

Study to the implementation process of a shelter program in post-disaster areas of Haiti, following the 2010 earthquake.



Master Thesis

Harmen Janse
June 2012

Harmen Janse

Student number: 1257285
Address: Oude Delft 231
Postal code: 2611 HD
City: Delft
Phone: +31628249261
Email address: HCJanse@gmail.com
Date: 21-06-2012
MSc Laboratory: Housing
Supporting studio: Urban Emergencies



First mentor

Name: **Drs. Kees van der Flier**
Function: associate professor
Department: Real Estate and Housing
Section: Housing
Email: c.l.vanderflier@tudelft.nl

Second mentor

Name: **Dr. ir. Louis Lousberg**
Function: assistant professor
Department: Real Estate and Housing
Section: Design and construction management
Email: l.h.m.j.lousberg@tudelft.nl

Third mentor

Name: **ir. Alexander Vollebregt**
Function: assistant professor
Department: Urbanism
Section: Spatial planning & strategy
Email: a.g.vollebregt@tudelft.nl

Faculty of Architecture, 'Delft University of Technology'

Address: Julianalaan 134
Postal code: 2628 BL
City: Delft
Province: Zuid-Holland
Country: the Netherlands
Website: www.tudelft.nl

Preface

This report is written as publication of my master thesis, during the final stage of my graduation project. The project is assigned by the 'Housing Policy, Management and Sustainable laboratory' from the master study 'Real Estate & Housing', within the faculty of Architecture of the Technical University Delft.

For the practical profession of the graduation project, I had chosen to participate within an extra interdisciplinary graduation studio, called 'Urban Emergencies' (UE). This studio focuses on actual problems within developing countries and seeks for practical solutions in cooperation with several organizations and companies. This pragmatic approach of the graduation studio did appeal to me very much and I experienced it as an unique opportunity to be taken.

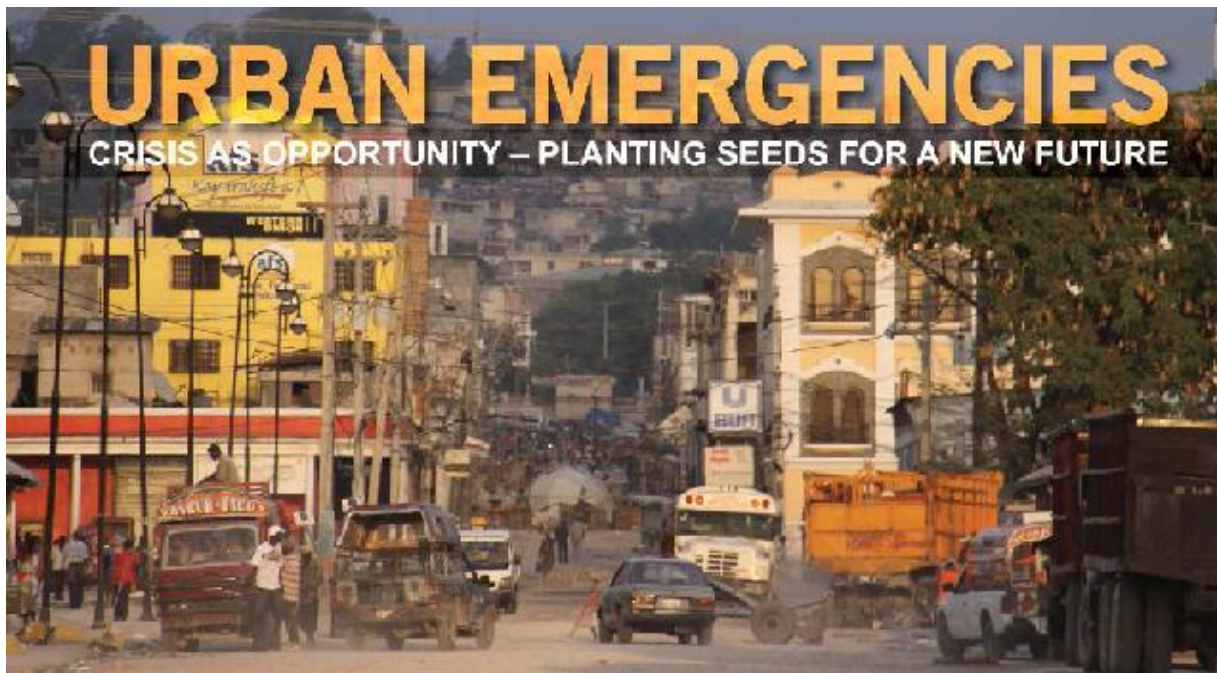
In the beginning of October 2011, a field-trip of the Urban Emergencies studio started, in which post-disaster Haiti became studied. This report describes a research question, research method and a case-study, confronting the Haitian situation within the process of post-disaster reconstruction. My personal investigation was to understand how recovery of the build environment is being managed and what happens with money donated after the occurrence of a natural disaster.

I wanted to prove that I am capable to adjust to the unfamiliar context of post-disaster reconstruction and able to create a useful contribution to the theory and practice of aid organizations. This would require a proper analytical understanding and a clear approach to the problems within the reconstruction process. I believe that such a graduating project would demonstrate a broad scope of my capabilities, which would be most challenging and hopefully appreciated within the construction industry (both the Haitian as Dutch).

