The Role and Constraints of National Communications and GHG Inventory Based on Past Experience - The Philippine Experience

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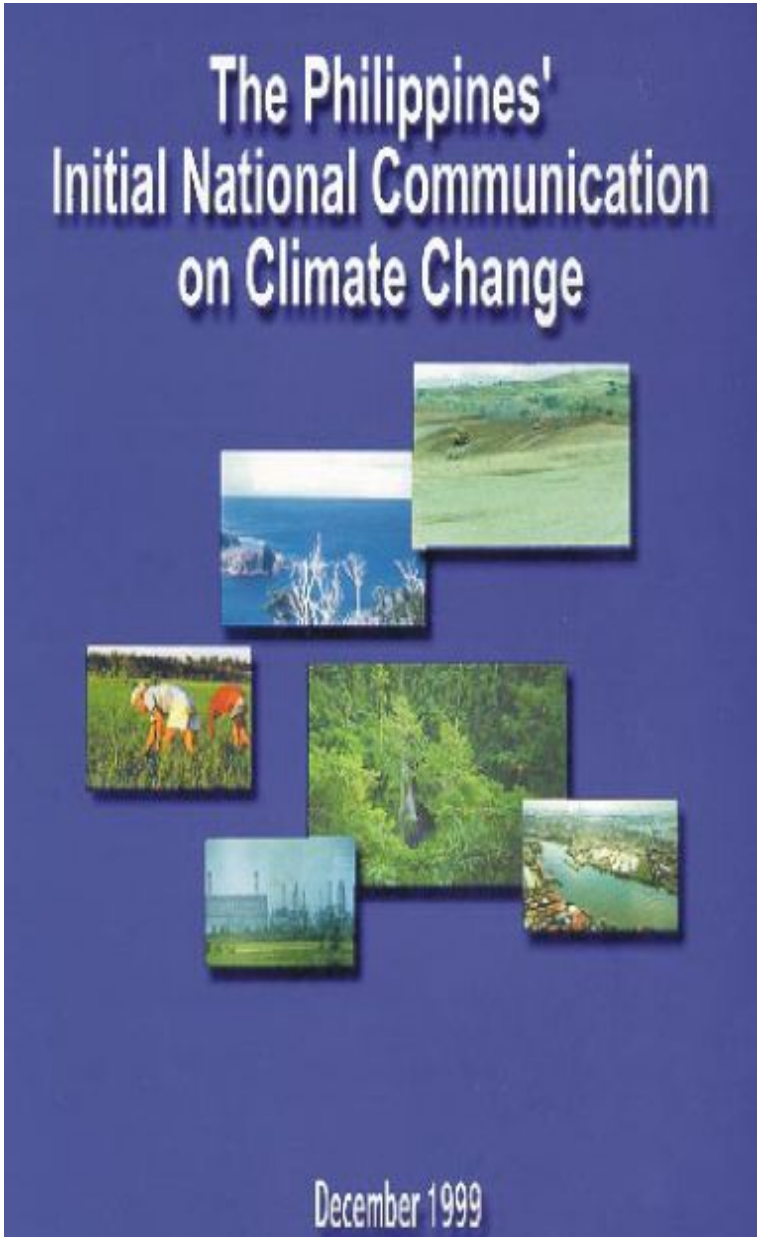
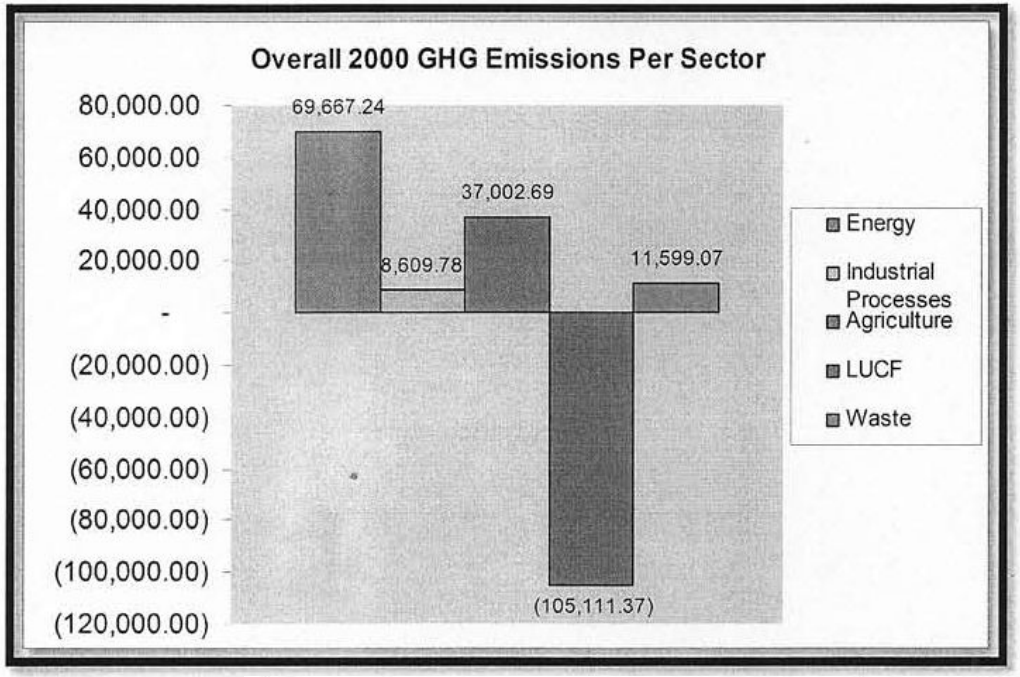
The Government of the Philippines submitted its First National Communication in February 2000



