



Climate Change Impacts and Adaptation Efforts in Vietnam



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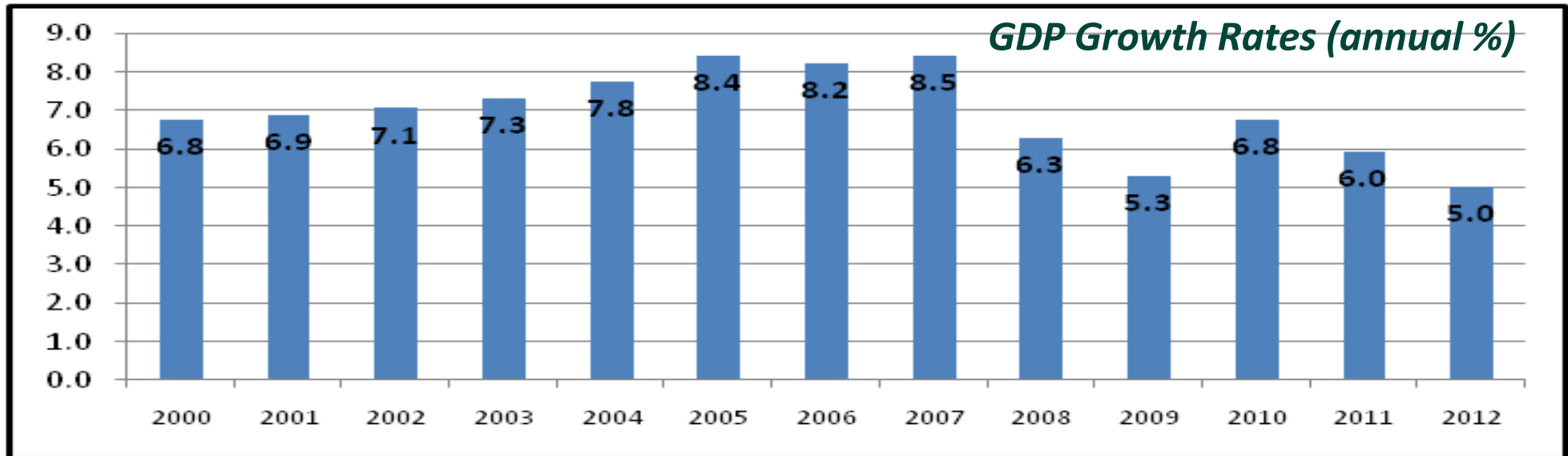
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Outline

- 1. Climate change in Viet Nam**
- 2. Adaptation Policies and Adaptation Measures**

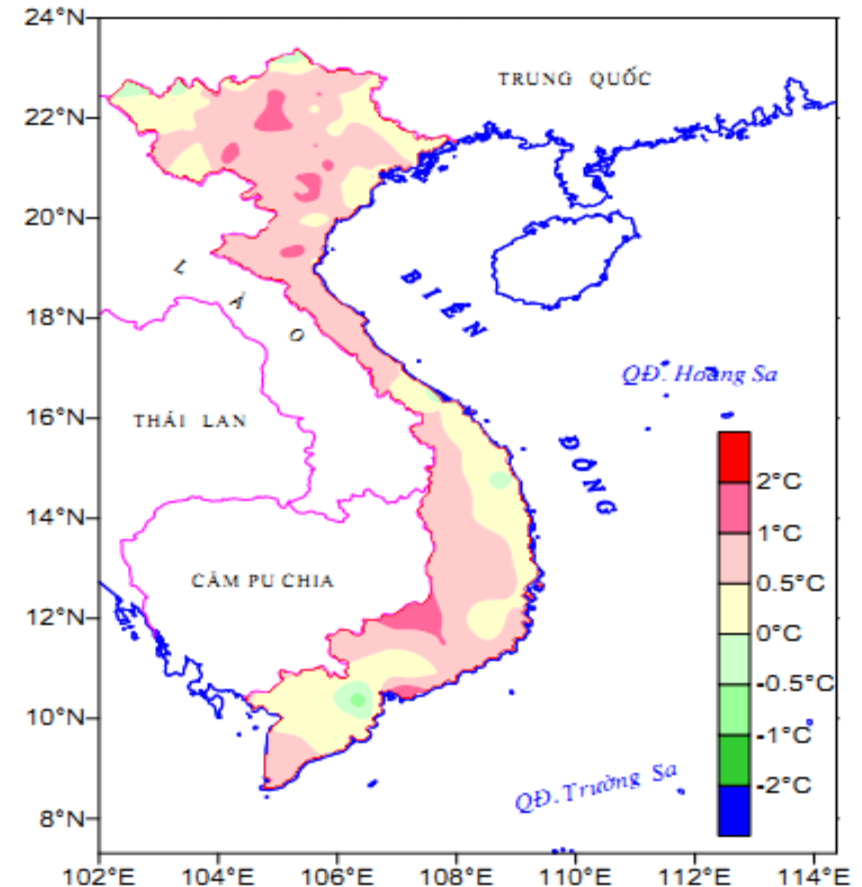
VIET NAM

- ◆ Vietnam has experienced very high growth rates in the past decades
 - ◆ Lately, growth has been less impressive
 - ◆ Population: **92.477.857** (2013)
 - ◆ GDP/capita: **US\$ 1960** (2013)
 - ◆ Area: **331.212 km²**
 - ◆ Economic reform: **1986**
- GDP growth:
8% during 1990-1997
7% during 2000-2005
5-8% from 2006-date