The collaboration between the graduation laboratory and the 'Urban Emergencies graduation studio', was that the graduation-lab provided me the methodological background and the UE-studio provided me a practical problem. I would like to accomplish my graduation by combining theory and practice, study the Haitian context and conclude with a scientific based contribution.

Delft, 21 June 2012

Harmen Janse



Summary

(PROBLEM DESCRIPTION)

Shelter programs are being implemented within Haiti by hundreds of Non-Governmental Organizations, but there is a lack of experience in shelter strategies confronting the urban living environment. A comparison on the implementation process of shelter programs, between the rural and urban context, would have to point out which difficulties a more dense context brings along, in facilitating the transition from the phase of relief to the phase of development, for the process of post-disaster reconstruction.

The vision of Cordaid (a Dutch aid organization) was to facilitate the link between relief and development for areas within Haiti, which got affected by the earthquake in 2010. *'Cordaid focuses on emergency aid and structural poverty eradication through reinforcement of local organizations, so that its assistance has a lasting effect.'*¹

A case-study, comparing Haitian cases for the rural and urban context has been executed following the method of 'action research'. The cases were studied, following a selection of themes, and the criteria of effectiveness, efficiency of- and support for- shelter strategies. The hypothesis was that the urban case, was supposed to have a lower score on effectiveness, efficiency and support than the rural case. The relationship between the themes and the outcome of the scores have been compared and described. Principles found within this study would have to answer the main research question.

Main research question:

'What are the differences within the shelter program implementation process between a rural and an urban post-disaster area in Haiti, and what recommendations can be given to Non-Governmental Organizations, to improve the effectiveness and efficiency of, and support for shelter strategies?'

(ANALYSIS)

*'There is no such thing as relief projects that are neutral in terms of development. They either support it or undermine it.'*²

Improvements towards the basic living environment of a less-developed country within a post-disaster situation like Haiti, have to evolve from handing out external hard-resources, to stimulating the use of soft-resources in order to facilitate a transition from relief to development. This demands a transition from handing out imported tarpaulins, tents and building materials, towards a stimulation to increase local processes of education, employment, cooperation (between local organizations) and local decision making processes, without dependency on other societies. This would decrease the vulnerability and increase the capacity, which is evaluated as the effectiveness of a (developmental) shelter program implementation process.

The complexity of post-disaster reconstruction is that the values of capacity, vulnerability, access and use of both "hard" and "soft" resources, and reconstruction itself are existing out of extensive theories. The analytical framework of this research project, focused on the task of housing will take the notion that the effectiveness of a shelter program, is to meet the most current housing needs for the population concerned. These housing needs are in relationship with the capacity of the population and the prosperity their society (building on existing local capacity) can realize. These needs are linked to the common benefit of the society to reduce vulnerability to become a developing country.

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1. Caritas. *Cordaid specifications*. Available from: source: <http://www.caritas.org/worldmap/europe/netherlands.html>.
 2. Lizarralde, G., *Organizational design and performance of post-disaster reconstruction projects in developing countries*. 2004, Montréal.

(CASE-STUDY)

The shelter program of **Septieme Gerard** had a single disciplinary intervention, to give new houses to the most vulnerable of the community. The shelter program of **Villa Rosa** was multidisciplinary and addressed the multiple conditions of a housing area, selected by the community themselves. The latter shelter program was stated to be more effective in terms of bringing the society into development.

The case-study also gave the notion that a shelter program can be considered to be a **housing program**, in which the living environment is strengthened with other services (like healthcare, safety, sanitation, water and electricity) next to the shelter function of a house. A multidisciplinary approach towards long-term housing is possible when facing multiple problems within an area. An integral neighborhood approach could be desirable when multiple problems are overlapping the same surface area and are related to multiple stakeholders.

(CONCLUSION)

The efficiency of- and the support for- the end product of the rural shelter program was good enough towards the beneficiary. The supply of tangible (hard-) resources answered the need for shelter, which resulted in an efficient and supported rural shelter program.

The beneficiaries of the urban program were given **more than a tangible end product**.

The implementation process was designed to also increase soft-resources within the local community thru a process of participation and cooperation. It did not only reduce the vulnerability within the quality of some individual houses. It also strengthened the local capacity to improve the multiple housing conditions that are relevant for the neighborhood.

The hypothesis of the case-study can be rejected, because the conditions of the urban context did not have a lower score on all of the criteria. The urban case had a better effectiveness in performing developmental results, but the rural case had a better efficiency.

(RECOMMENDATIONS)

The main recommendation towards NGOs is to acknowledge the differences between relief and development, the differences between rural and urban, and the differences between houses and housing. A profound conception of the differences within these terms, will give a NGO a better focus of their shelter strategy. This would make it easier to set their ambition and discuss their progress.

The possible levels of damage are higher for the urban context, than the rural context. This also requires a higher level of ambition for shelter strategies within an urban context. A high ambitious strategy requires both the internal capacity of NGOs, as the possibility of participation and cooperation with local stakeholders.

- Effective shelter strategies, which objective is to bring the affected population into development, should focus on urban areas because of the higher availability of local capacity.

- Efficient shelter strategies, which objective is to create quick and affordable results, should focus on rural areas, because of the better manageable context.

- Supported shelter strategies, which objective is to please the needs of the affected population on both short- and long-term (during the implementation process, as well as with the end product), should be focusing on both rural and urban areas.

