The Challenge

Surface water management due to urban flooding.

Kabul, the capital of Afghanistan, has been significantly affected by three decades of war. Lack of basic infrastructures has caused significant challenges in the city. Particularly, lack of sewage and drainage systems for storm and surface water management is more evident in the city. As a result of the mentioned problems, a huge amount of rainwater is accumulated on the streets during rainy seasons. The recent increase in amount of flash flooding, which is due to climate change, has exacerbated the problem. Likewise, mixture of grey water with storm water in open ditches on two sides of the roads has largely affected storm water quality. Almost all of the drainage systems in the city is functioning a dual role. Both storm and grey water is flowing at the same system. At the same time, presence of hills inside the city has increased challenges in storm water management. Considerable amount of sludge coming from the hills sediment on the drainage system. As a consequence:

- Water accumulation has damaged the infrastructures, particularly roads;
- It has caused considerable challenge to movement, particularly pedestrian and traffic management;
- Has largely affected quality of life in the city;
- Water contamination and increase in water born diseases.

The Evidence

The following data are available:
- Details of existing infrastructures
- Existing canals network
- Condition of existing drainage system
- DEM file of Kabul City
- Satellite Imagery of Kabul City
- Rainfall Data of the city

The following data are needed:
- Accurate rainfall data
- Updated DEM file
- Up-to-date satellite imagery of Kabul City
- Topographic survey of the city

Governance

The key stakeholders are:
- Kabul Municipality (KM)
- Afghanistan Urban Water Supply and Sewage Corporation (AUWSSC)
- NEPA-Afghanistan
- World Bank
- NGOs
- International donors
- Universities and schools
- Private Sector
- Ministry of Energy and Water
- People (service receivers)

Policies, Plans & Regulation

The following areas require legal base:
- Establishing sewerage system;
- Establishing decentralized Waste water management system, as the city is divided into four basins topographically;
- Implementation of Sponge City principles, for the purpose of water harvesting;
- Maintenance and cleaning of drainage systems shall be entrusted to private sector.

Financing

The financial support by the government and international donors are key in success of storm water management projects.

Currently there is a $3.5M project is undergoing for feasibility study and design of the system, funded by the USAID

Technical support

In order to overcome the problems, Kabul Municipality(KM) needs technical support of experts, universities, international organizations like IIICA, UNESCAP, UCLG and UN-Habitat. Technical support can be provided through direct consultation and conducting trainings.

Timeline for Implementation of Proposed Activities

3 months
- Cleaning of existing canals and drainage systems
- Maintenance of existing canals

6 months
- Construction and repairing of canals
- Study and design drainage network
- Constructing new drainage systems
- Enforcement of Sponge city Principles
- Legal and regulatory framework Preparation / revision

12 months
- Design development of a new drainage network for the city
- Cultivating proper shrubs on the hillsides in order to avoid sediment transmission during heavy rains
- Embarking on attracting funding for development of the system

>12 months
- Privatization of maintenance and cleaning services of drainage systems
- Construction of new drainage systems based on the proposal of new studies
- Embark on Development of the system