

Bixby Center for Population, Health & Sustainability

Natural Resources







Adapting Natural Resources to Climate Change: Key Factors for the Sahel

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Introduction



- Adaptation is old-age strategy for <u>survival</u> for rural households dependent on climate-sensitive natural resources
- Climate change impacts on ENR; more intensity and frequency (droughts, floods, famines, etc.,) leading to "adaptation challenge".
- Population growth in the region: challenge as well as offered new opportunities for ENR management
- Poorer and disadvantaged individuals and groups suffer disproportionately from <u>inability to adapt</u>
- Urgent action is clearly needed to strengthen the <u>adaptive capacity</u> of people in the Sahel in order to meet the adaptation challenge

Planning for Adaptation Challenge-Adaptive capacity



- Strengthen existing systems of social capital and local knowledge(<u>ability</u> to moderate climate change impacts, capitalize on new opportunities and cope with consequences)
- Reduce dependence on <u>vulnerable</u> systems (ecosystems and biodiversity)
- Decrease <u>sensitivity</u> of the system to climate impacts (degree/extent of +ve/-ve impacts)

Some Key Areas and Sectors for Adaptation (1)



- Water resources-rainfall variability and their effects on water resources, e.g. decline in average rainfall (25% drier) in 1960-1990)
- Crop production through irrigation (drought resistant, short growth-grains and tubers)
- <u>Livestock production</u> (local cross-breeds, stocking levels, husbandry practices)
- Afforestation (locally appropriate tree species, agroforestry)

Some Key Areas and Sectors for Adaptation (2)



- Energy Needs (upscale energy-saving stoves, explore affordable renewable energy)
- Trade/market access(enhances income and employment)
- Innovative/environmentally <u>relevant technology</u> (local or borrowed)
- Strengthen <u>social capital</u>-encourage social networks/ interdependency (short or long distance)

Policy and Institutions (1)



- International concerns on ENR to inform national and local concerns (international/national/local <u>scales of</u> <u>interventions</u>)
- National level policies and strategies on ENR informed by <u>local specifics/realities</u> in an integrated cross-sectoral, multi-disciplinary bottom-up approach
- Build <u>knowledge base/skills</u> from past/historical best practices and strengthen relevant local institutions (documentation, technology transfer, informationsharing)

Policy and Institutions (2)



- Infrastructure development has immediate and longterm positive effects (e.g. allows mobility, encourages commercial diversification, improves remittances, etc.,)
- Need to link research and policy on improved ENR management for better engagement of all stakeholders
- Strengthen <u>institutional coordination</u> at local and national levels, (enhanced rapid response)



THANK YOU ALL!