A shelter strategy that addresses both rural and urban areas can be both efficient and effective.

Readers guide

The master thesis is the end product of the graduation process. The research subject and the methodology of the research project have been selected and discussed within an earlier stage. This report will give the full overview of the research project and has to prove that the research method has led to sound answers of the research questions.

- Chapter one will give a concise description of the problem and aim of the research, and will finish with the methodology to answer the research questions.

- Chapters two and three will elaborate the research subject and will already give answers to the first research questions, by explaining the research subject into more detail.

Chapter two will describe the research subject from a theoretical perspective, to extend and explain the content of post-disaster reconstruction.

Chapter three will continue with this theoretical extension, but will focus more on the practical representation and elaborates the execution of shelter strategies.

- Chapter four describes the performed case-study. An evaluation of two cases will be given as a cross-case analysis. The cases are first independently described and examined by a selection of themes and criteria. The differences between the cases are compared within the last part of the chapter.

- Chapter five concludes the research by summarizing the answers to the sub-questions and formulates the answer to the hypothesis and the main research question. This chapter will end the master thesis by an elaborated discussion and an evaluation of the research project.

More elaborated information of the research subject, but with less relevance to answer the research questions, has been put within the appendixes. Some paragraph also contains textboxes which describe additional information of the paragraph's subject. This information is still relevant, but has been put within a box to increase the readability of the text.

I hope the written content will inform you in a clear and concise way.

With best regards,

Harmen Janse

Delft, 21 June 2012

Glossary

A large number of terms are being used within this report that requires a specific conception, to gain the intended information. This resulted into a glossary that has been divided into four parts. Most of the terms are explained with references connected to the body of knowledge of post-disaster reconstruction. This can also be found within the text of chapters 2 'post-disaster complexity' and 3 'shelter strategies'.

(0) fundamentals:

Approach

- A proposed activity to execute a task.

Method

- Repetitive acts to execute tasks.

Process

- The progression of one activity or the sequence of multiple activities.

Program

- The overview of tasks intended to become executed.

Project

- The overview of tasks and the necessary activities.

Strategy

- The proposed activities to execute multiple tasks (to obtain a specific objective, goal or result).

(1) Post-disaster context:

Access to (hard- and soft-) resources

- The practical availability of tangible (hard-) resources like bricks and wood, but also intangible (soft-) resources like knowledge and skills.

"hard" resources (tangible and physical) such as housing, infrastructure and public services, and "soft" resources (non-tangible or non-physical) such as employment, education and information.³

Capacity

- The available potential to use knowledge and skills.

'Ability, Talent, Mental power to understand'⁴

Crisis

- A situation that disrupts the common activities within a [society](#), increasing vulnerability and lowering capacities.

Development

- A situation in which capacities are increased and the vulnerability of a society is reduced.

'To strengthen livelihood security and reducing vulnerability'⁵

3. Lizarralde, G., C. Johnson, and C. Davidson, *Rebuilding after disasters, from emergency to sustainability*. 2010, New York: Spon Press.

4. Nimpuno, K.U.H., *Disaster management glossary*. 1998, (DERC) Disaster and Emergency Reference Center: Delft.

5. Anderson, M.B. and P.J. Woodrow, *Rising from the ashes, Development Strategies in Times of Disaster*. 1998, London: Intermediate Technology Publications. 338.

Disaster

- A situation that disrupts a society to the level that they are not able to cope with the damaging effects themselves, for a period of time.

'**Disasters** are defined as crises that overwhelm, at least for a time, people's capacities to manage and cope.'⁵

'A **disaster** is a serious disruption of the functioning of a community or a society involving widespread human, material, economic, or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources.'³

Level of damage

- The surplus of severity of damage (incorporating density) within an affected area, over the amount of conditions being affected (environmental, social, economic and political).

Post-disaster complexity

- The combination of multiple tasks, necessary to recover the multiple conditions of an affected society, involving multiple stakeholders.

Post-disaster reconstruction

- The act to recover the damage done by a disaster.

'**Post-disaster reconstruction** is defined as the process of improvement of pre-disaster conditions, targeted to achieving long-term local development and disaster risk reduction through the pairing of local and external resources, thus giving residents increased access to both "hard" and "soft" resources'³

Rehabilitation

- The act to bring people back into a home area and into a focus of future development.

'**Rehabilitation** may be defined as "(...) an overall, dynamic and intermediate strategy of institutional reform and reinforcement, of reconstruction and improvement of infrastructure and services, supporting the initiatives and actions of the populations concerned, in the political, economic and social domains, and aimed towards the resumption of sustainable development".⁶

Relief

- The act to bring emergency supplies, preventing an increase of damage (bringing a disaster into crisis).

Vulnerability

- The risk to become damaged.

'**Vulnerabilities** refer to the long-term factors which affect the ability of a community to respond to events or which make it susceptible to calamities.'⁵

'**Vulnerability** is the lack of access to resources'³

(2) Related to the practice of NGOs:

Building back better (reducing the risks for future disasters)

- A principle that intends to improve the pre-disaster situation of a society.

Community Action Planning

- A method that activates the local community within a participatory process to plan interventions.

Cooperation

- A method that combined the capacity of organizations.

6. *Linking relief to rehabilitation and development.* VOICE out loud, 2006(4).

