

Session DP RE 5.3: Mekong at the crossroads

Date and Time of Session: Wednesday, 29 September 2010, 16:15 - 18:00

Short description of the session topic and the objective of the session

Topic: The Mekong is an example of a river basin that is vulnerable to climate change. Existing and proposed anthropogenic changes to the hydrology may not be able to reduce this vulnerability. The Delta Research and Global Observation Network (DRAGON) seeks to harmonize natural landscapes and ecosystem functions with human development in the Mekong basin.

Objective: This session brings together researchers and policy makers to share information on projected impacts of climate change on the ecology and food security in the region. After short presentations about our understanding of global climate change vulnerability and about building capacity for adaptation, the audience input is sought on opportunities for collaboration.

Session Agenda and Main Speakers

Session chair:

Jim Stefanov, USGS Deputy Regional Executive, South Central Area, USA.

Main speakers:

- Duong Van Ni, Can Tho University, Vietnam.
- Anond Snidvongs, START Southeast Asia, Thailand.
- Jeremy Bird, Mekong River Commission, Laos.
- Cindy Thatcher, U.S. Geological Survey, USA.
- Juliane Huth, WISDOM project, Germany.

Most exciting insight, moment or outcome

“It’s hard to train the prime minister, it’s easy to train students who will later be prime minister”.

Main conclusions, themes, insights or messages

- The Mekong delta is characterized by a diverse land use system. The lower area is dominated by shrimp farming, the intermediate area by rice and fish farming and the higher area by irrigated rice farming.
- Central government can realize land use changes within 2 years because of top-down government structure.
- Five environmental threats are identified:
 - o Habitat alteration (cutting forest or mangrove)
 - o Over-exploitation (dams and fishing)
 - o Pollution (waste water)
 - o Invasive species (apple snails and mimosa pigra)
 - o Global climate change (flooding and salt water intrusion)
- Five developmental threats are identified:
 - o Social differentiation
 - o Migration
 - o Urbanization

- Diseases
- Cultural degradation
- Three strategies are implemented:
 - Use legislation to control over- exploitation or to prevent migration to towns and cities.
 - Provide direct assistance (land and credit) to prevent increasing poverty.
 - Use technology and education to change behavior.
- Examples of climate change adaptation strategies are provided:
 - Reduce stressors that cause subsidence, land loss and erosion. Halt activities that alter deltaic processes and destroy habitats.
 - Restore natural coastal defenses.
 - Restore natural flow regimes that create and maintain deltas.
 - Accommodate sea level rise and natural processes in human development and restoration planning.
 - Remove impediments to inland migration of deltaic ecosystems (restored and natural).
 - Enhance organic sedimentation rates and mineral sediment availability.
 - Acquire coastal lowlands for storm protection and flood water retention.
 - Factor understanding of natural processes and trends into management and inform by monitoring.
- People need time
- Technology supports change
- Until 2050, the average annual rainfall will remain the same in most regions.
- Extreme rainfall shows higher variability, so adaptation has to focus on extreme rainfall.
- In the Mekong delta the (sweet water) flood depth and duration will be slightly higher, but people are adapted to the floods for centuries already.
- Future patterns for storm surges remain uncertain.
- Modeling changing locations for the 1997 Linda storm surge shows highly changing impacts.
- Within the area, there is a high variability between seasons and regions.
- There are opportunities for renewable energy, fisheries, irrigation, tourism and biodiversity, but rural poverty is high, environmental degradation occurs and there is a loss of sediment and nutrient supply.
- 20-year plan developments (dams etc.) should be reconsidered: should they be realized at all and, if so, under which conditions?
- Food security is reduced, not only due to climate change but also due to mainstream dams (reduced sediment and nutrient load).
- Uncertainties remain (data, models, climate change impacts), but there is an emerging understanding.
- Many issues we have to address anyway due to Mekong area variability.
- The Mississippi delta is still recovering from Katrina, which exposed vulnerabilities.
- Levees divert sediments away from farmland, which leads to high rates of land loss.
- Subsidence in New Orleans is up to 28mm per year. It is uncertain how this works.
- Human activities make deltas even more vulnerable, restoration of natural coastal defenses is necessary.
- Climate change results in delta flooding, coastal erosion and saltwater intrusion.
- With 1 meter sea level rise, 31% of the area will be flooded.
- A monitoring, warning and information system is needed.

Key phrases or quotes

- "Climate change offers not only risks but also opportunities."
- "When trying to convince government people or policy makers, work with the media. They are always hungry for information and contradictions. It's more cost effective than the media."
- "The construction of a new dam was impeding irrigation possibilities for local farmers. 'Don't worry, the project managers live far away' a farmer said to his neighbor. As soon as construction had finished and the project managers returned home, the dam was destroyed."
- "It's hard to train the prime minister, it's easy to train students who will later be prime minister"