

STUBE Hessen-Seminar

12th December 2020, 13:30 – 17:30 pm, Online via Zoom

Sustainable Cities – Urban Future?
“Water-Reuse for Sustainable Cities”

Seminar facilitators: Ms Eileen Paßlack, STUBE Hessen-speaker

Ms Lea Pulter, STUBE Hessen-intern

Target group: Students from Africa, Asia and Latin America studying in English in Hessen

Learning goals: SDG 11 – Sustainable cities and communities; understanding sustainable urban development; the importance of water-reuse concepts for water scarce regions; expansion of knowledge for sustainable cities; visualization with global examples

Participants: The number of registrations totalled 65 and a number of 24 students participated in this English speaking seminar (12 women, 12 men). Out of 24 participants, 12 participants attended a STUBE seminar for the first time. All in all, the number of represented countries was 15. Divided by regions, 5 students from 3 African countries, 13 students from 7 Asian countries, 4 students from 3 states in the MENA-region, 2 students from 2 Latin-American countries participated in the seminar.

Process of the seminar

First of all, the seminar was originally planned for the date 6th to 8th November 2020 in Darmstadt. Due to the coronavirus pandemic, the seminar was postponed, rescheduled and transformed into a digital seminar series on 12th December 2020 and 19th December 2020.

Saturday, 12th December 2020

The seminar started with a welcome speech for the participating students by the facilitator Eileen Paßlack and co-facilitator Lea Pulter. The program started at 1:30 pm. Ms Paßlack and Ms Lea Pulter introduced themselves. The facilitator presented the various offers of STUBE to the participants. After a short round of getting to know where everyone is from and which field of study they have, the co-facilitator Lea Pulter introduced the speaker for the seminar.

The speaker was Prof. Dr.-Ing. Sonja Bauer from the Faculty of Geomatics, Computer Science and Mathematics at Stuttgart University of Applied Sciences presenting the topic **“Water-Reuse for Sustainable Cities!”**. At first, she introduced herself based on her educational background, experiences in this field and her research activities on sustainable urban development, water-reuse concepts for water-scarce regions, industrial-urban water-reuse strategies and urban planning, land-use planning. Professor Bauer started her keynote by introducing the high urbanization rate worldwide, which results from migration movements from rural to urban areas and population growth. This contributes to a high use of the limited resources land and water. For visualization purposes some statistics of population growth and water; and global water supply were shown. Furthermore, she illustrated how population growth affects land and water due to increasing demand for living space and food and how climate change worsens water-scarcity, which is increasing droughts and rising water demand worldwide. She underlined these arguments with examples from Germany. As a solution Professor Bauer presented water reuse and how wastewater is a valuable resource that is available daily and in calculable quantities. As examples for possible applications of ‘Reuse Water’ she listed agriculture, tram routes, toilet flushing, roadside green space, street cleaning, cooling water and city parks. After this she presented and explained the process of approaches how to reuse water and concluded that the efficient use of Reuse Water

enables urban green spaces to be preserved and the improvement of microclimatic conditions in the city, the quality of life/urban living. After her presentation, she was available for any questions that may have occurred.

A short break was initiated. After that, the first Breakout-Session was introduced, the participants were divided into separate groups and had to answer questions based on an example in which a community in Germany (Lauenau) ran out of drinking water. These questions were: "Beside climate change, what causes/what leads to water-stress in general? And Is your country (or are regions of your country) affected by water-stress? If yes, do you have examples where water-stress has become apparent (e.g. like in Lauenau)?" Most answers included the following points:

- Population growth
- Wastage of water and lifestyle, overconsumption
- Tourism
- Increased industrial water consumption
- Geography and infrastructure

Every group presented their answers and underlined their statements with examples from their home countries. In the second Breakout-Session the groups were asked to discuss what a reuse water distribution system would look like from a technical point of view. In addition, the groups should also discuss the question: "If you consider "reuse-water" to become a fixed component in the water supply, can you imagine this "new resource" as a fee-based good? What could a fair distribution system (from an economic and social perspective) look like? Please choose therefore a specific Water-reuse application (e.g. irrigation (city parks, agriculture...) or toilet flushing...)". All in all, the groups concluded that there should be a fee attached after a certain amount of usage. Some other ideas for water distribution were water tanks, mini treatment systems per house and localized water collection for distribution. Prof. Dr.-Ing. Sonja Bauer thanked all students for their input, global impressions, and participation. At the end of the discussion, Ms Paßlack thanked the participants for their creative project ideas and their presentations. She closed the seminar and asked the participants to fill in a short evaluation form. The participants had the chance to share their impressions of the seminar.

Used methods and evaluation of the seminar:

The seminar was conducted through the virtual conference room Zoom and the speaker used a Power-Point-Presentation. The group activities took place in breakout-sessions.

Impressions from the evaluation of the seminar:

- A very interesting topic that has worldwide roots and is an important issue to be discussed.
- I really liked that I learned about the different perspectives of the water manager, the civil engineer and the social activist.
- A good blend of people from different educational and cultural background with diverse opinions.
- The topic was interesting, the expert made this seminar very dynamic and cooperative. I really appreciate the excellent time managing of the moderator as well.
- I would like to know about more projects related to sustainability where I can participate as volunteer or intern.

17.12.2020

Eileen Paßlack

STUBE Hessen-Referentin