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Water Resources Management In Urban Areas

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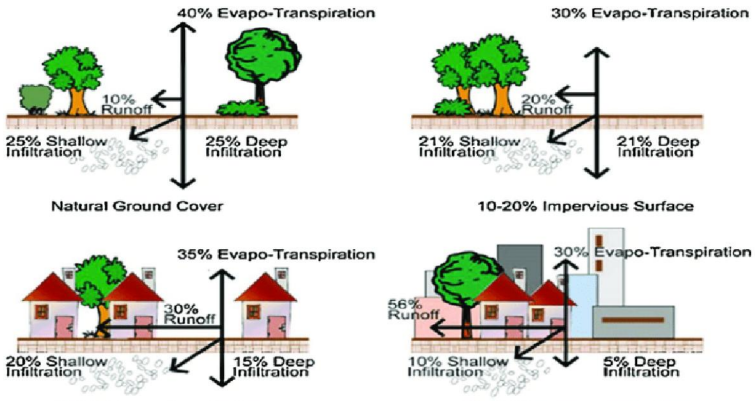
Content

Introduction

Numerous problems that arise in urban areas can be directly or indirectly related to the wise management of water resources

Too much water- floods – scarity of water – too much pollution

- Shortage of drinking water
- Pollution of water even in the sourc
- Growing of waste water
- Urban floods
- River pollution
- Climate change
- Antropogenic influece

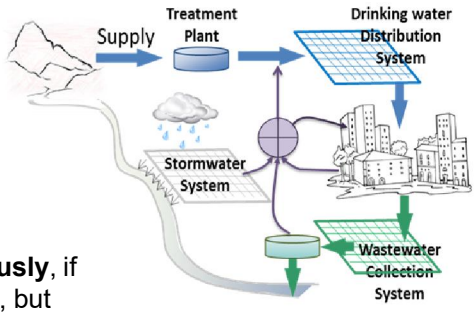


Natural vs. Urbanized Water Cycle (epa.gov/caddis)

Introduction – Traditional approach

Traditionally, Water supply, sewerage, wastewater treatment, stormwater drainage and flood mitigation and prevention, solid waste management are **mainly planned and performed as isolated services a**nd **managed separately .**

This approach does not take into account the natural urban water cycle, thus resulting in excessive water abstraction, water pollution and failure to use rainwater and recycled wastewater.



In practice, **water management usually occurs spontaneously**, if necessary, and solving current problems over and over again, but each within its own sector.

By Neil Grigg

Integrated Water Resource Management

The way water is currently managed, in many cities, is wasteful and polluting, even though these cities have the inherent potential for more sustainable management.

Obviously, there is a need to identify the problem and then solve and implement it. This will **require innovative and acceptable institutional mechanisms and a balance between autonomy and inter-cooperation**.

One of the proposed ways to achieve improved water management is the implementation **of integrated water resources management** (IWRM).

The concept encompasses various aspects of water management, including environmental, technical, economic, social as well as political impacts and implications.

It is quite common opinion among hydrotechnicians that even basin-level management often neglects the need for interdependence in management among drinking water, wastewater, flood control and rainwater.

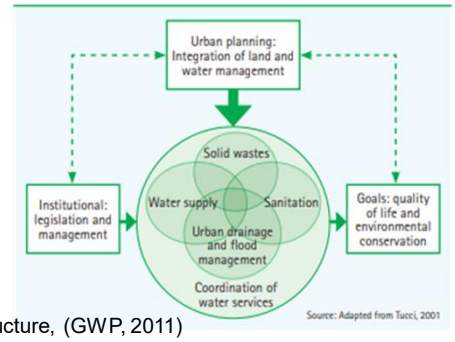
Integrated Urban Water Management

Urban water management is a growing challenge all over the world.

Integrated Urban Water Management (IUWM) is a holistic way of strategic planning.

Approaches that take into account the full water cycle and the integration of all institutions involved, are the ones that ensure real implementation. **Integrated Urban Water Management helps cities meet many water needs - both human and environmental - especially in the context of continuous urbanization and climate variability**.

It is important to stress that the IUWM **requires time and effort to implement** and requires **many organizations, from utilities and planners to politicians, to work more actively together**.



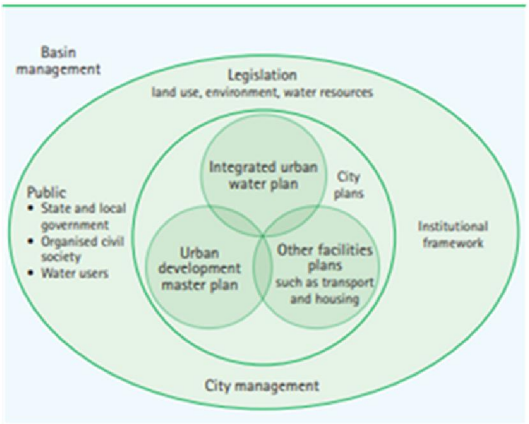
The coordinating structure, (GWP, 2011)

Integrated Urban Water Management

It is important that urban water management should be an integral part of urban planning.

IUWM includes the planning, design and operation of infrastructure for all water services - drinking water supply, sewerage, infiltration and rainwater runoff control, flood reduction, recreational parks and matching the needs of all other water users, as well as maintaining urban ecosystems.

Urban planners can help governments overcome fragmented public policy and decision-making by linking planning to other policy sectors, such as infrastructure, and adopt collaborative approaches involving all stakeholders in setting priorities, actions and responsibilities



The linking planning (GWP, 2000)

Conclusions

- With the dramatic changes in the water cycle expected in the coming years, traditional and fragmented approaches to water resource planning are simply not good enough.
- It is clear that only an integrated approach to water management can solve the challenges of urban water - from water scarcity and climate extremes, floods, torrents, etc., to resource fragmentation, more water issues need to be addressed than ever before.
- The great potential lies in smart technologies that can help us make the right decisions faster.
- Advanced water management technologies can **efficiently collect, combine and analyze** complex data from a variety of sources **in real time**, which is one of the key factors **for making** urgent, **but good decisions**.
- Adopting the IUWM concept and its iterative processes can help cities significantly increase the number of people with access to water of appropriate quantity and quality, improve rainwater drainage, to prevent urban flooding, increase climate change mitigation capacity, and improve health and productivity of resident cities .

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Thank you for your attention!