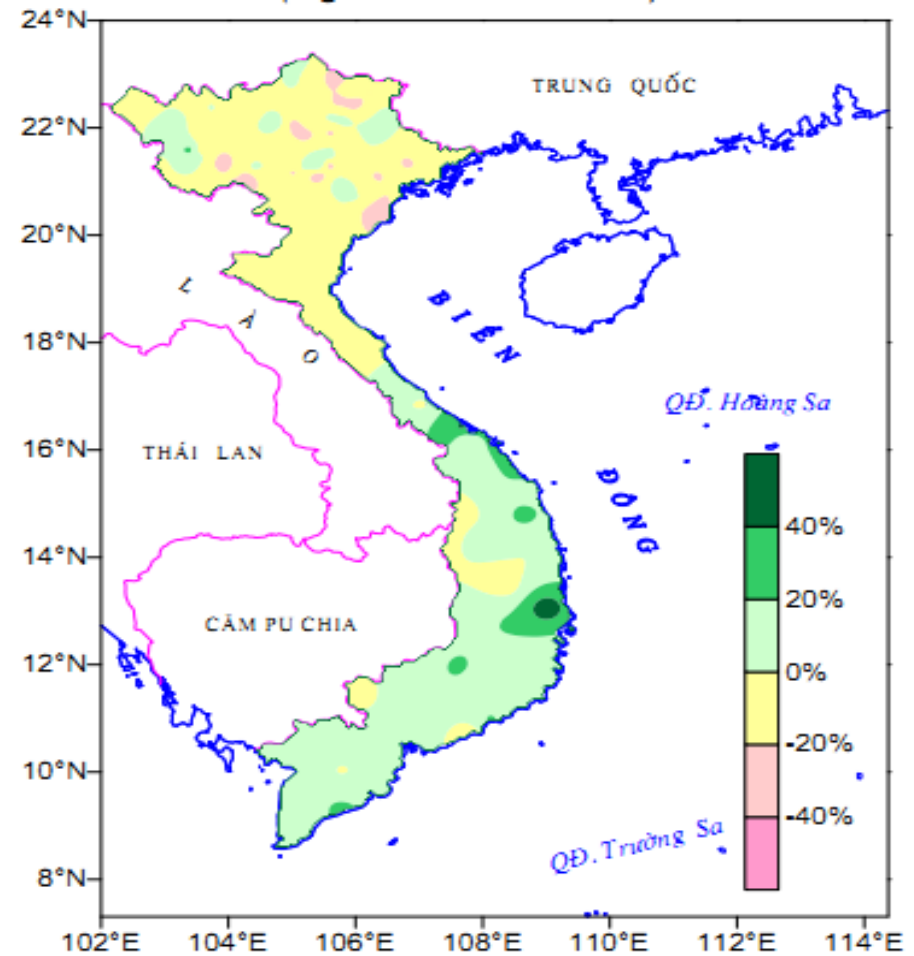


1 - Climate change in Viet Nam

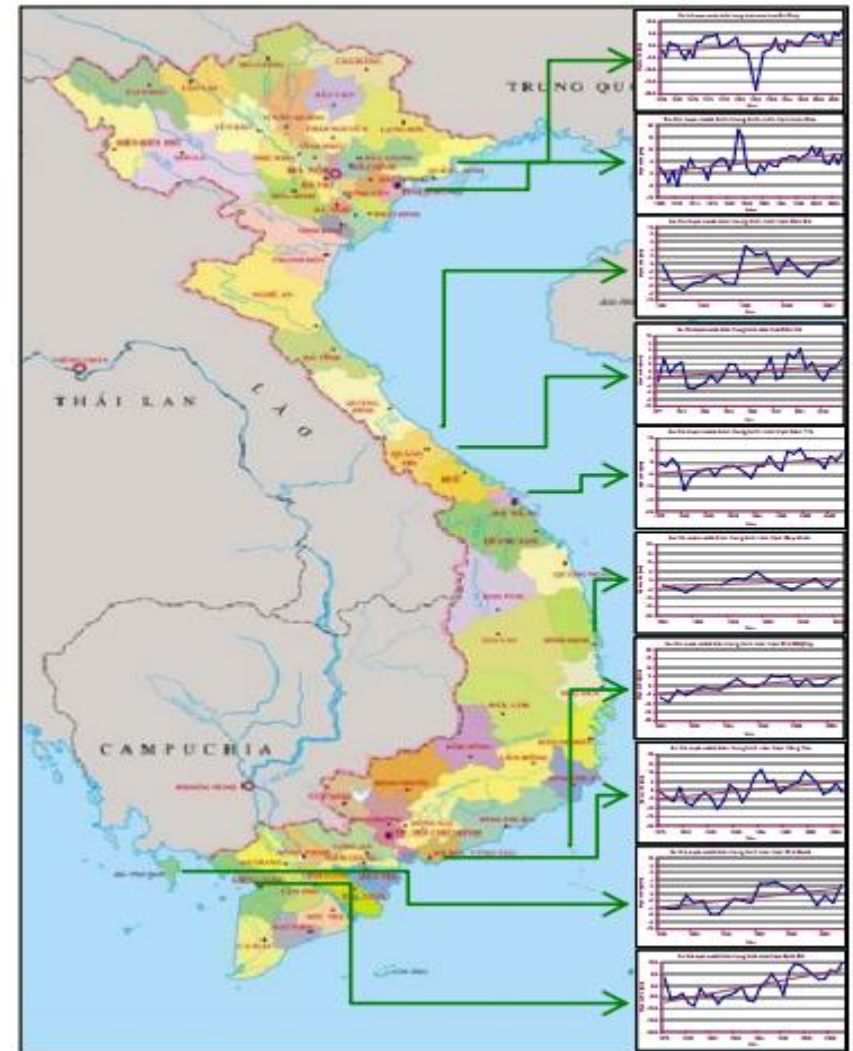
- ✓ **Annual average temperature increased about 0.5°C.**
(During the last 50 years (1958-2007),
- ✓ **Winter temperatures increased faster** than those of summer.
- ✓ **Inland temperatures increased faster** than those of coastal and island zones.



