MASTER

NGO's transforming approaches
exploring how Cordaid can contribute to a fundamental change of the sanitation system in urban informal settlements in low-income countries

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NGOs’ transforming approaches

Exploring how Cordaid can contribute to a fundamental change of the sanitation system in urban informal settlements in low-income countries.

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Exploring how Cordaid can contribute to a fundamental change of the sanitation system in urban informal settlements in low-income countries.

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In partial fulfillment of the requirements for the degree of

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in Innovation Sciences

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Abstract

Worldwide, 684 million people in urban areas have no access to improved sanitation. This master thesis explores how the Dutch NGO Cordaid can more effectively contribute to sustainable solutions for sanitation problems in urban informal settlements in low-income countries. Cordaid developed an innovative, holistic approach and aims to contribute to fundamental and sustainable changes of the entire sanitation system, while acknowledging the developmental challenges of its poor population. This comprises a move away from the old approaches of stand-alone toilet provision, towards building a value chain based on the recapturing of waste streams to create value. This approach was also influenced by the need to become increasingly financially self-sufficient because of the decreasing financial means for NGOs’ work. This thesis provides insights in the challenges for Cordaid into reaching its aim of contributing to a fundamental change of the sanitation system. Several ideas are developed how Cordaid can improve the effectiveness of its approach to initiate a structural process towards such a system change, using insights from transition- and development literature and using insights from the approaches of other Dutch NGOs that work on sanitation. Additionally is shown how an improved holistic approach stimulates Cordaid to develop innovative financial mechanisms, which are important because subsidies for initiating long-term innovative processes are scarce. This master thesis concludes that Cordaid’s contribution to sustainable solutions for sanitation problems can be seen as a balancing act between what Cordaid should do in order to contribute to sustainable solutions, and what Cordaid is able to do in the context of its decreasing financial means.
Preface and Acknowledgements

Finishing my masters with a research on sanitation in developing countries is not something I could have ever expected when I started my studies as an Architecture and Building Engineering student at Eindhoven University of Technology. The research on biogas which I conducted in Rwanda after finishing my bachelors, definitely triggered my interest in technology in development and brought me to my masters in Innovation Sciences. This program really broadened by view, and I look back with great pleasure to all the new things I learned.

In this thesis research I was able to use my broad study background, and this made the research really interesting for me. However, it was not always easy to deal with the complexity of the process. I would like to thank the people who made writing this thesis possible.

My supervisor Henny Romijn, for your flexibility in supervising me during this complex research process. I think that working on this research has been a typical example of a process approach, in which a lot of flexibility, adaptation and learning along the way was needed. Your support and encouragements helped me to deal with this. Also, I really enjoyed our endless discussions about the field of development. Anna Wiezoreck, for getting on board at the last moment. Your critical questions and comments have improved this thesis so much in a short time. Bram Verhees, for sharing your knowledge and inspiring ideas with me at the start of this process.

Cordaid, for giving me the opportunity to do this research as their intern. I really appreciated the freedom which was given to me as an intern to conduct this research. Special thanks to my advisor Evert van Walsum, manager Wieger Apperloo and all my colleagues at the business unit Urban Matters in The Hague, for the nice time at the office. And of course my colleague’s based in Kisumu: Merceline and Eric, for your time and input.

All the representatives and experts I have interviewed in this research: thanks for sharing your visions and ideas. Your input has been very useful and interesting.

I wish to make a special thanks to my friends and family for their unconditional support, without whom I would not have been able to complete this thesis.
Executive Summary

A majority of the world’s population lives in urban areas and the number is rapidly increasing. Worldwide, 684 million people in urban areas have no access to improved sanitation. Innovative, holistic approaches in infrastructure, technology and cost-recovery are needed to solve this problem. Existing practices have not resulted in sustainable solutions because the infrastructure provision of toilets was often not linked to necessary services and was often not viable beyond the lifespan of external support.

This research focusses on the NGO Cordaid, one of the largest development organizations in the Netherlands. In response to the need of obtaining more sustainable results in solving sanitation problems, Cordaid Urban Matters has developed a holistic approach of using the concept of a sanitation value chain to work on the whole sanitation system. This approach also emerged from the need to become increasingly financially self-sufficient, because of the decreasing structural funding for NGO’s work. With this approach Cordaid aims for sustainable and fundamental changes in the sanitation system. Additionally the Cordaid Urban Matters approach includes the initiation of social processes characterized by multi-stakeholder engagement and integrated neighborhood development in order to create an extensive social support base for developing and implementing such projects. However, so far their approach towards solving sanitation problems in urban areas has not often managed to reach the implementation phase. This research gains more insight in the reasons why this is the case and it explores how Cordaid can contribute more effectively to sustainable solutions, which are both sustainable for the local communities in urban informal settlements and also for Cordaid as an organization. In this research the following research question is answered:

How can Cordaid contribute to sustainable solutions for sanitation problems in urban areas in low-income countries?

Research approach
An empirical case-study of Cordaid’s approach in sanitation in the city of Kisumu (Kenya) was conducted to gain a deeper understanding of the successes and limitations of Cordaid’s approach. For this case-study a theoretical framework was used. The theoretical framework consisted of elements from Transition Management combined with insights from Processes Approaches to Development Projects and Community Development literature. Since TM has mainly been developed based on an industrialized country context, literature from development studies complemented the theoretical framework with insights about processes in the complex contexts of developing countries.

This case-study was supplemented by an inductive exploration of the approaches of other Dutch NGOs operating in the urban sanitation sector in low-income countries. The visions of six representatives of other NGOs were used to increase the understanding of their approaches and to develop suggestions for future contributions of NGOs in the sector. The insights in Cordaid’s approach and the lessons from other Dutch NGOs’ approaches, were used to explore the possibilities for Cordaid’s future contribution to sustainable solutions for sanitation problems.

Findings
The case-study showed that Cordaid’s approach in sanitation was successful in initiating a flexible, participatory process in accordance with best practices in community development and process approach to development projects. Cordaid dealt well with the complexities of urban informal settlements. In contrast, Cordaid encountered great difficulties to connect these local achievements with their aim of fundamentally changing the sanitation system. An important
limitation of Cordaid’s approach was that Cordaid did not involve people who had the willingness and power to lead the process. This resulted from the focus of Cordaid’s approach on the community level. Despite the fact that Cordaid encountered difficulties to scale up their initial strategic activities towards a process of fundamentally changing the sanitation system the process in Kisumu did not come to a complete halt, because other actors are still working towards a fundamental change of the sanitation system in Kisumu, as a result of Cordaid’s work on connecting the stakeholders in Kisumu. However, Cordaid itself did not play a significant role in these activities.

The interviews with representatives of other Dutch NGO’s approaches showed that the other NGOs were also found to be aiming towards system change, and most have also embraced the sanitation chain concept to help them to work towards this aim, similar to Cordaid. However, they define different roles for themselves in relation to that aim. Another similarity that the NGOs share with Cordaid is that there are still gaps between their visions and what is actually being done and achieved. Some aspects’ of the approaches of other NGOs confirmed lessons from the Kisumu case-study, such as the importance of working at different governmental levels and the importance of reaching a certain scale for the feasibility of innovative solutions. Other aspects showed that the holistic approaches of NGOs also help them to deal with the need to become more financially self-sufficient, because it stimulates NGOs to collaborate with new types of partners and develop innovative social business models. NGOs try to create new types of financial mixtures including non-conventional sources to finance the innovative opportunities in the sanitation system. But the lesson is that there is still a gap between the successes of the NGOs’ work on implementing individual projects and programs, compared to their lack of achievements of integrating these projects in a sanitation chain approach towards system change.

An exploration of Cordaid’s possible future contributions to sustainable solutions for sanitation problems, resulted in two ideas how Cordaid can organize its work. Firstly, Cordaid has several opportunities to use its qualities and expertise to contribute to specific aspects of the sanitation system. However, a main barrier is to finance this work. Cordaid could try to sell consultancy type of services, based on their qualities and experience. In order to find clients who are interested to pay for these services, Cordaid should explain clearly what the added value of their qualities is to (technical) actors in the sanitation sector, because their expertise and qualities are not sanitation specific. Secondly, Cordaid can foster a process towards system change in sanitation itself; this is what Cordaid has tried to do so far. However, this research has shown that Cordaid will have to improve its approach to be more effective. A main barrier is to find donors which are willing to support long-term innovative change processes. Cordaid should put serious effort into creating new financial mixtures, in order to find ways to finance this process. Additionally Cordaid should work on its new positioning as an expert on managing sustainability transitions in the urban sanitation sector.

Conclusions
In order to contribute to sustainable solutions, which are both sustainable for the local communities in urban informal settlements and also for Cordaid as an organization, Cordaid should improve its approach to become more effective in initiating a process leading to fundamental changes of the sanitation system. But this should not lower Cordaid’s abilities to establish flexible, participative development processes and involving the community. Several insights from the theoretical framework can be used to improve Cordaid’s approach.

First, Cordaid’s approach should open-up towards a broader, multi-level focus on different governmental and societal levels, rather than narrowly focusing on the local level. For example by involving actors from different other governmental or societal levels. An actor strategy needs to be developed on how these actors and actors from the local level can all be involved in the process.
Second, Cordaid’s projects in the sanitation system should be set-up as transition experiments, which means that all projects should be embedded and contribute to a process towards fundamental change. Third, Cordaid’s approach can improve in terms of its attention for collaboration among all the involved actors. Cordaid should not only organize the collaboration of the actors at the local level, but have similar attention for the collaboration of actors at higher levels.

From the approaches of other NGOs it is learned that Cordaid could increasingly collaborate with other NGOs actors in order to increase their knowledge about the connections between individual projects in the sanitation system. Lastly, Cordaid should use the opportunities for the development of new types of financing mechanisms in working on the whole sanitation system.

Cordaid’s can also use its qualities and expertise to contribute to specific aspects of the sanitation system. It can be easier to obtain finance for clear short-term services, than for initiating a long-term change processes. However, Cordaid should not contribute to stand-alone ‘solutions’ anymore, but only contribute to initiatives which work towards fundamental and sustainable changes in the whole sanitation system.

It can be concluded that Cordaid’s contribution to sustainable solutions for sanitation problems is a balancing act between what Cordaid should do in order to contribute to sustainable solutions, and what Cordaid is able to do in the context of its decreasing financial means. An improved approach towards Cordaid’s aim of contributing to a fundamental, sustainable change of the sanitation system, and taking care of the social embedding of its solutions, seems to offer both sustainable solutions for local communities, and opportunities for Cordaid to develop new financial mechanisms.
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<th>Description</th>
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<tbody>
<tr>
<td>ABCD</td>
<td>Asset-Based Community Development</td>
</tr>
<tr>
<td>BoP</td>
<td>Base/Bottom of the Pyramid</td>
</tr>
<tr>
<td>CD</td>
<td>Community Development</td>
</tr>
<tr>
<td>LS</td>
<td>Learning Selection</td>
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<tr>
<td>MDG</td>
<td>Millennium Development Goal</td>
</tr>
<tr>
<td>MFS</td>
<td>Medefinancieringsstelsel (in English: co-financing subsidy program)</td>
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<tr>
<td>MoU</td>
<td>Memory of Understanding</td>
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<tr>
<td>MLP</td>
<td>Multi Level Perspective</td>
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<td>MSA</td>
<td>Multi-Stakeholder Approach</td>
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<tr>
<td>NGO</td>
<td>Non-Governmental Organization</td>
</tr>
<tr>
<td>PA</td>
<td>Process Approaches to Development Projects</td>
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<tr>
<td>PPP</td>
<td>Public Private Partnership</td>
</tr>
<tr>
<td>SDG</td>
<td>Sustainable Development Goal</td>
</tr>
<tr>
<td>SNM</td>
<td>Strategic Niche Management</td>
</tr>
<tr>
<td>TM</td>
<td>Transition Management</td>
</tr>
<tr>
<td>ToC</td>
<td>Theory of Change</td>
</tr>
<tr>
<td>UM</td>
<td>Cordaid Urban Matters</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
</tr>
<tr>
<td>WASH</td>
<td>Water, Sanitation and Hygiene</td>
</tr>
<tr>
<td>WATSAN</td>
<td>Water and Sanitation</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
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1 | Introduction

1.1. Growing need for innovative sanitation solutions in urban areas

Since 2009, the majority of the world’s population lives in cities, this is today more than two thirds of the global population, with greater levels of inequality than 20 years ago (UN Habitat 3, 2014). 756 million urban dwellers have no access to improved sanitation (Galli, 2014). In general, the sanitary conditions for the urban poor are bad because of the high-density living, inadequate solid waste management and poor drainage (Hawkins, Blackett, & Heymans, 2013). Furthermore, many of the urban poor tend to be excluded from water and sanitation services completely (UN Habitat, 2014).

In urban areas of Sub-Saharan Africa up to 80% of the existing sanitation access is established by onsite technologies (Diener et al., 2014). On-site technologies, for example latrines, store or treat excreta at the point of generation, contrary to off-site systems such as sewerage, which transport excreta to another location for treatment, disposal or use (WHO, 2015). Faecal sludge that is collected from on-site systems is often dumped. Many of the storm water drains in urban areas are filled with human and solid waste. These drains stop to function properly and frequently contribute to flooding and contamination (Galli, 2014). Having a lack of sanitation can lead to cholera, diarrhea and worm infections. Slum dwellers who suffer from these diseases have a lower quality of life, participate less in education and the productivity of these people is lowered (Hawkins et al., 2013).

Because of the rapid urbanization in many Southern countries the challenges in water and sanitation in urban areas will increase enormously in the (near) future (UN Habitat, 2014). A growing number of city populations will need access to water distribution and sanitation systems. The access to and the quality of sanitation needs to increase on a much larger scale than in the past to meet the continuously growing demand (Hawkins et al., 2013). There are several challenges in solving the problems in the sanitation sector of urban areas. First of all, there has been a lack of investment in sanitation because it has often been given a low priority at international, state and local level. For example, the total investment over 1990-2000 has been much higher in water supply (US$ 12.6 billion per year) compared to sanitation (US$ 3.1 billion per year) in Africa, Asia, Latin America and the Caribbean (Paterson, Mara, & Curtis, 2007, p. 904).

Where government leadership is weak the available funds are only little used to improve the management of the government’s service delivery. Furthermore, the institutions which are responsible for sanitation service delivery are often mandated to deliver these services through sewerage systems, while the mandate for users of on-site systems is normally the responsibility of municipalities (Galli, 2014). These insufficient regulatory frameworks are causing problems such as non-existent expansion of sewerage networks to poorer areas. Also, dumping faecal sludge is rarely fined.

Governments often neglect informal settlements because they consider them as illegal. Also, by many in the sector sanitation is seen as a household responsibility and not a public concern (Welle, Nicol, & van Steenbergen, 2008). And if the development of these areas is being worked on, the municipal authorities and technical experts have little understanding of the needs and wishes of poor communities because the residents are not consulted (Paterson, Mara, & Curtis, 2007). This can lead to temporary solutions which are not improving the lives of the residents in these settlements. There is little oversight and harmonization of all stakeholders involved in the urban sanitation sector (Galli, 2014).
To solve the sanitation problem in urban areas innovative approaches in infrastructure, technology and cost-recovery are needed (Diener, et al., 2014). As Galli (2014) states: these problems are not singular technical problems and therefore complex solutions should have an integrated social, financial, environmental and institutional nature.

1.2. NGOs work on sanitation solutions in urban areas

The challenge described in the previous section is recognized by many different actors, among others NGOs. This research focusses on the work of NGOs on solutions for sanitation problems in urban areas in low-income countries. ‘NGO’ stands for Non-Governmental Organization, which is neither part of a government nor part of conventional for-profit business. NGOs aim to contribute to improving the sanitation circumstances in urban areas in low-income countries together with different other actors.

NGOs’ old approaches

However, many existing practices of NGOs to solve sanitation problems have not resulted in sustainable solutions. Existing approaches to resolving sanitation problems which have been used were often of a supply-led nature. An example of these approaches was the provision of free latrines to poor populations. This infrastructure provision was often not linked to the necessary management requirements (Koné, 2010). Consequently these ‘latrine-based’ cities have a lack of reliable solutions for emptying, transporting and treating faecal sludge and wastewater (Koné, 2010). Furthermore, old development approaches have failed to understand the characteristics of demand for sanitation at household level, which led to a lack of willingness to pay for and maintain and use new sanitation facilities (Jenkins & Sugde, 2006). Murray and Ray (2010) also signal the problem that these projects often lacked the viability beyond the lifespan of external support. And donor support was often too short anyway, thus the community was often left with the same problems as when the project started, such as lack of component supply and cost constraints (Jenkins & Sludge, 2006).

NGOs’ new approaches

In order to reach more sustainable results, several NGOs have developed new ideas and holistic approaches towards solving problems in the sanitation sector. These solutions try to address the problems with infrastructure, technology, social embedding, environmental contamination and cost-recovery in an integrated manner. Additionally, the new approaches of NGOs are influenced by the current policy in the development sector. Since 2011, the Dutch government has adopted a new policy paradigm for development: ‘from aid to trade’ (Ministry of Foreign Affairs, 2011). In line with this new policy the governmental subsidy program for NGOs (in Dutch: medefinancieringsstelsel II (MFS II)) will stop after 2015. The decreasing subsidies for NGOs cause the need for major change in their approaches as well. Consequently NGOs are in a process of ongoing transformation towards increasing financial self-sufficiency.

1.2.1. Cordaid

This research focuses on the Dutch NGO Cordaid, which works on sustainable solutions for the urban sanitation sector in low-income countries. Cordaid is one of the largest development organizations in the Netherlands with over 100 years of experience. Cordaid is one of the NGOs which developed a new approach towards solving sanitation problems in urban areas in low-income countries.

Cordaid works in 38 countries in Africa, Asia, the Middle East and Latin America (Figure 1.1.) to provide help to disadvantaged groups. Cordaid works together with 617 partner organizations in the different countries. The NGO connects citizens, communities, organizations, companies and
Governments to work on the improvement of communities, especially under the most difficult circumstances: in (post) conflict and fragile states. Cordaid uses a comprehensive approach; it works on combined action and programs on twelve different topics: Healthcare, Disaster response, Extractives, Security and justice, Investments, Entrepreneurship, Women’s leadership, Child & education, Food security, Urban matters and Cordaid the Netherlands.

1.2.2. Cordaid Urban Matters

Cordaid’s business unit ‘Urban Matters’ (hereafter to be called UM) was officially established in 2011. UM works on the problems in cities in low-income countries. UM aims to improve the conditions of informal settlements, which are also called slums: ‘a squalid and overcrowded urban street or district inhabited by very poor people’ (Oxford University Press, 2014). Currently, UM is working in cities in six countries in Latin America and Africa: San Salvador, Port-au-Prince, Guatemala City, Cape Town, Kisumu and Addis Ababa.

Cordaid Urban Matters defined a new and integrated approach in 2011, because Cordaid had learnt that doing several individual projects does not have a real impact on communities. This was a conclusion of the synthesis report on the ‘Slum Dwellers’ program (2003-2007), which was Cordaid’s previous program on slum development (Dhaene, 2009). Cordaid aimed for an innovative approach which would lead to more sustainable results. UM’s new approach was also influenced by the decreasing structural funding for NGOs’ work, which created the need for Cordaid to become increasingly financially self-sufficient. UM’s new approach is characterized by an ‘integrated neighborhood approach’ and ‘multi-stakeholder’ involvement. Firstly, the integrated neighborhood approach means that the various problems in informal settlements are addressed in an integrated manner. The main themes which are worked on are sanitation, housing and youth & employment. Secondly, every project of UM is executed using multi-stakeholder processes. This means that all relevant stakeholders are always involved in the projects: residents, (local) governments, the private sector, NGOs and investors. This leads to the social embedding of the solutions which are implemented.

This research focusses on using UM’s approach in sanitation projects. In addition to the principles of integrated neighborhood development and multi-stakeholder involvement, UM has developed a holistic approach towards solving sanitation problems, following on the need for innovative approaches towards solving sanitation problems in urban areas. This approach is characterized by
using the ‘sanitation value chain’ concept (Figure 1.2), which is a conceptualization of sanitation as a system, with inputs and outputs, and made of sub-components. The sanitation system consists of different sub-components of collecting, transporting, processing and recycling human waste. A sanitation chain approach focuses on the whole sanitation system as opposed to standalone projects. According to Cordaid, its sanitation chain approach is a basis for the implementation of market driven and sustainable initiatives to improve health conditions by scaling access to sanitation services in slums (Urban Matters, 2012). Cordaid aims to develop adequate sanitation for an affordable price, by trying to maximize value of the re-use of human waste and minimize the costs in the sanitation cycle. Also in literature, sanitation chain concepts in which faecal sludge is used to create value are seen as having great potential (Koné, 2010) (Diener, et al., 2014). Cordaid’s approach demands innovations which are related to financial, technical and social practices in the sanitation sector. Examples are: the payment for sanitation services and the selling of re-used products to a market. Cordaid’s sanitation chain approach aims for changes of the whole sanitation system in fundamental and sustainable ways.

Figure 1.2 | Sanitation value chain concept, developed by Cordaid (Urban Matters, 2012)

Cordaid’s new approach has also been influenced by the context of decreasing financial means. Since the change in policy in 2011, Cordaid has not been able to fund the implementation of projects itself anymore. Because the Dutch governmental subsidy has been the main funding for Cordaid, Cordaid has been and still is in a transformation process from a donor organization into a type of social enterprise. Urban Matters is the first business-unit of Cordaid which has been trying to work as a social enterprise since 2011. This means that UM aims to work on projects which are based on sound business cases, for example business cases in the sanitation value chain. In order to do so UM stimulates co-financing by all parties involved. Additionally, UM tries to generate sufficient income in order to recover its costs. Several of UM’s services get a price and are tried to be sold.
Cordaid has been using its new approach (Figure 1.3) in the last six years. Cordaid initiated many social processes in order to involve different stakeholders and Cordaid prepared processes towards integrated neighborhood development; but the processes almost never reached the phase of actual implementation of (physical) solutions. Cordaid has not been successful in their aim to achieve fundamental and sustainable changes of the sanitation system. This problem of the lack implementation has already been signaled by James Taylor who analyzed Cordaid’s work in Kisumu in 2011:

‘While there is appreciation for the complex task of relationship building and collaborating around planning and preparation, there is enormous pressure to get the money and get the job done to maintain interest, build confidence in and commitment to the process.’

