**Group Exercise: Understanding the value of Sanitation Safety Planning**

You and your group are members of the Management Board of the Coppentown W&S Utility. The SSP team, led by the Operations Manager, conducted a health risk assessment of the sanitation system. The following table shows the highest risk and the proposed measures. Based on the risk assessment and knowing that there is a **budget of 10 Money Units** for the next year, suggest which improvements should be prioritized.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sanitation step | Hazardous event | Exposure groups | Existing control  measures | Under current climate scenario | | Under the most probable climate scenario: floods | Improvement options | Resources required.  [In Money Units] | Indicate with an “x” if it is selected |
| Risk assessment1  (L x S = R) | Risk | + = increased risk  - = decreased risk  = = same risk |
| Collection/  Storage/ Treatment | Exposure to wastewater from overflowing cesspools or septic tank. This intensifies due to damaged or blockage following heavy rainfall. | 40,000 individuals using on-site systems | None | L=3 Possible  S=4 Moderate  3x4= 12 | Medium Risk | + | Issuing a municipal decree/by-law to oblige the connection to the sewer system | 1 |  |
| Community education program encouraging the population to connect to the sewer system | 2 |  |
| Expand the sewer network to unserved areas | 10 |  |
| Installation of sealed covers for septic tanks and non-return valves on pipes to prevent back flows. | 5 |  |
| Disposal | Exposure to pathogens caused by illegal dumping of fecal sludge in open land, open drains and river adjacent to residential areas. | 100,000 individuals living in Coppentown | None | L= 5 Almost certain  S= 4 Moderate  5x4= 20 | Very high | + | Issuing a municipal decree/by-law for fecal sludge mgmt. | 1 |  |
| Designation of an off-site dumping area for fecal sludge | 1 |  |
| Monitoring and controlling sludge private operators (for instance, through GPS systems). | 3 |  |
| Strengthening surveillance and enforcement authorities | 3 |  |
| Implement sludge transfer stations for private operators, with intermediate transport to the WWTP to be co-treated with wastewater. | 5 |  |
| Treatment  (Wastewater treatment plant) | Ingestion of pathogens while using river water contaminated with discharged untreated wastewater. This intensifies during extreme rainfall events causing discharge of excess, untreated wastewater into environment. | 500 individuals living adjacent to treatment plant.  10,000 individuals living in village downstream | Wastewater treatment plant working ok with minor incidents | L= 4 Likely  S=4 Moderate  4x4= 16 | Medium Risk | + | Develop an SOP for the correct O&M, train and supervise workers | 2 |  |
| Implement an immediate maintenance program to remove the accumulated sludge | 1 |  |
| Construct a fecal sludge pre-treatment unit (settling tank and drying beds) to avoid malfunctioning of the WWTP | 4 |  |
| Install flood, inundation, and run-off defenses (e.g., dikes) and undertake sound catchment management | 8 |  |
| Invest in early warning systems and emergency response equipment (e.g., mobile pumps stored off-site, non-electricity-based treatment systems) | 5 |  |
| Additional holding pond to buffer high flows and reduce overflow or bypass to river | 6 |  |

**Semi-quantitative risk assessment method**

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