Workbook Template

## Climate adaptation and resilience building through sustainable waste and resource management

### [Activity 1](#_Toc127800203): Mapping risks and adaptation responses by sector

### [Activity 2](#_Toc127800204): Integrating waste and resource management approaches

### [Activity 3](#_Toc127800206): Stakeholder engagement

### [Activity 4](#_Toc127800207): Practical Questions on BU Case Study

### [Activity 5](#_Toc127800208): Practical Questions on NBI Case Study

# Activity 1

List some examples of risks and potential response options you can think of in the following sectors in the table below. You may list as many as are applicable. Note that some climate-related risks, vulnerability factors, and adaptation response strategies may be common to multiple production systems and sectors.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Examples of potential sources of climate risks**  | **Nature of threats and impacts** | **Contributing factors to increased vulnerabilities to threats and impacts** | **Potential adaptation response options/strategies**  |
| 1. **Agricultural production system**
 |  |  |  |  |
| 1. Crop production
 | A.1.1A.2.1A.3.1 | A.1.2A.2.2A.3.2 | A.1.3A.2.3A.3.3 | A.1.4A.2.4A.3.4 |
| B. Aquaculture & fisheries, | B.1.1B.2.1B.3.1 | B.1.2B.2.2B.3.2 | B.1.3B.2.3B.3.3 | B.1.4B.2.4B.3.4 |
| C. Livestock and poultry | C.1.1C.2.1C.3.1 | C.1.2C.2.2C.3.2 | C.1.3C.2.3C.3.3 | C.1.4C.2.4C.3.4 |
| D. Agroforestry  | D.1.1D.2.1D.3.1 | D.1.2D.2.2D.3.2 | D.1.3D.2.3D.3.3 | D.1.4D.2.4D.3.4 |
| 1. **Energy systems**
 |  |  |  |  |
|  | E.1.1E.2.1E.3.1 | E.1.2E.2.2E.3.2 | E.1.3E.2.3E.3.3 | E.1.4E.2.4E.3.4 |
| 1. Mining & natural resources management
 |  |  |  |  |
|  | F.1.1F.2.1F.3.1 | F.1.2F.2.2F.3.2 | F.1.3F.2.3F.3.3 | F.1.4F.2.4F.3.4 |
| 1. Urban public utility/services
 |  |  |  |  |
|  | F.1.1F.2.1F.3.1 | F.1.2F.2.2F.3.2 | F.1.3F.2.3F.3.3 | F.1.4F.2.4F.3.4 |

# Activity 2

Following potential risks (including vulnerabilities) and impacts identified in Activity 1, identify in what ways waste and resource management approaches may impact or influence the sectors identified in the table below.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Examples of potential sources of climate risks**  | **Nature of threats and impacts** | **Contributing factors to increased vulnerabilities to threats and impacts** | **Potential adaptation response options/strategies**  |
| 1. **Agricultural production system**
 |  |  |  |  |
|  A. Crop production | A.1.1A.2.1A.3.1 | A.1.2A.2.2A.3.2 | A.1.3A.2.3A.3.3 | A.1.4A.2.4A.3.4 |
| B. Aquaculture & fisheries, | B.1.1B.2.1B.3.1 | B.1.2B.2.2B.3.2 | B.1.3B.2.3B.3.3 | B.1.4B.2.4B.3.4 |
| C. Livestock and poultry | C.1.1C.2.1C.3.1 | C.1.2C.2.2C.3.2 | C.1.3C.2.3C.3.3 | C.1.4C.2.4C.3.4 |
| D. Agro forestry  | D.1.1D.2.1D.3.1 | D.1.2D.2.2D.3.2 | D.1.3D.2.3D.3.3 | D.1.4D.2.4D.3.4 |
| 1. Energy systems
 |  |  |  |  |
|  | E.1.1E.2.1E.3.1 | E.1.2E.2.2E.3.2 | E.1.3E.2.3E.3.3 | E.1.4E.2.4E.3.4 |
| 1. Mining & natural resources management
 |  |  |  |  |
|  | F.1.1F.2.1F.3.1 | F.1.2F.2.2F.3.2 | F.1.3F.2.3F.3.3 | F.1.4F.2.4F.3.4 |
| 1. Urban public utility/services
 |  |  |  |  |
|  | F.1.1F.2.1F.3.1 | F.1.2F.2.2F.3.2 | F.1.3F.2.3F.3.3 | F.1.4F.2.4F.3.4 |

# Activity 2 Continued…

Following potential risks (including vulnerabilities) and impacts identified in Activity 1, identify in what ways waste and resource management approaches may impact or influence the sectors identified in the table below.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Examples of climate related risks** | **Nature of threats and impacts** | **Potential sustainable waste and resource management strategies**  |
| * + 1. **Agricultural production system**
 |  |  |  |
| A. Crop production | A.1.1A.2.1A.3.1 | A.1.2A.2.2A.3.2 | A.1.4A.2.4A.3.4 |
| B. Aquaculture & fisheries, | B.1.1B.2.1B.3.1 | B.1.2B.2.2B.3.2 | B.1.4B.2.4B.3.4 |
| C. Animal husbandry and poultry | C.1.1C.2.1C.3.1 | C.1.2C.2.2C.3.2 | C.1.4C.2.4C.3.4 |
| D. Agro-forestry  | D.1.1D.2.1D.3.1 | D.1.2D.2.2D.3.2 | D.1.4D.2.4D.3.4 |
| * + 1. Energy systems
 |  |  |  |
|  | E.1.1E.2.1E.3.1 | E.1.2E.2.2E.3.2 | E.1.4E.2.4E.3.4 |
| * + 1. Mining & natural resources management
 |  |  |  |
|  | F.1.1F.2.1F.3.1 | F.1.2F.2.2F.3.2 | F.1.4F.2.4F.3.4 |
| 1. Urban public utility/services
 |  |  |  |
|  | F.1.1F.2.1F.3.1 | F.1.2F.2.2F.3.2 | F.1.4F.2.4F.3.4 |

# Activity 3

Use this Matrix template to guide you in developing a stakeholder engagement strategy.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Stage of engagement strategy** | **Purpose of involvement**  | **Target stakeholders to be involved** | **Methods of attainment of involvement**  | **Who is organizing the involvement**  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

# Activity 4

* Could you think of other sustainable waste and resource management strategies to improve the resilience of BU slum area? You may use the workbook to list these solutions?
* How can these solutions be combined with other adaptation measures to achieve better outcomes?
* What are the implications of implementing these strategies to the social, economic and or general livelihood conditions of the dwellers of BU community?

# Activity 5

* What are some of the vulnerabilities and exposure factors of NBI that increase their risk to climate change?
* What role can sustainable management of waste and resources play in reducing their vulnerability?
* How can NBI build resilience to flooding at high tide and high heat events in summer?
* Who are the key stakeholders and how could they be involved to ensure the benefits of implemented resilience and adaptation interventions are sustained?
* Community engagement in recycling of plastics as a sustainable waste and resource management practice may help income diversification of the NBI slum dwellers. Do you consider this an adaptation option? Yes, or no? Please explain your choice of answer.