

MOOC: WATER AND SUSTAINABILITY

Topic: Urban water management - The city blueprint approach

Coordinating institution	National University of Mongolia
Lecturer	Professor Ochir Altansukh, Research assistant Enkhuur Munkhsuld
Level	MSc and PhD courses, publically open
Co-developer	KWR Water Research Institute, the Netherlands

Overall introduction (main concept and understanding)

This topic serves as an introduction to The city blueprint approach on urban water management. It provides master and doctoral students coming from natural science backgrounds (and a limited exposure to multidisciplinary environmental studies) with a basic understanding of social aspects of environmental sciences, management and policy, in particular, those related to water management. In addition, it introduces students to the urban water management, water governance and integrated water resource management. The course includes data collection, data analysis, individual and group exercises, field work, seminar presentation and report writing.

Key word (5-8 words)

World population, urban area, mega city, water management, blueprint

Target audience

MSc and PhD students in environmental science, hydrology, water management and urban planning
Also, it is open for public.

Prerequisite

None

Objective

The main course objective is to introduce the students to relevant integrated water resource management, water policy, water governance, urban water management, the city blueprint approach which consists of three complementary frameworks.

General learning outcome

By the end of the course, successful students will:

- understand urban water management and IWRM
- be aware of water governance, its actors and institutions,
- learn to apply CBA, includes trends and pressures framework, city blueprint performance framework, governance capacity framework
- compare different results of different countries
- conduct stakeholder interview and analyze results



- visit different water related organizations, including a wastewater treatment plant, and introduce its activity
- understand strength, weakness, opportunity, threat of the pilot city based on SWOT analysis, and convert it into different cities

Video lecture (10-20 minutes)

- ~ Duration 25 minutes
- ~ Language English
- ~ Sub-title English and Mongolian

Hyperlink with the video file.

<https://www.youtube.com/watch?v=IKI62QAqSMg>

Self-examination question and assignment

- ~ Assignment #1 (via MOOC) – Previous study: 2 pages of review note

Assignment #1 will help audience to understand CBA, and its application, components, IWRM and urban water management. Students will work individually at home and make maximum 2 pages of review note.

Literature

Compulsory:

1. Koop, S. H. A. and C. J. van Leeuwen "The challenges of water, waste and climate change in cities." *Environment, Development and Sustainability* 19(2): 385-418.
2. E-Brochure City Blueprint Approach (v10-April 2018)
3. Introduction - City Blueprint Framework
4. Introduction - Trends and Pressures Framework
5. Introduction - Water Governance Capacity Framework

Recommended:

6. Enkhuur.M, Altansukh.O and et all, (2020) "Application of the city blueprint approach in landlocked Asian countries: A case study of Ulaanbaatar, Mongolia", *Water, MDPI*, volume 12, No 1, 199, <https://www.mdpi.com/2073-4441/12/1/199>
7. Koop, S. H. A. and C. J. van Leeuwen "Application of the Improved City Blueprint Framework in 45 Municipalities and Regions." *Water Resources Management* 29(13): 4629-4647.
8. Kim, H., J. Son, et al. "Assessing Urban Water Management Sustainability of a Megacity: Case Study of Seoul, South Korea." *Water* 10(6): 682.
9. Feingold, D., S. Koop, et al. *The City Blueprint Approach: Urban Water Management and Governance in Cities in the U.S.*
10. Aartsen, M., S. Koop, et al. "Connecting water science and policy in India: lessons from a systematic water governance assessment in the city of Ahmedabad." *Regional Environmental Change* 18(8): 2445-2457.
11. Koop, S., F. Monteiro Gomes, et al. "Assessing the Capacity to Govern Flood Risk in Cities and the Role of Contextual Factors." *Sustainability* 10(8): 2869.