitoring programmes and expert opinion. Quality and availability of activity data are crucial for the quality of the national greenhouse gas inventory. Official statistics are the most important sources of data that cover much of the need, but not all. Timeliness of data is a critical issue. Statistical offices can facilitate the preparation and development of inventories by taking the inventory needs into account in the development and prioritization of data collection; by

working towards the harmonisation of classifications (CRF vs. ISIC/NACE) in the long term and by bridging between the classifications in the short term. Additional reporting obligations are foreseen on all commitments (emissions, policies and measures, technology transfer, funding, etc.), and NSOs have to be prepared for that. The key issue is increased collaboration and dialog at national and international levels.

26. Depending on the development of their statistical infrastructure and the role of the NSOs in the national statistical system, the engagement of national statistical offices in the production of the GHG estimations and inventories differ from country to country. It was agreed, however, that the reliability of the emission calculations, which are crucial for the establishment and monitoring of mitigation measures, depends on the quality of the input activity data; therefore NSOs should be involved in the process to better understand the special needs that the calculation of greenhouse gas emissions creates for statistics. NSOs should also be familiar with the methodologies for emission inventories and link them with statistical standards and classifications, thus making the integrated analysis of the economic, social and environmental aspects of GHG emissions possible. When a lead role is assigned to the NSO in compiling the inventory, adequate resources and technical expertise have to be ensured together with a legal mandate to facilitate inter-institutional cooperation and coordination.

VI.   Session Five: The way forward

27. The last session was chaired by Raymundo J. Talento (National Statistical Coordination Board, Philippines). The objective of the session was to discuss the draft programme review on climate change and official statistics, prepared by the Australian Bureau of Statistics at the request of the UN Statistical Commission at its 2008 session. The programme review and its recommendations evolved from the conclusions of the Oslo Conference on Climate Change and Official Statistics and the subsequent consultations and discussions at several statistical fora. The draft programme review was presented by Peter Harper (Australian Bureau of Statistics).

28. Climate change is caused by economic and social pressures and it has economic and social, as well as environmental impacts. Official statistics can provide information on these economic and social pressures and impacts, can provide the relevant classifications and standards, and can lead the integration of economic, social and environmental data. Many existing official statistics are relevant to climate change, but there is a need to consider whether these could be made more useful for climate change analysis. There are also statistical gaps that need filling – environmental, economic or social. The role of official statistics is to: provide the best available data for climate change analysis, including relevant statistical data for input into models; undertake relevant statistical analysis to inform climate change issues; ensure that climate change aspects are considered in the development and maintenance of statistical standards and that these standards are promulgated outside official statistics; and develop and advocate

statistical tools for the integration of economic, social and environment information to inform climate change issues.

29.   Based on these principles the programme review contains fourteen recommendations and related actions for the international statistical community in the following subject areas:

I.   Mainstream climate change in official statistics;

II.   Improve the use of official statistics in scenario development and modeling;

III.   Improve emission estimates by the provision of high quality official statistics and by strengthening the role of NSOs in the production of the inventories;

IV.   Support the analysis of the impacts of and vulnerability to climate change by the exchange and discussion of good statistical practices;

V.   Review the statistical standards associated with climate change related funds and mechanisms;

VI.   Support the monitoring of emission trading schemes and mitigation measures by the advanced analysis of existing data and by developing new statistics;

VII.   Assess the implications of emission trading schemes for the national accounts and other key macroeconomic statistics;

VIII. Develop further and implement the System of Integrated Environmental-Economic Accounting as an international statistical standard and a valuable tool for the analysis of the economic aspects of climate change;

IX.   Develop a set of variables, that are possible to collect and that provide a clear picture, both in physical and monetary terms, of the impacts of climate change and efforts to combat climate change at the national level;

X.   Support the analysis of the adaptation strategies by the exchange and discussion of good statistical practices;

XI.   Improve and promote the use of Geographic Information Systems and other spatial data infrastructure for the spatial analysis of climate change related statistics;

XII.   Consider indicators at the national level for advocacy and to convey messages;

XIII. Exchange practices and experiences with the provision of data to support modeling of climate change impacts, mitigation and adaptation policies on the macro-economy;

XIV.   Develop an agreed structure for the organization of climate change statistics.

30.   Recommendation XV. refers to the governing of the process. It is recommended that the name, mandate, terms of reference and membership of the United Nations Committee of experts on Environmental Economic Accounting (UNCEEA) and its Bureau be amended and extended and that this Committee be trusted with the governance of the statistical tasks related to climate change including engagement with UNFCCC, IPCC and other stakeholders.

