



Urban Flood Management

WHO ARE THE STAKEHOLDERS?



General Public



Emergency Response Authorities



Civil Defense Authorities



Municipal Authorities



Spatial Planners



Non-Governmental Organizations



National Flood Planners

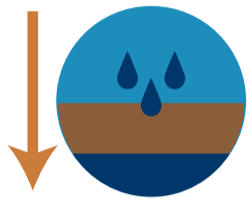


Water Supply & Sanitation Services



Property Developers

WHAT ARE TYPICAL CHARACTERISTICS OF URBAN AREAS?



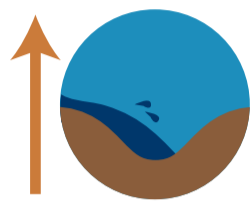
LOW

Soil storage capacity



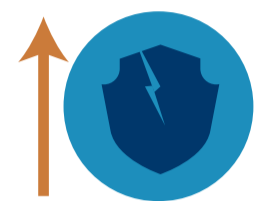
HIGH

Population density



HIGH

Runoff



HIGH

Vulnerability

WHICH HUMAN ACTIONS CAN EXACERBATE FLOODING?



Poorly planned land use



Impermeable soil use



Floodplain occupation



Increased vulnerability of informal settlements



Poor maintenance of drainage infrastructure

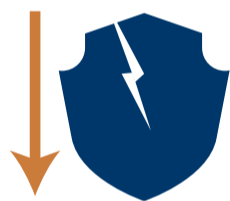


Improper disposal of solid waste

WHAT ARE THE OBJECTIVES OF URBAN FLOOD MANAGEMENT?



Improve population safety and quality of life



Reduce losses and vulnerability



Reduce uncertainty in economic sectors



Conserve the environment

WHAT ARE THE CHALLENGES?



Climate change impacts



Lack of financing



Socio-economic vulnerabilities



Poor Governance



Demographic growth



Low adaptive capacity

WHICH ACTIONS CAN WE TAKE?

STRUCTURAL MEASURES



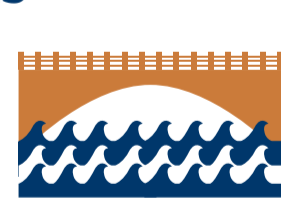
Reduce runoff



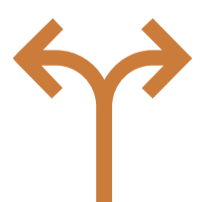
Improve runoff retention



Optimize drainage systems



Enhance river capacity



Create diversion channels

NON-STRUCTURAL MEASURES



Flood risk mapping & zoning



Flood forecasting & early warning systems



Land use planning



Flood proofing



Enforcing codes for building & municipal drainage



Disseminate flood risk information



Develop & test emergency management plans



Insurance



Train emergency teams