Impact Chain Analysis
Supplemental Guideline on Mainstreaming CCA/DRR in the CLUP
Climate and Disaster Risk Assessment

Assessing risks and vulnerabilities, determining priority decision areas and risk management and adaptation options

Step 1. Collect and analyze climate and hazard information
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Objectives:

- Understand the various future climate scenario/s by analyzing climate change scenarios;
- Characterize the natural hazards that may potentially affect the locality/barangay;
- Understand previous disasters and severely affected elements;

Outputs:

- Local Climate Change Projections;
- Inventory of natural hazards and their characteristics;
- Tabular compilation of historical disaster damage/loss data;
- Summary barangay level hazard inventory matrix;

Process:

Task 1.1 Collect and analyze climate change information
Task 1.2 Collect and organize hazard information
   Sub-task 1.2.1 Gather hazard maps and characterize hazards
   Sub-task 1.2.2 Analyze previous disasters
   Sub-task 1.2.3 Prepare a barangay level summary hazard inventory
Step 2. Scoping the potential impacts of disasters and climate change

Objectives:

- Scope the potential impacts of climate change and hazards on relevant sectors;

Outputs:

- Summary of potential climate change impacts and potentially exposed units;
- Impact Chain Diagrams

Process:

Task 2.1 Identify the various climate stimulus;
Task 2.2 Prepare sectoral impact chain diagrams;
Task 2.3 Summarize findings;
Task 2.2 Prepare sectoral impact chain diagrams

Based on the identified climate stimuli (including its impacts to the behavior of natural hazards affecting the locality), identify the potential direct and in-direct impacts to the various thematic sectors such as agriculture, built-up/physical assets, water, health, coastal and forestry. LGUs can develop impacts chains by either focusing on one thematic sector or covering several sectors. Impact chains provide the most important chains of cause and effect leading to the potential impacts relevant in the planning area. This can help identify the key development areas/sectors where climate change and disasters will likely impact and guide the the detailed study of establishing the level of risks and vulnerabilities of the area.
“Impact chains provide the most important chains of cause and effect leading to the potential impacts relevant to the planning area.”
Mechanics

1. The participants will be grouped according to color of ID tag.
2. They will be assigned a particular climate stimulus (seasonal temperature changes & seasonal rainfall changes) and one system of interest/sector.
3. The groups will identify the direct impacts and indirect impacts caused by the stimulus on their designated system of interest and write/illustrate them on meta cards and manila paper showing their relationships.
4. The groups will generate these impact chains for both upper and lower bound projections for their designated climate stimulus.
Groupings

Temperature
- A. Urban
- B. Coastal

Rainfall
- C. Agriculture
- D. Forest

E. Energy/Health
Sample Climate Change Impact Multiple Sectors

- Increased Temperature
  - Tropical Cyclone
  - Extreme Precipitation
- Sea Level Rise
- Drought
- Landslide
  - Damaged Trees
  - Buried production area
- Flood
  - Buried lowland settlements
  - Flooded Facilities
  - Flooded production area
  - Loss of income
  - Cut off services
  - Damaged Facilities
- Water Loss
  - Loss of food supply
- Increased Poverty
  - Increased morbidity/mortality
Sample Agriculture Sector Impact Chain

[Diagram showing various impacts such as increase in temperature, shift in seasons, decrease in rainfall, increase in intensity of tropical cyclones, storm surge, sea-level rise, increase in incidence of pest and diseases, crop damage, decrease in water availability, land degradation/soil erosion, siltation due to runoff, land loss, food insecurity, water use conflict: domestic vs. irrigation, and implications on fisheries and aquaculture.]
“....help identify the key development areas/sectors where climate change and disasters will likely impact and guide the detailed study of establishing the level of risks and vulnerabilities of the area.”