- ✓ **The annual rainfall increased in the Southern climate zones while decreased in the Northern ones.**
- ✓ **South Central region: the rainfall in dry & wet seasons and annual rainfall increased strongest (up to 20% over the last 50 years)**



- ✓ Sea level rise along Vietnam coasts was at the rate of about 2.8mm/year.
- ✓ Coastal zones in the Central and South West regions: sea level rose strongest, about 2.9mm/year



SLR Scenario: 100 cm

South Asia



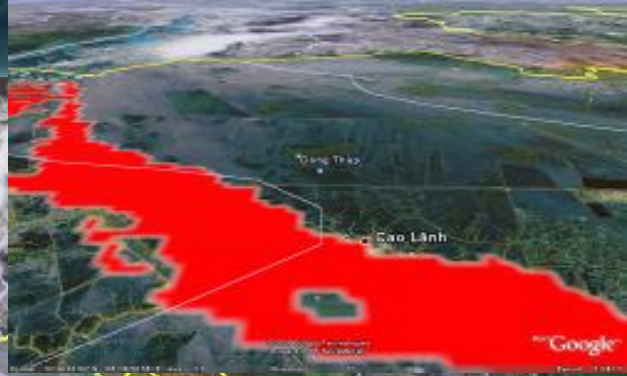
Việt Nam



**Biên giới Việt Nam-
Campuchia**

