

Climate Change Adaptation: Current Status, Issues and Challenges in Cambodia

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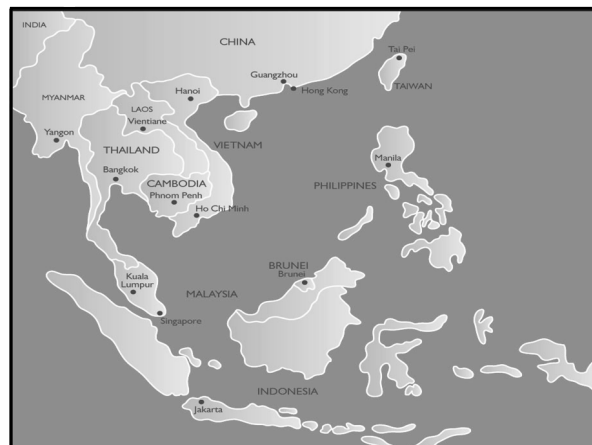
Inception Workshop on "Mainstreaming Adaptation on Climate Change"
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Outline

1. Country Profile
2. Climate Related Hazards
3. Institutional Organization
4. Issues and challenges raised by MoE
5. RUPP Climate Change Initiative
6. Conclusion
7. Q & A

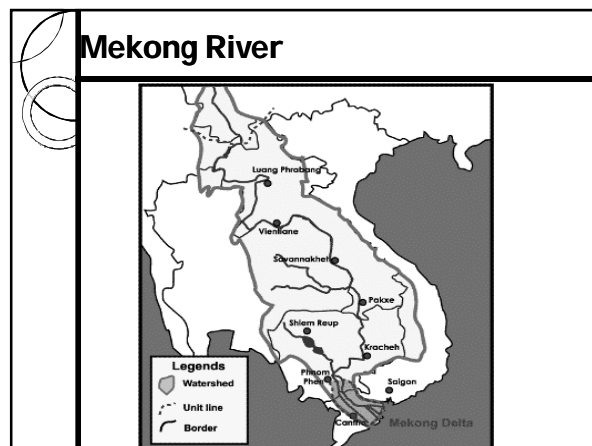
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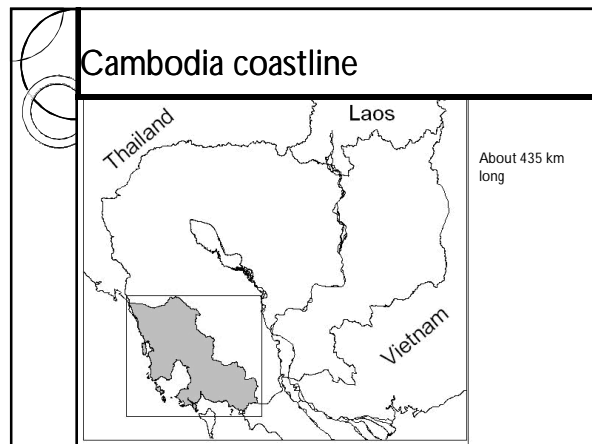
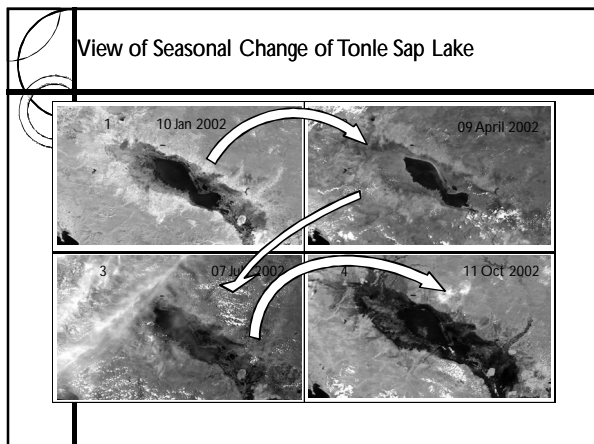
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Population and Economics

- 13.7 million in 2005
- 84% living in rural area
- About 80% depending on subsistence agriculture (28% of GDP)
- GDP per capita: 354 in 2004
- Natural resources, agriculture production...





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Cambodia climate

- Tropical monsoon
- Min mean temperature 22°C
- Max mean temperature 28 °C
- Average rainfall from 1994-2004 varied from 1400mm to 1970 mm and up to 3800mm in Coastal areas

Climate Related Hazards

Years/ Events	Affected People	Impacts	Death Casualty
Floods 1999	37,527	<ul style="list-style-type: none"> • 17,732 hectare of rice destroyed • 491 houses destroyed 	
2000	3,448,629	<ul style="list-style-type: none"> • 317,975 houses damaged • 7,068 houses were destroyed 	- 347 deaths
2001	2,121,952	<ul style="list-style-type: none"> • 2,251 houses destroyed 	- 62 deaths
2002	1,439,964	<ul style="list-style-type: none"> • 1,082 houses destroyed 	- 29 deaths
Drought 2002	2,017,340	<ul style="list-style-type: none"> • 43% hh in Cambodia drink unsafe water during dry season and 24% during rainy season 	
Malaria 2004	No data	<ul style="list-style-type: none"> • Waterborne diseases • 60,000 malaria cases were reported 	- 800 deaths per year the figure can be up to 10 times higher
2005			
Dengue fever 2006		<ul style="list-style-type: none"> • 7,655 case 	- 122 death per 4 hospital

