1. What are the session key findings? What are the new Lesson(s) learned / Scientific progress (since AR5 release, if relevant)?

Contrary to the hazard, vulnerability and exposure can often be influenced by policy and decision-making. Therefore, addressing the human dimension or socio-economic condition of vulnerability require strong knowledge of the sensitivity of the socio-ecological systems to particular climate exposure. Context-specific human vulnerability determines the impacts of the climate variability and change and their role. For instance, shifts in land-use patterns and livelihood strategies modify the benefits of adaptation measurements mostly in multifunctional landscapes. Transformative change (land-use change, urbanization) is visible in various regions highly at risk due to climate change. However, whether these trends and changes lead to improved resilience is still to be seen.

2. What are the major knowledge Gaps and Research Needs identified in the session?

Vulnerability and risk assessment as well as adaptation strategies need to combine and triangulate different data and knowledge sources as well as methodologies. This is still a challenge in a strongly disciplinary structured context.

Various climate impact assessments fall short in addressing the dynamics of socio-economic development that largely determine future exposure and vulnerability patterns.

The conditions under which a given community responses to extremes and slow variables can be successful (e.g. what are the enabling circumstances, barriers, or alternatives, efficiency of adaptation strategies?)

3. Did the session discuss/identify promising approaches in the fields of Adaptation and Mitigation, or both?
Human-environmental systems as well as livelihood strategies of people at risk are dynamic and change over time. Consequently, adaptation strategies need to go beyond the protection of existing livelihood strategies and patterns. Adaptation strategies and risk reduction measures need to be informed by and linked with local approaches and local knowledge. Various adaptation measures conducted in the past are not adaptive for the future. Rural urban connection is a dynamic interface that requires a convergence of various scientific communities, mostly those in rural and urban development.

4. Are there take-home messages from the session?

(When relevant, please specify targeted group of stakeholders. For example, policy-makers / COP21 negotiators, practitioners (experts, etc.), NGOs, private sector, citizens, media, etc.)

5. Are there Important Quotes from the session?

• Cheikh Mbow (ICRAF, Kenya): climate risk management need adaptive cycles in developing countries should be based on optimization of multifunctional landscapes.
• Jose Marengo (CEMADEN, Brazil): Climate does whatever it wants but governments can take responsibility for social & human dimensions.
• Joern Birkmann (University of Stuttgart, Germany): Coping and adaptation strategies from the past might not be sufficient for the future.

6. Please include any other remark that you might have.