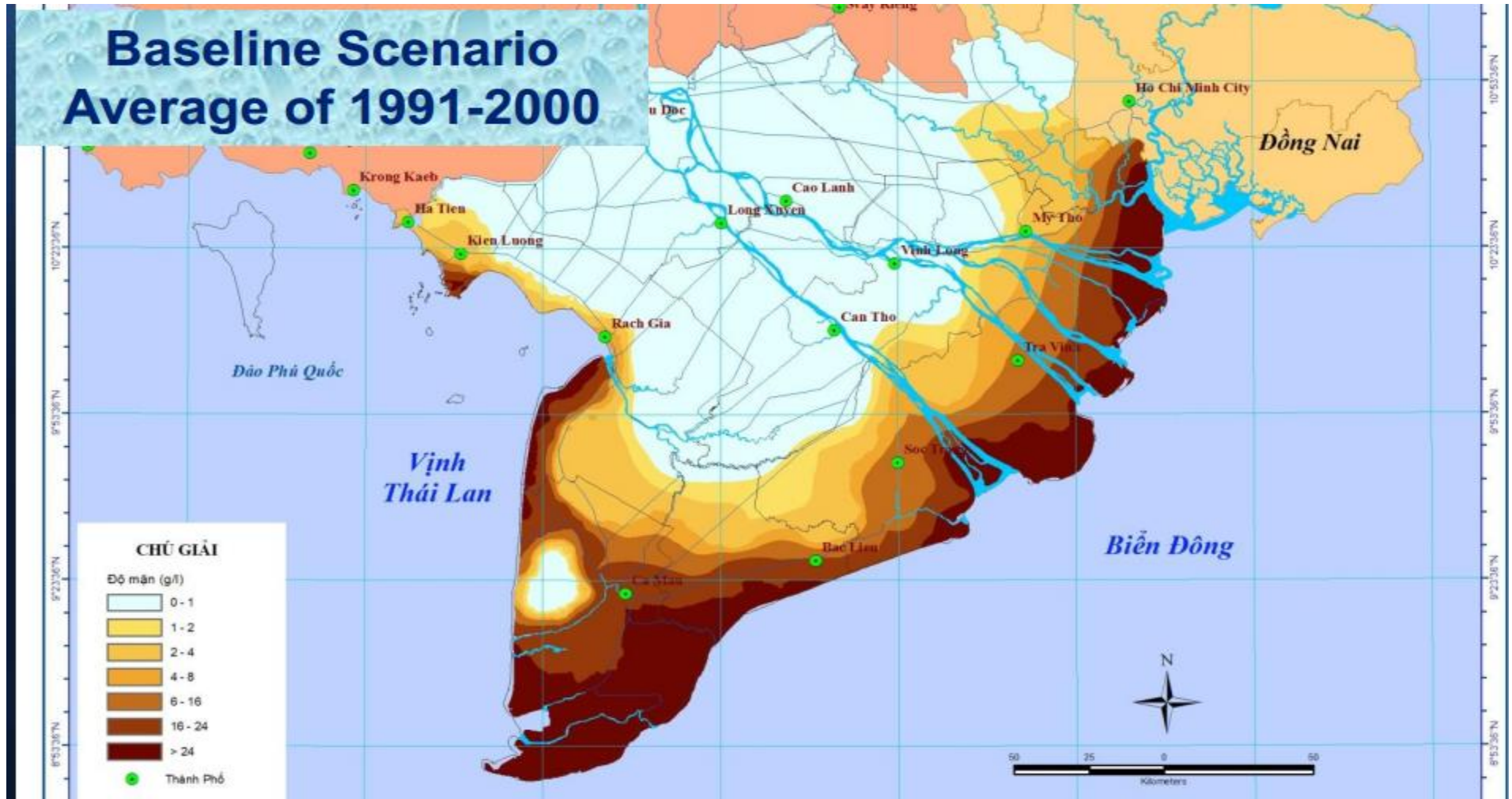
Đồng Tháp

TP. Hồ Chí Minh

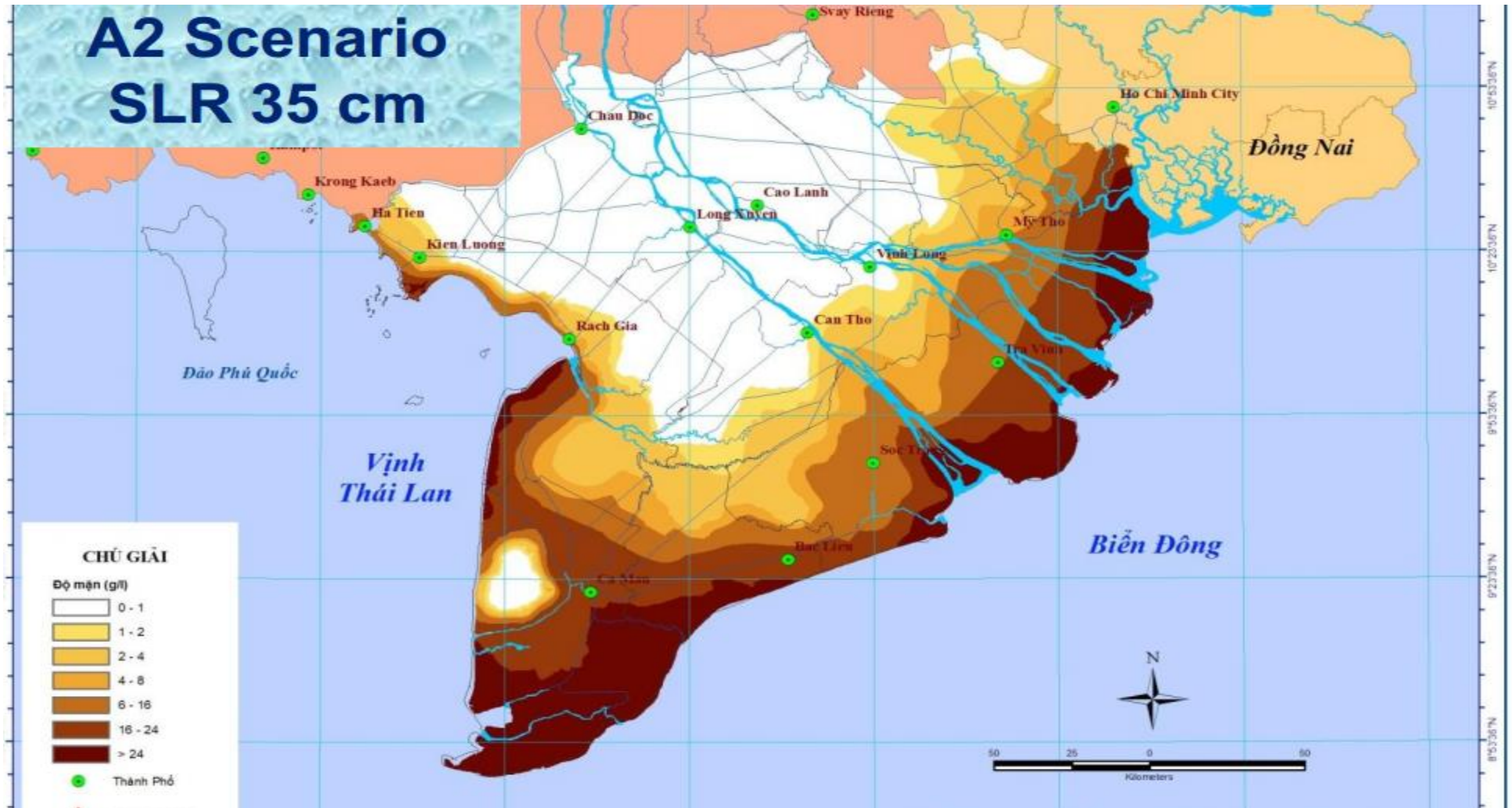


SLR Scenario: 100 cm

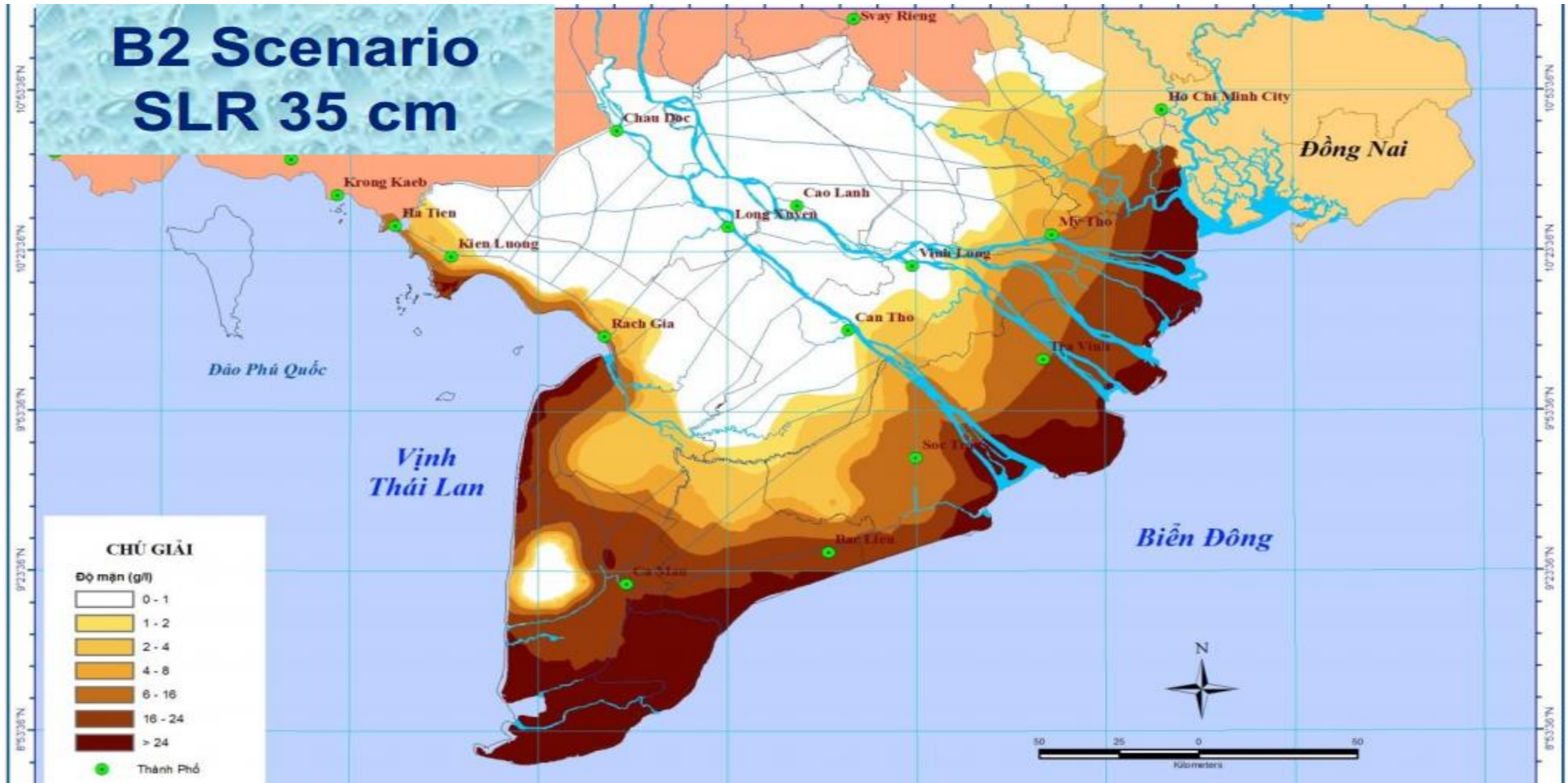
SALINITY INTRUSION



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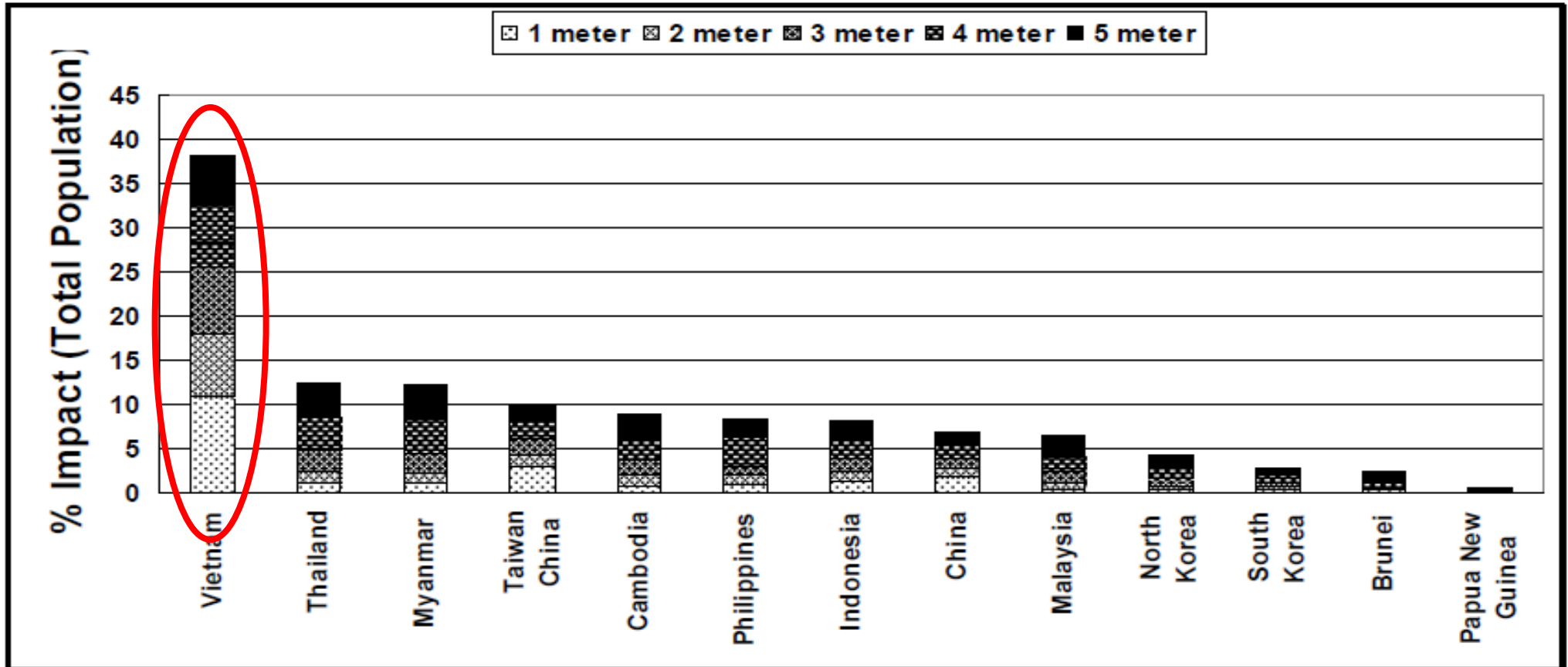