James Taylor about Cordaid Urban Matters (2011)
1.3. Summary research context

Summarizing, the context of this research is formed by the growing problem of the lack-of access to sanitation by millions of people in urban informal settlements in low-income countries. Old, supply-driven, technology-focused approaches of NGOs towards solving the urban sanitation problem, such as installation of pit latrines, have not led to sustainable solutions. To solve these problems more holistic innovative solutions are needed which involve social, financial, environmental, technical and institutional aspects in an integrated way. This research focusses on new approaches of NGOs towards solving the sanitation problem. In addition to the need of improving the old approaches in order to reach sustainable results, the new approaches of NGOs are also influenced by the need to be financially self-sufficient (Figure 1.4).

This research is focused on the Dutch NGO Cordaid. Cordaid Urban Matters has developed a new holistic approach of using the concept of a sanitation value chain to work on the whole sanitation system. This approach demands innovations which are related to financial, technical and social practices in the sanitation system. With this approach Cordaid aims for sustainable and fundamental changes in the sanitation system. Additionally, the Cordaid Urban Matters approach includes the initiation of social processes characterized by multi-stakeholder engagement and integrated neighborhood development, in order to create an extensive social support base for developing and implementing projects. However, so far their approach towards solving sanitation problems in urban areas has not often managed to reach the implementation phase (Figure 1.4). In this research more insight will be gained about the reasons why this is the case. By probing the implementation obstacles, the research will generate insights into how Cordaid can (potentially) contribute to sustainable solutions which are needed to solve the sanitation problems in urban areas in low-income countries. In Figure 1.4 the research context is illustrated.

![Figure 1.4 | Overview of the research context](image-url)
1.4. Research objectives and research question

The aim of this research is twofold: firstly, developing an in-depth understanding why Cordaid has been (un)successful in working towards the implementation of their innovative sanitation solutions, and secondly, investigating how Cordaid can possibly contribute more effectively to sustainable solutions to address urban sanitation problems.

This leads to the following main research question:

*How can Cordaid contribute to sustainable solutions for sanitation problems in urban areas in low-income countries?*

Several theories will be used in order to analyze the contribution of NGOs’ activities working on innovative solutions. A specific objective is to identify which theoretical framework can contribute to a better understanding of the effectiveness of Cordaid’s approach.

The research will focus on the work of Cordaid; however the problems of Cordaid seem similar to that of other Dutch NGOs which also work on new sanitation approaches and work in the same changing context of decreasing (governmental) funding for NGOs. Therefore, in order to answer the research question, the approaches of other NGOs in the same sector which also deal with this context will be analyzed as well. This leads to the following sub questions, in order to answer the main research question:

1. *Which theoretical framework can help understanding the contribution of Cordaid Urban Matters’ approach to the implementation of sustainable solutions towards solving problems in the urban sanitation sector of low-income countries?*

2. *What are the successes and limitations of using Cordaid’s approach in sanitation projects?*

3. *What are the approaches adopted by other NGOs working on innovative solutions towards solving problems in the urban sanitation sector of low-income countries?*

4. *How can Cordaid organize its future work, in order to effectively contribute to sustainable solutions for sanitation problems in urban areas of low-income countries?*
1.5. Research design

This research started with an extensive explorative phase to understand the problems of Cordaid and to come to a well-defined research question and develop a suitable theoretical framework for this research (Figure 1.5). The research context set out in the previous sections is the end result from this long explorative phase. This phase of problem construction through broad, iterative searching is however not considered to be part of the research description in this thesis report. Rather, this report describes the stages that followed on this phase. However, the way in which the researcher had to work in these early months had a profound influence on the framing and executing of the entire research, and a brief recapitulation of the social-constructivist process of question construction and framework choice is therefore included in this methodology paragraph.

This research was part of an internship performed at Cordaid (September 2014 - April 2015). The research method has been highly adaptive and flexible. Due to the exigencies of the internal transformation of the organization, the situation at Cordaid changed every day, which asked for flexibility. The research is fundamentally exploratory, because there was no structural guidance available on how to analyze the contribution of the work of NGOs to innovative solutions in a complex low-income country context.

Initially, the main problem which was sketched at Cordaid was the failure to reach the implementation phase by using their approach. Therefore, Process Approaches to Development and Community Development literature (see next chapter for details) were seen as the main foundations for the framework of this research. However, during the exploration phase the problem was increasingly understood as being connected to Cordaid’s problems of working with the sanitation value chain concept. Cordaid aims to change the sanitation system in fundamental ways. In order to understand Cordaid’s problems in pursuing their aim of effecting a structural and sustainable change of sanitation systems, the scope of theoretical framework was expanded with insights from literature about sustainability transitions, to be able to gain insight in the long-term process of radical change in the way that a major social function, sanitation, is being fulfilled. This system change is what Cordaid’s aims to contribute to.

Because the aim of this research is to gain insight in why Cordaid has been unsuccessful in working towards implementation and to identify avenues for Cordaid’s future work on innovative sanitation solutions, a qualitative research design was chosen. In the first part of this research an empirical case-study was executed on Cordaid’s approach in working on sanitation problems in Kisumu (Kenya), using the theoretical framework. This was supplemented by a series of interviews with representatives of other Dutch NGOs operating in the urban sanitation sector in low-income countries in the second part of this research. The research approach of this second part is constructivist and actor-oriented: the visions of the interviewees are the main input for data analysis. Figure 1.5 shows the overview of the structure of this thesis, which a visualization of the final thesis design, while the research process that led to this design was much more complex, non-linear and iterative.
Introduction

Figure 1.5 | Overview of the research design and relation to the master thesis parts
1.6. Research justification

Societal relevance
Safe and clean drinking water and sanitation are human rights, as recognized by the UN General Assembly of 28 July 2010 (Urban Matters, 2012). They are essential to the full enjoyment of life and all other human rights. This shows the importance given to access to sanitation by society. The aim of the international community to reach this human right is formalized in the Sustainable Development Goals (SDG’s). The SDG’s are part of the United Nations development agenda beyond 2015, following on the Millennium Development Goals (UN, 2014). Seventeen goals have been formulated, and goal 6 states: ‘ensure availability and sustainable management of water and sanitation for all’. A concrete sub goal is: ‘achieving access to adequate and equitable sanitation and hygiene for all and end open defecation by 2030, paying special attention to the needs of women and girls and those in vulnerable situations.’ Another part of SDG nr. 6 states that ‘by 2030, international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programs should be expanded, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies. Also the participation of local communities in improving water and sanitation management should be supported and strengthened’ (UN, 2014). This research is focused on the lack of sanitation in urban areas in low-income countries, and provides ideas how NGOs can contribute to providing sanitation in these areas. NGOs can be relevant players in international cooperation on sanitation and the research is contributing to the understanding how NGOs can work on successful future approaches to solve this problem.

Relevance for Cordaid
This research is done for Cordaid, one of the largest Dutch NGOs, which is struggling with new approaches to solve sanitation problems and decreasing structural funding. Cordaid has a very long history and reputable record of working in the urban sanitation sector in low-income countries and is now being confronted with the need for major change in its approaches, implying a re-invention of itself in fundamental ways. This research can contribute to a better understanding of what the exact problems of Cordaid’s approach are and can provide suggestions how to deal with these in the future.

Scientific relevance
In this research the theory of Transition Management is combined with literatures on Process Approaches to Development Projects and Community Development. Using these different literatures contributes to the insight about the similarities and differences between these theories, and if and how they can be used together. In addition this research will give insight in how the Transition Management theory can be used in the context of development processes in low-income countries. In this way, the research contributes to a fast-growing body of research by sustainability transition scholars that explores the relevance and problems of using transition frameworks outside western industrialized-country settings.
2 | Theoretical building blocks

In this chapter the theoretical foundations used to build a theoretical framework are explained. In the introduction the main research problem was identified as the lack of access to sanitation in low-income countries, and the innovative approaches which are needed to solve these problems. This chapter focuses on the screening of a variety of theoretical approaches in order to develop a framework (chapter 3) that can be used to evaluate the approach of Cordaid and ways of improving it.

Based on the research context that has been outlined in the previous chapter, several requirements are identified for the selection of theories which can be used to construct a theoretical framework.

Because the context of this research is formed by the work of NGOs on innovative solutions for sanitation problems in urban areas in low-income countries, the theories need to:
1. Be created to study sustainable development in a low-income country context.
2. Give insight in the role of NGOs, such as Cordaid, in sustainable development.

Because the research aims to gain a deeper understanding about (the effectiveness of) Cordaid Urban Matters’ approach, the theories need to:
3. Have an orientation on processes of change.
4. Explain the relation between social process activities and project implementation.

Because Cordaid aims to use the sanitation value chain concept which aims for a fundamental change of the sanitation system, the theories need to:
5. Give insight in fundamental and sustainable change of the sanitation system.

Because it has been difficult for Cordaid to implement (physical) solutions; it seems relevant to understand more about the adoption of innovations, therefore the theories need to:
6. Explain the adoption of innovations in a low-income country context.

The underlying assumption is that when these requirements are met; these theories can help gaining deeper understanding of Cordaid’s approach.
Several literatures were reviewed according to these requirements. This resulted in the selection of three literatures which selectively contribute to meeting these requirements. Firstly, transition literature and specifically Transition Management (TM) makes a useful contribution. A transition lens is useful because it can help to gain insight in the process leading towards a change in a structure or system, such as the sanitation system. Transition Management provides a model of different phases and activities in a long-term transition process which can help to gain insight in the long-term process of systemic change that Cordaid aims to contribute to. Because TM has mainly been developed based on an industrialized country context, it is combined with literature on Process Approaches to Development Projects which provides insights about development project dynamics in the complex context of low-income countries. The model of ‘Learning Selection’, a specific model in the Process Approach literature, will be used to analyze the adoption and adaptation of innovations in a low-income country context. Lastly, Community Development literature provides explanations of development processes in low-income countries and adds ideas about the role of NGOs in development processes. Additionally it is focused on social processes at the local community level. A particular concept of this literature called ‘Asset-Based Community Development’ (ABCD), this is used to give insights about agency in development projects. Table 2.1 presents a summary of these different literatures.
The aim of this chapter is to explain the theories and their potential contribution. Section 2.1 outlines the concept of transition and more specifically Transition Management as an approach to study or guide a transition. Section 2.2 introduces Community Development literature and explains Asset-Based Community Development. Lastly, section 2.3 elaborates on Process Approaches to Development Projects and introduces the Learning Selection model. The chapter ends with an overview of how the theories meet the criteria based on the research context.

### 2.1. Transition literature

Transitions processes are non-linear processes which are open and uncertain trajectories full of exploration (Grin, Geels, & Loorbach, Transitions to Sustainable Development, 2010). Transitions lead to fundamental changes in the structure of society or a sub-system of society towards a different, sustainable system. Transitions in these systems are radical, macroscopic shifts in the manner in which societal needs are met. Transition processes are long-term and characterized by co-evolution and multi-actor involvement. These processes include interaction between sub-systems and actors in which learning takes place, and which lead to irreversible patterns of change (Grin, Rotmans, Schot, Geels, & Loorbach, 2010). One important perspective within transition theory is the multilevel perspective (MLP). The MLP is used to distinguish the interference of a transition at three levels: innovative practices (niche experiments), structures (the regime), and long-term, exogenous trends (the landscape) (Grin, Rotmans, Schot, Geels, & Loorbach, 2010, p. 4). A transition will only be achieved when these different dynamics come together and mutually reinforce their effects.

#### 2.1.1. Governance perspective on transitions

Analyzing transitions can help to gain insight in changes in established patterns and changes in larger structures (Grin, Rotmans, Schot, Geels, & Loorbach, 2010). For this research it is important to understand how these patterns occur and what the role of a NGO can be in this process. To gain this insight a governance perspective on transitions is useful. Such a perspective helps to understand how actors can influence long-term, structural change in a complex context (Grin, Rotmans, Schot, Geels, & Loorbach, 2010, p. 224). Therefore, a governance perspective on transitions is used in this research in order to understand how Cordaid can contribute to influencing fundamental and sustainable change of the sanitation system.
**Transition Management vs Strategic Niche Management**

There are two main approaches within transition studies which both try to influence or guide transition processes: Strategic Niche Management (SNM) and Transition Management (TM). These approaches are using the underlying patterns and mechanisms of transitions in different, but complementary ways (Grin, Rotmans, Schot, Geels, & Loorbach, 2010). Differences between the two approaches are based on their ontological perspectives (Raven, R., lecture, 2013; based on Mahoney, 2004)). SNM is based on evolutionary innovation theory and the perspective of constructivism. Consequently, the causal agent in SNM is the (self-interested) individual, with varying ideas and interpretations. On the contrary TM is based on systems theory and structuralism. Consequently the causal agent in TM is the social system, in which actors fulfill system needs, enacting roles, tasks and norms. Concluding, although the basic underlying transition patterns and mechanisms of SNM and TM (i.e. the Multi-Level Perspective) are the same, their different ontological perspectives result in different assumptions about the causal agent.

TM’s perspective on actors which fulfill system needs and enact roles seems to fit this research. Cordaid’s approach is looking for manners to contribute and activate a change in the sanitation system, in such a way that the sanitation system itself is the central point of change. Additionally TM’s focus on how transition processes can be organized is useful for this research (Grin, Rotmans, Schot, Geels, & Loorbach, 2010). In the next section the Transition Management cycle will be elaborated.

2.1.2. Transition Management

Transition Management is claimed to be: ‘a form of intelligent, long-term planning through small steps based on learning and experimenting’ (Kemp et al., 2007 cited in Grin et al., 2010). Transitions in a community are always embedded in wider processes of change, thus the governance of transitions will inevitably interact with these wider changes (Grin, Rotmans, Schot, Geels, and Loorbach, 2010). In order to deal with transitions in a wider process of change TM includes new forms of governance which are characterized by multilevel, adaptive, participative, interactive and deliberative governance (Grin, Rotmans, Schot, Geels, and Loorbach, 2010). This means that the approach does not confine its focus to one particular governance level for strategic intervention. Rather several interconnected levels of governance are distinguished in the transition process. Therefore, TM can be used to understand the (governance of the) different phases of a development process. This can contribute to a better understanding of how different governance processes are linked, and of the operationalization of projects.

**Transition Management Cycle**

Based on TM a practical management framework has been developed (Grin, Rotmans, Schot, Geels, & Loorbach, 2010). The transition management cycle is a cyclical process of governance phases at different levels of scale as can be seen in Figure 2.1. It consists of four different types of governance activities which have different functions in the process of stimulating societal transitions (Loorbach, 2009). In reality there is no fixed sequence of steps in Transition Management and the steps can differ in weight per cycle (Grin, Rotmans, Schot, Geels, and Loorbach, 2010).
**First phase: strategic governance domain**

In the strategic governance domain a ‘transition arena’ is established, which is a small network of experts from different backgrounds (Loorbach, 2009). The people in the transition arena should participate on a personal basis and not as representatives of their institution, and there should not be too many actors: 10-15 (Loorbach, 2009). In this arena the problems and solutions of a community are discussed, because each member of the transition arena has his own perspective. As a result the solutions can be integrated and a sustainability vision can be generated. This vision consists of basic principles for long-term (sustainable) development (Loorbach, 2009). Visions are important to achieve new insights and are important starting points for change, however the envisioning process is very labor intensive and time consuming (Loorbach, 2009). In summary, this governance domain is the domain of ‘vision development, strategic discussions, long-term goal formulation, collective goal and norm setting and long-term anticipation’ (Loorbach, 2009).

**Second phase: tactical governance domain**

In the tactical governance domain coalitions are built and transition agendas are developed. A bridge is made between long-term overall visions and short-term action at the level of the regime(s) (Loorbach, 2007). The common vision should be translated into a transition agenda. Such an agenda consists of joint objectives, action points, projects, and instruments to realize these objectives. The agenda should make clear which party will be responsible for which type of activity, project or instrument that will be developed or used (Loorbach, 2009). The translation of visions in concrete, tangible, possible proposals should be done by different types of actors than the actors at the strategic level. The different interests, motives and policy of the involved actors become visible at this level and there will have to be negotiations about the different plans, strategies and investments (Loorbach, 2009). The type of actors involved in this level should have the capacity to translate the vision and the consequences of this to the transition agenda of their own organization (Loorbach, 2007). Examples of these types of actors are, inspired by political management: program manager, strategic policy official, business manager, senior researcher or entrepreneur (Loorbach, 2007). These actors should work on the removal of structural (regime) barriers towards development in the desired direction. The plans decided upon at the tactical level should be reviewed at the
Third phase: operational governance domain

In the operational governance domain transition experiments, actions and projects are carried out. These experiments should fit in the context of the common vision (Loorbach, 2009). It is possible to set up new experiments, or experiments can be linked to innovation experiments that are taking place already (Loorbach, 2009). Successful experiments can be replicated in another context or scaled-up in the same context. The time-scale of this type of experiments is around 5-10 years and are therefore costly. In summary, this governance domain is the domain of ‘operational activities, experiments and actions with a short-term horizon which are generally referred to as ‘innovation’ (Loorbach, 2009).

Fourth phase: reflexive governance domain

In the reflexive governance domain monitoring and evaluation takes place. Different aspects of the process should be monitored. Firstly, the physical changes in the system, secondly, the actors in the transition arena, thirdly, the transition agenda should be monitored with regard to new knowledge and insights and lastly, the transition process should be monitored with regard to the rate of progress and the barriers removed (Loorbach, 2009). Monitoring and evaluating should be integrated in all the levels of the process to stimulate social learning (Loorbach, 2009). In summary, this governance domain is the domain of ‘reflexive activities relating to monitoring, assessments and evaluation of ongoing policies, and ongoing societal change’ (Loorbach, 2009).

In projects using the Transition Management cycle, there is no fixed order of steps, which makes the process flexible and characterized by learning.

2.2. Community development

Community development literature (CD) focuses on a unit which is called ‘community’. It attempts to bring non-reversible structural change in a community system (Cook, 1994). CD theory itself has also been changed over the last decades; it has been revised from its ‘culturally biased nature’ in the colonial and early post-colonial period towards a more open framework that deals with the complexities of different communities from a more bottom-up perspective (Campfens, 1997). Present-day CD can be characterized as ‘a pluralistic and participatory approach to planning in which state agencies function more in partnership with NGOs and community organizations’ (Campfens, 1997). Wilkinson & Quarter (1995) add that community consciousness, empowering activities and supportive structures are essential for community-based development. Also the empowerment of marginal or excluded population groups is an important aspect of community development (Campfens, 1997). This can be done by linking those groups to progressive forces in other social classes and sectors. This will make sure that these groups will become conscious of their situation and can envision possibilities for change (Campfens, 1997).

2.2.1. Asset-based Community Development

One part of CD literature adds to the theoretical framework with its ideas on the role of NGOs. This part of CD literature is called Asset-based Community Development (ABCD) (Mathie & Cunningham, 2005). The ABCD approach emerged as an alternative for needs-based approaches to development. Needs-based approaches were argued to have devastating effects on communities, for example, a consequence of a needs-based approach can be a community which sees itself as incapable of initiating positive change because it is so focused on problems and obstacles. In contrast, the ABCD approaches ‘identify and mobilize existing (but often unrecognized) assets, and
thereby respond to and create local economic opportunity' (Mathie & Cunningham, 2005). The ABCD approach gives attention to social assets such as the talents of individuals and the social relationships that fuel local associations and informal networks. Mobilizing assets and capacity building are important aspects in the process of community development. The ABCD approach challenges the role of NGOs, it often advocates 'a shift away from the controlled 'development project' toward a relationship that is flexible and programming that is more evolutionary and responsive' (Mathie & Cunningham, 2005). Interesting aspects are the interactions between the actors, the assets on which has been built and what the effective and stimulating activities of the NGO has been towards community-driven development (Mathie & Cunningham, 2005).

2.3. Process approaches to development projects

The last piece of literature used in this research consists of process approaches to development projects. This literature provides ideas about development processes; the role of NGOs and is adapted to a low-income country context. Process Approaches look at development challenges as messy problems that are not amenable to clear structuration, which cannot be solved by a blueprint approach of prescribed steps in fixed sequence. Interventions in a Process Approach are characterized by: participation, learning and flexibility (Bond & Hulme, 1999). Consequently the four main characteristics of a Process Approach according to Bond & Hulme (1999) are beneficiary participation, learning from the people, iterative learning and managerial flexibility. Beneficiary participation is essential because local people are the ones who know their situation the best and involving them in projects makes sure that the sense of ownership increases (Bond & Hulme, 1999). In addition Korten (1980) and (Uphoff, Esman, & Krishna, 1997) argue that one should start a process by building on existing structures, what people already know and resources which are already used in a community.

Iterative learning can be explained with reference to Korten’s idea (1980) of three developmental stages of the learning process approach in order to build a program strategy: learning to be effective, learning to be efficient and lastly learning to expand. He argues that one should first understand, and master, how an approach is effective (i.e. reaching its goals) and efficient (i.e. reaching the goals at minimum costs) in order to successfully expand a strategy. Korten (1980) describes this idea in his learning process approach, which he developed as an alternative to the failing blueprint approaches for development interventions. This approach does not call for more prepared plans or more sophisticated skills, but rather for skills in building capacities through reflexive action. In this process of action error should be embraced, there should be learning with the people and this will result in building new knowledge and capacities (Korten, 1980). Learning will thus happen by everybody who is involved in a process of development, as well as community residents and members of a development organization. In line with Korten (1980), Douthwaite (2002) also emphasizes the importance of learning by using and learning by doing in innovation projects. He sees learning by doing and using as a result of interaction between learners and their environment.

Summarizing, when a Process Approach is used to work on a development challenge the process is seen as non-linear, consequently simple cause-and-effect activities are impossible. Therefore it is flexible, which includes learning during the process and learning in participation with the local community. Learning can lead to an increase in the capacities, although also a greater access to the benefits of development is needed to build on the capacities of community residents (Korten, 1980). An overall characteristic of process approaches to development projects is uncertainty, which means that time is needed for these processes to work (Douthwaite, Korten, Uphoff). Process approaches can be considerably more time-consuming than old-style top-down approaches. This can become a source of pressure on projects, because donors typically want to see evidence of early results.
2.3.1. Learning Selection

A specific theory which is based on the ideas of process approaches to development projects is the learning selection (LS) model, developed by Douthwaite (2002). The LS model describes the adoption process of innovations. The model explains how innovative and simple initial ideas – rough prototypes - are adopted by key-stakeholders (lead-users). After the first adoption more and more people will get involved if an innovation looks promising to them, and they will start to tinker with the innovation. Participation is an essential characteristic of LS, just like it is in the Process Approach theories of Korten (1980), Bond & Hulme and Uphoff et al. (1997).

