Act Sustainable Research Conference 2020

Fixing sustainability in a broken state: Recycling initiatives in the aftermath of the August 4 Beirut explosion

Hanna Leonardsson, School of Global Studies, University of Gothenburg
Key words: sustainability, governance, recycling, Beirut explosion, non-state initiatives

Aim

In the aftermath of the massive explosion that devastated Beirut on August 4, 2020, individuals, civil society organisations and private companies have responded en masse to deal with the immediate humanitarian crises, as well as get involved in reconstruction needs on the ground. In a country with only minimal and individual initiatives for recycling, and a recent history of garbage mountains and waste crises, the mounting piles of rouble from the blast is feared to become yet another environmental problem. However, as the Lebanese state has lacked in response, private initiatives have stepped up to collect and recycle the shattered glass from the explosion. Part of a larger movement opposing the inability of the state to deliver services, this paper uses the concept of waste regimes to analyse what these non-state initiatives mean for the possibility of sustainability in Lebanon.

Methodology

As a new research initiative in Covid-19 times, this paper builds on reports, blog posts, podcasts, news and social media posts from civil society actors and social entrepreneurs involved in practical collecting and recycling or organizing recycling initiatives in Lebanon since August 4, 2020.

Key results/conclusions

Through a lense of waste regimes the paper analyses what norms and ideas inform the initiatives, and what they mean for sustainability, as well as governance of public services, in Lebanon.

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Environmental Life Cycle Performance Optimisation of Buildings

Alexander Hollberg, Chalmers University of Technology, Department of Architecture and Civil Engineering, Division of Building Technology
Life Cycle Assessment, Buildings, Optimisation

Aim

To achieve Sweden's goal of net zero greenhouse gas (GHG) emissions in 2045, extensive emission reductions are urgently needed. The building sector is responsible for a large share of Sweden's energy demand and GHG emission and provides a big potential for cost-efficient savings. The aim of this project is to apply Life Cycle Assessment (LCA) and computational optimisers in early design stages of buildings to make use of this potential.

Methodology

The method of LCA is simplified and adapted for the early design stages of buildings. The calculation of the energy demand and resulting GHG emissions in the use phase is combined with the calculation of the so-called embodied energy and GHG emissions related to the production, replacement and end-of-life of building materials. The calculation algorithms are implemented in the parametric design software Grasshopper3D and linked with the geometry model to allow for real-time feedback while designing.

Key results/conclusions

The results show that the computational optimisers can identify optimum solutions and support in saving GHG emissions. Furthermore, the optimisers can be applied to visualize trade-offs between environmental and economic aspects. As such, they provide a good basis for informed decision-making for architects and their clients but also real estate managers and muniscipalities.

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The NordicPATH project in Scandinavia – exploring best practices in citizen engagement using Urban Living Labs

Karin Ekman and Marisa Ponti, University of Gothenburg. Jenny Linden and Marta Segura, IVL – Swedish Environmental Research Institute. Nuria Castell and Sonja Grossberndt, NILU – Norwegian Institute for Air Research. Enza Lissandrello, Rasmus Steffansen and Nicola Morelli, Aalborg University, Denmark. Anna Broberg, Mapita Oy, Finland

Key words (3-5) Sustainable cities, urban planning, air pollution, policy processes

Aim

NordicPATH is an interdisciplinary research and innovation project whose overall objective is to establish a new model for citizen participation and collaborative planning in the Nordic countries, focused on urban air quality and the interlinked challenge of climate change. NordicPATH will investigate how technologies can facilitate processes of co-design of solutions towards shaping more livable, healthy, and sustainable cities for everyone. The main research question of NordicPATH is therefore whether bottom-up processes can be concretely combined with urban planning practices and policy processes in relation to important environmental issues. The NordicPATH project has recently started and will comprise work in the three Urban Living Labs in Gothenburg (Sweden), Kristiansand (Norway), and Aalborg (Denmark).

These Labs will have different aims and focuses and will provide the necessary learning arenas to explore best practices in citizen involvement. The aim of this presentation is to communicate the overall goals, methodology, and the next steps of the NordicPATH project. This will be done by describing how we work in the early stages of the project, when approaching the different members of the NordicPATH consortium to express the potential possibilities and expectations of the activities in the Urban Living Labs

Methodology

To get an overview of possibilities and expectations of our urban laboratories, we asked representatives (scientific as well as from the municipality) some questions. Using a qualitative approach, consortium members were asked for written answers to open ended questions, and data will also be collected from video recorded, online interviews with representatives from the three municipalities in the Urban Living Labs. The questions aim to identify not only possibilities and expectations, but also to map the pre-conditions in each Urban Living Lab in terms of key activities, processes, and communities of practice around air pollution and climate change, as well as outreach activities and communication.

Key results/conclusions

We will present the intentions of the NordicPATH project (i.e. overall goals, methodology) as well as preliminary finding from the early stages of the project when describing how we approach finding best practices of citizen engagement using Urban Living Labs.

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The operational space of co-production of the city. The case of Haga station planning in the West Link railway infrastructure project.

Olga Stepanova and Merritt Polk. School of Global studies, University of Gothenburg

Key words: urban sustainability; infrastructure development; co-production; knowledge use; conflict

Aim

Large infrastructure development projects of national importance as the West Link in Gothenburg (Västlänken) are characterized by high levels of complexity related to different values, priorities, knowledges in use and their interpretations. The challenge for decision makers and planners is to operate with and within this complexity. Given the stringent regulations regarding consultations and evaluation procedures in Swedish planning, the integration of different knowledge sources and types should be integral to the process. This paper focuses on the *co-production* of these plans from different sources and types of knowledge. Some aspects of co-production are formally present in planning e.g. through consultation with the public. However, as practice shows, conflicts around different knowledges, priorities and values are still part of planning reality. In this paper we aim to understand what space co-production has in large infrastructure projects. We provide a more nuanced analysis of possibilities and limitations of co-production in case of highly complex infrastructure projects of national importance and bring the discussion of co-production from theory to practice. While co-production often focuses on citizen and governmental interactions, we also include the in-depth interactions that occur between the different governmental and municipal agencies involved in this planning process.

Methodology

Based on semi-structured interviews, document and local media analysis we distinguish different knowledge types that different actors in Haga station planning case within the West Link project operate with. We also identify what claims are present in the debate. We further distinguish different types of co-production used in this case on different levels of decision making.

Key results/conclusions

Decision making for infrastructure projects of national importance make certain types of knowledge co-production very difficult, even impossible. Co-production is influenced by windows of opportunity that appear within the political sphere and last over a very short time, which makes politicians to push through different projects even if they are not properly investigated. This might contribute to conflict development in the future stages of the project realization. For such projects as the West Link there is a certain path-dependency where things need to be done in certain moments in time. These preconditions influence co-production. On the one hand, co-production between organizations is stimulated by these conditions, they have to collaborate to fulfill the task from the government. On the other hand, co-production between organizations and the public becomes quite limited as there is no time or space to do it properly. Neither is there room for questioning/affecting political decisions that

have already been made by the government. Our analysis of Haga case shows that this mismatch may also be a source of conflict.