Overview

- Three land-use scenarios (current: 2014 LU-Ls8, future: 2025 LU-Pm, and future: 2025 LU-Pop) were generated and analyzed for flood modelling.
- Event-based precipitation with 10 year rain return period classification and high resolution digital terrain model from LiDAR data were used to generate detailed flood simulation.
- Findings from this study will be shared to the local government units to help make their land-use planning climate sensitive.

Results

- The proposed land-use conversion in scenario 2 or 2025 Land-use based on participatory mapping, shows an increased built-up area by 150% (from 3,929 has. to 9,816 has.). While scenario 3 or 2025 Landuse based on population expansion shows an increased built-up area by 84% (from 3,929 has. to 7,232 has.).
- The increased built-up area resulted to 22% and 3% increase in flooded area in scenario 2 and scenario 3, respectively.
- The flood simulation only accounts the land-use change scenarios under an extreme rainfall event. The higher the land-use conversion to built-up areas, the higher the risk of flooding in downstream areas of the subwatershed.

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