Climate change impact

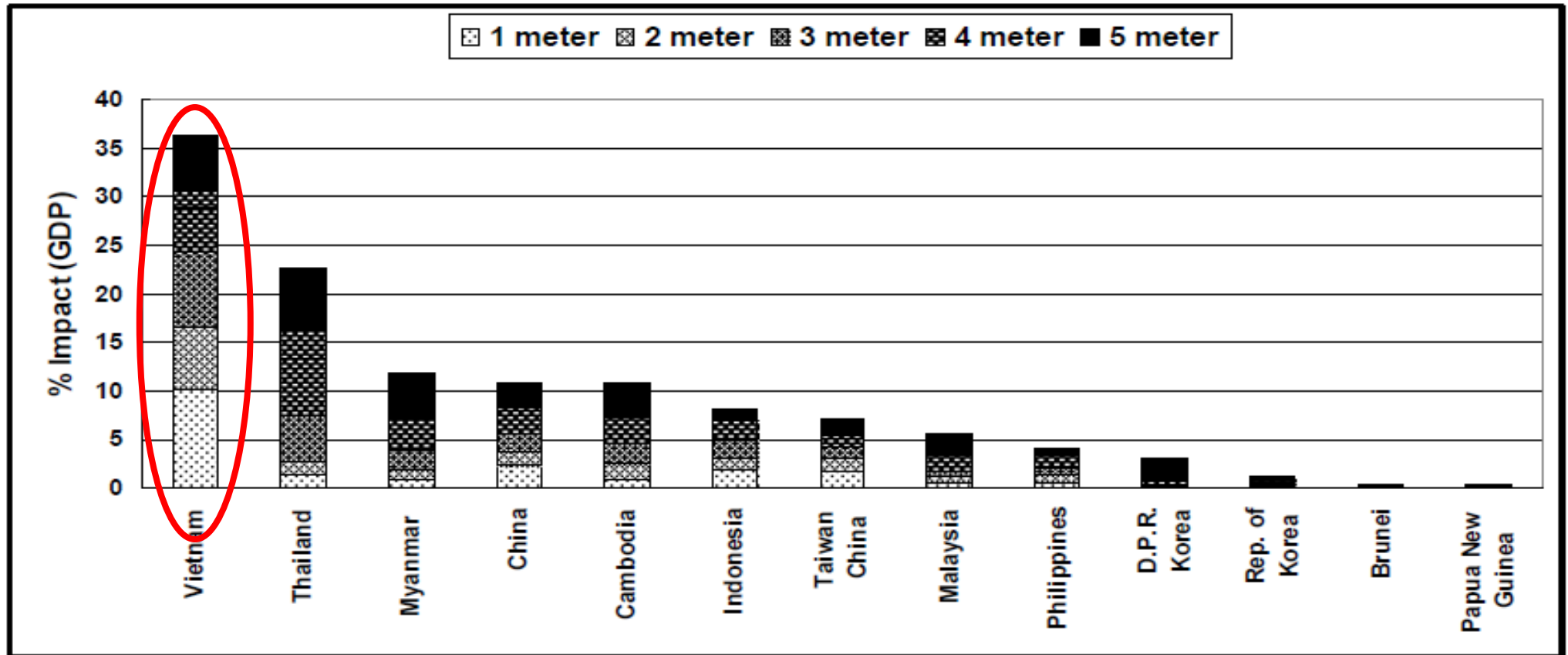
- ◆ 1 of Top 5 countries/nations most vulnerable to climate changes. Sea level rises 1m, **5% land loses**, **11% population affected**, 7% agricultural activities impacted, **10% GDP reduced**.
- ◆ Most vulnerable regions: **Red River Delta and Mekong River Delta**
- ◆ Most vulnerable sectors: **Agriculture, Water Resources**, Transport, Trade, Education...
- ◆ Most vulnerable group: **the poor**, women, children, and ethnic minorities...
- ◆ Climate changes in Vietnam: **increase** in strengths and frequencies of **extreme weather, disasters, sea level rise, land erosions and slides**.



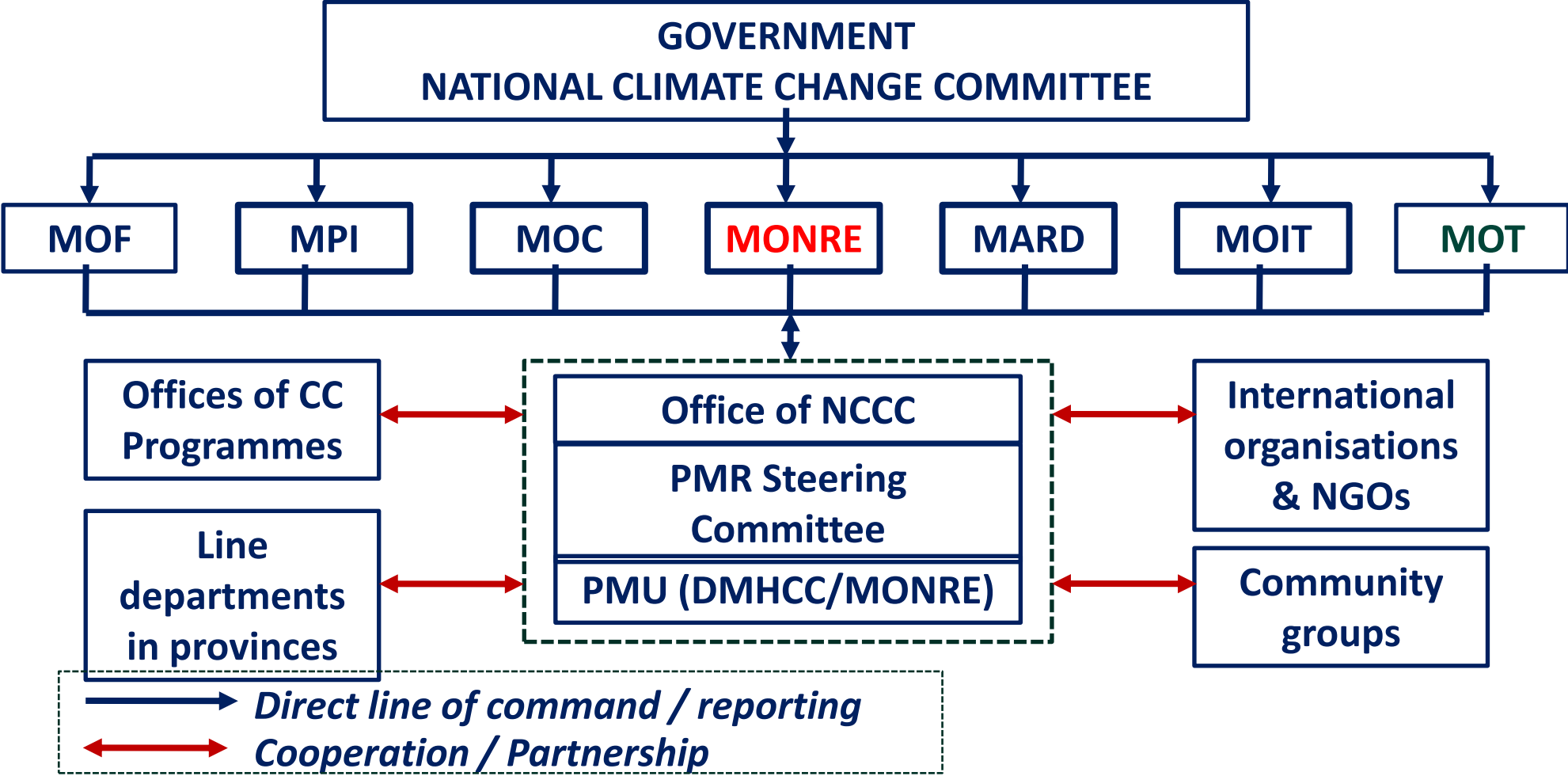
Impacts of climate change on Viet Nam's population by sea level rise scenarios, WB, 2007