Second National Communication on Climate Change

The Philippines' 2000 Greenhouse Gas Inventory



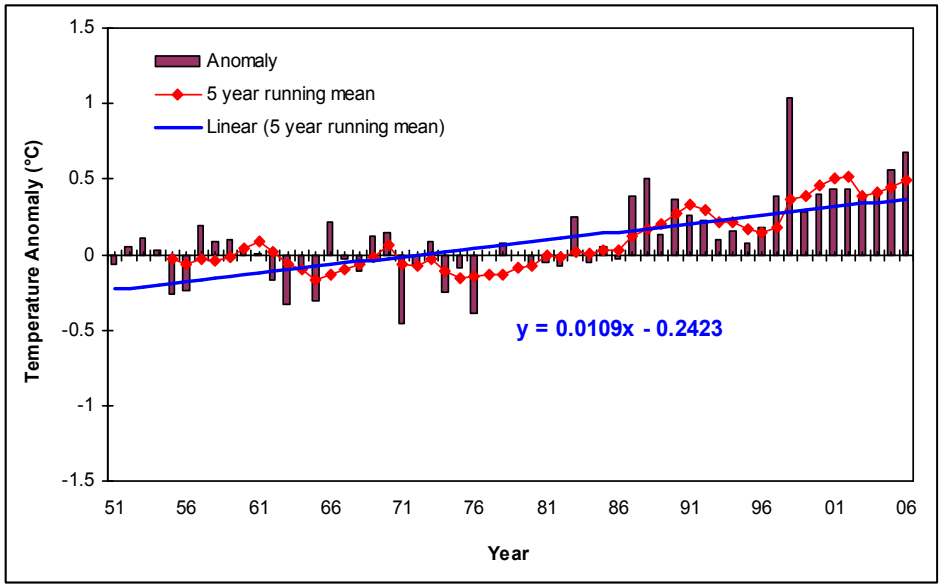
Overall GHG emissions:
21,767 Gg CO2-eq

Total emissions from non-LUCF sectors:
126,879 Gg CO2-eq

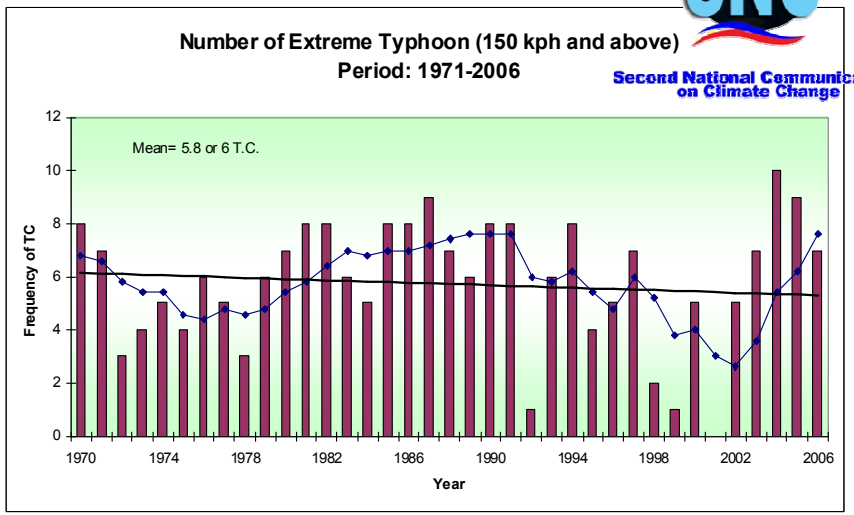
Sector	CO_2 , Gg	CH_4 ,Gg	N_20, Gg	*CO_2e Emission, Gg
Energy	62,499.10	304.14	2.52	69,667.24
Industrial Processes	8,604.74	0.24	-	8,609.78
Agriculture	-	1,209.79	37.41	37,002.69
LUCF	(104,040.29)	(46.28)	(0.32)	(105,111.37)
Waste	-	500.67	3.50	11,599.07
Totals	(32,936.45)	**1,968.56**	**43.11**	**21,767.41**

Climate Trends

Observed Mean Annual Mean Temperature Anomalies in the Philippines Period: 1951-2006 (departures from the 1961-1990 normal values)



- **An increase of *0.62°C* from 1951-2006**
- **From 1960-2003, significant increases in frequency of hot days and warm nights in many areas of the country have been noted while cool days and cool nights have been seen to be generally decreasing**



Tropical Cyclones

- **There is no significant trend in the number of cyclones forming in or entering the Philippine Area of Responsibility in the past 58 years (1948 – 2005)**
- **The trend in the five year running average of tropical cyclones greater than 150 kph is on the rise and found to be more frequent during El Nino events**

