

## LUCC Group Discussion Summary

The discussion of the land use / land cover change (LUCC) group was around the issues of common area of interest and possible future research collaboration. The result of discussion is the suggestion on potential comparison study research project which may require regional collaboration across disciplines.

### Objectives of the study:

- To develop common framework – methodology, tools and dataset for use in the study of various geographic locations throughout Asia
- To understand how socio-economic changes or human activities may affect LUCC and result in changes in regional hydrological regime.
- To understand how changes in water availability and water quality, which may caused by LUCC driven by human activities as well as changes in water demand in specific area which may caused by socio-economic changes, may require different water management scheme.

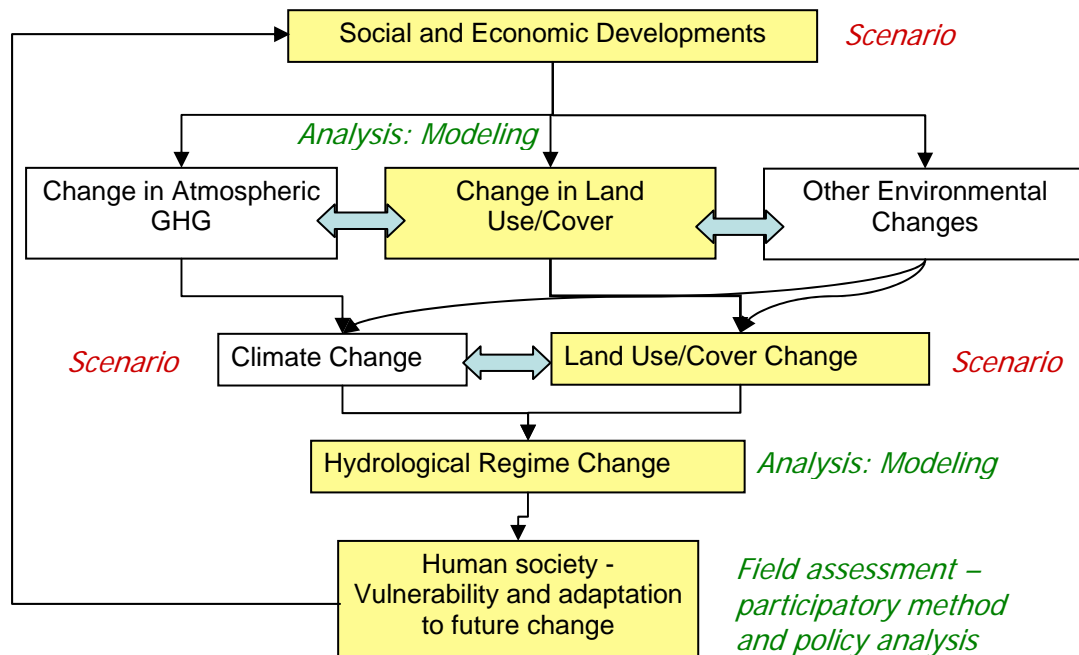
### Scope of study – Concept Note

Vulnerability of watersheds in Asia due to impact of drastic land cover change on hydrological regime from regional socio-economic development: Case studies in major watersheds e.g. Mekong River basin, Yellow River basin, etc.

Research Question / Theme	GWSP Science Theme
How have the changes in LUCC over the past few decades affected the regional hydrological regime?	Magnitude of Change
How will human activities under different socio-economic development schemes induce regional LUCC?	Linkages and Feedbacks
How will future LUCC affect regional hydrological regime?	Magnitude of Change
How will future climate change affect regional hydrological regime?	Magnitude of Change
How will different regional socio-economic development schemes affect the water demand / water utilization characteristic in the region (or in the watershed)?	Linkages and Feedbacks
What will impact of changing in hydrological regime affect human society?	Linkages and Feedbacks
What is the impact of changing in hydrological regime on ecosystem?	Linkages and Feedbacks
How changes in LUCC may affect local and regional climate pattern?	Linkages and Feedbacks & Magnitude of Change
What watersheds may be at risk from future changes in hydrological condition? - Water quantity and water quality	Resilient & Adaptation
What is the appropriate sustainable development policy to cope with future changes?	Resilient & Adaptation

Note: The highlighted topics are the primary area of interest under this discussion.

## Conceptual Framework:



## Expected outcome

- Future land use / land cover which may change from different regional development scheme
- Future hydrological condition based on different LUCC scenarios
- Identified “hot spot” or watershed(s) at risk from changing in hydrological regime
- Vulnerability of the systems and sectors to the changes in the future hydrological regime from different regional development schemes
- Adaptation options to cope with future risk(s) – feedback to policy makers for country or regional development plan for sustainable development