*Impacts of climate change on Viet Nam's GDP by sea level rise scenarios,
WB, 2007*

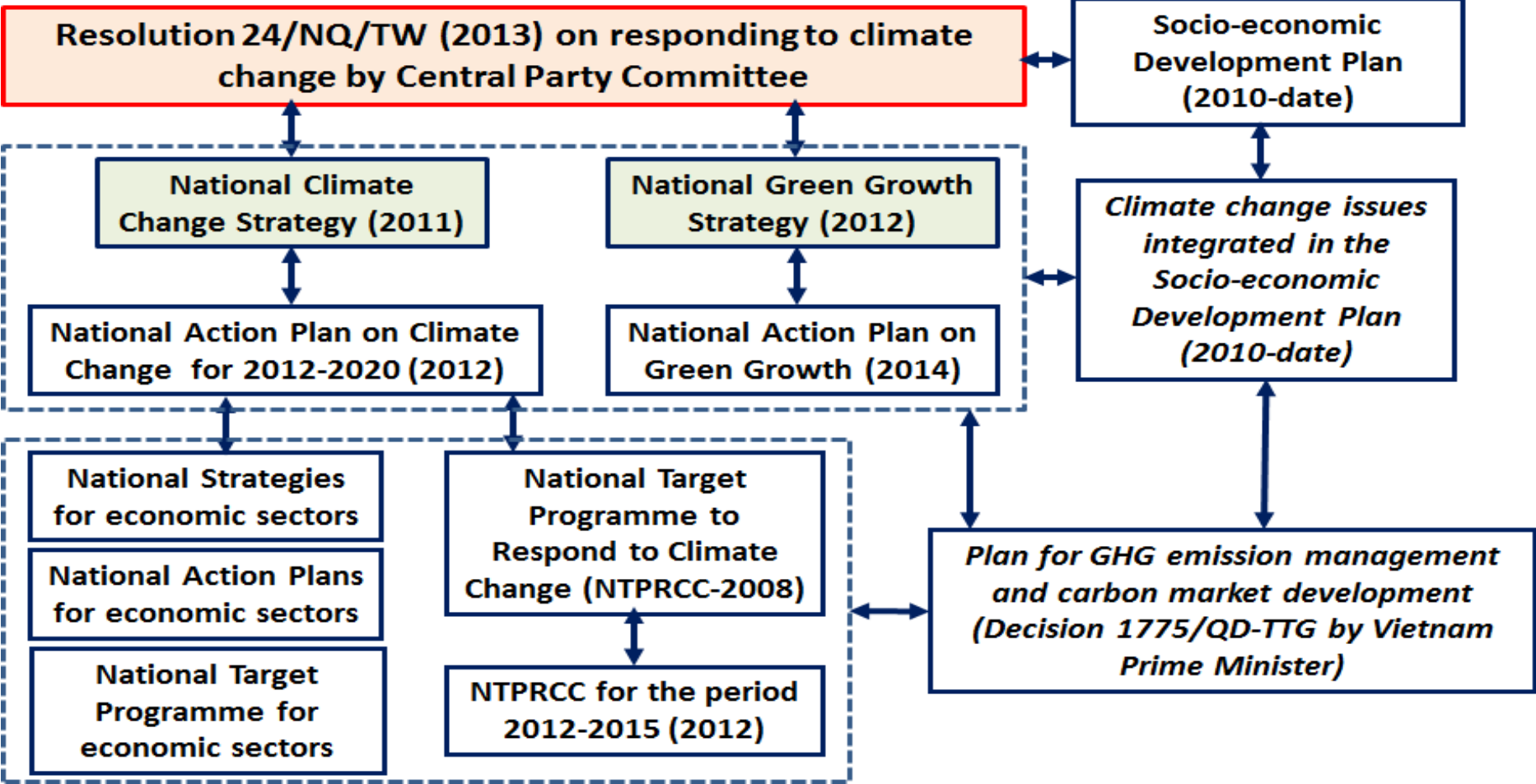


Institutional arrangements

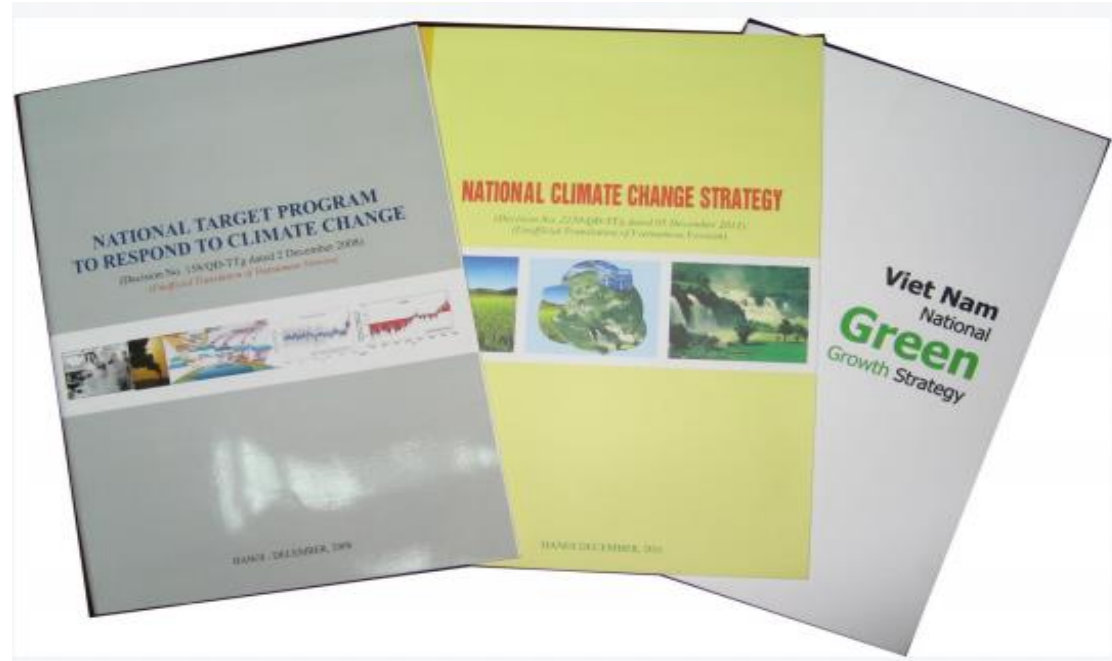


Policy Context

Evolution of climate change policies in Viet Nam



Policy Context



2. Programs/Projects

◆ Programs

- National Target Program to respond to climate change (2012 – 2015)- NTPRCC
- National Target Program on Energy Efficiency (2012 - 2015) -NTPEE
- Support Program for response to climate change - SPRCC
- USAID Vietnam Clean Energy Program
- Donors: JICA, UNDP, ADB, WB, AFD, USAID,...

Adaptation measures

Coastal zones

- ✓ *Full protection*: strengthening and elevating embankments nationwide
- ✓ *Adaptation*: accepts a certain level of climate change-induced losses, emphasizes *damage* cost-sharing, invests in the construction of “adaptive” infrastructure, and focuses on developing agricultural techniques and elevating houses above flood levels.
- ✓ *Withdrawal*: “averts” sea-level rise impacts by leaving coastal areas and retreating inland.



Adaptation measures

Agriculture

- ✓ ***Short-term measures:*** Prevent soil erosion, implement soil protection, provide proactive crop irrigation, select crops suited to climate change, etc.
- ✓ ***Long-term measures:*** Adopt climate change-suited cropping patterns, create new species, modernize cultivation and stockbreeding techniques, etc.
- ✓ ***Management and harvesting practices:*** Redistribute regional crop and livestock production to better suit changing climate conditions, provide additional incentives for agriculture, forestry and aquafarming, etc.