Hit & run (flexible, prefabricated solutions)

- A strategy focused on efficiency, delivering mostly hard resources.

Housing

- The process of obtaining acceptable living conditions within a settlement of a society.
'The process of developing and maintaining infrastructure, social services and dwellings in human settlement'⁴

Housing standards: 'Determination of an acceptable level of size and use of a dwelling in terms of the number and composition of the inhabitants, varying according to climate, economy or tradition.' 'Minimal standards are those deemed sufficient to maintain health'.⁴

Integral approach

- Proposed multi-disciplinary tasks to become executed simultaneously, following a process of cooperation and participation with stakeholders.

Level of ambition

- The proposed amount of tasks to become executed.

Neighborhood reconstruction

- The act to recover damages, limited by the capacity of a community.
'**Reconstruction** is defined as an integrated process designed to reactivate development, and at the same time create a peaceful environment'⁷

Owner driven housing

- Process of obtaining living conditions, limited by the participation of the owner.

Participation

- Method that activates inhabitants to take part in the decision making process of an organization executing interventions.

Retro-fitting

- Method that reuses existing building components.

(3) Criteria to examine NGO (2) in the context (1)

'**Effectiveness**' would be the capability to link the phase of relief with the phase of development. A shelter program enforces housing standards which strengthens long-term development that comes along with an increase of knowledge and skills.

'**Efficiency**' would be the capability to execute tasks with the least necessary amounts of time and money. This criterion questions at what costs the aid program is being executed.

'**Support**' would be the capability to do interventions with a certain level of assistance and appreciation from the beneficiaries, within the implementation process.

7. Barakat, S., *Post-War Reconstruction and Development: Coming of Age*, in *After the Conflict. Reconstruction and Development in the Aftermath of War*. 2005: London. p. 11.

Abbreviations

CAP	-	Community Action Planning
CBO	-	Community Based Organization
IDP	-	Internally Displaced Person
(I)NGO	-	(International) Non-Governmental Organization
NRC	-	Neighborhood Reconstruction Committee
SHO	-	Samenwerkende HulpOrganizaties (Dutch)
UN	-	United Nations
WaSH	-	Water Sanitation and Hygiene
E-shelter	-	Emergency shelter
T-shelter	-	Transitional shelter
P-shelter	-	Permanent shelter

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1. Research proposal

1.1 Introduction of the Haitian earthquake

Haiti was struck down by a 7.0 earthquake on the 12th of January 2010, more than two years ago. The epicenter of the earthquake was positioned under the western side of Port-au-Prince, the capital of Haiti. This caused a lot of damages within an urban context. Several news reports illustrate the emergent state of the poorest country on the western hemisphere, and how the situation evolved over time (see appendix A).

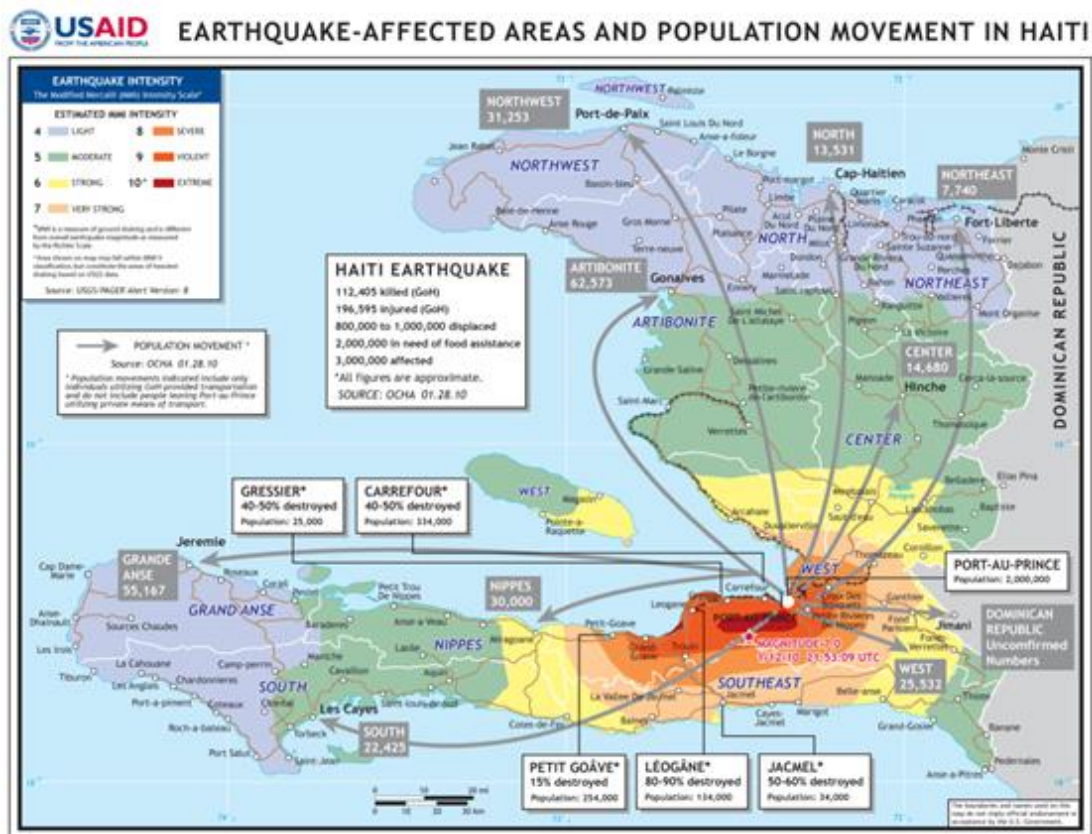


figure 2: 'Earthquake-affected areas'

