The MRC Regional Stakeholder Forum

14th – 15th December 2017

Vientiane, Lao PDR

Parallel discussion 4A2 – Flood Protection and Floodplain Development

Flood protection – Key findings

- Flood risk and potential damage will increase 5 to 10 times as the value of assets increase with developing economies, especially in urban areas with higher exposure.
- Flood protection can be effective at reducing these damage increases but positive benefits of flooding will be reduced. Overall positive for GDP.
- Loss of sediment due to trapping upstream will lead to more bank erosion threatening the integrity of some defences

Flood protection – Q&A

- Methodology on flood frequency analysis

Use long term simulation for each scenario and fit frequency distribution to water level at each district (80+). From previous MRC work we have damage function at district level.

- Methodology to assess future damage

We can estimate for agriculture from the expected change in production and price. For Infrastructure, Property and Indirect impact we calculate expected change in assets at risk using estimated change in GDP/Capital Stock by country similar to methodology used in a number of global studies such as WRI Aqueduct.

- Effect of dams storage?

Included in scenarios

D&I Water Use- key findings

- The domestic water demand of the LMB are approximately 1,816 million m^3 in 2007 (M1); 2,475 million m^3 in 2020 (M2); and 3,206 million m^3 in 2040 (M3).
- The industrial water demand of the LMB are approximately 232 million m^3 in 2007 (M1); 629 million m^3 in 2020 (M2); and 677 million m^3 in 2040 (M3).
- The industrial wastewater of the LMB are approximately 176 million m^3 in 2007 (M1); 471 million m^3 in 2020 (M2); and 510 million m^3 in 2040 (M3).
- The domestic and industrial water use has only minor impact as the volumes are quite small compared to the Mekong mainstream flow.
- There is no significantly transboundary impact associated with the water quality.

D&I Water Use- Q&A

- Water use analysis for Vientiane urban area => Use IQQM to project water demand in M2 and M3
- Proportion of D&I to flow discharge (flow of mainstream) => in terms of D&I water use 4-5% is too small in terms of quantity compared with other sectors; but it's different in terms of quality
- Limited or insufficient data re industrial sector => to carefully look at the water quality parameters