Because of the interaction between people who adopted the innovation the initial idea will continuously change and thereby become increasingly adapted to the context in which it is implemented. Users who interact with the innovation go through a learning cycle of four steps: gaining experience, making sense, drawing conclusions and taking action (Figure 2.2). Users go through this learning cycle several times, which will result in an improvement of the ‘fitness’ of the innovation: the innovation becomes more adapted to its environment. There are three conditions to let the learning approach work: (1) early adopters are motivated to modify the innovation (2) adopters are able to modify the innovation (3) evaluation of novelty is possible (Douthwaite, 2002).

Learning Selection is a model which can help to implement and evaluate participatory technology development.

Learning Selection is analogous to natural selection: stakeholders engage with a new technology or innovation and while doing this they generate novelty and selection. The interaction between stakeholders creates variations of ideas and experiences and results in the continuation of useful novelties (Douthwaite, Keatinge, & Park, 2002). As a result of this process the innovation will become more ‘fit’, analogous to the increased fitness through natural selection.
2.4. Summary

Table 2.1 shows how the theories together meet the criteria which have been identified based on the research context. It can be seen that the different theories complement each other. Overall, these three theories together can be used to design a theoretical framework. The design and operationalization of the theoretical framework is explained in the next chapter.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Transition Management</th>
<th>Community Development</th>
<th>Process approaches</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 The theory is created to study sustainable development in a low-income country context</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>2 The theory gives insight in the role of NGOs, such as Cordaid, in sustainable development</td>
<td>Yes Insight in how an actor can influence a process of change.</td>
<td>Yes The role of an NGO versus the role of the local community in development.</td>
<td>Yes Insight in how to initiate development processes to solve messy problems.</td>
</tr>
<tr>
<td>3 The theory has an orientation on processes of change</td>
<td>Yes System level</td>
<td>Yes Community level</td>
<td>Yes Project level</td>
</tr>
<tr>
<td>4 The theory explains the relation between social process activities and project implementation</td>
<td>Yes TM distinguishes different phases in a process of change; both strategic long-term visions and short-term action.</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>5 The theory gives insight in fundamental and sustainable change of the sanitation system</td>
<td>Yes Insight in sustainable transitions, for example of the sanitation system.</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>6 The theory explains the adoption of innovations in a low-income country context</td>
<td>No</td>
<td>No</td>
<td>Yes Learning selection</td>
</tr>
</tbody>
</table>

Table 2.2 | Overview of the theories meeting the criteria based on the research context
3 | Theoretical Framework & Methodology

This chapter explains the development of a theoretical framework which can give insights in the effectiveness of Cordaid’s approach in the sanitation sector or low-income countries. The second part of this chapter explains the methodology applied in this research. Section 3.1 details how the three theoretical building blocks discussed in chapter 2 were integrated into one coherent theoretical framework. Section 3.2 outlines how this framework was operationalized for use in practice. Section 3.3 discusses the methodology of the first part of this research: the case-study of Cordaid’s approach in sanitation. This is followed by section 3.4 which explains the methodology of the second part of this research: the study of the approaches of other Dutch NGOs who are involved in the sanitation sector in the global South.

3.1. Design of the theoretical framework

The theoretical framework builds on insights from the theories identified in the previous chapter: Transition Management, Community Development and Process Approaches to Development, Projects visualized in Figure 3.1. These theories are integrated into a theoretical framework.

[Diagram of the theoretical framework]

Figure 3.1 | The three theoretical building blocks of the theoretical framework.

The three theories discussed in chapter 2, are integrated in a complementary manner (Figure 3.2). The theoretical framework provides a description on how fundamental and sustainable change of a
system (i.e. sanitation system) in the context of urban informal settlements in low-income countries takes place. In synthesis: a diverse actor network consisting of actors from inside and outside the community is involved in the process ①. The process is characterized by flexibility, non-linearity, participation and learning ②. The process should follow four phases of the iterative cyclical process of transition management to contribute to systemic change ③. In the first strategic phase a common, long-term vision towards a sustainable change in the community is developed together with the different stakeholders (3a). The tactical second phase consists of coalition development and translation of the common vision into a practical project plan (3b). In the third operational phase projects are conducted, which contribute to the long-term common vision. The projects are implemented according to the principle of learning selection (3c). In the whole transition process learning and reflection about how the common vision can be reached is important (3d). The outcome of this process is a fundamental and sustainable change of the sanitation system in urban informal settlements in low-income countries ④.

![Diagram](image)

Figure 3.2 | The theoretical framework for the fundamental and sustainable change of a system (i.e. sanitation system) in the urban informal settlements in low-income countries. Numbers indicate the four themes of the framework.

Furthermore, the theoretical framework consist of characteristics and elements that have an influence on this change process. These elements and characteristics are based on the insights from the three theories and will be outlined in the next section. These elements and characteristics are grouped in four themes: ① actors, ② process characteristics, ③ process phases and ④ outcomes. These themes are identified by analyzing intersections of the three theories. In these theoretical intersections differences and similarities between the theories are defined, these are discussed in this section.
Theme ① Actors

All three theories contribute to the theoretical framework with insights about actors. Both Transition Management and Community Development are comparable in their emphasis on the importance of involving different types of actors. Additionally, Transition Management and Process Approaches to Development Projects have complementary ideas on which actors should be involved to start a process of change with. Transition Management emphasizes the involvement of powerful actor (frontrunners) but not too many regime actors, because they can frustrate the process. This differs from the perspective of Process Approaches to Development Projects and Community Development in which it is emphasized that one should start a process by building on existing structures, what people already know and resources which are already used in the community. These similar and complementary insights about actors are all included as elements in the theoretical framework.

Theme ② Process characteristics

Regarding the characterization of change processes the theories seem to share a similar perspective, namely: embracing flexibility, iterative ways of working, learning, participation, experimenting and non-linearity. This makes using these theories in combination very well possible. This similarity is a result of the basic idea that change processes are complex, embraced by both Transition Management and Process Approaches to Development. Complex system science is a basic theory underlying Transition Management, a theory that sees systems as a diverse set of components which interact in a non-linear manner, and consequently simple cause-and-effect relations are not possible (Grin et al., 2010). However, both literatures focus on different levels of scale when characterizing processes: societal transitions vs. development projects. Consequently, Transition Management and Process Approaches to Development to Projects share the same characteristics to define processes, but the use of some of the concepts can be a little different as can be read in Table 2.3.

<table>
<thead>
<tr>
<th></th>
<th>Transition Management</th>
<th>Process Approaches</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit of analysis</td>
<td>Societal transitions</td>
<td>Development projects</td>
</tr>
<tr>
<td>Processes</td>
<td>Long-term transition processes</td>
<td>Development project processes</td>
</tr>
<tr>
<td>Experimenting</td>
<td>Experiments are medium to long-term in multiple domains focused on 'transition goals' (van den Bosch, 2010)</td>
<td>Experimenting is the work of users who drive evolutionary variation and selection processes in innovation, mostly of an incremental nature (Douthwaite B., 2002)</td>
</tr>
<tr>
<td>Learning</td>
<td>Learning cycles are created by visions and transition experiments and the common vision is adapted according to the learning process (Kemp, Loorbach, &amp; Rotmans, 2007) The object of learning is a large transition vision.</td>
<td>Continuous mutual learning by all project stakeholders (Romijn, Raven, &amp; de Visser, 2010) The object of learning is the performance of one innovation.</td>
</tr>
</tbody>
</table>

Table 2.3 | Comparison concept definitions used to characterize processes by TM and Process Approaches

Another characterization of processes is the empowerment of actors. Transition Management and Community Development both provide insights into the importance of empowerment of actors in processes of change. However, the theories provide complementary insight: on the one hand the importance to empower frontrunners is emphasized by TM. Loorbach & Rotmans (2010) see the empowerment of frontrunners as the key to a transition process. On the other hand Community Development literature emphasizes that it is important to empower marginal or excluded population groups. This can be done by linking those groups to progressive forces in other social classes and sectors (Campfens, 1997). Additionally, Learning Selection emphasizes the importance
empowering ‘product champions’, actors who take primary responsibility of the continuation of the learning selection process of an innovation. These complementary process characteristics are all included in the theoretical framework in order to understand system change in low-income countries.

Theme ③ Process phases

The cyclical model of Transition Management provides structure to the theoretical framework by describing what happens in four different phases in a change process: strategic, tactical, operational and reflexive. These process phases of Transition Management are complementary to the other two theories which do not provide a clear structure of process phases. Process Approaches describe characteristics of development processes without providing a precise sequence of steps in these processes. The ABCD approach provides a semi-structured list of steps of the first phases of a development process, very much focused on the community (Mathie & Cunningham, 2005).

Two phases have been adapted and complemented to fit them in the theoretical framework. Firstly, the strategic phase of the TM cycle includes the concept of the Transition Arena. Using the concept of Transition Arena in the theoretical framework is not straightforward, because it cannot be merged or used in parallel with the fundamental ideas of the other two theories. Therefore, the concept of Transition Arena is interpreted a little differently to be able to make a better fit in the theoretical framework. The similarity with the original concept is that a group of people with different backgrounds discuss problems and solutions from all their different perspectives. The difference is that these people do not necessarily participate on a personal basis, but can also represent their institution. The arena can also consist of more people than a small network of 10-15 actors, as described by Transition Management. Overall, the concept of Transition Arena is used in a more participatory way which can also fit Community Development and Process Approaches to Development Projects literature.

Secondly, the characterization of the operational phase of the TM cycle is complemented by a model of Process Approaches to Development Projects: in the operational phase the model of Learning Selection adds to TM insights about the adoption of innovations in a low-income country context.

Theme ④ Outcomes

The aim and thus the desired outcomes of change processes is different for all the three theories. The aim of TM is to work on transitions of structures in society, while Community Development and Process Approaches to Development Projects focus on the economic development of a community and the improvement of livelihoods of poor populations by beneficiary participation, social emancipation of marginalized people. A combination of these ideas about outcomes of change processes is included in the theoretical framework. This suits the research context because in the view of Cordaid sanitation systems need to be structurally changed to reach sustainable solutions, but this infrastructural problem cannot be solved without attention for the complexity of development processes of the populations of informal settlements in urban areas.

Concluding, the themes provide the possibility to describe relevant theoretical intersections. In some themes the theories provide similar insights, while for other themes the theories contribute with complementary insights. In general it can be concluded that the three theoretical building blocks are very well able to be combined. Therefore, all the insights from the different theories are included in the theoretical framework: all the elements and characteristics are seen as important to describe and understand system change in a low-income country context, while acknowledging the developmental challenges of its urban poor, which is the goal of the theoretical framework.
3.2. Operationalization of the theoretical framework

For every theme, the theoretical framework consist of characteristics and elements to understand fundamental change of a system in urban informal settlements in low-income countries. These elements and characteristics are based on the insights from the three theories. Table 3.1 (next page) gives an overview of the specific elements and characteristics, grouped according to the four themes. In order to collect data to understand these elements of the theoretical framework in the case-study, a questionnaire was set-up which is based on this list of characteristics and elements of the theoretical framework (Appendix 2). By comparing the collected data with the theoretical framework, successes and limitations of Cordaid Urban Matters’ approach are identified.

Next page:

Table 3.1 | Elements and characteristics of the theoretical framework grouped in four themes
- PA: Process Approaches; TM: Transition Management; CD: Community Development; LS: Learning Selection
- (Bond & Hulme, 1993; Campfens, 1997; Cook, 1994; Douthwaite, 2002; Grin, Geels, & Loorbach, 2010; Korten, 1980; Loorbach, 2007; Loorbach, 2009; Loorbach & Rotmans, 2010; Mathie & Cunningham, 2005)
### 3. Actors

- A diverse actor network is involved
- The actor network includes both insiders and outsider actors with respect to the community
- Marginalized populations are involved
- Frontrunners are involved

<table>
<thead>
<tr>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning is important, both (social) learning and learning by doing (in the larger transition processes as well as project processes)</td>
</tr>
<tr>
<td>Processes are characterized by flexibility, anticipation and adaptation</td>
</tr>
<tr>
<td>Capacity building takes place among the stakeholders</td>
</tr>
<tr>
<td>There is participation by the local community</td>
</tr>
<tr>
<td>The community assets are used</td>
</tr>
<tr>
<td>There is empowerment of marginalized community groups (i.e. by linking those groups to progressive forces in other social classes and sectors)</td>
</tr>
<tr>
<td>There is empowerment of frontrunners (i.e. frontrunners should be given the resources (financial, mental) to support the transition)</td>
</tr>
<tr>
<td>The role of the NGO is responsive</td>
</tr>
</tbody>
</table>

### 4. Process phases

3a. In the first strategic phase:
- A ‘transition arena’ is established
- The community assets are actively mobilized
- A long-term common vision towards sustainable development is developed among the different stakeholders

3b. In the second tactical phase:
- Coalitions are built and ‘transition agendas’ are developed
- Transition agendas are made by translating the long-term vision into short-term action
- There is a shared vision for change towards the transition process
- Actors are involved that have the power and willingness to influence the dominant culture, practices and structure
- Actors are involved that can lead the process

3c. In the third operational phase:
- Projects (‘transition experiments’) are carried out
- The projects or experiments can be replicated in another context or scaled-up in the same context

Characteristics of the adoption and adaptation of innovations in this phase:
- The early adopters are motivated and able to modify the innovation
- The initial idea of the innovation is simple
- The adaptation process of the innovation increases the fitness of the innovation, continues change, evaluation is possible
- The project is run and owned by the users
- A ‘product champion’ plays an important role

3d. In the fourth reflexive phase:
- Monitoring and evaluation is integrated in all the phases of the process
- The projects or experiments contribute to learning about the bigger transition

### 5. Outcomes

- The process results in fundamental change of the system
- The process result in structural change in a community
- The process results in improved livelihoods of populations in low-income countries

| CD, TM |
| CD |
| TM |
| TM, PA |
| PA |
| CD |
| TM |
| CD |
| TM |
| TM |
| TM |
| TM |
| LS |
| LS |
| LS |
| LS |
| TM |
| TM |

| TM |
| CD |
| PA |
3.3. Methodology

The research method in general was characterized by adaption and flexibility. During the research process flexibility was necessary to deal with the context in which this research was done, because the reality at Cordaid’s head office kept changing quickly.

3.3.1. Part 1: Cordaid’s approach in sanitation

The first part of this research consists of a case-study about Cordaid’s approach in sanitation in the city of Kisumu (Kenya). This case-study was done using the theoretical framework. The research method for this part of the research is outlined in this section.

Case-selection

In order to analyze Cordaid Urban Matters’ approach in sanitation and understand its problems to reach implementation, the use of Cordaid Urban Matters’ approach in the city of Kisumu (Kenya) was selected as the case to analyze in this research. This was done in consultation with Cordaid Urban Matters’ program experts. This is an exceptional case in using the Urban Matters approach in sanitation, because Kisumu is the only city in which it reached some degree of (physical) implementation. This was essential to be able to draw lessons about the problems of Cordaid Urban Matters approach with implementation in sanitation. Cases of other cities in which the Cordaid Urban Matters’ approach has been used did not reach implementation in sanitation and would not have been able to provide a similar learning of lessons.

Data collection & recording

Several methods of data collection were used, including primary and secondary sources of information. Documents, notes and reports were used. Also ‘unobtrusive data’: documents such as company reports, business plans, written statements by members of staff, and contracts have been used (Gray, 2004, p. 327). Secondly, 11 in-depth semi-structured interviews with relevant stakeholders in Kenya and the Netherlands were conducted. The majority of the interviews was face-to-face, two using Skype and three via email. These stakeholders were defined together with Cordaid Urban Matters’ program experts. The individuals who were interviewed have almost all been involved personally in the process in Kisumu. Thirdly, Cordaid’s program expert on sanitation and Cordaid’s local coordinator in Kenya were interviewed. Lastly, the empirical research performed as an intern in the Urban Matters team, led to several ethnographic observations which contributed to the data collection as well (Reinecke & Shaz, 2014).

A guiding document for the interviews was set-up, the questions followed from the operationalization of the theoretical framework (Appendix 2). The document is a starting point for semi-structured face-to-face and skype interviews. The questions were also sent by email to some interviewees. The information from the face-to-face and skype interviews was audio-recorded and a comprehensive transcript report was written of all the interviews. These reports were sent back to the interviewees to verify if the interviews reported sufficiently and accurately and if interpretations were made correctly, to increase the analytical validity of the research.

Data analysis

The data was analyzed in an ongoing process; this helped to move deeper and deeper into understanding the data (Cresswell, 2009). The steps of the data analysis were the following; the raw data in the form of interview transcripts were re-ordered for the data analysis using the four themes of the theoretical framework. By comparing the data with the elements and characteristics of the different themes of the theoretical framework, success and limitations of Cordaid’s approach in sanitation were identified. The data of the case-study is reported by providing a detailed description.
of the case setting followed by a description of the different themes of the theoretical framework which illustrates the successes and limitations of Cordaid’s approach. The case-study analysis ends with a broader interpretation of the meaning conveyed by the data.

Validation
There was continuous consultation with Cordaid’s program expert and with Cordaid Urban Matters local expert in Kenya, to verify the findings of the case-study (Cresswell, 2009). Also many different sources of information were used, such as project proposals, subsidy applications and notes, to build a coherent justification of the findings: Creswell (2009) calls this triangulation. In this research as an intern at Cordaid there was also the possibility to learn about Cordaid’s approach in projects in sectors other than sanitation, such as housing. This was used as an opportunity to generate possible persistent observations about the UM approach, which contribute to the validation of the findings from the sanitation sector.

3.3.2. Part 2: approaches used by other Dutch NGOs

The second part of the research consists of the study of the approaches used by other NGOs in working on the problems in sanitation. This was done with an inductive approach, this part of the research was not directly based on the theoretical framework. Following on the outputs of the first part, a series of interviews with representatives of six other Dutch NGOs operating in the sanitation sector were conducted in order to collect additional information to answer the main research question. This interview series was done with two objectives: firstly, the interviews were done to learn about NGOs’ visions on the sanitation chain concept and the future work of NGOs in the sanitation sector. This is done to complement the outcomes from the first part of this research which does not focus on these aspects, while in depth information about these issues is useful to answer the research question. Secondly, the interviews were done to expand the outcomes of the case-study on Cordaid’s approach with insights from approaches of other NGOs. Collecting information from other NGOs allowed the researcher to generalize from the initial information from the case-study of Cordaid’s approach. This could lead to a higher validity, when saturation of some findings is demonstrated (Gray, 2004). The research method of second this part of the research is outlined in the next section.

Case selection, data collection & recording
Six in-depth, face-to-face semi-structured interviews were conducted, with relevant representatives of other Dutch NGOs operating in the urban sanitation sector in low-income countries. In order to select the Dutch NGOs, an overview of Dutch NGOs which are active in the water and sanitation sector was made. This was done with information gained at several water and sanitation sector events (i.e. events organized by the Netherlands Water Partnership) and through online research. This resulted in a relevant selection of NGO representatives who were interviewed, all of the interviewees work on the topic of water and sanitation in their organization.

Also in this part of the research a guiding document for the interviews was set-up, following on the results of the first part of the research in order to compare Cordaid’s approach with the approaches of other NGOs, and to gain additional insights about the sanitation chain concept and the future work of NGOs. The interview set-up includes the following sub-divisions: sanitation projects, the sanitation chain concept and future (Appendix 2). The questions about the approaches used by the organizations in sanitation are based on the results of the first part of this research and in order to ask more specific questions about the NGOs work, their websites were studied in preparation of the interview. The questionnaire was completed with questions about the sanitation chain concept and the future work of NGOs. The interview set-up was a starting point for semi-structured interviews. The information from the interviews was audio-recorded and a comprehensive transcript report was
written for every interview. All the interview reports were sent back to the interviewees to verify if the interview was reported sufficiently and accurately and if the ideas were interpreted correctly, to increase the analytical validity of the research.

Data analysis
The data was analyzed in an ongoing process; this helped to move deeper and deeper into understanding of the data (Cresswell, 2009). The difference with the first part is that the approach in this part of the research is characterized by constructivism, because it focused on the complexity of views rather than at narrowing meanings into a few categories or ideas (Creswell, 2014). It relied on the participants’ views on their approaches, the sanitation chain concept and the future for NGOs work in the sanitation sector (Creswell, 2014).

The data was analyzed by identifying differences and similarities between the visions of the interviewees and describing those. This resulted in an overview of aspects of NGOs approaches, considered as important by the interviewees. Gaps in NGOs’ approaches were identified by comparing the aspirations of NGOs with their working practice; this led to suggestions for future contributions of NGOs.

Both the lessons about Cordaid’s approach from the first part of this research and the suggestions for future contributions of NGOs resulting from the second part were combined to explore possibilities for Cordaid’s future contribution in sanitation. Also interviews with Cordaid’s corporate strategist, Cordaid’s program experts and lessons learned during the internship, contributed to this exploration. This resulted in an overview of opportunities and barriers for Cordaid’s future work on sanitation. This was used together with the results from part 1 and part 2, to answer the main research question.

A more elaborate overview of the research steps taken in this research can be found in Appendix 3.

Validation
As explained, in order to validate the findings and interpretations, the interview reports were sent back to the interviewees. Validation also occurred by checking findings which seemed to be more general than just applicable to Cordaid, with recent publications of important organizations in sanitation and development, such as the World Bank and IRC.
4 | Cordaid’s approach in action: successes and limitations

This chapter analyzes Cordaid’s approach as applied in sanitation, in order to answer the second sub-question about its successes and limitations. Section 4.1 introduces the case to study Cordaid’s approach in sanitation, namely Cordaid’s activities in the city of Kisumu. A detailed description is given of the process initiated by Cordaid in the years 2008 till 2014. This is followed by three sections that outline the analysis, using the theoretical framework. This analysis consists of section 4.2 about the different process phases and actors, section 4.3 about the process characteristics and section 4.4 about the outcomes of Cordaid’s approach in sanitation. Section 4.5 discusses additional lessons. All these insights contribute to the understanding of the successes and limitations which Cordaid encountered by using its approach. Studying this case provides insights in how the work of Urban Matters has been contributing to fundamental change in the sanitation system and what the key shortcomings have been.