The scale and impact of the disaster was enormous. 222.570 people died and up to 1,5 million people lost their homes. A total estimated amount of almost three million Haitians got affected by the earthquake disaster.⁸ That is one third of Haiti's total population. International officials were needed to draw up a strategic response on national scale.⁹ International aid was necessary and came with a staggering amount.¹⁰ Billions of dollars were being collected and thousands of Non-Governmental Organizations (NGOs) became present in Haiti to deliver the aid.

12 months after the earthquake, the post-disaster situation identifies itself by tented cities and of piles of rubble that hasn't been cleared yet.¹¹ The photo on the next page shows an aerial view of a tented city in Port-au-Prince (date: January 10, 2011). People are living in tents, often located on former public areas. They prefer to live close to their familiar social environment, instead of leaving the city. Video documentations describe the harsh living conditions within the emergency shelters.^{12 13 14}

8. OCHA, U. *Haiti: One Year Later*

The crisis at a glance. 2011; Available from: <http://www.unocha.org/issues-in-depth/haiti-one-year-later>.

9. BBC. *The challenge of rebuilding Haiti*. 2010; Available from: <http://news.bbc.co.uk/2/hi/americas/8482237.stm>.

10. Margesson, R. and M. Taft-Morales, *Haiti Earthquake: Crisis and Response*, in *CRS Report for Congress*. 2010, Congressional Research Service.

11. BBC. *Quake-stricken Haiti bears scars six months on*. 2010; Available from: <http://www.bbc.co.uk/news/10593255>.

12. *Surviving Haiti*, in *This World*. 2010, BBC: UK. p. 00:59:02.

13. Reed, D., *The Battle for Haiti*, in *Dispatches*. 2011: Great Brittan. p. 00:48:20.



figure 3: 'tented city, Port-au-Prince'

Billions of **Aid money** entered the reconstruction program of Haiti, but the magnitude and complexity of the disaster makes it very hard to execute the recovery process.¹⁵ Improvement of **the long term** living conditions seems to be hard to realize, in spite of the large international response.¹⁶ ¹⁷ Especially the 'link between relief and (re)development' is very hard to create.* A specific part of this problem is that there is no strong governmental institute present within Haiti. This makes the NGOs very dependent on their own capabilities in managing their aid programs.

The aid programs are next to the provision of healthcare, food and water, also focusing on the task of rebuilding homes, utilities and the social environment. ('The process of developing and maintaining infrastructure, social services and dwellings in human settlement' is called "housing".⁴) This report will approach the aid industry on the task of housing, following the academic discipline of 'Architecture, Urbanism and Building Sciences'**. The Haitian housing situation can be seen as a "worst-case scenario" of post-disaster reconstruction, for which an academic contribution would be most challenging and rewarding.

The focus within this research project is to get an overview and an understanding of the general post-disaster reconstruction process, and a detailed understanding of the Haitian rehabilitation process on a neighborhood scale of a housing program.

14. SHO, *Nederland Helpt Haïti deel 2*. 2011. p. 37:39.

15. BBC, *Haiti earthquake: One year on*. 2011.

16. Clermont, C., et al., *Urban disaster - lessons from Haiti*, in *Report for the Disaster Emergency Committee (DEC)*. 2011, Disasters Emergency Committee.

17. Julmy, S., *Coordinating the earthquake response: lessons from Leogane, western Haiti*. Humanitarian Exchange Magazine, 2011.

* Problem driven demand by Cordaid, presented by Henk Meijerink (Cordaid shelter advisor)

4. Nimpuno, K.U.H., *Disaster management glossary*. 1998, (DERC) Disaster and Emergency Reference Center: Delft.

** <http://home.tudelft.nl/en/study/master-of-science/master-programmes/architecture-urbanism-and-building-sciences/>

1.2 Problem analyses

The post-disaster recovery process, which this research wants to address, has started after the Haitian disaster of January 2010. First aid relief has been given within the first months and rehabilitation and development is starting to take place and will continue for the coming years.

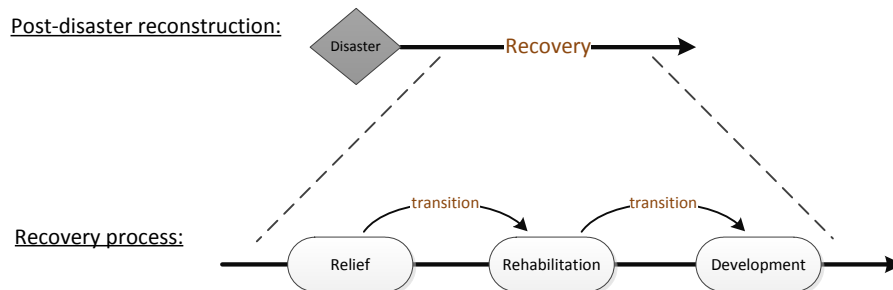


figure 4:
'disaster recovery scheme'

A big problem within post-disaster reconstruction is to create a transition between the different phases of the recovery process. The relief phase has to flow into the phase of rehabilitation and the phase of rehabilitation into development. Beneficiaries of the disaster have to be given emergency food and shelter, but over time this has to become reduced. Beneficiaries have to be brought out of the tented camps, back to their original home areas. There they need to get the opportunity to develop themselves, in order to become independent from foreign aid in the aftermath of the past disaster and the future disasters on the long-term.