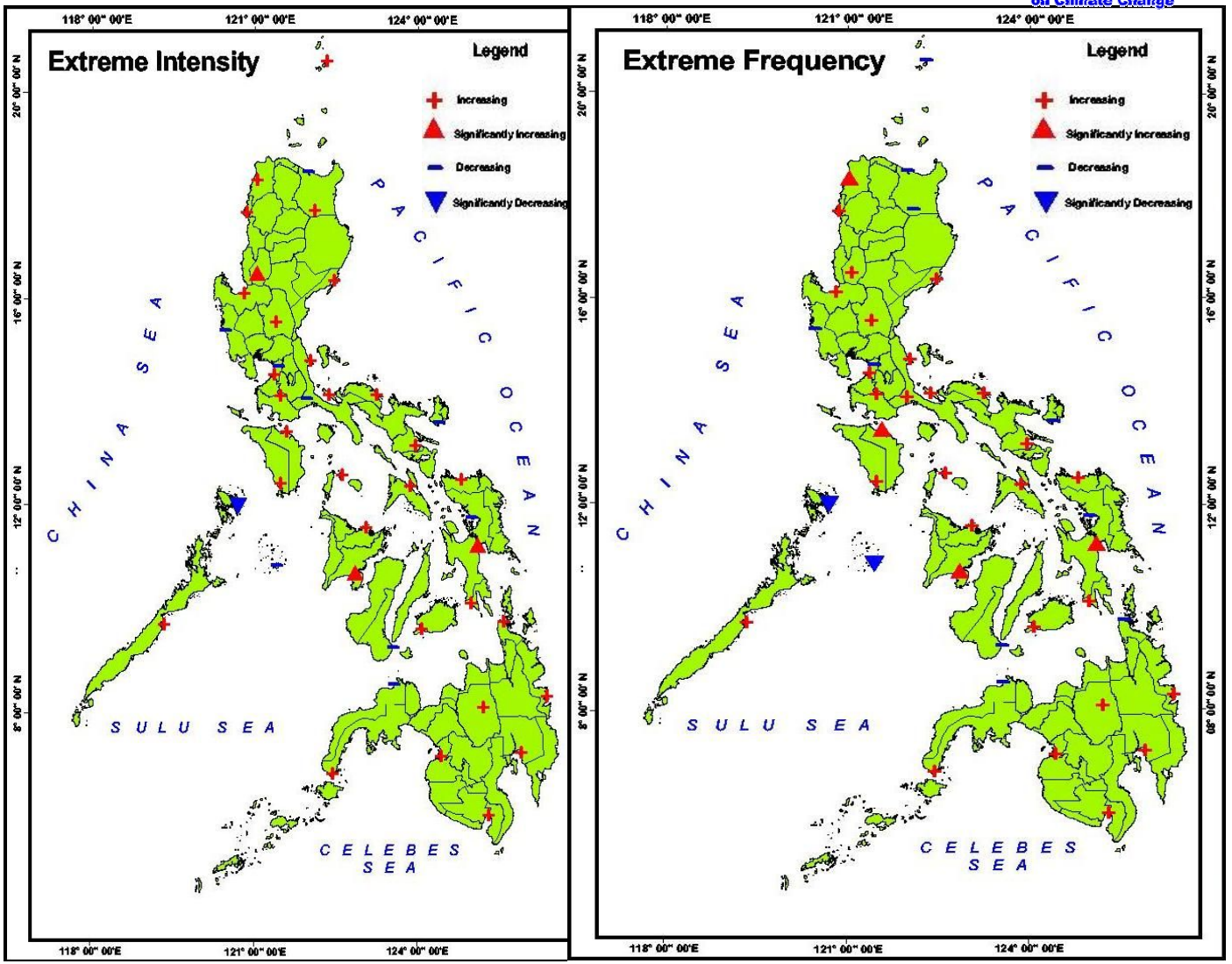
Climate Trends

- ***Extreme Rainfall Intensity (1951 – 2008)***

  In most parts of the country, the intensity of rainfall is increasing with Baguio, Tacloban and Iloilo showing statistically significant increases

- ***Frequency of Extreme Daily Rainfall (1951 – 2008)***

  Most parts of the country are generally increasing. Calapan, Laoag, Iloilo and Tacloban show statistically a significant increasing trend, while a significantly decreasing trend is found in Palawan.



Philippine Climate Change Projections:
2020 and 2050

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Changes in Annual Mean Temperature