4.1. Case description

The studied case consists of the work that Cordaid Urban Matters did on sanitation in Kisumu, a city in the South-West of Kenya. The city is located at the shore of Lake Victoria as is shown in Figure 4.1.Cordaid has primarily been working in the neighborhood Manyatta, an informal settlement in Kisumu located on the map in Figure 4.1. The processes which are object of study consist of the activities initiated by Cordaid. The most relevant stakeholders in the case are illustrated in Figure 4.2. By interviewing most of these stakeholders the processes in sanitation in Kisumu have been reconstructed and analyzed. The exact list of interviewees can be found in Appendix 1.
The following figures (Figure 4.3 - Figure 4.10) and text explain the activities Cordaid initiated using their approach over the past seven years in Kisumu. The activities are structured by using the sequence in the theoretical framework consisting of the transition management cycle of four phases in transition processes.

**2008**

In 2008 Cordaid conducted a ‘process mapping’ in Kisumu (Figure 4.3). This is an exploration of the situation and opportunities in Kisumu. The mapping was done through a consultative process with the stakeholders in Kisumu. The neighborhood Manyatta was selected over the other informal settlements in Kisumu for piloting and intervention. The process mapping was a first step in the process.
In 2009, Cordaid organized two ‘working weeks’, one in the Netherlands and one in Kisumu, this is the next step in the first phase of the process (Figure 4.4). In these working weeks Kenyan as well as Dutch actors from a diversity of backgrounds were involved. The weeks included thematic meetings about, among others, water, waste and housing. In these meetings collaborations were explored. A common vision was formulated with the title: ‘a livable and sustainable Manyatta’ which included the ideas of the different actors. Actions plans were developed for water, waste water and sanitation problems in the following priority areas: water information, education & communication, flood control and water supply. After the working weeks several ‘thematic groups’ were launched on housing, water & sanitation and youth & employment; these groups still exist at the time of writing this thesis.

After the working weeks and the start of the thematic groups, the activities in Kisumu slowed down and came to a halt for some time. Almost nothing happened because actors were waiting for each other to come up with plans. A next step towards the second tactical phase of the process was not taken in Kisumu and neither did this happen in the Netherlands. This issue will be discussed in the next section.
After the pause of activities in Kisumu, in 2010 some new initiative was taken by Cordaid: Cordaid and most of its partners from the first phase of the process organized 'Quick Wins': projects to give Cordaid’s initiatives in Kisumu some face (Figure 4.5). The Quick Wins arose under the pressure of the high expectations that had been raised among all actors in the working weeks and the start of the thematic groups. The Quick Wins plan consisted of: an extension of the water pipes, a delegated management model for drinking water and a bio center. It was paid for by Cordaid and its partners.

However, the initiation of a real project such as the Quick Wins came relatively late, because while Cordaid and its partners were struggling to continue the process, a Dutch water company got the chance to start a project using European Union funding. So this water company launched a project aimed at strengthening the capacities of the local water company\(^1\). This project benefited from the partnerships which were already established in Kisumu by Cordaid. Several of Cordaid’s partners collaborated in the EU-project, while Cordaid itself was not included. Consequently, this EU-project was not based on the common vision developed in the first phase of the process and started immediately with a practical project proposal in the second phase as can be seen in Figure 4.5.

In 2010 different coalitions were formed. Firstly, the Quick Win coalition was a follow-up of the processes which has been initiated by Cordaid since 2008. Secondly, there emerged another coalition led by the water company working with EU funding (Figure 4.5).

\(^1\) http://vei.akvoapp.org/en/project/1610/
Despite the existence of two different coalitions, the Quick Win coalition resulted in positive collaborations among the actors who were working on water and sanitation in Kisumu. This resulted in a Memory of Understanding (MoU) signed by most actors in 2011 (Figure 4.6). The MoU formed a basis to work all together on future water and sanitation projects in Kisumu. The formation of this coalition was a step towards the development of concrete projects in the second phase of the process and possibly also towards implementation in the operational phase.

In addition to signing the MoU, one of the Quick Win projects was built: the bio center in Manyatta. This was part of the operational phase.

In 2012 the implementation of the Quick Wins was finished: the bio center had been installed, a flood water management plan had been made and the master plan for water and sanitation for Manyatta had been written. The actors who signed the MoU worked together on a collective
application for the African Water Facility (AWF)². The proposal was called: ‘demonstrating and introducing an innovative sanitation value chain for the unsewered urban poor in Kisumu, Kenya’ (Figure 4.7). The official applicant was KIWASCO (Kisumu Water and Sewerage Company), which worked closely with the Dutch water company on writing the proposal. This proposal included several innovative ideas to change the sanitation system in Kisumu. It involved changing and improving several aspects of the sanitation system and hygiene awareness training. Cordaid has a small role in community involvement and hygiene awareness training, but the proposal does not seem to prioritize the principle of a multi-stakeholder involvement such as Cordaid Urban Matter’ approach aims for.

2013

Figure 4.8 | Activities in Kisumu in 2013

In 2013 the bio center, one of the projects of the Quick Wins, was handed over to the community. The large proposal on the sanitation system in Kisumu at the AWF was still pending (Figure 4.8 and Figure 4.9).

Figure 4.9 | The Bio Centre Manyatta in 2013; Centre is run by Manyatta Resident Association Bio Tower Management. It consists of toilets, bathrooms and offices for hire. The center operates from 5am-Midnight and the monthly earnings are Ksh 15,000 (Mbathi, Musyimi, 2014).

² The African Water Facility is an organization which provides grants for water projects in Africa initiated by the African Development Bank (AFD) (http://www.africanwaterfacility.org/en/)
In 2014 another application was made by a large coalition of different actors, this time led by two Dutch water organizations. One of these water organizations was a new partner for Cordaid in Kisumu. Therefore, this partner was not necessarily actively working with the information gained and vision made by Cordaid and its partners in earlier years. The proposal was an application for the Dutch Sustainable Water Fund and was named Integrated Basic Interest Service (IBIS). The IBIS proposal is, like the AWF proposal, also a project towards establishing a sustainable sanitation value chain: it is a large innovative project. The main addition of the IBIS proposal is working on solid waste, which is included in the sanitation chain concept which is used. Cordaid is a partner in the proposal to provide multi-stakeholder platforms and the inclusion of marginalized people, thus the IBIS proposal includes principles of the Cordaid Urban Matters’ approach. Both IBIS and the proposal for the AWF are promising because they include different parts towards a ‘self-sustaining sanitation value chain’ (Oyier Amollo, 2014). In 2014, the AWF application was finally approved (update April 2015: nothing is implemented in Kisumu yet).

In the next sections the findings of the Kisumu case-study are analyzed by using the theoretical framework.

### 4.2. Process phases and actors

#### 4.2.1. Strategic phase

In the first phase of the process Cordaid initiated a process mapping and organized work weeks. In the work weeks a type of transition arena was established, in the form of different types of stakeholders who worked together on plans and a common vision for Manyatta. The community was actively mobilized in this process. The strategic process had been quite well organized according to the theoretical framework, because of the establishment of this sort of transition arena in which long-term visioning took place, which is the first important step towards a transition according to Loorbach (2009). And additional to the traditional concept of transition arena, the community was involved from the start of the process. Some interviewees who had been involved in the working weeks saw ‘Urban Matters’ as a ‘project’ in which all institutions were working together.
on urban issues (SS, SK). The following statement explains how the platform set up by Cordaid offered the possibility for different actors to work together:

‘I see Urban Matters as an umbrella under which all type of activities takes place’... ‘Cordaid Urban Matters tries to create a platform which makes different parties meet with each other.’ [MB, HDSR]

4.2.2. Tactical phase
However, after this first phase, the processes came to a halt for a while. In this section several aspects are identified which underlie the difficulty to move the processes which were initiated by Cordaid forward to the second tactical phase of the process.

Capacity to translate common vision
A first difficulty has been the absence of capacity to ‘translate’ the long-term vision into short-term action. According to transition management, the common vision should be translated into a transition agenda consisting of joint objectives, action points, projects, and instruments to realize these objectives (Loorbach, 2007). In Kisumu, the common vision was not translated into concrete plans, it took a long time before coalitions were built which took the responsibility to work on a concrete plan. It was a general problem after the activities in the first phase, that the roles and responsibilities were unclear. Consequently, none of the stakeholders took the responsibility of working on the activities in the second tactical phase, as this statement explains:

The in-between phase: the phase between (1) the project is accepted and (2) we really start implementing, that phase we have never explicitly heard anything about and we never really participated in it. [MA, HDSR]

Frontrunners
Tactical activities should be performed by different actors than those who carry out the activities in the strategic governance domain (Loorbach, 2007). Actors in the tactical domain should have the power and willingness to influence the dominant culture, practices and structures, these actors are called ‘frontrunners’. A sufficient number of frontrunners seem to have been absent in the studied case, both in the strategic as well as in the tactical phase. This was probably a result of the fact that these types of actors were not actively identified and involved.

However, there were some actors working in Kisumu who would have been able to take the lead. For example a Dutch water company who acted as a sort of frontrunner when it took the lead in the latest applications in Kisumu: AWF and IBIS (MA&MB, 2014; TK, 2014) (van Walsum, 2014). A problem was that it seems that the water company was only to a limited extend empowered, because it was held back in its approach by the subsidy instruments that were used (TK, 2014). A frontrunner should be empowered, which means that it should be given resources to support a transition (Loorbach, 2009).

It is difficult to create the space that frontrunners need in developing projects. According to Loorbach & Rotmans (2010) frontrunners need mental space, organizational space, legal pace and financial space. However, many development projects will always be restricted because the subsidy instruments which are needed for the financial empowerment also bring limitations with them. Thus, all the space which frontrunners need in order to be able to act, are difficult to reach in a context of development projects. Overall, the absence of frontrunners and constraints on their empowerment have been problems in the studied case.

Political aspects, coordination problems, infrastructural problems and lack of resources
In the studied case several other problems contributed to the stagnation of the process. One problem was the policies and regulations formulated by the decentralized County Government,
which formed barrier to create concrete projects (SU, 2014). The former Councilor of Kisumu also stated that political interests sometimes form a barrier to continue projects in sanitation (TMO, 2014). Other specific infrastructural problems to initiate a sanitation project in the informal settlement Manyatta are explained in this statement:

‘Sanitation was difficult because there is no main sewer trunk in Manyatta, therefore it is a challenge to build the sewerage infrastructure and it is quite expensive. Several parties should work together: the municipality, council, the water company (KIWASCO) and the water board is also part of the network, therefore it is not easy to provide sanitation. All these parties should work on infrastructure.’ [SK, Pamoja Trust]

This statement reveals the difficulty of coordinating all the different actors in sanitation. This has been a barrier in the studied case. Additionally, sanitation technology is expensive and it is much harder to recover the costs for sanitation infrastructure than for drinking water, consequently KIWASCO prioritized working on drinking water in Kisumu. This is why it has been easier for actors to proceed with drinking water projects than sanitation projects (MA&MB, 2014; SS&SK, 2014). The process also stagnated because Cordaid had no (sufficient) financial resources (MA&MB, 2014; SS&SK, 2014; AA, 2014). The following statement explains that the lack of financial resources was one of reasons that a coalition without Cordaid benefited from Cordaid’s partnerships in Kisumu:

‘When we started the EU trajectory together with the Dutch water company, we kept the connection to Urban Matters. In a way, the EU project originated from Urban Matters work. But Urban Matters has no money and for business projects you just need money, so that was what was difficult for Urban Matters, I think.’ [MB, HDSR]

Working together
According to all the theories of the framework there should be broad participation among all actors, this happened in the process in Kisumu where a diverse set of actors was involved. However, the cooperation among all these stakeholders contributed also to the stagnation of the process after the first phase. One reason was the difficulty of moving with all actors at the same speed and in the same direction (SS&SK, 2014; AA, 2014). Actors were waiting for each other to come up with a plan because expectations were different (AA, 2014) (van Walsum, 2014). At the same time there was a pressure to continue the process, because the expectations of the residents in Manyatta had been raised by the initiating activities:

‘The people in Manyatta thought at the start of Urban Matters that something big would happen. Managing these expectations is a barrier. In de end we came up with the Quick Wins to start a project at least.’ [AA, SANA]

4.2.3. Operational governance domain
The Quick Win projects which were implemented in Manyatta are activities in the operational phase of the process. These projects had several positive impacts as explained in this statement:

‘Through the construction of Bio Sanitation facility at Manyatta communities living around the Bio Centers have improved and dignified sanitation facilities that are hygienic. Livelihoods have also improved through generating income from sanitation facilities that are charged minimally.’ [SU, Umande Trust]

The Kenyan interviewees stated that the implementation process has been based on participation of the community. The community members’ assets have been used in the form of their labor and materials (TMO, 2014; SS&SK, 2014; MOO, 2014; SU, 2014). The implementation process and adoption process of the bio center seems to have been flexible and with room for adaptation by the users (TMO, 2014; SS&SK, 2014; MOO, 2014). These are aspects which fit aspects of the theory of Douthwaite (2002) who describes the importance of the participation of the users in the adoption of
an innovation. Unfortunately, the interviewees did not provide much data on the implementation of the Quick Wins, because many of them had not been involved in this part of the process.

There have been several reasons to initiate the Quick Wins, for example to give all the actors in the processes in Kisumu an active role in a concrete project and to meet the high expectations of the residents of Manyatta (AA, 2014) (van Walsum, 2014).

It seems however that the Quick Wins have not been used as innovative experiments in the context of a bigger transition, as described by Loorbach (2009). Thus, these projects have not explicitly been used as innovations contributing to a bigger transition as is intended by Cordaid UM, which wants to work according to a sanitation value chain concept, in order to achieve a change of the sanitation system in Manyatta. Despite this shortcoming of the Quick Wins, they did have a positive influence on the collaborations in Kisumu which resulted in an MoU for future cooperation among several stakeholders. This cooperation resulted in promising applications of project proposals to work on the whole sanitation system in Manyatta, however these proposals are not implemented yet (update April 2015).

4.3. Process characteristics

In this section the process characteristics of the case-study are analyzed.

4.3.1. Capacity building

Cordaid had much attention for capacity building in the processes initiated in Kisumu. Capacity building of the local community was done by the different NGOs (TMO, 2014; SS&SA, 2014; SU, 2014). An example of capacity building is the work of Umande Trust, which worked closely with the community groups with the aim of building the capacity of community members to actively take charge of the development of their communities (SU, 2014). Community members were involved in improving the project design and implementation (SU, 2014). Additionally, the community was asked to provide labor and materials for the implementation (AA, 2014). A last example of the community's participation was their contribution in the design phase by prioritizing the drainage areas of their community (AA, 2014). These examples show that the community was participating and that its participation was tied to the use of the community’s assets, both important aspects identified in community development literature.

The capacity building of the local water and sanitation company was done by the Dutch water companies (MA&MB, 2014; TK, 2014). The Dutch water companies have all been focused on the capacity building of local water companies, for example by making them more efficient and improving their operations and maintenance (MA, 2014; TK, 2014).

4.3.2. Learning and Flexibility

In Manyatta thematic groups were set up to create a structure in the local community which helped the residents to learn from each other and evaluate initiatives. As a result of this community structure the local NGOs received a lot of feedback from the community, which helped them to improve the projects (TMO, 2014; SS, 2014; SU, 2014). Consequently, the NGOs consider their work in the local community as full of learning, which has helped them to improve the project design and implementation (SS, 2014; MOO, 2014; AA, 2012; SU, 2014). The NGOs also consider the process as flexible, there was room to change the process of planning (AA, 2014; SS, 2014; TMO, 2014). The learning processes among the local community and local NGOs fit the theories of Douthwaite (2002), Bond & Hulme (1999) and Korten (1980), which explain how learning can help to build new knowledge and capacities. Learning, flexibility and capacity building of the actors at other levels than the community level received much less attention, this will be discussed in section 4.5.1.
4.4. Outcomes

In this paragraph the outcomes of Cordaid’s work in Kisumu are analyzed.

The main implemented physical outcomes of the processes initiated by Cordaid in Kisumu are small scale water and sanitation projects, the Quick Wins. Which, as already explained, were no innovations contributing to a bigger transition process. It can be seen that Cordaid and its partners had difficulties to connect these projects to a bigger process of changing the sanitation system, despite the quite extensive participative process which included long-term visioning.

However, Cordaid’s local coordinator in Kenya points out that: ‘the outcomes of Urban Matters work are bigger than the things that have been implemented’ (Oyier Amollo, 2014). Among other things, the work of Cordaid led to structural changes in the community system: the community has been organized and relationships have been created, in line with Community Development literature. This bigger outcome is also reflected in the latest large project proposals (AWF and IBIS) which both include aspects of working towards a fundamental change of the sanitation system and have been initiated by a coalition of various actors. The AWF proposal has recently been approved (mail, October 2014), which means that the work on the sanitation system in Kisumu will be continued, it is just unclear when (status April 2015).

The fact that work is still ongoing on a fundamental change of the sanitation system is in line with transition theory which states that transitions are long-term (>25 years). In a transition process it is also hard to specify the concrete results and the impact of the process: the short-term indirect or intangible effects are as important as the direct effects (Loorbach & Rotmans, 2010). The main result of other transition management pilot processes so far has been the building of a network of frontrunners with an ambitious agenda of reform and concrete breakthrough projects (Loorbach & Rotmans, 2010). In this case-study there has also been a start of a network of stakeholders with a shared vision, however the concrete projects have been missing until today, and there has been difficulty to connect the implemented projects to the transition agenda.

4.5. Additional lessons

Some insights from the case-study expand the themes of the theoretical framework which are used for the analysis; in this section these insights are discussed.

4.5.1. Focus on the community level

The case-study has shown that Cordaid’s approach has mainly been focused on the community level. The stakeholders that have been involved are the local community, the local government, NGOs, Dutch water organizations and the local Water and Sanitation Company. These actors are mainly concerned with the community level. Despite the fact that Cordaid has some good relations with actors at other levels, such as regional and national government, these actors have not actively been involved in the projects in Kisumu. A more active cooperation with actors from other levels seems necessary to work towards a transition of the sanitation system. This focus on the community level without addressing actors at other governance levels can also have contributed to the stagnation of the process.

An example: one element of the AWF sanitation system project proposal is the introduction of a higher water fee with which a new sanitation service will be paid. Through the increased water fee the residents pay indirectly for the collection of their sanitation waste (TK, 2014). This means that the current (low) water fee needs to be changed. Therefore approval is needed of governmental actors at higher levels than the community level; this is an example in which the creation of active cooperation with higher-level governmental actors is needed.
A lack of attention for other levels than the community level has also been discovered in the project processes. For example while close attention has been paid to the capacity building of the local community and the local water company, there has been no attention for capacity building of the other stakeholders involved, such as the governmental actors and the Dutch water organizations.

A last example of the focus at the local level was the effort to organize the local community. This created an organized network in which local organizations considered their work as very flexible and good for learning (SS&SK, 2014; MOO, 2014; AA, 2014; SU, 2014). This reveals a sharp contrast with the relatively unorganized collaboration among the other stakeholders such as Cordaid and the Dutch water organizations. Consequentially, the Dutch water organizations did not consider their work in Kisumu as very flexible (MA&MB, 2014; TK, 2014). Overall there has been a lack of attention for the organization, collaboration flexibility and learning among all the different stakeholders involved in the process.

4.5.2. Scale
The case-study revealed the issue of scale. So far, the implemented projects by UM have been of a much smaller scale than what would be required for inducing the intended fundamental change of the sanitation system. The quick wins resulted in incremental changes such as improved water pipes and sanitation facilities and did not result in structural and scalable solutions for the whole system. This raises the issue of scale. Several ideas in the sanitation chain concept need to be implemented at a certain scale to be feasible. For example for capital recovery in the chain, a market with a considerable size should be served. Also, in order to establish a business which provides a collection service, a certain scale is necessary to create a working business model. Concluding, it seems difficult to develop scalable solutions, which are needed to change parts of the sanitation system structurally.

4.6. Conclusions
The analysis of Cordaid’s approach in Kisumu reveals limitations and successes which Cordaid encountered in working on sanitation. The first strategic phase was organized quite effectively by Cordaid. In this phase of the process the activities were characterized by several aspects from Process Approaches and Community Development such as: beneficiary participation, learning from the people and managerial flexibility. Cordaid seems to be good at organizing processes in line with the ideas for complex development contexts as described by Process Approaches. Also, Cordaid’s way of working moves away from controlled development projects, as is emphasized as important by the ABCD approach.

Despite a good start of the process, thereafter the process came to a halt for a while. This is a major barrier in Cordaid’s approach in sanitation: bridging between the long-term visions and short-term action. Various reasons explain the stagnation of the process. There was a lack of people with the willingness and power involved, who would be able to lead the process. Also the difficult lack of resources, political unwillingness and coordination problems contributed to the stagnation of the process. Cordaid’s approach has been focused on the community level and the neglect of what happens at higher levels was not fruitful for the continuation of the change process that had been initiated. However, the community focus was advantageous for aspects of process approaches such as capacity building and learning among local stakeholders; and community development.

So far, the whole process which has been initiated in Kisumu by Cordaid resulted in the implementation of the Quick Wins. These projects have had a positive influence on the livelihoods in Kisumu, but they did not contribute to fundamental change of the sanitation system in Kisumu. However, as a result of the connections and relations built up in the community through Cordaid’s
work, work is still continuing on a fundamental change of the sanitation system in Kisumu in the form of two large pending proposals. An additional lesson shown by this case-study is that Cordaid has difficulties to develop ideas that are scalable and can be used in structurally changing the sanitation system.

In the next chapter the approaches of other Dutch NGOs which work on sanitation problems in low-income countries are analyzed to be able to expand the lessons from the case-study on Cordaid’s approach by enriching it with ideas from the approaches of other NGOs. Additionally, the analysis of approaches of other NGOs is done to learn about other NGOs’ visions on working with the sanitation chain concept and future work of NGOs in the sanitation domain.
5 | Approaches of other NGOs

After a chapter focused on Cordaid’s approach in sanitation, this chapter widens this view and describes the approaches of other Dutch NGOs in this sector. The chapter aims to answer the third sub-question: What are the approaches adopted by other NGOs working on innovative solutions towards solving problems in the urban sanitation sector of low-income countries? Representatives from six Dutch NGOs working in the sanitation sector were interviewed for the analysis in this chapter; their names can be read in Appendix 1. They have knowledge both about issues in the sanitation sector in low-income countries as well as the role of Dutch NGOs in this context.

