

INCEPTION WORKSHOP: "MAINSTREAMING ADAPTATION TO CLIMATE CHANGE IN AGRICULTURAL AND WATER SECTORS"
Kuala Lumpur, 10-11 August, 2009

Climate Change Adaptation in the Agriculture and Water Sectors: Current Status, Issues and Challenges in Vietnam

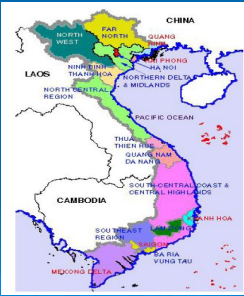
Nguyen Van Thang
Deputy Director General, Vietnam Institute of Meteorology, Hydrology and Environment
&
Tran Dinh Trong
Vietnam Institute of Meteorology, Hydrology and Environment

Outline

1. Introduction
2. Current Status of Climate Change in Vietnam
3. Climate Change Impacts and Vulnerabilities
4. Adaptation: Agricultural and Water sectors
5. Challenges for Adaptation

1. Introduction

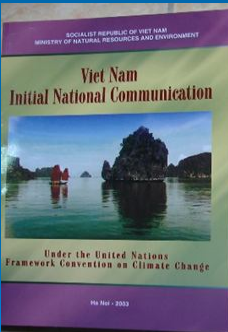
- Country position: Southeastern Asia, 8°27' to 23°23'N and 102°08' to 109°30'E
- Area: 330,990 km²
- The coastline length: 3,260 km
- Climate: Tropical monsoon suffering from natural disasters such as typhoons, floods, drought,.... which affected regularly to socio-economic development



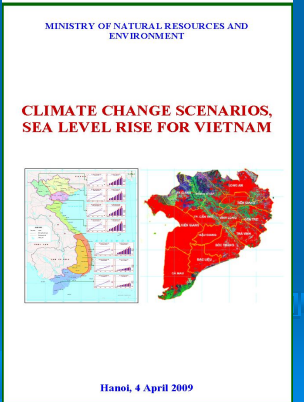
Climate change studies

Vietnam Initial National Communication (INC) to the UNFCCC in 2003: identified water resources, coastal areas, agriculture, aquaculture, forestry, energy, transport and public health as the most vulnerable to climate change

Vietnam Second National Communication (SNC): emphasizes adaptation and provides guidance to promote Climate Change Adaptation (CCA) measures in Viet Nam

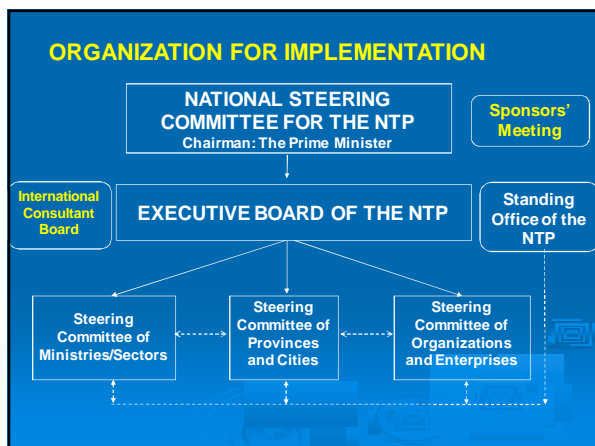


➤ Climate change, sea level rise scenarios for Vietnam is developed basing on different emission scenarios: low (B1), medium (B2) and high (A2, A1FI).



NATIONAL TARGET PROGRAM TO RESPOND TO CLIMATE CHANGE

(Decision No. 158/2008/QĐ-TTg dated 2nd December 2008)



Specific Objectives

1. Identify the extend of climate change and assess it's impacts;
2. Identify adaptation measures, policies;
3. Promote scientific and technological activities;
4. Strengthen capacity building to respond to climate change;
5. Raise public awareness;
6. Promote international cooperation;
7. **Mainstream CC into socio-economic development strategies, plans and planning;**
8. Develop & Implement action plans, projects.

**NATIONAL TARGET PROGRAM
TO RESPOND TO CLIMATE CHANGE**

(Decision No 150/QĐ-TTg dated 7 December 2006
of the Prime Minister of Vietnam)

HANOI, DECEMBER, 2006

6. Promote international cooperation;

7. **Mainstream CC into socio-economic development strategies, plans and planning;**

a) **Targets by 2010:**

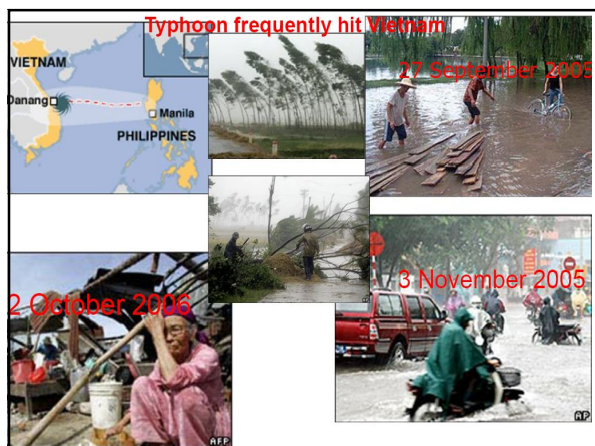
- Complete the assessment of CC impacts, especially SLR, on the development plans;
- Complete the classification of response measures for each development plans;
- Develop and issue legal document and guidance documents on how to comprehensively mainstream CC issues into development plans; start to mainstream CC issues into development plans according to the legal decisions issued.