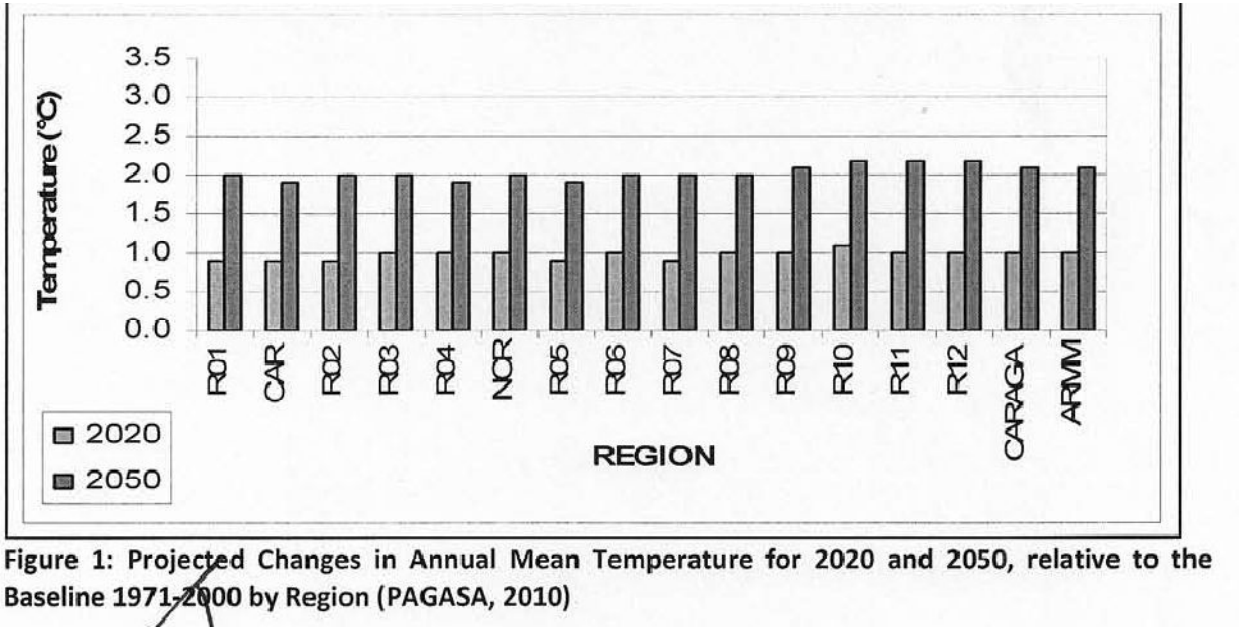

Figure 1: Projected Changes in Annual Mean Temperature for 2020 and 2050, relative to the Baseline 1971-2000 by Region (PAGASA, 2010)

This shows the changes in mean annual temperature by region relative to the baseline period of 1970- 2000. The country's average annual mean temperature is projected to increase by 0.9°C to 1.1°C for 2020 and 1.9°C – 2.2°C by 2050. Higher temperatures are generally expected for all regions of the country by 2050. Warming will be worst in Mindanao.

Changes in Annual Mean Rainfall

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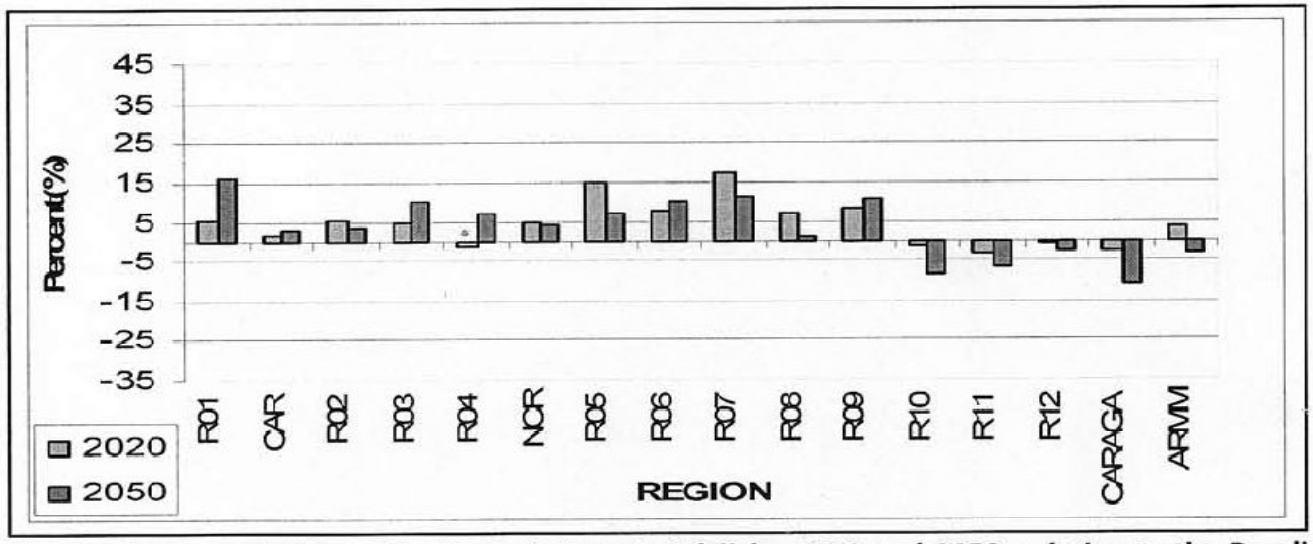