The lessons from the previous chapter about Cordaid’s approach are expanded and compared with the visions of the interviewed NGO representatives. Also, the visions of the NGO representatives on working with the sanitation chain concept and visions on future work of NGOs are outlined. This is resulting in lessons which are used to develop ideas for possible future contributions by NGOs working on the sanitation system. Additionally, the comparative perspective contributes to an enhanced understanding about the generalizability of the lessons from the previous chapter.

This chapter starts with the explanation of the basic principles of the new approaches of Dutch NGOs working in the sanitation sector in low-income contexts. This is followed by section 5.2 in which several important aspects of these new approaches are discussed. Notably, all the NGOs were found to be aiming towards system change, and most have also embraced the sanitation chain concept to help them to work towards this aim, similar to Cordaid. However, they define different roles for themselves in relation to that aim. Another similarity that the NGOs share with Cordaid is that there are still gaps between their visions and what is actually being done and achieved. Section 5.3 therefore outlines the discrepancies between the works NGOs currently do and their aim to achieve system change; this results in ideas for possible future contributions by NGOs working on the sanitation system.

5.1 | NGOs’ new approaches

5.1.1 | Aims

The Dutch NGOs which were interviewed are all connected to the sanitation sector although they have different visions to guide their work (Appendix 3). Some examples of their aims are: improving basic health, increasing freedom to pursue one’s own sustainable development and living dignified lives in urban areas in balance with their environment (Simavi, 2015), (SNV, 2015), (WASTE, 2015). It seems that almost all NGOs increasingly aim to reach a larger impact than just improving access to water and sanitation; they want to create sustainable impact which exceeds individual projects (HF, 2015; JB, 2015; RG, 2015; SG, 2015). This is illustrated by the focus of the ‘Theories of Change’ (ToC) ³ used by many non-profit organizations, which have been moving from a description of change at project level to program- or even sector level (RG, 2015). Also the Dutch WASH alliance (consisting of six Dutch NGOs) does not support hardware but works towards system change (JB, 2015). As a result of the NGOs’ ambition to reach an increasing structural and sustainable impact which exceeds individual projects, the work of NGOs is increasingly complex and long-term focused (SG, 2015). It can be concluded that not only Cordaid tries to contribute to fundamental changes in the sanitation system. Rather, contributing to system change seems to be the dominant paradigm among the interviewed Dutch NGOs working on sanitation.

³ A ‘Theory of Change’ defines all building blocks to create a pathway of change to bring about a given long-term goal. It is a planning and evaluation method for social change, used in not-for profit sector (Center for Theory of Change, 2013)
5 | Approaches of other NGOs

5.1.2. Holistic approaches

In the sanitation sector this paradigm is reflected in the use of holistic approaches towards sanitation, using the concept of the sanitation chain, which is embraced by most interviewed NGOs (Figure 5.1). All the NGO representatives emphasized the importance to work at the whole sanitation system to come to innovative and sustainable solutions, which is similar to Cordaid’s view. The World Bank also supports the idea of working on the whole sanitation system; it emphasizes the importance of a well-coordinated system of services in urban areas (World Bank, 2014). The idea is also described by IRC, a renowned ‘think-and-do thank’ for long-term solutions to the global crisis in water, sanitation and hygiene services (IRC, 2015). In a recent IRC paper on ‘Systemic change in urban sanitation’ the writer argues in favor of a ‘whole-system approach’ (Galli, 2014). Galli (2014) states that new approaches should understand ‘the urban sanitation system in the context of how the different parts and people form relationships with each other, and not as individual and independent components’.

Most NGO representatives distinguish two parts in their sanitation chain concepts: the service chain and the value chain (Figure 5.2) (HF, 2015; NL, 2015). This conceptualization helps NGOs to formulate innovative and sustainable solutions in the sanitation system, for example by connecting activities in the sanitation system to other sectors and themes, as can be seen in Figure 5.2. The sanitation chain approach also helps NGOs to deal with the pressing situation to become more financially self-sufficient, because it calls for alliances with new types of (non-conventional) actors, which offers opportunities to develop new financial mechanisms.

The concept of the sanitation chain used by other NGOs is not necessarily different from Cordaid’s concept of the sanitation value chain. All NGOs, including Cordaid use the basic idea of the sanitation chain concept, and aim to work on the whole sanitation system. Cordaid’s model is especially focused on creating value from sanitation waste: providing adequate sanitation for an affordable price, by trying to maximizing value of the re-use of human waste and minimizing the costs in the sanitation cycle.

Figure 5.1 | General principles of the interviewed Dutch NGOs’ new approaches

<table>
<thead>
<tr>
<th>new approaches</th>
<th>interviewed Dutch NGOs</th>
</tr>
</thead>
<tbody>
<tr>
<td>aim: structural, sustainable impact</td>
<td>working towards fundamental change of the sanitation system</td>
</tr>
<tr>
<td>holistic approach: using the sanitation chain concept</td>
<td></td>
</tr>
<tr>
<td>changing subsidy climate</td>
<td>NGOs need to be financially self-sufficient</td>
</tr>
</tbody>
</table>

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5.2. Aspects of working on the sanitation system

This section highlights aspects which the interviewees considered as important in working on the sanitation system by using a sanitation chain approach, and aiming for a fundamental change of the sanitation system. The lessons from the previous chapter are expanded in the first three subsections; these sub-sections describe aspects which fit some lessons from the previous chapter: levels and scale, process characteristics and institutional aspects & actors. The two following subsections reveal additional aspects which are considered as important in working on the whole sanitation system by the NGO representatives: financial aspects and businesses in the sanitation system. The last sub-section discusses technical aspects of working on the sanitation system.

5.2.1. Levels and scale

NGOs try to involve (actors from) different societal levels in their work on the sanitation system in various ways. For example, some NGOs help local communities to collect information at the local level which is presented to higher-level governmental actors. Accurate information from the community level can be used to influence strategy and policy at regional and national levels (RG, 2015; SG, 2015). Akvo's mapping tools are developed to support local partners to map things such as water points and sanitation facilities in an efficient manner (LR, 2015). Another way of working on different levels is collaborating intensively with different partners. Simavi reaches different levels via its partners; some partners know the community very well and Simavi collaborates with these partners to work at the local level. Other partners take part in network organizations for the WASH sector at country level; these partners can represent communities at ministries at national level (SG, 2015). Simavi's own work can also comprise the organization of structures and platforms to let actors from different levels meet. As Simavi's WASH expert states:

'You cannot just put pressure from below or just from the top, you should be involved throughout.'
[SG, Simavi]

Working at different levels simultaneously (local, regional, national, international) in the sanitation sector seems important. This finding is in line with the lesson from the previous chapter. Additionally to working at different levels, for several NGOs reaching scale in their projects is also considered as important (HF, 2015; RG, 2015; SG, 2015; JB, 2015). Scale is essential for the feasibility of business models in sanitation, because it can attract investors for sanitation projects (HF, 2015). The scale of the solutions is also important to reach enough impact to solve the large scale problems with sanitation in urban areas (RG, 2015). However, the previous chapter has shown that it has been very difficult for Cordaid to come up with scalable solutions. From the interviews analyzed in this
chapter it is learned that other NGOs also have difficulties to reach scalable results with their innovative approaches in sanitation; among other reasons, because re-using sanitation waste is highly experimental. Another reason is that it takes a long time among stakeholders to get used to innovative ideas in the sanitation sector (JB, 2015; SG, 2015).

5.2.2. Process characteristics: capacity building, knowledge sharing and learning

Similar to Cordaid, capacity building is an important part of the existing work of most NGOs (JB, 2015; RG, 2015; SG, 2015). Capacity building is done in several ways, such as training, developing and sharing knowledge and empowerment of local actors. For example, empowerment can be carried out by creating alliances of different local organizations and supporting the effective local coordination of such an alliance. An alliance can act more effectively and is a stronger stakeholder than a local organization which operates individually (JB, 2015). Additionally, international NGOs have the quality to spread knowledge among a large network of actors around the world. These qualities cannot easily be taken over by other type of actors (JB, 2015).

The interviews revealed that there are still many uncertainties and complexities in working on the sanitation system. Consequently it seems increasingly important for all actors in the sanitation sector to increase their knowledge, skills and capacities to work on the sanitation system. The qualities of NGOs can be used to work on increasing capacities and sharing and developing knowledge. These two statements illustrate what increased knowledge, skills and capacities are needed for:

‘Everybody is looking for solutions to process sludge into a fertilizer’ [SG, Simavi]

‘The sanitation chain is a large system and the search for financing for the different parts of the chain, it is very complex’ [HF, Aqua for All]

Increased capacity, learning and knowledge development to solve these issues seem necessary to work on the sanitation system. As discussed in the previous sub-section, this should be done for actors at all levels: community, regional, national and international; and among all sectors: private sector, service providers, governments, users etc. The previous chapter has shown that there was a lack of capacity building at other levels than the community level in Cordaid's approach. Traditionally NGOs have been focused on the community level; however by using a sanitation chain approach and working towards a fundamental change of the sanitation system, it is important that NGOs will use their qualities in a wider manner.

5.2.3. Institutional aspects & Actors

Another important activity of NGOs is building coalitions among different actors; they often fulfill a ‘broker’ role. This role of NGOs has been their added value to many consortia. This role of building partnerships fits most NGOs because they have an independent character. Most Dutch NGOs have large international networks and contacts working in different sectors (JB, 2015). NGOs can be the link between international and local actors. Cordaid’s Dutch water partners in Kisumu clearly considered Cordaid’s presence in the field and their knowledge about the local situation as a great benefit in the collaboration with Cordaid (MA&MB, 2014; PB, 2014).

This strength of NGOs becomes increasingly important in working on the whole sanitation system because new types of consortia have to be built up which involve all the different players in sanitation (NL, 2015; HF, 2015; JB, 2015; SG, 2015; RG, 2015). Most NGO representatives explained that institutional aspects of organizing the sanitation system are a major issue in the future. The roles of different actors in the sanitation sector are being re-defined because innovative solutions often ask for a different arrangement of responsibilities. Moreover, the cutbacks in structural donor financing affecting many development NGOs also call for alliances with non-conventional partners.
who can fill that role. Arranging the responsibilities in the sanitation system is important in order to utilize the opportunities of the sanitation chain concept (HF, 2015). The main question which has to be addressed is: which actor should be doing what? Some ideas for the type of tasks that the government and the private sector should take up, as seen through the eyes of the NGOs are outlined here.

Governments
All NGO representatives agree that national or local governments always have to play a role in sanitation, but there is no consensus what this role should be. For example, governments are seen as a financial actor in sanitation: they should cross-subsidize projects to reach the BoP (SG, 2015). However, the respondents acknowledge at the same time that governments in low-income countries have a lack of financial resources. Another role which is foreseen for governments is the role of regulator: providing rules, licenses and guidelines for the sanitation sector (SG, 2015; HF, 2015). Some interviewees argued that governments should not take the full responsibility for providing sanitation, because so far this often did not work well, because of a lack of financial means and knowledge (SG, 2015; NL, 2015). Not all representatives share this opinion because sanitation is considered a government’s task and consequently governments should be put in the coordinating role (JB, 2015).

Private sector
Most NGO representatives tend to attribute a major role to the private sector in future sanitation solutions (NL, 2015; HF, 2015; JB, 2015). This attention for the private sector seems to be a result of the focus on business opportunities in the sanitation system and is also stimulated by the current approach to development policy in the Netherlands. The interest of NGOs in the private sector is relatively new (JB, 2015), consequently the exact role of the private sector in the view of NGOs is not very clear. It varies from the involvement of (local) entrepreneurs setting-up sanitation businesses, to cooperating with large companies which invest in sanitation innovations. There is still a lot to learn about the involvement of the Western private sector in development projects, for example NGOs experience difficulties in involving Dutch SME’s in their projects, because they are not interested in projects in low-income countries (HF, 2015; SG, 2015). Also, there is not always a clear added value to involve the Dutch private sector for the benefit of the development project (SG, 2015).

5.2.4. Financial aspects
Traditionally, most NGOs financed projects themselves or obtained finance from non-commercial donors. This has already changed significantly, today NGOs can barely finance the hardware of sanitation projects anymore because structural, non-project subsidies have decreased. Another problem of donor programs is that they often aim for short-term results, while long-term support is necessary for innovative sanitation approaches aiming for system change (SG, 2015). In addition to donor finance, another possibility to finance sanitation is through public money, such as taxes, raised in the countries where the projects are executed. However, there is often political unwillingness to raise tariffs for the purpose of sanitation (Aqua for All, 2014). Many governments therefore lack the capacity to provide even barely adequate sanitation in low-income countries, let alone that they can and will invest in innovative approaches to sanitation, which need long-term investments (SG, 2015).

Pooling of funds and innovative financing mechanisms
As a consequence of the decreasing sources of conventional finance for sanitation, NGOs are increasingly focused on pooling finance from very many different sources: private and public; national and international; investments and grants (HF, 2015; NL, 2015; SG, 2015). The representatives indicate the need to be creative in developing financial solutions, involving for example cross-subsidization or hybrid financing mechanisms in order to finance the work on the
sanitation system in the future (SG, 2015; NL, 2015; HF, 2015). Some of the NGO representatives stated that it is very important for NGOs to increasingly specialize in innovative financing, fund raising and lobbying (HF, 2015; NL, 2015). NGOs can benefit from their role as independent players in creating financial solutions. An example of creative financing is described in textbox 5.1.

The Dutch NGOs are already developing new ways of obtaining financial means. Some NGOs help local communities with lobbying to get access to budgets for sanitation at (local) governments (SG, 2015; RG, 2015). Other NGOs start projects which are focused on the middle-class instead of the BoP in order to increase the financial feasibility of projects (NL, 2015). However, this approach does not fit all NGOs because some are focused on improving the livelihoods of the poorest populations (RG, 2015). The search for finance also results more and more in Public Private Partnerships (PPP’s).

Textbox 5.1 | Example innovative financing

FINISH (Financial Inclusion Improves Sanitation and Health) by WASTE

FINISH is an Indian-Dutch consortium consisting of banks, insurance companies, NGOs, academic and government institutions from both countries. Its goal is to diffuse one million safe sanitation systems to low-income communities in India through mobilizing funds from end-user households. Micro-credits are combined with life- and health micro-insurance packages to give incentives to households to invest in toilets (FINISH, 2015). It is a unique program in which they tried to involve a new sector type to finance sanitation: an insurance company (HF, 2015).

5.2.5. Businesses in the sanitation system

NGOs are increasingly supporting business opportunities in order to reach their aim of working on fundamental changes of the whole sanitation system, i.e. according to the idea of a self-sustaining system in which its costs are offset by its revenues. This increased interest in business approaches to solve sanitation problems, is also a result of the decreasing traditional donor funding for sanitation and the limitations of developing-country government budgets.

The sanitation chain concept provides several possibilities to identify innovative ideas to set-up businesses in the sanitation system, which can be used to change the system in a socially and environmentally responsible direction, while increasing access to sanitation in a financially sustainable manner. Examples of business opportunities are renting out public toilets or taking care of emptying toilets pits. These services can be set-up as businesses if users pay for these services, which can be for example done by saving money on medical bills as a result of the improved sanitation (RG, 2015). Other types of business opportunities are foreseen in the re-use of sanitation waste. It can be converted into a renewable energy source such as biogas and fuel pellets (Graf, Kayser, & Brossard, 2014), which can be used by households or can be of interest for the energy industry. Biogas can also be converted into electricity which can be fed back into an electricity grid.Sanitation waste can also be re-used as organic fertilizer which can be sold to the agriculture industry. Lastly, experiments are to feed black soldierfly larvae with human waste, these larvae can be turned into animal feed and biodiesel (Graf, Kayser, & Brossard, 2014). Although the potential of these ideas, it seems that there is still a lot of research and development needed in order to realize this potential. Several problems still have to be overcome, such as the social acceptance of using fertilizer produced from human waste, the production of high quality biogas and the biogas pressure, and lastly also the production of electricity from biogas is still highly experimental.

Urban areas are densely populated and the consequences of a lack of sanitation are worse than in rural areas. There is a lack of space, there are difficulties transporting sanitation waste and the scale of the problem in urban areas is large (RG, 2015; NL, 2015; SG, 2015). The population density of urban area is considered by several interviewees as an advantage to realize viable business models the sanitation sector (JB, 2015; NL, 2015; SG, 2015).
These businesses are considered as an important innovative idea for most of the interviewees. And several representatives perceive a useful role for NGOs in working on business development in the sanitation system. Some NGOs are already supporting social enterprises (RG, 2015; SG, 2015; JB, 2015). For example, one NGO supports and stimulates business approaches of partner organizations (JB, 2015). Another NGO is looking for existing (informal) businesses in the sanitation system and supports those (NL, 2015). Also, business development ideas emanating from Western companies can be supported by providing knowledge about the local context, matching them with the local demand (NL, 2015; JB, 2015). Some other possible ideas are explained below.

**Bridging the pioneers gap**

There are very few proven business models yet, but there are many ideas being developed. When these businesses models will prove themselves, investors will possibly become increasingly interested in investing in sanitation. Some NGOs help entrepreneurs to develop their business models, in order to close the gap between these entrepreneurs and investors (HF, 2015). In Aqua for All’s view bridging this ‘Pioneer Gap’ (a funding gap for small players, new players and innovators in sanitation) will result in scale in sanitation because a critical mass of customers and suppliers will be reached. This pioneer gap is also noted by Acumen, an organization representing various large philanthropists and foundations. Its representative states that firms which are pioneering new business models in a BoP environment have high risk profiles and grants will always be needed to bridge the gap to investors (Koh, Karamchandani, & Katz, 2012). The lack of grants to bridge gaps to potentially interested investors is a big problem in financing businesses in the sanitation system.

**Demand creation**

NGOs can also support business approaches by working on demand creation, because demand for sanitation services is essential for the feasibility of businesses in the system. Most NGOs know how to work with local communities and have experience with demand creation by knowledge training about the importance of sanitation (SG, 2015; RG, 2015). However, as in most business models the users are supposed to pay for sanitation facilities, the demand should be created in more ways than just through creating hygiene awareness; NGOs should develop new ideas to create a market demand for sanitation businesses. The cooperate strategist of Cordaid states that NGOs can try to ‘market’ sanitation to ensure that people really want to have it and value it (van Tongeren, 2015). Some successful toilet provision projects in urban informal settlements have proven that this is possible (Figure 5.3).

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**Figure 5.3 | Examples of demand creation by Sanergy (Kenya) and Clean Team (Ghana) which try to ‘market’ their services (Clean Team, 2011) (Sanergy, 2013)**

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Critics
The strategy of NGOs supporting businesses and developing business models in sanitation is also criticized. Simavi’s WASH expert states that it does not fit her organization to set-up businesses, because their main goal is, and will be, improving health in the Global South (SG, 2015). She states that a different type of organization is needed for that type of work, because business is not part of their organizational set-up (SG, 2015). Cordaid’s strategist emphasizes that Cordaid works on ‘the business of social change’, which means that there is a role for social business, but Cordaid does not build businesses. In the view of Cordaid social enterprises can be a part of the solutions towards solving sanitation problems (van Tongeren, 2015). Also, the increased time NGOs spend on developing financial constructions and businesses should also not make them lose sight of other aspects such as social, environmental and institutional aspects, which are also important for the success of the project. As the expert from ICCO states:

’Sometimes the pure business model is good, but then the rest of the project should also fit and work, there is also work to do in that area.’ [JB, ICCO]

Concluding
Businesses are increasingly being piloted in the sanitation sector. Some NGOs already work and support businesses in the sanitation system in several different ways. However, this role of NGOs is also criticized as it can detract their attention from their core mandates.

Despite the fact that business opportunities in sanitation are considered a promising pathway for improvement of the sanitation system, so far business approaches have faced difficulties because of the lack of proven profitable or financially viable options for managing the entire sanitation system (Diener, et al., 2014). It seems that business approaches in sanitation need to be much further developed.

5.2.6. Technical aspects
In the eyes of most of the NGO representatives, technical issues are not a major issue in working on the sanitation system by using a sanitation chain approach (NL, 2015; SG, 2015; HF, 2015). Only some of the interviewed NGOs are involved in technical innovation development. For example, there are innovation projects on the conversion of faecal sludge into fertilizer: the project ‘Peepoo’ has developed a personal, single use, biodegradable toilet that prevents faeces from contaminating the immediate area (Peepoo, 2015). Many actors in the sanitation sector are very interested in innovation in the conversion of faecal sludge into fertilizer, because improvement is still needed (SG, 2015). Other NGOs have been involved in the development of new types of sludge pumps which can empty different types of latrines in a fast and efficient way (HF, 2015).

Despite the low priority of working on technological aspects in the sanitation system in the eyes of NGOs, the author would argue that there is still a need for improvement of technical innovations, especially improving methods of re-using sanitation waste on a large scale, such as experimenting with the conversion of biogas to electricity as explained in section 5.2.5. Technological innovations can also support the connection of different components in the sanitation system, for example by developing technologies which can easily connect to each other, for example a sludge pump which can empty all different types of latrines. Such innovations can in turn also spur innovations in business models.
5.3. Gaps between aim and practice

The interviews with representatives of Dutch NGOs showed that NGOs aim for a more structural and sustainable impact of their work, and in order to do so NGOs try to work increasingly on fundamental changes of the whole sanitation system. Most NGOs’ approaches are holistic and characterized by using the concept of the sanitation chain. However, there still appears to be a gap between their aspirations and their current practices. The successes in projects and programs implementing standalone sanitation solutions contrast with the lack of achievements in terms of integrating these projects in a structural sanitation chain approach working towards system change. An example will illustrate this gap: one NGO has run a successful biogas program for rural areas, in which the NGO provides biogas plants to households. In contrast, the NGO is still piloting to link a biogas project at a school to the sanitation system in the urban setting of Kumasi (Ghana). The case-study on Cordaid’s projects has already shown that Cordaid is facing similar difficulties in igniting a bigger process of change of the sanitation system from standalone projects. It can now be concluded that this problem is not confined to the work of Cordaid, it is a more general problem experienced by different NGOs working in the sanitation domain.