LRRD

The aid world uses the term of 'LRRD', which refers to the linking process of different stages of post-disaster aid.¹⁸ It stands for '*Linking Relief, Rehabilitation and Development*'.* Relief can be seen as the first aid given in ways of food, water and emergency shelter as examples. Rehabilitation can be seen as the end of evacuation and the transition from emergency shelter back to a house in the original environment. Development would be the transition that leads to permanent housing conditions.

The last phase of development is in reality very hard to reach in less-developed countries. The problem is often bigger than to reconstruct houses. The whole social-, economic- and environmental system often needs to be improved on a national scale, in order to reach the phase of development successfully.

This research wants to look at the strategies within a **shelter program** (the aid program in which housing needs are to be answered), to link the relief- and development-phase into each other. The task of rehabilitation should be able to satisfy the high short-term demand, but it should also be able to provide long-term development opportunities.

The main problem

The occurrence of the disaster created the opportunity to build Haiti back in a better way.¹⁹ The NGOs are able to use the crisis as an opportunity, using international aid-money. But until the beginning of 2011, news reports were not very positive about the current recovery progress (see also appendix A). There is stated that '**the relief efforts are only putting Haiti on life-support instead of evolving into the next stage of development.**'²⁰ One clarification behind this criticism is that the earthquake damaged a lot of structures within

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18. Christoplos, I. and D. Hilhorst, *Human security and capacity in fragile states*. Disaster studies, 2009. 01.
* Lecture Dorothea Hilhorst (April 2011), Professor of Humanitarian Aid and Reconstruction, Wageningen University, author of 'The Real World of NGOs: Discourses, Diversity and Development', (2003)
19. Lyons, M., *Building Back Better: The Large-Scale Impact of Small-Scale Approaches to Reconstruction*. World Development, 2008. 37(2): p. 385-398.
20. Price, M. *Haiti's struggle*. 2011; Available from: <http://www.bbc.co.uk/news/world-latin-america-12160748>.

the high-dense urban context of Port-au-Prince, which demands a less familiar strategy from the NGOs.

Post-disaster reconstruction examples mostly describe rural areas, which are fit for simple interventions. Rural areas offer a lot of space, which makes it easy to supply temporary shelter and to reconstruct permanent houses. Aid programs to recover high-dense urban areas are not fit for simple interventions, because they have a lack of space and are not very well known (see box 1).

This can be explained by the trend of urbanization. According to the United Nations, the world population used to be more rural than urban until 2007.¹⁶ And especially the less developed regions of the world, still contain a more rural than urban population until the expected shift in 2018 (the gray and orange line of figure 4). This makes it also clear why post-disaster aid of the past is more experienced to operate in rural areas and should become more experienced in urban areas.

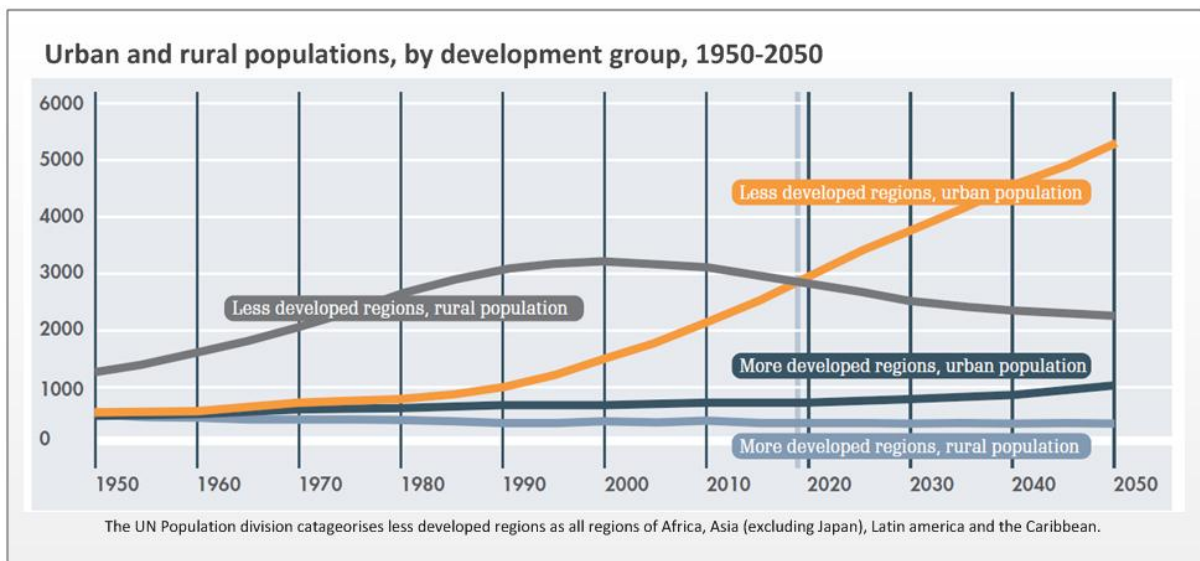


figure 5: 'expectation of population growth and rural-to-urban migration'