Figure 2: Projected Changes in Annual Mean Rainfall for 2020 and 2050, relative to the Baseline 1971-2000 by Region (PAGASA, 2010)

The PRECIS simulation exercise projects a change in annual precipitation from -0.5 to 17.4% in 2020 and -2.4 to 16.4% in 2050. Increases in rainfall are particularly evident in most areas of Luzon and Visayas, while Mindanao is projected to undergo a drying trend. Average rainfall of Luzon and Visayas is expected to be 2 to 17% by 2020 and 1 to 16% by 2050. In contrast, there is a general reduction in regional annual average rainfall in Mindanao (~0.5 to 11% by 2020; 2 to 11% in 2050).

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Sea Level Rise

- Sea level rise will increase the risk of flooding and storm damage. Projected impacts of 1 meter seal level rise in many areas of the country show vast portions being inundated, affecting coastal settlements and livelihood.

- According to estimates of the national Mapping and Resource Information Authority (NAMRIA), a 1 meter sea level rise can translate to an estimated land loss of 129,114 hectares.

Knowledge Products Produced

Second National Communication on Climate Change

- Updated GHG Inventory Recipe Manual with web-based data
- Vulnerability and Adaptation Assessment Toolkit
- The Philippines' Second National Communication on Climate Change
  - National GHG Inventory completed for base year 2000
- ~20 min. audio-visual documentary of climate change impacts in the Philippines, selected local success stories in adaptation and mitigation and call for action
- Exhibit Posters and SNC Info Kits

CHALLENGES AND LESSONS LEARNED

- Data Generation and Management
  - Data availability, attribution, access and reliability and insufficiency including willingness of data providers to share, consistently played as a recurring barrier in the implementation of the main thematic components;
  - Establishment of a good database management system and a focal repository are essential to building on the gains achieved from previous or completed work and to sustain key efforts undertaken by the SNC (i.e., archiving and documentation);
  - Improvement in the collection of activity data and country-specific emission factors;
  - Need for uncertainly analysis and QA/QC for key categories

CHALLENGES AND LESSONS LEARNED

- Institutionalization of the Inventory Process (Coordination mechanism)
  - Close coordination with data keepers and relevant government institutions from the outset is a crucial step of the national communication process to ensure a sustainable inventory management system (i.e., how to maintain manpower, efficient use of resources, and enhancing institutional arrangements);
  - A need to institutionalize the inventory process within the various participating agencies with the corresponding resources is imperative. A linkage mechanism to enable academe to continuously feed into a sustainable database information system should likewise be established.

CHALLENGES AND LESSONS LEARNED

- Tools and Approaches
  - Availability and capacity to run tools and approaches such as the environmental burden of disease assessment, climate modelling and mitigation assessment especially for non-energy sectors among others are obvious limitations in the implementation of the SNC project.
  - Continuing capacity development on the use of key tools and methods and the enhancement of activity data are indispensable activities for maintaining and improving national communications.
  - The need finer resolution scenarios, at least up to the municipal level, at difference SRES
  - Availability of daily projected values for impact assessments and maps for policymakers
  - Updated base maps: topographic, land use, resource base, etc. The Scale much at least represent the municipal level.

CHALLENGES AND LESSONS LEARNED

- Continuing Capacity Development
  - Continuing skills transfer and financial support for future updating of the inventory.
  - Existing expedited support cap enough only for the preparatory activities for finalizing the national communication report itself.
  - Such funding support is not sufficient to conduct vital studies and assessments (eg. Development of local emission factors, technology needs assessment, climate modelling, etc.) to generate the desired, let alone basic information and data being required.

CHALLENGES AND LESSONS LEARNED

- Research
  - Development of scientific research program focused on climate change
  - Establishment of research networks facilitating interdisciplinary research and information dissemination
  - Improvement of coordination among various sectors, institutions and implement initiatives on climate change to facilitate the synergies, their integration in policy and sector-specific programs promoting adaptation
  - Coordination of research associated with climate change with the needs of decision makers in various sectors as well as necessity of informing the general populace on the future risks, potential vulnerability-reducing (increasing adaptive capacity), and adaptation measures

Thank you.

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