In the left column of table 5.1 the aspects of working on the sanitation system by using a sanitation chain approach, which are considered important in the eyes of the interviewed Dutch NGOs, are outlined. In the right column of the table the current working practices of NGOs are listed. This table allows for the identification of gaps between what the NGOs consider important to do in order to achieve fundamental changes of the sanitation system, and their current practice. This identification leads to ideas for future contributions of NGOs, explained in the next section.
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<thead>
<tr>
<th>Aspects of working on the sanitation system considered to be important by the interviewees for working towards fundamental change of the sanitation system by using the sanitation chain concept</th>
<th>Current working practices of NGOs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scale</strong>&lt;br&gt;• important for the feasibility of projects based on innovative ideas&lt;br&gt;• important for reaching a large impact to approach the urban sanitation problem</td>
<td>• NGOs have difficulties in scaling-up sanitation projects: innovations are highly experimental and learning &amp; incubation times are long; and local successes are often not replicable elsewhere</td>
</tr>
<tr>
<td><strong>Levels</strong>&lt;br&gt;• important to work on different societal &amp; governance levels&lt;br&gt;• important to connect actors at different levels</td>
<td>• NGOs traditionally focus on the local community level&lt;br&gt;• NGOs are now using different approaches to connect to other levels, but have no clear approach on how to do this and how to link key actors working at these different levels</td>
</tr>
<tr>
<td><strong>Process characteristics: capacity building, knowledge sharing and learning</strong>&lt;br&gt;• innovative sanitation solutions need actors with new skills, knowledge and capacities&lt;br&gt;• should be done among all actors at all levels</td>
<td>• NGOs focus on capacity building at local level and local actors</td>
</tr>
<tr>
<td><strong>Institutional aspects &amp; actors</strong>&lt;br&gt;• new types of coalitions needed&lt;br&gt;• roles and responsibilities should be re-defined</td>
<td>• NGOs are traditionally good in building partnerships and coalitions&lt;br&gt;• But there are still uncertainties about which innovative coalitions are needed, the roles and responsibilities of the different actors in a sanitation system approach are still vague</td>
</tr>
<tr>
<td><strong>Financial aspects</strong>&lt;br&gt;• innovative finance pooling and new financing mechanisms needed to finance innovative ideas in sanitation system</td>
<td>• NGOs increasingly try to create financial mixtures and tap into non-conventional sources of finance, but are still in the process of adjusting to reduced conventional donor finance</td>
</tr>
<tr>
<td><strong>Business in the sanitation system</strong>&lt;br&gt;• social businesses have high potential to solve problems in the sanitation system</td>
<td>• NGOs increasingly support business approaches&lt;br&gt;• It is difficult to find investors and grants because of high-risk business models</td>
</tr>
<tr>
<td><strong>Technical aspects</strong>&lt;br&gt;• there still seems potential benefit of improving technological innovations in the sanitation system&lt;br&gt;• NGOs consider this as a minor future issue</td>
<td>• NGOs not actively involved in technological innovation</td>
</tr>
</tbody>
</table>

Table 5.1 | Important aspects of working on the sanitation system vs existing practices of NGOs
5.4. Suggestions for future contributions by NGOs working on the sanitation system

This section describes three suggestions for potential useful future contributions by NGOs using a sanitation chain approach with a view to realize fundamental changes of the sanitation system in urban low-income areas. These suggestions will be used in the next chapter to understand how Cordaid can organize its work on sanitation in the future.

These suggestions are based on the gap between the NGOs’ aspirations and their current practices, identified in the previous section. Additionally, some insights from the theoretical framework are used to develop these ideas. Since NGOs aim to contribute to fundamental changes of the sanitation system, it seems relevant to bring in new insights from transition theory alongside principles from older participative approaches to development and community development to strengthen NGOs work in this strategic direction.

1. Using existing qualities for innovation
   → Coalition building, capacity building, knowledge development and knowledge sharing

The first idea for the possible useful future contribution by NGOs concerns the use of their existing qualities to support innovative initiatives. NGOs have qualities related to building coalitions, capacity building, and knowledge development at the local level. These are important qualities, as also acknowledged in the literature about Process Approaches for Development and Community Development Projects. These qualities should be maintained but used in a slightly different way in order to support the innovations which are needed for a fundamental change of the sanitation system.

First of all, NGOs could increasingly try to create new types of coalitions involving different types of actors, such as the private sector. These coalitions should be able to work on the whole sanitation system. NGOs could try to support them in the role of coordinators, by dividing roles and responsibilities in new ways. In order to do this, NGOs probably need to increase their knowledge on what has to be done in all the different components of the sanitation system and how these components are, or should become, interconnected. Secondly, NGOs could try to initiate processes on capacity building, knowledge exchange and learning to work on the uncertainties surrounding the sanitation chain concept among different types of actors at different levels. This could increase the general shared knowledge about the challenges and potentials associated with system change in the sanitation sector, and stimulate the exchange of experiences. For this contribution, NGOs should expand their focus outwards from the local level, and increasingly develop a broader view on the sanitation sector.

2. Work on opportunities and issues in the sanitation system
   → Businesses in sanitation, financial mixtures and technical innovation

The second idea for a possible useful future contribution by NGOs working on the sanitation system is to support business opportunities and work on financial and technical issues in the sanitation system.

Since a lot of experimenting is needed to come to viable business models and most NGOs see social businesses in sanitation as interesting solutions for problems in the sanitation system, NGOs could support, or continue to support these experiments with their resources and knowledge. However, businesses should only be supported by NGOs when those are clearly part of a program of working on the whole sanitation system.
NGOs can also continue their support to develop creative financial solutions to finance opportunities in the sanitation system. NGOs are already consciously working on these solutions, because financial aspects have a high priority among NGOs, their own future functioning after all also largely depends on their success in generating new financing options.

Lastly, in the belief of the author, technical innovation development is also still relevant to contribute to fundamental changes in the sanitation system. Therefore a future contribution of NGOs to technical innovation is proposed. The theoretical framework showed that the adoption of innovations is an important process (Douthwaite, 2002). The effective assimilation of technical (and social) innovations generally requires a protected process of adaptation to their local contexts, in which different parties participate, especially users. NGOs can have an important role in supporting the process of adapting innovations to the context in which they will be used. This is important for the success of introducing technologies and associated innovative business models which will change practices and habits connected to human waste. This should also only be done as part of a bigger program focused on the whole sanitation system.

NGOs should embed all their work on social businesses, finance and technologies in a sanitation chain approach in which the whole sanitation system is targeted simultaneously, as will be elaborated in the next section.

3. Foster a structural process towards fundamental and sustainable changes in the sanitation system in which the work is embedded

   → Initiation of processes working at different levels and leading to scale, resulting in fundamental change of the system

This chapter explained that there is still a gap between the successes of the NGOs’ work on implementing projects and programs, compared to their lack of achievements in terms of integrating these projects in a coherent structural approach working towards system change. Likewise, despite high awareness among NGOs about the importance of working at different levels and reaching scale, finding practical approaches which work successfully on these essential aspects of fundamentally changing the sanitation system is evidently a major challenge for them.

These findings lead to the idea that NGOs could try to improve their sanitation chain approaches to foster structural processes towards fundamental and sustainable changes in the sanitation system, in which they embed their work. In order to do so, NGOs should increasingly try to work on projects which are similar to transition experiments (Table 5.2). These experiments should contribute to fostering a process of change towards a common long-term vision (Loorbach, 2009). It means, among other things, that NGOs should not start up isolated projects and programs anymore, without creating a program together with other actors to consciously work on the whole sanitation system. Such an approach is very important for reaching fundamental change of the sanitation system, but also very challenging as is clear from Cordaid’s experiences as well as insights provided by other NGOs. NGOs have been used to working on short-term projects towards concrete solutions. Also donors and subsidy programs want concrete outputs within a limited time span, while changing the sanitation system is a long-term and uncertain process.
To develop approaches which integrate individual projects in a coherent structural approach towards system change, NGOs could actively bundle their knowledge to create a much better understanding about the connections of individual sanitation projects. Dutch NGOs seem to have complementary knowledge and approaches, and working more intensively together could increase the possibility to find replicable elements for an approach towards sustainable change of the sanitation system as a whole.

If NGOs succeed in becoming experts on understanding how to foster structural processes towards system change in sanitation they could try to support the actors which should be in the center of coordinating the sanitation sector: governments and national sanitation service authorities (Galli, 2014). NGOs can use their unique relations with governments compared to other actors to support them (JB, 2015). NGOs have certain valuable qualities which could help them in this role: their large international and local networks, their connection to other sectors and their non-governmental, independent character.

<table>
<thead>
<tr>
<th></th>
<th>Transition Experiment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starting point</td>
<td>Societal challenge (to solve persistent societal problem)</td>
</tr>
<tr>
<td>Nature of problem</td>
<td>Uncertain and complex</td>
</tr>
<tr>
<td>Objective</td>
<td>Contributing to societal change (transition)</td>
</tr>
<tr>
<td>Perspective</td>
<td>Medium and long term</td>
</tr>
<tr>
<td>Method</td>
<td>Exploring, searching and learning</td>
</tr>
<tr>
<td>Learning</td>
<td>2nd order (reflexive), multiple domains (broad) and collective (social learning)</td>
</tr>
<tr>
<td>Actors</td>
<td>Multi-actor alliance (across society)</td>
</tr>
<tr>
<td>Experiment content</td>
<td>Real-life societal context</td>
</tr>
<tr>
<td>Management context</td>
<td>Transition management (focused on societal 'transition goals')</td>
</tr>
</tbody>
</table>

Table 5.2 | Distinctive characteristics of transition experiments (adopted from van den Bosch, 2010)
5.5. Conclusions

This chapter described approaches of other Dutch NGOs in the sanitation sector of low-income countries. One can say that a paradigm shift taking place among the interviewed Dutch NGOs working on sanitation, involving a move away from standalone sanitation ‘solutions’ towards embracing holistic approaches towards fundamentally changing the sanitation system, to create more sustainable and structural impact. Most interviewed NGO representatives were found to use the sanitation chain concept in their work to develop sustainable solutions for sanitation problems.

It was discovered that Cordaid is not unique in using the sanitation chain approach to work on the whole sanitation system.

Several important aspects of working on the sanitation system by using a sanitation chain approach in the eyes of NGOs have been discussed. Some of these aspects confirmed lessons from chapter 4, for example the importance to work at different governmental levels and the importance of reaching a certain scale for the feasibility of innovative solutions. Other aspects showed that the holistic approaches of NGOs also help them to deal with the need to become more financially self-sufficient, because it offers opportunities to collaborate with new types of partners and develop innovative social business models. NGOs can create new types of financial mixtures and are stimulated to search for non-conventional sources of finance for innovative opportunities in the sanitation system.

Overall, the interviewees with NGO representatives revealed that, so far, there is still a gap between the successes of the NGOs’ work on implementing projects and programs, compared to their lack of achievements in integrating these projects into a sanitation chain approach that can foster systemic change. Gaps have been identified between what the NGOs consider important in order to work on, and their current practices. This led to three broad suggestions for future contributions by NGOs working on the sanitation system: ‘Using existing qualities for innovation’; ‘Work on opportunities and issues in the sanitation system’ and ‘Foster a structural process towards fundamental and sustainable changes in the sanitation system in which the work is embedded’. The next chapter will explore how these suggestions fit Cordaid Urban Matters.
6 | Cordaid’s future contribution

This chapter investigates opportunities for and barriers to Cordaid’s future contribution to sustainable sanitation solutions. The chapter aims to answer the fourth sub-question, namely: How can Cordaid organize its future work, in order to effectively contribute to sustainable solutions for sanitation problems in urban areas of low-income countries? This is done by exploring how the suggested future contributions by NGOs that were discussed in chapter 5 can fit Cordaid Urban Matters.

Section 6.1 explores how the suggested future contributions by NGOs can fit with the qualities and expertise of Cordaid Urban Matters, by means of a comparison between the two. This exploration results in section 6.2 which summarizes the opportunities and barriers which Cordaid Urban Matters will possibly encounter in contributing to a fundamental change in the sanitation system.

6.1. Fitting suggested future NGO contributions to the capacities of Cordaid Urban Matters

This section explores how the three suggested future contributions by NGOs working on the sanitation system that were distilled in Chapter 5, can fit Cordaid Urban Matters. In order to do so, several insights about Cordaid Urban Matters are used: lessons from chapter 4, the experience gained about Cordaid Urban Matters as an intern at Cordaid, the interviews with Cordaid Urban Matters program experts and Cordaid’s corporate strategist.

6.1.1. Using existing qualities for innovation
   → Coalition building, capacity building, knowledge development and knowledge sharing

The case study discussed in Chapter 4 illustrated that Cordaid Urban Matters has several qualities in organizing partnerships and coalitions in flexible and participatory ways, in accordance with the principles described in Process Approaches and Community Development literature. These qualities are also recognized by Cordaid’s partners, as the representative of a Dutch water organization states:

‘The added value of Cordaid is their local network and the local analysis they have done. Because of their local contacts we are able to react quickly, which improves the process because you can be quicker and more efficient.’ [PB, Wereld Waternet]

Also local partners of Cordaid value the qualities of Cordaid, as the director of a Kenyan NGO explains:

‘Together with Cordaid we try to support the entire system and in that way build on the capacities of the community. Cordaid does not just fund projects; they really look at the strengths of organizations, which is a compliment for Cordaid.’ [AA, SANA]

Cordaid can harness these qualities in a slightly different way to contribute more effectively to working on the whole sanitation system. Cordaid has extensive experience in initiating multi-stakeholder processes and could use this experience to realize innovative coalitions involving new types of (non-conventional) actors. These coalitions should consist of a variety of actors that are able to work on the whole sanitation system. Cordaid’s capacity building qualities can be used to help actors in the sanitation sector to further develop innovative ideas in order to decrease the uncertainties surrounding these innovative ideas. Lastly, Cordaid could support different actors
around the world to share knowledge and exchange experiences of working on innovations in the sanitation domain.

These activities of Cordaid could eventually be subsidized by donors, because they are interested in concrete short-term activities, such as setting up a knowledge sharing platform of actors in urban informal settlements. However, in order to ensure financial means to continue this work, Cordaid should also find other financial means. One way could be by selling advisory type of services, based on their qualities and experiences. However, it can be difficult to find clients who are able to pay for the high tariffs of advisory services of a Dutch NGOs compared to local advisors in low-income countries. It will be especially difficult to find clients which can pay for Cordaid using its qualities to support the poorest people in fragile areas, which is the aim of Cordaid.

6.1.2. Work on opportunities and issues in the sanitation system

→ Businesses in sanitation, financial mixtures and technical innovation

Cordaid could also support the development of business opportunities in the sanitation system. These sanitation businesses have a higher potential to be viable in densely populated urban areas. Cordaid has experience in working in these complex and unplanned urban contexts. Additionally, Cordaid Urban Matters has been trying to support the set-up of social enterprises in other sectors than the sanitation sector since its start in 2011, and thereby gained knowledge about social business models. Cordaid can also work on demand creation by using their experiences with working with local urban populations. It can be concluded that supporting business development in sanitation can fit Cordaid Urban Matters.

Working on financial issues in the sanitation system is also interesting for Cordaid. Cordaid is experienced in obtaining money from big donors, such as the World Bank and the European Union. The organization Cordaid has an international, non-profit character and it is trusted because of its 100 years’ experience (van Tongeren, 2015). This reputation can be of great help for Cordaid to obtain finance and this can be used to work on innovative finance mixtures. Working on these innovative financial mixtures can fit Cordaid well, not in the last place because this can also contribute to finding financial means to cover their own overheads.

Cordaid is not experienced in supporting the adaptation process of technical innovations to local contexts. However, in principle could Cordaid use its experiences with working with local communities and connect them to technical experts to support the process of adopting and adapting innovations.

6.1.3. Foster a structural process towards fundamental and sustainable changes in the sanitation system in which the work is embedded

→ Initiation of processes working at different levels and leading to scale, resulting in fundamental change of the system

So far, this exploration illustrated how the first two suggestions for contributions by NGOs to the sanitation system can fit the qualities of Cordaid. However, to reach Cordaid’s aim of fundamentally changing the sanitation system it is very important that these qualities will not be used for individual projects in isolation, but are embedded in a structural process towards fundamental changes in the sanitation system, in line with the suggestion to this effect given in the previous chapter. This programmatic way of working can fit Cordaid because Cordaid has already developed an approach with which they have tried to foster such a process. However, chapter 4 showed that Cordaid had great difficulties to start a bigger process of change based on their social processes in the local community and the implementation of small-scale projects. Thus their approach should be further developed and improved in order to effectively foster a process towards system change.
Among other things, this can be done by using insights from the theoretical framework. Cordaid’s corporate strategist would like to see that Cordaid ‘introduces system thinking and manages projects’ (van Tongeren, 2015). It seems impossible for Cordaid to become an expert on the technical connections of components in the sanitation system, because Cordaid lacks in-house expertise on sanitation and has no local sanitation experts (van Tongeren, 2015). However, Cordaid can potentially become an expert on general management processes of fundamental system change in the sanitation domain. Cordaid’s independent, non-governmental, character combined with its reputation as a trusted organization with large international networks, can be helpful in managing general change processes in the sanitation domain. A main barrier is to find donors which are willing to support this function of managing these long-term innovative processes. Thus, Cordaid should increasingly try to develop new types of financial mechanisms, for example together with the new types of actors which Cordaid should involve. Ultimately, Cordaid can also try to identify a paid role for itself as an actor in the system (JB, 2015), in order to get paid for managing this long-term innovative process towards fundamental change of the sanitation system.

Manual Cordaid Urban Matters

This section describes how a manual was developed by the researcher in interaction with Cordaid Urban Matters staff which aims to support Cordaid to foster a process towards fundamental and sustainable changes in the sanitation system, while at the same time working on participatory, flexible community development. The manual can be seen as an extra output of this research, which aims to be a first attempt to ‘translate’ the lessons of this research to practice, so that they can be picked up more easily by Cordaid Urban Matters.

The manual is based on the lessons about Cordaid’s approach in the case-study (chapter 4), the lessons from other NGOs in the sanitation sector (chapter 5), insights from the theoretical framework and insights obtained during the internship by the researcher at the Cordaid Urban Matters team. The manual does not provide specific knowledge on how to integrate different components of the sanitation system. Rather it gives structure, overview and tools to embed innovative ideas in a process of fundamental change. The ideas, tools and steps in the manual are mainly derived from transition manuals and Cordaid’s own knowledge on stakeholder involvement.

Principles

The manual was set-up using the following principles:

- The manual tries to support Cordaid to embed their work in a structural process of fundamental and sustainable system change.
- The manual tries to support Cordaid to:
  - Create a better overview of the relation between the community level and other governmental and societal levels;
  - Identify and involve all important stakeholders;
  - Set-up a process which can be replicable and can lead to scale;
  - Effectively ensures a division of responsibilities in the collaboration.
- The manual is meant to stimulate learning and evaluating during the process.
- The manual can function as a check-list or as an inspiration to support continuation of the process.
- The manual can help to communicate about Cordaid Urban Matters’ approach (internally as well as externally).
- The manual codifies ‘tactic knowledge’ among the members of the Urban Matters team.
- The manual tries to make theoretical ideas understandable for all the team members of Cordaid Urban Matters, by using examples from Urban Matters’ own projects.
- The manual aims to be usable in a flexible way.
An extensive description of the manual is provided in Appendix 4.

Reflection
The manual is just a first step to increasingly develop Cordaid Urban Matters’ systemic approach further. A focus group interview with Cordaid program experts was organized in order to gain feedback on an early version of the manual. A workshop was also organized with Cordaid experts to test a later version of the manual. The main result was that the form of this manual is appreciated because it provides a structured, codified presentation of the Cordaid Urban Matters’ approach, which is in contrast with its current more tacit form. The order of steps among the program experts was subject of discussion, which confirms that the manual should be used in a flexible way.

This first attempt to create a manual has shown that it will help Cordaid Urban Matters to bundle their ideas, to strengthen and be able to share their knowledge. However, further development, testing and practice is needed to improve the Cordaid Urban Matters manual.
6.2. Conclusions

Table 6.1 gives an overview of opportunities and barriers which Cordaid Urban Matters can encounter in their future work on the sanitation system. These opportunities and barriers are based on the exploration in the last sections, on how Cordaid Urban Matters qualities and expertise can fit the suggestions for future contributions to working on the sanitation system by NGOs.

<table>
<thead>
<tr>
<th>Suggestions for future contributions by NGOs working on the sanitation system</th>
<th>Opportunities Cordaid Urban Matters</th>
<th>Barriers Cordaid Urban Matters</th>
</tr>
</thead>
</table>
| 1. Using existing qualities for innovation  
coalition building, capacity building, knowledge development- and sharing | • Experience and status as a recognized capacity and coalition builder  
• Possibility to obtain donor money for short-term activities | • Difficult to find clients to pay for this type of work |
| 2. Work on opportunities and issues in the sanitation system  
businesses in sanitation  
financial mixtures  
technical innovation | • Specific knowledge and experience of working on the complex urban context  
• Experience in supporting set-up of social-enterprises in other sectors  
• Experience and good reputation of Cordaid as an organization  
• Possibility to develop innovative financial mixtures | • Lack of experience in supporting the process of adapting innovations to their local contexts |
| 3. Foster a structural process towards fundamental and sustainable changes in the sanitation system, in which the work is embedded  
Initiation of processes working at different levels and lead to scale, resulting in system change | • Availability of existing approach, possibilities to improve approach  
• Independent, non-governmental, character, reputation and large international networks  
• Possibility to develop new financing mechanisms | • So far, difficulties in successfully starting a bigger process of change (chapter 4)  
• Lack of in-house expertise on sanitation  
• Difficulty to find donors which support long-term innovative processes |

Table 6.1 | Overview of opportunities and barriers for Cordaid's future work on transitions in the sanitation system

Cordaid has several opportunities to use its qualities and expertise to contribute to specific aspects of improved sanitation systems, as can be derived from table 6.1. For example, Cordaid can use its expertise on initiating multi-stakeholder processes to involve new types of actors which are needed to work on the whole sanitation system. Also, Cordaid can use its expertise of working in unplanned urban areas to ensure the sustainability of sanitation solutions in urban areas. However, a main barrier is to finance this work. As explained in this chapter Cordaid could try to sell advisory type of services, based on their qualities and experience. In order to find clients who are interested to pay for these services, Cordaid should explain clearly what the added value of these qualities is. Because Cordaid's qualities are not necessarily sanitation specific, it is very important that Cordaid can
explain the added value of its qualities to (technical) actors in the sanitation sector. Cordaid’s status as a non-technical expert in the sanitation sector has decreased Cordaid’s negotiation power in coalitions so far (Oyier Amollo, 2014). Cordaid can use its understanding and vision on future sanitation systems, captured in their sanitation value chain concept, to illustrate the importance of social embedding, participation of the local community and knowledge about the complex urban context, for the success of fundamentally changing the sanitation system in urban areas in low-income countries. A drawback of this approach is that Cordaid should be cautious not to contribute to initiatives which are in conflict with Cordaid’s aims.