Box 1

'Successful recovery is ultimately about rebuilding settlements, complete with infrastructure and land tenure, through a participatory planning process that incorporates the demands of risk reduction and low-carbon development. With dense patterns of development, frequent use of multi-story buildings and often large slum areas with little access to infrastructure and services, urban environments typically require their own shelter solutions. **Urban areas almost require solutions other than the simple application of rural shelter strategies in which so much past humanitarian experience has been concentrated.**'

source: Alnap prevention lessons²¹

21. ALNAP, *Responding to Urban Disasters: Learning from previous relief and recovery operations in Alnap Lessons*, I. O'Donnell, K. Smart, and B. Ramalingam, Editors. 2009, prevention consortium.

1.3 Aim of research

The aim of this research is to advice NGOs, to improve **the shelter program implementation process** within an urban context. An in-depth analysis of a shelter program will be necessary in order to understand the strategies that are currently being used to link the relief phase with the development phase. A case-study, in which a rural case will be compared with an urban case, has to identify problems connected to the differences of context. These problems will be clarified following post-disaster reconstruction theory and the practice of the rural context. This has to lead to specified principles to be implemented by urban strategies.

Case-study Haiti

A case-study will be used in which a NGO executes a shelter program following a similar building process within both a rural and an urban context. It will be expected that the shelter program implementation process, experiences more problems within the urban contexts than the rural. This case-study will be used to answer the research questions and to support the research study with a tangible and attainable approach.

The research project will use the Haitian context, as example of post-disaster reconstruction. A context within a less-developed country is chosen, because the occurrence of a disaster is related to the developed status of a country (see box 2). Haiti is the poorest country of the western hemisphere and has a history of violence, corruption and strain of its resources. Earthquakes, hurricanes, mud-slides and floods trouble the country every year, for which there is no positive long-term perspective. But Haiti is also the first black republic which originates from a fierce slave rebellion and independence in 1804. The Haitian population is proud of its own country and culture, and is more than willing to create a better future. The reconstruction of the 2010 earthquake has to bring the Haitian post-disaster situation to some level of acceptability. This may not be the same as the pre-impact level. Long-term development should become in perspective, partially by the execution of a shelter program.

Two cases are selected in which the rural and urban context is studied. It is expected that the rural case experiences less problems during the shelter program implementation process and the urban context the most. A comparison on functionality, efficiency and support of shelter strategies, will have to explain the differences between the contexts into more detail.

Box 2

Low-development countries suffer the most due to global natural disasters.

*'11% of people exposed to hazards live in low-development countries. They account for 53% of the amounts of people being killed by a disaster.'*²²

- *'Earthquakes don't kill people...
...poorly built buildings do.'* (Elisabeth Hausler, buildchange.org)

22. Cannon, T., *Vulnerability Analysis and the Explanation of 'Natural' Disasters*. John Wiley & Sons, 1994: p. 13-30.

1.4 Main research question (and sub questions)

Post-disaster reconstruction is not very progressive within the urban context of Port-au-Prince, Haiti. People are still living in emergency camps, (more than two years after the earthquake) which are prone to become new slums.¹⁴ Adapted strategies of post-disaster reconstruction, focused on the implementation of urban shelter programs, should contribute to improve management of this urban problem.

Main research question:

'What are the differences within the shelter program implementation process between a rural and an urban post-disaster area in Haiti, and what recommendations can be given to Non-Governmental Organizations, to improve the effectiveness and efficiency of, and support for shelter strategies?'

The main research question has the end goal of recommending strategies, but more sub-questions are necessary to achieve this goal. First of all the complexity of the post-disaster context needs to become understood, which requires a theoretical description of post-disaster reconstruction. Second the problems of the shelter implementation process needs to be analyzed and assigned to a method to examine the criteria. Third, a case-study has to specify the differences between the rural and urban context and has to clarify why the urban context expects more difficulties. After this has been studied, recommendations based on a critical reflection can be made, which answers the research question.

Sub-questions:

(PROBLEM DESCRIPTION)

1. *Which analytical framework can be used to overview the complexity of shelter program implementation, within the field of post-disaster reconstruction?*

- a- What is post-disaster reconstruction? (what is LRRD?)*
- b- How does a shelter program implementation process look like?*
- c- Which problems can be expected during the implementation process?*

(ANALYSIS)

2. *What paradigm can be used to understand and examine the use and impact of shelter strategies?*

- a- How do NGOs operate within a post-disaster context?*
- b- Which strategies can be used for the shelter program implementation process?*
- c- What are the challenges of the urban context?*
- d- How can the effectiveness, efficiency and support of shelter strategies be examined?*

(CASE-STUDY)

3. *What are the differences of the shelter implementation process, between the rural and urban context, performing a cross-case analysis?*

- a- What are the specifications of the cases?*
- b- Which problems did occur during the implementation process of each case?*
- c- What is the effectiveness, efficiency and support of the shelter program within each case?*

(CONCLUSION)

4. *Which lessons can be learned, out of a comparison of the differences between the shelter program implementation process of the rural and urban context?*

- a- Does the evaluation lead to features of the urban complexity?*
- b- Does the rural practice describe solutions that can be applied to the urban context?*

14. SHO, Nederland Helpt Haïti deel 2. 2011. p. 37:39

Research overview

To summarize all research questions in a brief overview, a schematic overview is given to explain the principles of the research.

