Major Issues of Urban Drainage Management in Ghana

G. Anornu and S. Oduro-Kwarteng
KNUST, Ghana
Outline of Presentation

• Background
• Urban drainage management in Ghana
• Problems and Challenges of drainage management in Ghana
• The way forward for sustainable drainage management
• Conclusion
Background

- For sustainable drainage management:
  - Development of drainage master plan
  - Implementation of the drainage master plan
  - Efficient and effective maintenance of drainage scheme.

- Efficient drainage system prevents flooding, hence loss of properties and lives and environmental disaster.

- The focus presentation is on the review of major drainage management issues in Ghana, and the way forward.
Urban drainage management in Ghana

- **Municipal Authorities (MAs).**
- **Hydrological Services Department (HSD).**
- **Urban Roads Department (DUR).**

Central Government

MLGRD
  - MAs
    - Public cleansing of drains

MWRWH
  - HSD
    - Operational hydrology, Design and construction of drains

MRH
  - DUR
    - Design and construction of roadside drains
Problems of drainage management in Ghana

Siltation problem

- Solid waste deposits.
- Sediments from erosion.
Problems of drainage management in Ghana

- Vegetation growth problem.
Problems of drainage management in Ghana

- Lack of coordination among institutions for town planning and drainage improvements.
- Weak enforcement of land-use and building regulation.
- Encroachment of flood plains by informal settlers.
Problems of drainage management in Ghana

- Obstruction of drains by utility lines.
Major drainage basins in part of Kumasi and drainage efficiency

Reduced Efficiency of some Drains in the Kumasi Metropolis

- Nsuben drain = 87.3%
- West Nsuben drain = 75.8%
- Asafo drain = 80.8%
The challenging issues of drainage management

- Weak institutional arrangements, resulting in the absence of coordination among institutions involved in drainage management.
- Weak regulation of acquisition of land and building permit.
- Strong opposition by informal settlers in flood-prone areas to demolish buildings in water ways.
- Financial constraint and lack of priority for drain construction and maintenance.
- Weak political will for drainage improvement.
The way forward for sustainable drainage management

- The responsibility of urban drainage should be given to the MAs and transfer staff of HSD dedicated to drainage, to the MAs.

- Transfer funding (budget allocation) of the HSD to MAs.
The way forward for sustainable drainage management

- Enforce land-use and building regulation.
- Avoid development in the flood-prone areas.
- Integrate town planning and drainage improvements.
The way forward for sustainable drainage management

- Apart from central government funding for structural works, property owners be charged drainage fee as part of the property rate for maintenance.

- Prioritize implementation of drainage master plan and maintenance.
The way forward for sustainable drainage management

- The water quality of streams be improved by identifying sources of pollution along all streams (source control).
- Enforce treatment prior to discharge into drainage.
- Improve solid waste management.
Conclusion

- There are serious problems with drainage in Ghana.
- Addressing these problems need integrated approach.
- The Municipal Authorities (MAs) be made responsible for drainage management and improvements.
Thank You