From the table it can be derived that, besides contributing to specific aspects of the sanitation system, Cordaid can also foster a structural process towards changing the sanitation system itself, as Cordaid has been trying to do already. The advantage of fostering such a process by itself is that Cordaid then clearly tries to work towards its aims. However, Cordaid will have to improve its approach to become more effective, which can be done by using insights from the theoretical framework. Cordaid can be an expert on the general, overall characteristics of change processes in the sanitation domain. A main barrier of this approach lies in the difficulty for Cordaid to obtain subsidy for long-term innovative change processes. It is of major importance that Cordaid will consciously work on the development of new financial mixtures, for example in collaboration with non-conventional actors. Additionally, Cordaid should work on its new positioning as an expert on managing sustainability transitions in the urban sanitation sector.
7 | Conclusion and Reflection

7.1. Answering the research questions

Sub-question 1 | Which theoretical framework can help understanding the contribution of Cordaid Urban Matters’ approach to the implementation of innovative solutions towards solving problems in the urban sanitation sector of low-income countries?

In order to develop a theoretical framework to understand the effective contribution of Cordaid Urban Matters’ approach, a literature review resulted in a useful combination of three theories: Transition Management, Community Development and Process Approaches to Development Projects. Insights from these three theories were used as theoretical building blocks to design a theoretical framework, by integrating them in a complementary manner. This resulted in a framework which provides a description on how fundamental and sustainable change of a system (i.e. sanitation system) in the context of urban informal settlements in low-income countries takes place.

This framework has been used to gain an in-depth understanding of the successes and limitations of Cordaid’s approach for the implementation of sustainable solutions towards solving problems in the urban sanitation sector of low-income countries. The combination of these theories turned out to be very useful in this research. The transition lens helped to understand Cordaid’s problems to contribute to fundamental change of the sanitation system. Insights from Process Approaches to Development Projects and Community Development literature complemented the transition lens, which helped to value the efforts of Cordaid to start participatory and flexible processes in the complex context of low-income countries. Using the theoretical framework in this research showed that development literature and transition literature have a complementary character when they are combined to understand efforts to fuel transition processes in low-income countries. It should be noted that this research only explored the combination of using three specific theories, it is thus necessary to validate the complementary character of transition literature and development literature in further research using other transition approaches and other literature from development studies.

Sub-question 2 | What are the successes and limitations of using Cordaid’s approach in sanitation projects?

A case-study on Cordaid Urban Matters’ approach in sanitation in the city of Kisumu (Kenya), provided insights about the successes and main limitations that Cordaid encountered using its approach. A main success of Cordaid’s approach is its quality of initiating social processes in a community characterized by multi-stakeholder involvement. Cordaid deals well with the complexities of communities using a participatory approach to planning and using the assets of the local community. Cordaid approaches the challenges in a neighborhood as complex problems which cannot be solved with a blueprint approach, in line with Process Approaches literature. Cordaid organizes participation, stimulates learning and the whole social process which Cordaid initiates in a community is flexible. Together with a diverse group of stakeholders Cordaid conducts workshops to develop a common vision, in order to set-up a long-term change process in the neighborhood.

While Cordaid’s approach successfully initiates strategic activities consisting of participatory development processes, Cordaid has difficulties to move from this strategic project phase to the tactical and operational phase. So far, Cordaid’s approach has only led to the implementation of small-scale water and sanitation projects in Kisumu. Cordaid was not successful in implementing
elements of the sanitation value chain concept as an integrated process towards fundamental and sustainable changes of the sanitation system. 

Thus, Cordaid encounters difficulties into starting a bigger process towards fundamentally changing the sanitation system based on participatory community development. An important barrier which contributed to this problem in Kisumu was that Cordaid did not involve people who had the willingness and power to lead the process. This is a result of the sole focus of Cordaid’s approach on the community level; this is a barrier for reaching Cordaid’s aim of fundamentally changing the sanitation system. However, despite the fact that Cordaid encounters difficulties to scale up their initial strategic activities towards a process of fundamentally changing the sanitation system; this does not mean that the processes in Kisumu came to a complete halt. Other actors are still working towards a fundamental change of the sanitation system in Kisumu, as a result of Cordaid’s work on connecting the stakeholders in Kisumu. However, Cordaid itself does not play a significant role in these activities.

Sub-question 3 | What are the approaches adopted by other NGOs working on innovative solutions towards solving problems in the urban sanitation sector of low-income countries?

The aim of most interviewed Dutch NGOs working in the sanitation domain in low-income countries, is to achieve a more structural and sustainable impact than just providing individual stand-alone projects. It seems that a paradigm shift has been taking place among Dutch NGOs, moving away from standalone sanitation ‘solutions’ towards integrating all the work in a process towards fundamental changes of the sanitation system. Most Dutch NGOs developed a holistic approach around the sanitation chain concept. Thus, Cordaid is not the only NGO which works with this concept, it is a commonly used basic conceptualization of sanitation as a system by Dutch NGOs working on sanitation problems.

Several important aspects of working on the whole sanitation system in the eyes of NGOs have been discussed. Some of these aspects confirmed lessons from the Kisumu case in chapter 4, for example the importance to work at different governmental levels and the importance of reaching a certain scale for the feasibility of innovative solutions. Not only Cordaid, but also the interviewed NGOs struggle to scale-up innovative projects in sanitation, hence it can be questioned if it is actually possible to scale-up innovations in the sanitation system in a short-term, which is aimed for by NGOs and also by donors.

Other aspects showed that the holistic approaches of NGOs push the need for NGOs to form or join new types of coalitions which are able to address the whole sanitation system. This also helps NGOs to deal with the need to become more financially self-sufficient, because it offers opportunities to collaborate with new types of partners and develop innovative social business models. NGOs can create new types of financial mixtures and they are pushed to search for non-conventional financial resources to finance the innovative opportunities in the sanitation system, which are needed because it is still difficult to finance these uncertain projects.

Gaps are identified between what the NGOs aspire to, and their current practice. NGOs encounter several difficulties in effectively working towards fundamental changes of the sanitation system. Overall, the NGOs’ successes in projects and programs implementing standalone sanitation solutions contrast with the lack of achievements in terms of integrating these projects in a coherent structural approach working towards system change. It can thus be concluded that this problem is not limited to the work of Cordaid, but it has a broader validity among Dutch NGOs working in the sanitation domain.
Sub-question 4 | How can Cordaid organize its future work to effectively contribute to sustainable solutions for sanitation problems in urban areas?

Cordaid should organize its work in such a way that it can reach its aims for urban informal settlements, which means that it must at the same time ensure the financial sustainability of Cordaid as an organization. Two ways to contribute to sustainable solutions for sanitation problems can be distinguished. First of all, Cordaid could use its qualities and expertise to work on specific aspects of the sanitation system. Another opportunity is that Cordaid fosters a process towards system change in sanitation itself; this is what Cordaid has tried to do so far.

Cordaid has several opportunities to use its qualities and expertise to contribute to specific aspects of the sanitation system. However, a main barrier is to get this work financed. Cordaid could try to sell consultancy type of services, based on their qualities and experience. In order to find clients who are interested to pay for these services, Cordaid should explain clearly what the added value of their qualities is. Because Cordaid’s qualities are not necessarily sanitation specific, it is very important that Cordaid can explain their added value to (technical) actors in the sanitation sector. Cordaid can use its understanding and vision on future sanitation systems, captured in its sanitation value chain concept, to illustrate the importance of social embedding, participation of the local community and knowledge about the complex urban context, for the success of fundamentally changing the sanitation system in urban areas in low-income countries. In this approach Cordaid should be cautious not to contribute to initiatives which are in conflict with Cordaid’s aims.

The advantage for Cordaid to foster a process towards fundamental change of the sanitation system by itself, is that it clearly works towards its aims. However, this research has shown that Cordaid will have to improve its current Urban Matters approach to be more effective. Insights from the theoretical framework can be useful to achieve this. In this research, a first attempt was made to develop a manual which aims to support Cordaid to foster a process towards system change. This manual showed the importance for Cordaid to bundle the ideas about Cordaid’s approach among the program experts, in order to strengthen and share their knowledge. A main barrier is to find donors which are willing to support long-term innovative change processes. Cordaid should put serious effort into creating new financial mixtures, in order to find ways to finance this process. Additionally Cordaid should work on its new positioning as an expert on managing sustainability transitions in the urban sanitation sector.

Main Research Question | How can Cordaid contribute to sustainable solutions for sanitation problems in urban areas in low-income countries?

Worldwide, 684 million people in urban areas have no access to improved sanitation. To obtain sustainable results in solving the sanitation problems in urban areas in low-income countries, Cordaid developed an innovative and holistic approach. This approach also emerged from the need to become increasingly financially self-sufficient, because of the decreasing structural funding for NGOs work. Cordaid’s holistic approach is characterized by using the sanitation value chain concept to work on the whole sanitation system. Cordaid tries to implement market driven, sustainable solutions, which are strongly socially embedded in the urban informal settlement. Thereby Cordaid aims to contribute to fundamental and sustainable changes of the sanitation system, while acknowledging the developmental challenges of its poor population.

To answer the main research question, it will be explained how Cordaid can try to contribute to sustainable solutions, which are both sustainable for the local communities in urban informal settlements and also for Cordaid as an organization.
This research has shown that it has been difficult for Cordaid to reach its aim. On the one hand Cordaid was successful in initiating a flexible, participatory process in accordance with the ideas voiced in community development and process approach literature. On the other hand, Cordaid had difficulties to connect this process to their aim of fundamentally changing the sanitation system. Cordaid did not succeed into implementing solutions in the sanitation system as part of a structural process towards long-term system change. The research showed that this difficulty of integrating projects in a structural process towards fundamental changes of the sanitation system, is also recognized and experienced by other Dutch NGOs working in the sanitation sector of low-income countries.

Cordaid should improve its approach to become more effective in initiating a process leading to fundamental changes of the sanitation system. But this should not lower Cordaid’s abilities to establish flexible, participative development processes and involving the community.

Several insights from the theoretical framework are used to come up with suggestions to improve Cordaid’s approach. First, Cordaid’s approach should open-up towards a broader, multi-level focus on different governmental and societal levels, rather than remaining narrowly focused on the local level. This can be for example accomplished by involving actors from different other governmental or societal levels, which have the power and willingness to contribute to the process. However, Cordaid also aims to involve the local community, which means that an actor strategy needs to be developed on how these different kinds of actors can all be involved in the process. Second, Cordaid’s projects in the sanitation system should be set-up as transition experiments. This means that the projects should contribute to learning, and from the beginning the projects should be part of a broader process driven by a long-term vision of fundamentally changing the sanitation system. All actors involved should contribute to creating this long-term vision, so that it is a shared vision. Third, Cordaid’s approach can improve on its attention for collaboration among all the involved actors. Cordaid should not only organize the collaboration of the actors at the local level, but have similar attention for the collaboration of actors at higher levels. Improved collaboration can stimulate flexibility and learning among the actors, which strengthens the process of structural change.

What Cordaid can learn from the approaches of other Dutch NGOs working in the sanitation sector is that Cordaid could increasingly collaborate with other NGO actors in order to increase their knowledge about the connections between individual projects in the sanitation system. In addition, exploring the approaches of other NGOs revealed several opportunities for the development of new types of financing mechanisms in working on developing the sanitation system. Working on sanitation as a system requires the involvement of new types of actors, the creation of new types of financial mixtures and the development of innovative business models. Such new types of financing opportunities are important to Cordaid because subsidy programs are often focused on short-term results, while long-term support is needed for such innovative processes.

Besides improving its approach to initiate a structural change process, Cordaid qualities and expertise provide opportunities to contribute to specific aspects of the sanitation system. However, because Cordaid’s qualities are not necessarily sanitation specific, it is very important that Cordaid can explain the added value of its qualities to (technical) actors in the sanitation sector in order to find interest in these types of contributions of Cordaid to the sanitation system. It can be easier to obtain finance for clear short-term services, such as organizing a knowledge sharing platform in an urban informal settlement, than for long-term change processes. However, Cordaid has indicated that it does not want to contribute to stand-alone ‘solutions’ anymore, but only to initiatives which work towards fundamental and sustainable change in the whole sanitation system. The dilemma Cordaid is facing is complicated by the decreasing structural subsidies for NGOs’ work. When Cordaid applies a tempting ‘follow the money’ strategy, it can end up doing work that do not fit its
aims. For example, supporting a Western company in expanding their sanitation services towards communities in low-income countries without involving the local community, is not how Cordaid wants to work. In the believe of this researcher, it is the responsibility of Cordaid, and NGOs in general, to never carry out work which does not help the people whom they aim to support, only for the purpose of surviving as organizations.

It can be concluded that Cordaid’s contribution to sustainable solutions for sanitation problems is a balancing act between what Cordaid should do in order to contribute to sustainable solutions, and what Cordaid is able to do in the context of its decreasing financial means. An improved approach towards Cordaid’s aim of contributing to a fundamental, sustainable change of the sanitation system, and taking care of the social embedding of its solutions, seems to offer both sustainable solutions for local communities, and opportunities for Cordaid to develop new financial mechanisms.
7.2. Theoretical reflections

Status of the theoretical framework

The theoretical framework was used in this research as a description of the ‘ideal’ process of fundamental and sustainable change of a system (i.e. sanitation system) in the urban informal settlements in low-income countries. It must be noted that Process Approaches and Community Development Approaches have been extensively validated in practice, while TM is a relatively new mode of governance that has been proposed for sustainable development. It has only been used since approximately 15 years in theory and practice, in an experimental way. TM is not yet a validated approach, because TM has so far mainly focused on the predevelopment phase of transitions in practice. However it is seen by many as a very promising approach for further exploration (Loorbach & Rotmans, 2010). This implies that the lessons of Cordaid’s approach which were learned by using TM in the case study in Kisumu, are plausible but not solid as a rock.

Combining the three theories

The combined use of different theories has been useful in this research because they have been complementary in a fruitful way to understand the work of Cordaid towards contributing to system change in a low-income country context. Using the combination of these theories did not necessarily reveal clear solutions, but rather showed the complexities of aiming for a transition in a low-income country context. This exploration of combining transition literature and development literature to understand fundamental change processes in low-income countries, leads to the recommendation that using a combination of these literatures to understand transitions in the complex context of low-income countries need to be further researched.

Using Transition Management in the development sector

In this research lessons are learned on the difficulties of using some of Transition Management’s concepts in the context of development in low-income countries.

Firstly, the case-study has shown that it is not easy to set up a good organization for a long-term functioning ‘transition arena’ in the context of development work. Actors are based all over the world which does complicate a well-functioning transition arena. The character of development work also seems to require a more participatory approach than how transition literature foresees change processes. For example, the transition agenda in TM literature is made public in order to give everybody a chance to reflect on it, relatively late in the process. In the approaches of NGOs these agenda’s would be produced in a collaborative manner.

Secondly, the theoretical concepts of ‘transition paths’ and ‘transition images’ which are part of transition agenda’s seem difficult to apply in approaches of NGOs because their operationalization involves relatively time-consuming processes, while there is time-pressure by donors to deliver early tangible results in development projects. Also, the lack of financial resources to translate these concepts into locally relevant meanings is a barrier. However, these concepts are important in working towards fundamental system change; therefore it would be interesting to develop a ‘light’ version of these concepts which can be produced with fewer resources, but can still function as guiding concepts towards fundamental system change in development processes.

Thirdly, the case-study sketched a picture of the complex context in which development projects take place, characterized by a lack of financial resources, non-functional or disinterested service providers and governments, and difficulties to set-up structural international collaborations. This raises the question if it is possible to set-up a process according to the principles of transition
management at all. Even in pilot projects using transition management principles in the context of supportive governments in industrialized western countries, it has been difficult to define concrete and specific results or impacts so far (Loorbach & Rotmans, 2010).

Lastly, this research showed that Cordaid was unable to capture some of the value that it created as an initiator of a fundamental change process, for itself. This illustrates a tension between the outcomes at meso-level and the outcomes for the initiator of the transition process. This can be explained as a ‘public goods’ problem, in which the value of the initiated process lands elsewhere in society. It seems that this problem does not get enough attention in TM. TM asks for big investment (time and money) from the initiators of transition processes, and the outcomes are uncertain. Especially in a low-income country context, in which financial means for initiators of fundamental change processes are scarce, it remains a question who can pick up the role as pioneer in fostering sustainable transition processes.

7.3. Limitations of the research approach

This research has some limitations from a methodological point of few. The majority of data used in this research has been collected by indirect methods using interviews and documents. Consequently, the data went through a filter consisting of the view of the interviewees and the interpretation of the researcher; this creates an interpretation bias, which creates differences between the interpretations of the data and the real world (Cresswell, 2009).

The researcher has been the primary research instrument in data collection (Creswell, 2009). Consequently the responses of the interviewees have been biased by the interviewer, especially because the interviewees did know that the researcher was an intern at Cordaid, and several of the interviewees interact with Cordaid. The researcher tried to limit the bias by using validation measures explained in the methodology chapter. Among other things, the transcripts were sent back to the interviewees, attempts were made to provide thick descriptions in order to provide rich and realistic information, and a multiplicity of sources were used as much as possible.

In the first part of the research it was not possible to collect data in the field in the natural setting of the case-study: the city of Kisumu. The researcher tried to compensate for this by talking directly to important stakeholders in face-to-face interviews and skype interviews and using multiple sources of data for the case-study, including unobtrusive data. For other parts of the research direct data has been used. As intern at Cordaid for eight months, many meetings and events were attended, this resulted in direct data and observations which were used to develop deep insight into the problems facing the Urban Matters team and ideas for Cordaid’s future work in sanitation.

A last limitation of the data collection is the saturation of the data. Because of time constraints, saturation could not be reached for all data sources. Saturation seems to have been reached in what is learned about Cordaid’s approach in sanitation in Kisumu, because the interview statements did overlap, and at some point no further insights about what has happened since 2008 a result of Cordaid’s approach in Kisumu was obtained. However, saturation was not reached about the approaches of other Dutch NGOs, because I only interviewed one representative per NGO. More data about approaches of the other Dutch NGOs could still have been collected. Eventually, more NGOs working in de sanitation sector of low-income countries could also been interviewed, in order to validate the lessons learnt about approaches of NGOs working in the sanitation sector. However, this was beyond the scope of MSc thesis research project.

Another limitation due to time constraints in this research was the limited testing of the Cordaid Urban Matters manual. At the time of finalizing this thesis, the manual had been checked in a focus-
group with Cordaid experts and in a small workshop with Cordaid experts. The manual should be tested more extensively, especially together with the Cordaid Urban Matters team members who work abroad.

7.4. Suggestions for future research

In this final section several suggestions are made for further research based on both the (theoretical) limitations of this research and on a burning question.

In this research the main sources of data have been the vision of Cordaid’s experts, Cordaid’s partners and other Dutch NGO representatives, to explore how Cordaid can contribute to sustainable sanitation solutions. Future research could be done into the sanitation sector in which Cordaid is working. For example by conducting an SNM-type analysis of the ‘regime’ dimensions and the ‘landscape’, in order to understand in a structured manner what the exact problems are which Cordaid aims to work on. This can lead to suggestions on how Cordaid can contribute to solving these problems. Also the visions from other types of actors in the sanitation sector could be collected in order to understand how Cordaid can contribute to sustainable sanitation solutions.

This research was exploratory in combining Transition Management with Process Approaches and Community Development literature. It would be interesting to use this combination of theories to conduct more case-studies of other development projects. This can lead to a better understanding how these different literatures are complementary in providing insights in fundamental change process in the complex context of low-income countries. It would be interesting to use this combination of theories to conduct case-studies in other sectors as well, for example the energy sector, to increase the insight about the similarities and differences of fundamental change processes in other sectors in low-income countries.

The question was raised if it is possible to set-up a process according to the principles of transition management in the complex context of development projects at all. Future action research in which Transition Management is used in the context of development projects could add to answering this question.

Ideas from transition literature seem relevant for development work, but are still highly theoretical. A small attempt to ‘translate’ these ideas to the practice of Cordaid Urban Matters in this research was very interesting, and inspired the members of Cordaid Urban Matters as well as the researcher. A suggestion for further research is to increasingly try to translate transition literature to improve its usability for development practitioners. In order to do so, I would suggest to involve people from the development practice and eventually from other sectors to work together as a creative team on the question what transition literature can contribute to the development practice, in addition to academic research.