31.   The discussant, Julie Hass (Eurostat) drew the attention to the dangers of being overambitious. One must be realistic and able to translate the vision into step-by-step implementation. There are too many and sometimes overlapping recommendations; prioritization is needed, with focus on those areas where official statistics can best contribute instead of spreading out too thin. The strength of official statistics is in the development of statistical concepts, definitions, classifications and assuring data quality. She suggested that recommendations I and III are given highest priority while the remaining recommendations need a different time frame and a systematic approach. She expressed doubts about the UNCEEA (even with an extended mandate) becoming the governing body as the tasks involved will have implications for the entire statistical system and go well beyond environmental-economic accounting or environment statistics.

32.   The following points were mentioned by participants during the discussion:

- The mandate of the UNCEEA is to elevate the System of integrated Environmental Economic Accounting to the level of a statistical standard. This work has already suffered considerable delays. How will the Committee be able to fulfil this task if its mandate is further extended and new tasks are assigned to them?
- Recommendation I is important but the question is how to do it: a plan of implementation is needed. Both for recommendations I and III it is essential to avoid duplication of work, ensure consistency and therefore collaborate with, and build on the significant work done by, IPCC and UNFCCC. Focus should be on areas where statistical offices are strong, such as contribution to the GHG inventories and support to the economic analysis of climate change mitigation.
- Recommendation III should be made stronger with the clear message that the national GHG emission inventories should become part of official statistics even if the NSO is not the reporting institution.
- All actions have to be preceded by "fact finding", or a review of the state of the art.
- A definition of what is meant by official statistics is needed.
- Vulnerability is a difficult issue and very country specific. This is reflected in the recommendation that suggests the exchange of good practices instead of any attempt of standardization. Close contact with research is needed in this area.
- The recommendations and related actions should be time-lined and synchronized.
- The first step should be the development of an agreed conceptual framework. Without a framework it is not possible to advance most of the recommendations. Recommendation XIV should therefore be moved to short term tasks.

33.	The Conference agreed that a conceptual reference framework should be the starting point to define the scope and content of climate change related statistics, and to develop a set of consistent definitions, classifications, variables, tabulations and indicators. The development of such a framework should be one of the priority tasks and work should start on it as soon as possible. However, there are a number of areas where actions can and have to start (in some cases have already started) independently from the existence of a conceptual framework or parallel to development of such a framework. It was also agreed that the focus should be on those recommendations that are most useful to existing processes in reporting, policy and decision making and that are based on the core competences and strengths of official statistics and NSOs. These areas include the GHG inventories, mitigation, and the impacts of climate change and related measures.

34.	The objective of the programme review is to give a comprehensive overview of the climate change related areas where official statistics can respond to the policy challenges and therefore it makes recommendations in all of these areas. These recommendations are not at the same level either in terms of priority and practicality, or from the point of view of the role of NSOs in their implementation. Prioritization and translation to concrete actions will be considered in another process. The programme review, including the recommendations, will be one of the main discussion items on the agenda of the UN Statistical Commission at its 40th session (New York, 24-27 February 2009). If mandated by the Commission, UNSD will prepare a detailed work programme based on the discussions and further consultation with countries and international organizations. This work programme will consider the priorities and will contain a plan of implementation with actions, timelines, deliverables and responsibilities.

## VII.	Closing session

35.	The Conference was closed by Jae Hyung Lee (Statistical Research Institute, Korea). In his closing remarks he expressed his appreciation to the speakers, the participants and the organizers for the excellent presentations, the lively and substantive discussions and the professional organization of a very successful conference that has contributed to the shaping of an agenda for official statistics related to climate change and to the future development of climate change statistics in the region.