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Institutional Organization

- Ratifies the UNFCCC in 1995; into force 1996
- Acceded to the Kyoto Protocol 2002
- MoE is the National Focal Point for UNFCCC and Kyoto Protocol
- National Climate Change Committee (NCCC), which was established in 2006, served as policy-making body and measure to address CC issues within the country
- CCCO was established in 2003 to work all relevant govt. agencies, NGOs and the like. CCCO is the implement body, GHG mitigation and inventory, and climate change adaptation activities

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Issues and challenges raised by MoE

- Limited financial resources or funding for climate related activities,
- Few climate change studies and experience within the country
- Lack of climate change research and/or training institution in the country
- Lack of data availability and reliability
- Relatively low technical of local staff
- Non-comprehensive national climate change policies and/or strategy
- Lack of qualified national experts in the country
- Limited public awareness and education on climate change and
- Limited Technical, financial and institutional resources for adaption and mitigation

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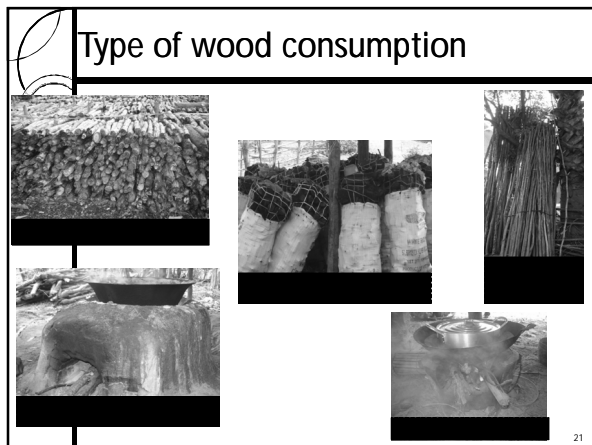
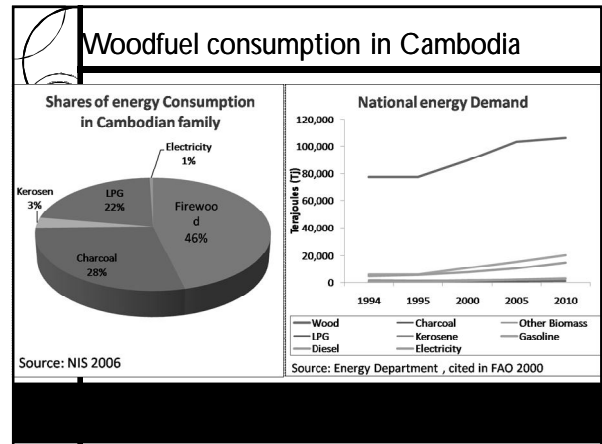
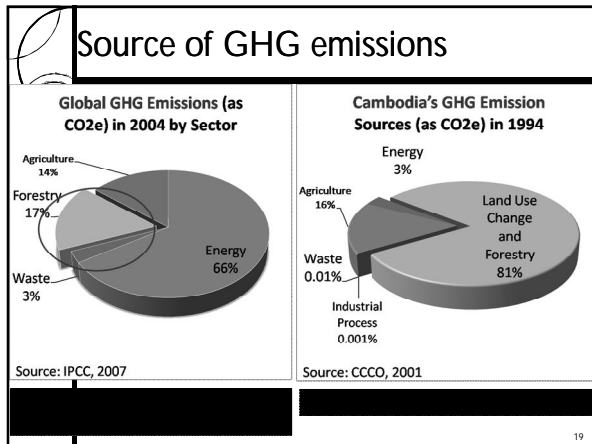
RUPP Climate Change Initiative

- Two researches were conducted by DES/RUPP
- One research is starting
- Curriculum on Climate Change is discussed
- More researches will be encouraged both Researchers/Lecturer and Students

Wood fuel supply and demand, and carbon credit to avoid deforestation

Study Objective

1. Assess wood fuel supply and demand whether consumption of wood fuel cause deforestation or not
2. Estimate CO₂ emissions from non-sustainable wood fuel consumption
3. Estimate carbon credits to avoid deforestation




- ### Opportunity cost of carbon credit
- About 4,596,896 dollars should be paid from 2010-2014 to keep forest stand.
 - More study needed especially on demand increment.
 - Policy maker or energy program developers should address woodfuel imbalance before promoting woodfuel as an alternative energy.


Study 2: Vulnerability of Climate Change in Coastal Zone

Main Findings:

- Based on household survey, almost all respondents agreed that the salt water is claiming more land
- Based on technical measurement, we found that concentration of salinity is increased substantially.
- 14 hectares is reported loss to saltwater

- ### Study 3: Jatropha Curcas as Fuel wood Replacement?
- Study related objectives**
- CBA of Small Scale Jatropha curcas around the household fences
 - Fossil Diesel replacement capacity
 - Biofuel for Machinery or for Cooking?
 - Policy implication to motivate the costs effectiveness options

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- | | |
|---|---|
|  | Conclusion |
| | <ul style="list-style-type: none">• More research will be done by RUPP researchers and students (1) Mitigation Option: Biofuel for Cooking as the replacement of fuel wood and (2) Adaption Option: New rice-seedling on salty soil or Rehabilitation Irrigation Systems.• Integrate Climate Change Subject into current curriculum• Provide training services to Government Institutions, NGOs• Advocate through disseminate researcher results to a wide audience to adapt, mitigate and more to prevent climate hazard. |