Lastly, a suggestion for future research based on the current attention for market-based sanitation solutions (businesses in the sanitation system) it would be interesting to analyze the ultimate potential of this type of solutions because basic services in most industrialized countries are mainly provided by public authorities. Future research could gain deeper understanding into the balance which is needed between market-based solutions and solutions provided by public authorities to solve sanitation problems in urban areas in low-income countries.
Bibliography


Bibliography


# Appendix 1 | List of interviewees

## Cordaid colleague’s

<table>
<thead>
<tr>
<th>Interviewee</th>
<th>Organization</th>
<th>Position</th>
<th>Date</th>
<th>Form</th>
<th>Recording</th>
</tr>
</thead>
<tbody>
<tr>
<td>Merciline Amollo Oyier</td>
<td>Cordaid (Urban Matters)</td>
<td>Local Coordinator Kenya</td>
<td>17-10-2014</td>
<td>Interview Skype (Kisumu)</td>
<td>Transcript</td>
</tr>
<tr>
<td>Evert van Walsum</td>
<td>Cordaid (Urban Matters)</td>
<td>Program Expert</td>
<td>22-10-2014</td>
<td>Interview</td>
<td>Audio recording and transcript</td>
</tr>
<tr>
<td>Wouter van Tongeren</td>
<td>Cordaid</td>
<td>Senior Corporate Strategist</td>
<td>23-3-2015</td>
<td>Interview</td>
<td>Audio recording and transcript</td>
</tr>
</tbody>
</table>

## Cordaid’s partners in sanitation in the Kisumu case

<table>
<thead>
<tr>
<th>Interviewee</th>
<th>Organization</th>
<th>Position</th>
<th>Date</th>
<th>Form</th>
<th>Recording</th>
</tr>
</thead>
<tbody>
<tr>
<td>Michiel Anten (MA)</td>
<td>Hoogheemraadschap De Stichtse Rijnlanden (HDSR)</td>
<td>Advisor Strategic Intervention &amp; Innovation</td>
<td>6-11-2014</td>
<td>Interview</td>
<td>Audio recording and transcript</td>
</tr>
<tr>
<td>Maarten Boersen (MB)</td>
<td>HDSR</td>
<td>Project Manager</td>
<td>6-11-2014</td>
<td>Interview</td>
<td>Audio recording and transcript</td>
</tr>
<tr>
<td>Floor Speet (FS)</td>
<td>HDSR</td>
<td>Intern</td>
<td>18-11-2014</td>
<td>Questions via email</td>
<td>Notes e-mail</td>
</tr>
<tr>
<td>Tom Mboya Ogollah (TMO)</td>
<td>Municipal Council of Kisumu</td>
<td>Councilor of Kisumu</td>
<td>11-11-2014</td>
<td>Questions via email</td>
<td>Notes e-mail</td>
</tr>
<tr>
<td>Salma Sheba (SS)</td>
<td>Pamoja Trust</td>
<td>Coordinator at Pamoja Trust</td>
<td>5-11-2014</td>
<td>Interview</td>
<td>Audio recording and transcript</td>
</tr>
<tr>
<td>Sophia Kamweru (SK)</td>
<td>Pamoja Trust</td>
<td>Coordinator at Pamoja Trust</td>
<td>5-11-2014</td>
<td>Interview</td>
<td>Audio recording and transcript</td>
</tr>
<tr>
<td>Mathew Okello Ondiek (MOO)</td>
<td>Practical Action</td>
<td>Project Officer-Urban Services</td>
<td>25-11-2014</td>
<td>Questions via email</td>
<td>Notes e-mail</td>
</tr>
<tr>
<td>Alfred Adongo (AA)</td>
<td>SANA</td>
<td>Team Leader</td>
<td>18-11-2014</td>
<td>Interview Skype (Kisumu)</td>
<td>Audio recording and transcript</td>
</tr>
<tr>
<td>Suleiman (SU)</td>
<td>Umande Trust</td>
<td>Project Officer Media and Communication</td>
<td>18-11-2014</td>
<td>Questions via email</td>
<td>Notes e-mail</td>
</tr>
<tr>
<td>Toon van Kessel (TK)</td>
<td>Vitens Evidens International</td>
<td>Environmental Manager</td>
<td>3-11-2014</td>
<td>Interview</td>
<td>Audio recording and transcript</td>
</tr>
<tr>
<td>Paul Bonné (PB)</td>
<td>Wereld Waternet</td>
<td>Manager Integral Water projects</td>
<td>24-10-2014</td>
<td>Interview</td>
<td>Audio recording and transcript</td>
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## Dutch NGO representatives

<table>
<thead>
<tr>
<th>Interviewee</th>
<th>Organization</th>
<th>Position</th>
<th>Date</th>
<th>Form</th>
<th>Recording</th>
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<tr>
<td>Laura Roverts (LR)</td>
<td>Akvo</td>
<td>Project Manager</td>
<td>11-2-2015</td>
<td>Telephone interview</td>
<td>Notes</td>
</tr>
<tr>
<td>Hester Foppen (HF)</td>
<td>Aqua for All</td>
<td>Programme Manager New Sanitation</td>
<td>12-3-2015</td>
<td>Interview</td>
<td>Audio recording and transcript</td>
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<tr>
<td>Jantien Bult (JB)</td>
<td>ICCO</td>
<td>Program Coordinator WASH</td>
<td>2-3-2015</td>
<td>Interview</td>
<td>Audio recording and transcript</td>
</tr>
<tr>
<td>Saskia Geling (SG)</td>
<td>Simavi</td>
<td>Programme Manager WASH</td>
<td>26-2-2015</td>
<td>Interview Skype (Ouagadougou)</td>
<td>Audio recording and transcript</td>
</tr>
<tr>
<td>Ruud Glotbach (RG)</td>
<td>SNV</td>
<td>Global Sector Coordinator WASH</td>
<td>30-3-105</td>
<td>Interview</td>
<td>Audio recording and transcript</td>
</tr>
<tr>
<td>Niels Lenderink (NL)</td>
<td>WASTE</td>
<td>Senior Sanitation Adviser, Trainer and Project Manager</td>
<td>4-3-2015</td>
<td>Interview</td>
<td>Audio recording and transcript</td>
</tr>
</tbody>
</table>
Appendix 2 | Questionnaires interviews

This questionnaire set-ups were used to conduct semi-structured interview with the interviewees.

1. Questions to partners in Cordaid’s activities in sanitation in Kisumu

_Thanks so much for your participation. The questions will be used as an input for my master thesis._

<table>
<thead>
<tr>
<th>General</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What have been your main work activities/function in Kisumu?</td>
</tr>
<tr>
<td>2. What was your role in the sanitation projects?</td>
</tr>
<tr>
<td>3. Which projects have you been involved in together with Cordaid?</td>
</tr>
<tr>
<td>4. When did your organization’s involvement start in the process?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Context</th>
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</thead>
<tbody>
<tr>
<td>1. Which were the organizations/who were the actors, involved in the process?</td>
</tr>
<tr>
<td>2. Which partners did you actively work with?</td>
</tr>
<tr>
<td>3. Who was driving/leading the process?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Processes</th>
</tr>
</thead>
</table>
| **1 Strategic processes**  
_Explanation: strategic activities are for example: participatory neighborhood planning, the creation of a long-term common vision, multi-stakeholder meetings, capacity building activities and process mappings. The result of these activities is a joint perception of the problem/opportunities in a community and plans for projects for the community._ |
| 1.1 Was there a group of people established who developed a common vision and long-term plan for changes in the community? |
| 1.2 Who were participating in this group? |
| 1.3 What was the common vision towards the development of the community? |
| 1.4 Was there a long-term integrated neighborhood plan made? |
| **2 Tactical processes**  
_Explanation: tactical processes of ‘translating’ the long-term integrated vision and joint perception of the problem into a practical project proposal and the organization of a project. Result: concrete project proposals and also the practical organization of projects._ |
| 2.1 Were there coalitions formed who started to develop project proposals using the long-term vision for community? |
| 2.2 Who were involved in these activities? Who was leading? |
| 2.3 What were the barriers to translate the long-term vision into practical proposals? (regulations, financial instruments, subsidies, need of new infrastructure, knowledge, routines.) |
| **3 Operational processes**  
_Implementation of a project, chose one project example_ |
3.1 What was the project which was implemented?  
3.2 Who developed the idea of the technology and organization of the project?  
3.3 Who was the leader in the implementation of the project?  
3.4 What was the role of the local residents/users in the project?  
3.5 Did the users modify the implemented technology when they started using it?  
3.6 What did you learn from the project implementation?  

4 Reflexive processes  
   Monitoring and evaluating of the processes  

4.1 Were there monitoring and evaluation activities? How was this organized?  
4.2 What did you learn from the project? How did you learn this?  

5 General Process Characteristics  
5.1 Would you describe the processes of the project as flexible? (Did you adjust to the things which changed during the process? Do you have examples?)  
5.2 Do you think the communities assets (talents, resources of the community) were used well in this process?  
5.3 Do you think that the capacities of the community are strengthened by the process? (for example strengthening institutions such as community organizations)  

Results & Future  

1. In general, what changes did occur in the sanitation system in Kisumu thanks to the sanitation projects you have been involved in?  
2. Did the relationships between institutions and citizens get stronger in thanks to the projects?  
3. What was/is Cordaid's added value for you in the whole process?  

1. Do you think I missed relevant information?  
2. Do you know people I should definitely talk to for my research on Cordaid’s activities in sanitation in Kisumu?  

*Thanks for your time. I will send you a transcript and a digital copy of my thesis when it is finished, supposed to be in June 2015.*
2. Questions to Dutch NGO representatives

Thanks so much for your participation. The questions will be used as an input for my master thesis.

General

1. What is your function?
2. Can you introduce your organization?

Sanitation projects

1. What is your organization’s track record in sanitation?
   - Which activities in these projects has your organization been responsible for?
2. What is your organizations’ approach in sanitation?
   - What is the aim?
   - What coalitions do you work with? (partners)
   - Which type of actors (governmental actors, private sector, international)
   - What is the business model of the projects?
3. What type of projects does your organization carry out? (physical implementation, 'software', scalable, replicable)
4. At what level does your organization operate? (local, regional, national, international)
5. What have been important characteristics of the context within which influence the projects? (policies, users, markets, knowledge resources, institutions, culture, infrastructure)

The sanitation chain concept

1. Does your organization use the sanitation chain concept in its approach?
2. How would you describe an approach using the sanitation chain concept?
3. What are the main advantages and disadvantages of using such an approach?
4. What are the main barriers and opportunities of using such an approach? (policies, users, markets, knowledge/financial resources, institutions, culture, infrastructure)
5. What are the main technologies/technological products needed in such an approach?

Future

1. How has the changing context in the development sector in the Netherlands been influencing your organization’s work? And how is it expected to influence your organization’s work in the future?
2. What will be the main opportunities and barriers for future projects carried out by Dutch NGOs in the sanitation sector? (trends, clear ways to go)

1. Do you think I missed relevant information?
2. Do you know people I should definitely talk to for my research who could have a vision on this research?

Thanks for your time. I will send you a transcript and a digital copy of my thesis when it is finished, supposed to be in June 2015.
Appendix 3 | Research steps

Figure Appendix 3 | Steps taken in this research. This is a simplified representation of the undertaken steps, as the process was not linear as the Figure suggest. The Figure gives a structured overview of the approach.
Appendix 4 | Visions Dutch NGOs

**SNV**

A society in which all people, irrespective of race, class or gender, enjoy the freedom to pursue their own sustainable development (SNV, 2015).

**ICCO**

A just world without poverty. A world where people claim and assume their rights in a sustainable civil society. We believe that exclusion and scarcity, created and aggravated by unequal power balances, are the main drivers of poverty. (ICCO, 2013)

**akvo**

Open, transparent and collaborative country governance and international development cooperation. This leads to a better and more equitable society (Akvo, 2015).

**Aqua for All**

A world in which every human being has structural, sustainable access to clean water and good sanitation. We firmly believe that this world is possible and desirable (Aqua for All, 2015).

**WASTE**

People in urbanized areas living dignified lives in balance with their environment. (WASTE, 2015).

**Simavi**

Basic health is the first step out of poverty. People can only go to school, work and contribute positively to their community, when they’re healthy. That’s why we’re working towards making basic health accessible and available to all. Structurally. We believe that everyone has the right to enjoy basic health conditions: clean water and adequate sanitation; hygiene and sexuality education; reproductive health care; realization of sexual and reproductive rights. Improved access to and awareness in WASH and SRHR creates a standard of hygiene, healthcare and equality that allows every man, woman and child to live productively. By tackling WASH and SRHR (sexual and reproductive health and rights) issues, we can stop preventable diseases and deaths and boost social and economic development (Simavi, 2015).

**Cordaid**

A world where we share our Global Common Goods, where we make space for diversity and where we create flourishing communities that can reach out to and work with the vulnerable around the world. In flourishing communities people share values, interests and a common purpose. Flourishing communities create space where people can live with dignity, safely, have the freedom to speak out and have access to quality and affordable basic services, such as healthcare. A flourishing community offers its people access to opportunities so that they can realize their potential and participate in social, economic, cultural and spiritual life (Cordaid, Mission, 2015).
Appendix 5 | Description of manual

Start
The manual starts with an overview of the whole 'Urban Matters process' in the form of a circle. For the main phases of the process the terminology of Cordaid Urban Matters is adopted to increase the comprehensibility. Emphasized is that the order of steps is flexible, and that learning and evaluation should be done continuously throughout the process.

Every page of the manual has the same basic set-up; an example of a page can be seen in the Figure. It is important to have a continuous overview of the process in the right upper corner, so that the user can check in which phase of the process the step takes place. Every step is shortly explained and a reflexive question is added to stimulate the learning process. The steps can be done by experts alone, but also together with the relevant stakeholders. This fits the practice of Cordaid, which asks for flexibility in every project.

The first steps of the manual got most attention, because Cordaid's qualities are very useful for the first phases of the process, as this research showed. Additionally, a good start of the process can possibly help to prevent the process from coming to a halt.

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Figure Appendix 5 | Example of a manual page; basic set-up: title, subtitle, process overview, description of the task, example and reflexive question

Step 1 | Define the challenge
What: In the first step the challenge is defined by describing the issues and the objective of the process (adapted from: Roorda, Frantzeskaki, Loorbach, van Steenbergen, & Wittmayer, 2012). Why: Cordaid works on urban challenges through providing solutions for problems linked to sanitation, housing and youth & employment. These solutions are radical and include major changes in existing practices, organization, culture or financial or juridical arrangements. Therefore,
the aim of Cordaid’s projects are often complementary to transition experiments. These transition experiments contribute to societal challenges such as sustainable development. In this step is defined what the challenge exactly enhances, and awareness is raised about the characteristics of transition experiments.
Also, the case-study has shown that collaboration has been difficult because stakeholders work towards different objectives. Therefore, the manual starts with defining the challenge which can help to communicate this to all the stakeholders, also when they enter the cooperation in a later phase.
How: The manual provides examples of issues and objectives of Urban Matters projects. Additionally, the characteristics of transition experiments and classical innovation projects are provided, to create awareness about the characterizes of transition experiments.

Step 2 | Explore the context
What: In this step the context of a project is analyzed, by using the Multit-Level perspective (Grin, Rotmans, Schot, Geels, & Loorbach, 2010). In the manual this part of literature from transition studies is used to create an understanding of the different levels of the context of projects. It should help to define the characterizes of the regime and understand the pressures from the landscape.
Why: In the case-study was shown that Cordaid Urban Matters tend to focus too much on the community level. Additionally, it was shown that other NGOs also emphasize the importance of working at all the different levels in working on the sanitation system. The MLP helps to gain insight in the multi-level context of an innovative project idea. This insight is very important for the success of the project, because it increases the understanding of the projects position is in relation with the current system.
How: The MLP is explained using examples of important landscape factors and regime characteristics of the context in which Cordaid Urban Matters often works. The manual provides ideas to define opportunities for Cordaid’s projects and barriers which can be met in working on Cordaid’s projects, by comparing project characteristics to regime dimensions. The MLP is chosen to be included in this manual instead of system analysis to gain insight in the context (which is done in many of the manuals on transition management). System analysis is very elaborative, so there are practical constraints to use it; and it does also not provide insight in the regime and landscape.

Step 3 | Identify and Select Stakeholders
What: In this step the stakeholders are identified, among others important stakeholders which have the power and willingness to make the project successful. A stakeholders strategy is created which can be used to select stakeholders for the project. The stakeholders are identified and selected by using a variety of tools in a structural manner. (Tools adapted from: (Roorda, Frantzeskaki, Loorbach, van Steenbergen, & Wittmayer, 2012) (Brouwer, Groot Kormelinck, & van Vught, 2012) (de Vincence, Wieczorek, & Matti, 2014)).
Why: This step helps Cordaid to involve the necessary stakeholders for their project. Important and powerful stakeholders are identified and a strategy concerning these stakeholders is developed. Also the relations among stakeholders are clarified to improve the coordination of collaboration in the projects. The stakeholders are placed in the multi-level perspective to understand their possible attitude towards the project. There is an overview created of the capacities and skills of the stakeholders. This can help Cordaid to prevent processes from coming to a halt, because of a lack of stakeholders with willingness and power to lead the process. The involvement of the necessary diversity of stakeholders can also help to reach their aim if working on system change.
How: Different tools are adopted from manuals on transition processes and also some tools which are already used by Cordaid are added.

Step 4 | Engage the stakeholders
What: In this step the engagement of stakeholders is stimulated.
Why: Stakeholder engagement is essential in Cordaid Urban Matters approach. Cordaid has several ideas on involving stakeholders in a multi-stakeholder process. Also, stakeholder engagement is important in accordance with all theories of the theoretical framework. Stakeholder engagement will receive much attention in a process initiated in an Cordaid Urban Matters process, compared to the manuals on transition management, in which collaboration is sometimes just assumed.

How: A tool developed by Cordaid supports different type of stakeholders to collaborate in a complex urban context: the ‘Urban Collaboration Game’. In this manual this tool is clearly embedded in a process of fundamental change.

Step 5 | Initiate a visioning process
What: In this step ideas are presented to create long-term visioning exercises together with all the relevant stakeholders. These visioning exercises should result in a concrete common vision on the aimed system change. Visioning should be done in collaboration with all the relevant stakeholders, this means it is done with much broader group of stakeholders than only experts.
Why: Visioning was already done by Cordaid, but the result was very much focused on neighborhoods, and the vision was not often not very clear and concrete in order to continue the process. It is important to create a broad and clear vision for system change for the long-term.
How: Some tools from transition manuals for broader visioning are adopted (de Vincence, Wieczorek, & Matti, 2014). Additionally ideas on collaborative visioning from Cordaid Urban Matters are used.

Step 6 | Create a concrete project plan
What: In this step a concrete plan is made by using the long-term vision from the previous step.
Why: Cordaid has problems to make concrete plan after the initiation of a participatory visioning process. This step can be used to make this concrete plan, including the division of responsibilities and roles. This plan should clearly be connected to a long-term vision on changing the system. This ‘translating process’ is done in a much shorter time-frame than the development of transition agenda’s and transition pathways in transition management literature, because of a lack of resources at Cordaid and because of time-pressure. There has been problems with translating ideas into concrete plans, thus this step should result in concrete project plans towards system change.
The long-term vision and the context analysis using the multi-level perspective are used to ensure that the project will contribute to system change.
How: Back-casting ideas from transition manuals are used (adopted from: (de Vincence, Wieczorek, & Matti, 2014) (Roorda, Frantzkeskaki, Loorbach, van Steenbergen, & Wittmayer, 2012)). Additionally, ‘The Urban Planning Game’ developed by Cordaid Urban Matters is used.

Step 7 | Develop a sustainable business model and governance structure
Step 8 | Realization
These steps are added to the manual in order to be complete. They are based on the strategy documents from Cordaid Urban Matters, and not founded by this research.
Appendix 6 | MSc Theses in TDG

MSc. Theses In Technology, Development and Globalization: 2015

15.01 Peter Kuin: No view from nowhere; studying diverging stakeholders’ framework to reduce conflict over water resources in Loitokitok

15.02 Mara van Welie: NGOs’ transformative approaches. Exploring how Cordaid can contribute towards a fundamental change of the sanitation system in urban informal settlements in low-income countries.

MSc. Theses In Technology, Development and Globalization: 2014

14.01 Maro Roussou: The application of participatory methods to co-develop sustainable solutions for domestic hot water and filtration of grey water. Promotion of effective participation of an indigenous school in rural Mexico.


14.05 Bipashyee Ghosh: Sustainability appraisal of emerging trajectories in solar photovoltaic and urban systems in India and Thailand. A multi-criteria mapping analysis.

14.06 Eric Gold: Minimizing implementation failure in rural energy projects in development. A responsible innovation approach.

MSc. Theses In Technology, Development and Globalization: 2013


13.02 Kristine van Tubergen: “Partnering up in Base of Pyramid projects”.

13.03 Roché Mahomedradja: The role of expectations and the societal impact regarding the use of Jatropha as a biofuel feedstock: Insights from India in pursuit of a biodiesel industry.

13.04 Joosje Oosterbaan: Housing towards prosperity: an actor-network analysis of the enactment of an urban redevelopment policy and grassroots vision in the Beetham a neighbourhood of Port of Spain, Trinidad and Tobago.


13.06 Julian Vargas Talavera: Exploring the potential of small biodigesters for electricity production in developing countries. A multi-level analysis on possible adoption in Uganda and Bolivia.

13.07 Joep de Boer: Building a brickmakers’ cooperative in Lubuk Alung, Indonesia; an analysis of justifications and conflict situations emerging in the process of building the cooperative.
MSc. Theses In Technology, Development and Globalization: 2012

12.01 Lisanne Saes: Prepaid water in Namibia: The impact of prepaid household water meters on the inhabitants and the municipality of Otjiwarongo.

12.02 Frans van Herwijnen: Prepaid water in Namibia: Understanding the ongoing transition.


12.05 Harini Challapally: Clean Development Mechanism's (CDM) contribution to clean energy technology development in India.


MSc. Theses In Technology, Development and Globalization: 2011

11.01 Bart Hellings: Using Carbon Credits for Social Entrepreneurship: A case study at Diligent Tanzania ltd.


11.03 Naomi Baan Hofman: Cultivating under Contract. An Actor-Network perspective on the socio-technical shaping of farmers’ practices in north India.

11.04 Rosa Kuipers: Success factors for the logistics of human nutrients in urban areas for use in agriculture. Philippines/India.

MSc. Theses In Technology, Development and Globalization: 2010

10.01 Suyash Jolly: Upscaling of niche experiments in PV solar energy for transition to sustainability in India.

10.02 Souliman Nnafie: Assessing Political Responsibility of Transnational Advocacy Networks through Social Network Analysis. An Empirical Study

10.03 Sanne Heijnen: The impact of small scale renewable energy projects in least developed countries - a baseline study. Tanzania.

10.04 I. Kahraman: Analyzing the Barriers and opportunities for the Turkish PV Market.

10.05 Michiel Roks: Size and Sustainability: The treatment of smallholders in sustainability certification of biomass for energy purposes. Tanzania.

10.06 Otto Maria Jandl: Barriers for the employment of floating invasive weeds for biogas production in local communities in West African Developing Countries.
This master thesis is approved for publication by Cordaid.

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