Adaptation measures

Water resources

- ✓ Formulate and integrate sustainable water resource development planning
- ✓ Reinforce, upgrade, complete existing and add new water resource infrastructure
- ✓ Upgrade and modernize hydro-meteorological observation, hydrological long-range and seasonal forecasting, and natural disasters forecasting
- ✓ Awareness raising



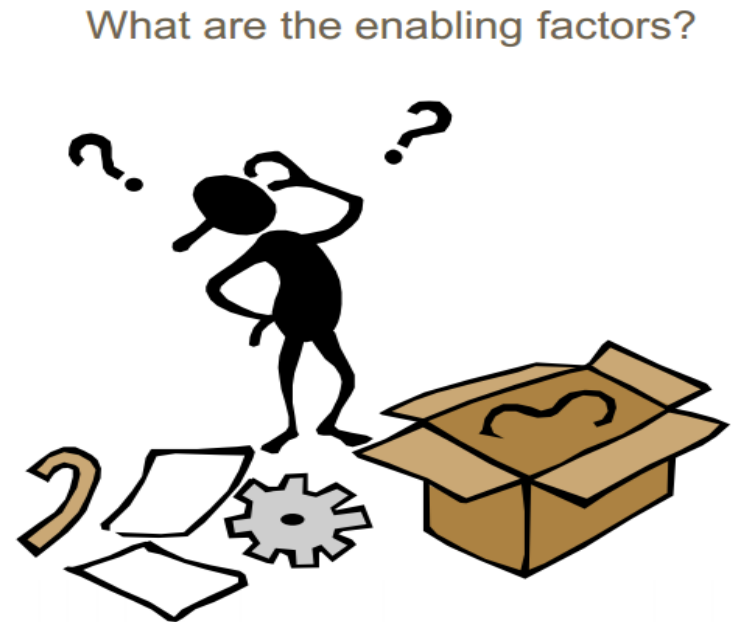
Next steps

- ✓ Implement key, urgent and priority tasks, identified in the Action Plan to respond to climate change of related ministries.
- ✓ Update the Action Plan to respond to climate change of each locality.
- ✓ Increase surveys and basic scientific research and application of adaptive technologies.
- ✓ Implement the pilot programs to adapt to climate change in Quang Nam and Ben Tre provinces and recommend the replication.

Climate Policies

Gaps :

- Human Resource
- Statistical Data
- Co-operation mechanism
- Overlap functionary aspects
- Regulations/Laws on Climate change Adaptation and Mitigation



CLIMATE CHANGE ADAPTATION

- ◆ Data-from climate to vulnerability, impacts and adaptation options-with strong operational and planning insights.
- ◆ Climate-related services to both government and commercial clients in: Consulting, Knowledge Management
- ◆ Training (Adaptation Academy)
- ◆ Build a adaptation knowledge tool, to train clients in best adaptation practices or to find other innovative adaptation solutions.
- ◆ Develops solutions through a growing
- ◆ Build capacity



Thank you very much!
Trân trọng cảm ơn!