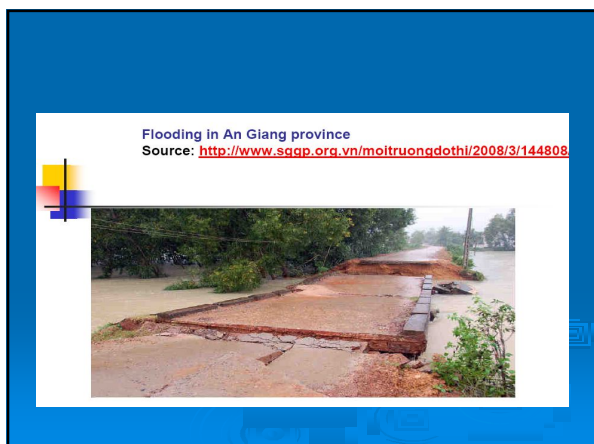
b) **Targets by 2015**

- Mainstream CC issues into development plans for the period 2010-2020;
- Assess the results of the mainstreaming process for development plans for the period of 2010-2015;
- Widely and effectively implement the mainstreaming of CC issues into development plans for later periods.

2. Current Status

- Annual average temperature increased by 0.1°C per decade from 1900 to 2000, and increased by 0.7°C from 1951 to 2000;
- Increase in quantity and intensity of extreme-weather events (typhoon, flood, flash flood, drought, heavy rainfall);
- More abnormal patterns of storm and storms are moving toward southern;
- Sea level increased about 0.2m in the last 50 years;
- Vietnam is one of five countries that will be most seriously affected by sea level rise.

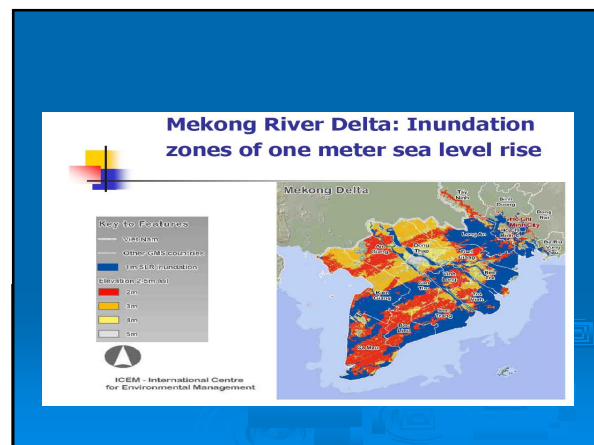




3. Climate Change Impacts and Vulnerabilities

- Most serious impacts are sea level rise, floods, droughts, heavy rainfalls, and extreme temperatures;
- Most vulnerabilities are as follows:
 - + Lost agricultural land
 - + Lost mangrove forest and biodiversity
 - + Reduced agricultural and fishery productivities
 - + Health affected by malnutrition, unsafe water, and health care disruption
 - + Livelihoods
 - + Resettlement
 - + Infrastructure and urban development

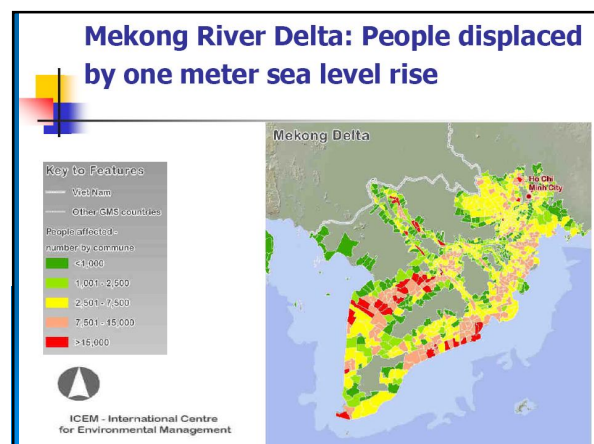
- By 2050, more than 1 million people will be directly affected in the Mekong Delta from risk through coastal erosion and land loss, primarily as a result of the decreased sediment delivery by the rivers, but also through the accentuated rates of sea-level rise (IPCC, 2007).
- By 2100, sea level may rise about 0.64, 0.74, 1.0m based on B1, B2, A1F1 respectively (IMHEN, 2009), 31% area and 26.7% population of Mekong River Delta will be affected (ICEM, 2008).
- Relative vulnerability of coastal deltas as indicated by estimates of the population potentially displaced by current sea-level trends to 2050 (extreme >1 million; high 1 million to 50,000; medium 50,000 to 5,000). Climate change would exacerbate these impacts.



