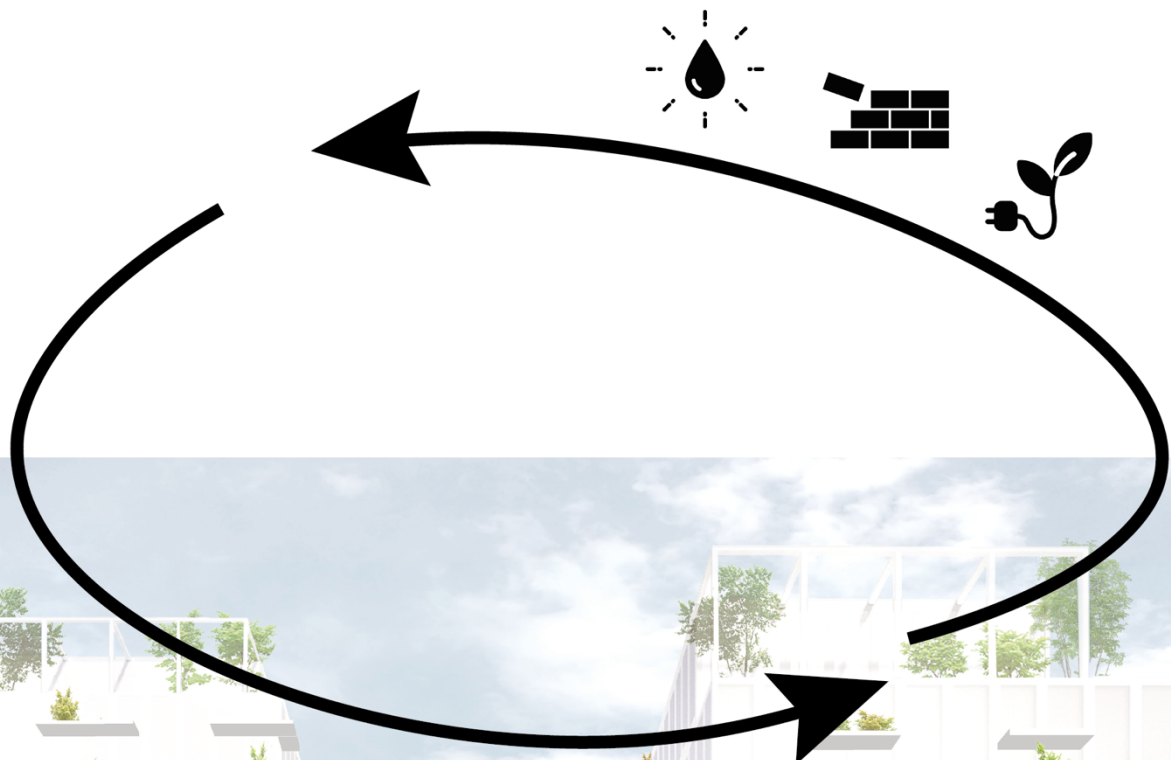


Circular urban area development; Myth or reality?

Master thesis - Heleen Luijt - TU Delft - June 2019



Reflection

The final part of this thesis is a reflection on the graduation research and process. First, the position of this research within graduation laboratory is reflected. Second, the used research methods and process is discussed.

Position of research within graduation laboratory

This research was conducted in the graduation laboratory of 'sustainable area transformation' which is focused on sustainable urban area development. The 'sustainable' part is captured by the extensive research into the concept of circularity, that can be used to develop sustainable areas. Furthermore, urban areas are characterized by public-private collaboration focused on products and processes. In this research both sides are captured by defining the 'factors' of circular urban area development, the applicability of these factors in practice and the legal and organizational instruments, financial incentives and design tools that can be used to manage them.

Reflection on research methods

In this part the methods that are used to conduct this research are discussed.

Literature study

This research started with a literature study into the concept of circular urban area development. Because of the newness of this subject, almost none scientific research can be found. Therefore, it sometimes was a jigsaw to find and combine the right sources to lay out the theoretical framework. Fortunately, scientific literature can be found on circular buildings and cities. By combining these sources, a framework for circular urban area development could be established that was used in further research.

Explorative interviews

The experts that were interviewed during the explorative interviews all had different backgrounds. This was done, to address people that are active in all the facets of real estate and to make the outcomes more generalizable. However, not all interviewees were experts in the field of circularity and their answers were derived from personal opinions, resulting in broad outcomes. These explorative interviews were held in the beginning of this research. At this moment, the concept was new for both experts and I, resulting sometimes in less critical questions and results.

Case study

In the case study analysis, it was the first time that theoretical concepts fell into place and some consensus about the use of circularity in urban area development in practice could be established. Unfortunately, all researched projects were in the beginning of the development process, which makes it difficult to find real evidence. Furthermore, data derived from these cases was based on norms and standards that are currently used in traditional urban area development which are developed using a linear approach. When the principles of the circular economy are used, norms and standards will probably change. However, at the moment we're not that far.

Expert panel

Findings out of the case studies were discussed during the expert panel which resulted in an intensive discussion about the definition of circular urban area development. In this research the definition of circular urban area development is narrowed to get more focus. However, some experts of the panel used a broader scope, which made it difficult to criticize the found factors.

Reflection on research process

This last part reflects on the research process which started in September 2018. This part is written from a personal point of view.

In September 2018, when this graduation research started, the decision to conduct a research in the field of sustainable area transformation was quickly made. Based on my own interest in sustainable development, I started to explore the concept of circularity in relation to urban area development. After searching the internet, the lack of knowledge on the subject of circular urban area development became clear, and the topic for my graduation research was established.

The period before the P1 consisted mostly out of literature study and the reading of articles to get in touch with the subject. It became clear that no consensus of the definition of circular urban area development exists and that the concepts of circular economy, circularity and sustainable development are used in the same context and often mixed-up. Because, of the lack of literature on circular urban area development, practice was needed to find the possible definition of circular urban area development. The period between P1 and P2 was all about conducting explorative interviews to narrow the definition of this concept.

After all the explorative interviews were conducted, the findings could be tested and validated in Dutch practice by doing a multiple case study analysis. Three cases were selected; however, these cases were all in the beginning of its process. The factors of circular urban area development were only drawled on paper which makes it hard to find real evidence. However, during the cross-case analysis a pattern could be found in the development of these cases and the concept of circular urban area development became clearer. This was also the moment when things started to fell in place.

Finally, in the expert panel it became once again clear that no consensus of circular urban rea development is established. However, some clear directions and preconditions of circular urban area development were stated that can be used in practice and for further research.

In the beginning of this research I wanted to develop a circular urban area development scorecard that could be used in project teams of urban area development to make the implementation of circularity easier. However, this is yet not been possible because the concept is too new to make scoring possible. Although, the final results differ from the proposed outcome, this research has established some interesting findings on the factors of circular urban area development, possible instruments that can be used to manage them and a guideline that can be used in Dutch practice to develop a circular urban area.

Something that I will therefore take into practice myself it the awareness of the environmental risks that we're created in our linear system. During this research I became more aware of my linear behavior and I changed some of my behavior patterns: separating waste, only necessary showering, not using the dryer anymore, driving electrical and eating less meat. Further, I will definitely implement and share my knowledge on sustainable development and circularity in my next job.

Heleen Luijt
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