Population affected by one meter sea level rise inundation

| | No of people affected | Total pop of province | % of provincial pop affected | % of total pop within SLR inundation zone | No of poor people | % of total affected people |
|----------------|-----------------------|-----------------------|------------------------------|---|-------------------|----------------------------|
| An Giang | 197,085 | 2,372,860 | 8.30 | 3.36 | 50,563 | 3.10 |
| Bac Lieu | 383,764 | 857,521 | 44.80 | 6.54 | 110,818 | 6.70 |
| Ben Tre | 759,174 | 1,389,730 | 54.60 | 12.94 | 245,310 | 14.80 |
| Ca Mau | 182,956 | 1,206,390 | 15.20 | 3.12 | 69,614 | 4.20 |
| Can Tho | 426,511 | 2,046,210 | 20.80 | 7.27 | 118,875 | 7.20 |
| Dong Thap | 222,289 | 1,852,590 | 13.40 | 3.79 | 71,011 | 4.30 |
| Kien Giang | 295,989 | 1,590,910 | 18.60 | 5.04 | 101,964 | 6.20 |
| Long An | 581,456 | 1,488,070 | 39.10 | 9.91 | 198,812 | 12.00 |
| Soc Trang | 457,821 | 1,307,200 | 35.00 | 7.80 | 133,798 | 8.10 |
| Tien Giang | 497,075 | 1,726,190 | 28.80 | 8.47 | 121,743 | 7.30 |
| Tra Vinh | 418,066 | 1,101,850 | 37.90 | 7.12 | 139,697 | 8.40 |
| Vinh Long | 364,414 | 1,152,190 | 31.60 | 6.21 | 123,595 | 7.50 |
| Vietnam | 5,868,618 | 58,401,331 | 10.00 | 100.00 | 1,656,283 | 100.00 |

Source: ICEM, Rapid Assessment of the Extent and Impact of SLR in Vietnam, 2008



A poor household in flooding

Source: <http://www.tiasang.com.vn/news?id=2838>



4. Adaptation: Agricultural and Water sectors

4.1 Agriculture

> Key activities for adaptation in Agriculture:

- Develop and improve the framework of a synchronous legal documents, Laws and circulars to protect the agriculture of commodity, diversity and sustainable development;
- Amend and improve policies and mechanisms to support the application of new technologies, modern scientific and technical solutions to change crops pattern, livestock and new farming techniques suitable with climate change condition.
- Develop and implement scientific and technical activities to adapt to climate change in agricultural sector;
- Plan effective use of agricultural land and water for fishery in consideration of immediate and potential impacts of climate change to ensure a sustainable agricultural production.

> Specific contents for adaptation in Agriculture :

| | |
|---|--|
| <ul style="list-style-type: none"> -Increasing irrigation water use efficiency -Developing appropriate farming techniques: Change in planning and harvesting times, soil fertility maintenance, fertilizer use and application, erosion control.... - Increasing quantity and quality of processed animal feedings as well as selecting high productive breeds -Use of different variety/species -Development/improvement of national forest fire management plans | <ul style="list-style-type: none"> -Development of species resistant to drought, salt, flood, disease & pest. -Development of weather early warning system -Re-structure the agriculture production plan and cropping patterns -Protecting natural forest and enhancing reforestation / afforestation -Increasing the efficiency with forest raw materials are converted to forest products -Protecting and developing mangrove forests and natural forests. - Diversification and intensification of food and plantation crops |
|---|--|

4.2 Water Resources

> Key activities for adaptation in water resources:

- Develop and improve a legal framework including laws and regulations, circulars, and amended policies.
- Related ministries/sectors strengthen their management mechanism over water resources at different levels in the context of the climate change;
- Develop implementation plans, programs to respond to climate change in the field of water resources at all sectors and levels;
- Identify suitable scientific and technical solutions, such as overall plan for river basins, change specifications for water use and exploitation projects, methods for cost-effective use of water sources, protection and preservation of water sources, water pollution control.
- Raise community awareness on methods for water use in response to climate change.

> Specific activities for adaptation in water resources:

| | |
|--|---|
| <ul style="list-style-type: none"> -Building reservoirs, upgrading existing dykes -Effective use of water resources. -Enhancing residual soil moisture through land conservation techniques | <ul style="list-style-type: none"> -Reforestation/afforestation to increase natural water storage -Conducting studies in long-term water resources prediction -Improving system of water management -Enhancement of flood controls and drought monitoring |
|--|---|

5. Current challenges for adaptation

- > Policies on CC are more commitment than implementation, more qualitative than quantitative;
- > Measures on CC focuses mainly on technical aspects rather to social aspects of impacts, on short-term response to disasters and weather extremes rather risk prevention and adaptation;
- > Weak mainstreaming CC policies into national, sector and regional development strategies;
- > Lack of concern of local policy makers, stakeholders, and people on climate change;

Challenges...

- People do not receive much awareness, knowledge and assessment techniques relating to potential climate change impacts on extreme events;
- Social and economic impacts of climate change and adaptation options have not been studied adequately;
- Cost of impacts;
- No cost/benefit analysis available for decisions on coastal protection/dyke strengthening;
- Limited financial means and human capacities for risk reduction and adaptation efforts.

Thanks for your attention!