- A natural disaster has pointed out a specific problematic situation, which will be studied performing a case-study. The problem of the urban context first needs to be defined and clarified, in order to create the opportunity to specify solutions based on empirical research. Lessons and recommendations have to be given based on the case-study, supported by post-disaster reconstruction theory.

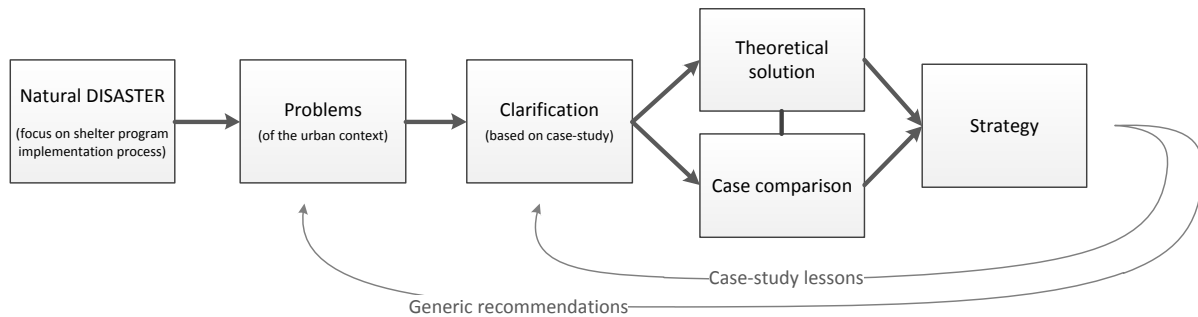


figure 6: 'research overview'

1.5 Kind of research project

The end goal of the research project would be to give a strategic advice based on a case-study supported by literature. Therefore the kind of this research project is named a **clinical case-study**, which follows the methodology of action research (as described by Braster, 2000)²³ and applies the theory of post-disaster reconstruction.

Within action research, a researcher follows a reflective cycle in his approach of the selected case. At first he takes the role of the ethnographer in which he primarily gathers data. During the second phase he creates more profound insights on themes he selected at the end of the first phase. At the last phase the researcher becomes the least objective and reflects on his previous (verified) insights, in order to make recommendations of his findings.

Task	Content	Activity	Role
description and analysis	<ul style="list-style-type: none"> - data gathering - organize data - analysis schemes - selection of themes for further research 	interview listening looking	ethnographer
diagnosis	<ul style="list-style-type: none"> - profound insights on selected themes - verification of insights 	dialogue	clinician
action and evaluation	<ul style="list-style-type: none"> - recommendations - strategies - evaluation of results 	consult	expert

table 1: 'the reflective cycle of action research' (translated from source²⁴ page 33)

23. Braster, J.F.A., *De kern van casestudy's*. 2000, Assen: Van Gorcum.

1.6 Research methodology

The reflective cycle of action research also refers to the subsequence of the research questions and the chapters within this report. The subsequent sub-questions describe four parts of the research project, which are 'problem description', 'analysis', 'case study' and 'conclusion'. Each part of the research reflects on the previous gathered insights, which changes the tasks and content of each part (see table 1).

1. 'PROBLEM DESCRIPTION' (chapters 1 and 2)

Part I of the research project investigates the available post-disaster theory performing desk-research. The complexity of post-disaster reconstruction is to be explained and the problem statement will be elaborated.

The stated sub-question will be answered at the end of chapter 2, concluding on the content of the former paragraphs. The first paragraph will describe the theory of post-disaster reconstruction. The second and third paragraph will describe the shelter implementation process and the problems that can be expected during implementation.

Which analytical framework can be used to overview the complexity of shelter program implementation, within the field of post-disaster reconstruction?

a- What is post-disaster reconstruction? (what is LRRD?)

b- How does a shelter program implementation process look like?

c- Which problems can be expected during the implementation process?

- The method of data collection and analysis within this part of the research is desk research. The academic field of post-disaster reconstruction has published a large range of books, articles and evaluation reports. The focus within this range is on literature describing post-disaster situations following natural hazards, within poor or fragile states and addressing the task of housing reconstruction within both the phases of relief and development. Other sources like newspapers, websites and film or broadcast, provide information relevant to the Haitian post-disaster situation and helps to analyze the current state of post-disaster activities of NGOs.

2. 'ANALYSIS' (chapter 3)

The second part of the research project will continue on the problems found within literature, to be clarified and transferred into themes. A connection between theory and an evaluation model has to be set up, in order to examine the effectiveness, efficiency and support of the shelter program implementation process. A more defined description of the urban context will be given and the hypothesis will be elaborated.

What paradigm can be used to understand and examine the use and impact of shelter strategies?

a- How do NGOs operate within a post-disaster context?

b- Which strategies can be used for the shelter program implementation process?

c- How can the effectiveness, efficiency and support of shelter strategies been examined?

d- What are the challenges of the urban context?

- The method of data collection and analysis within this part of the research is desk research, just as part I, but in more detail to the shelter program and urban context.

An additional method to verify the information found performing desk research is observation. Additional information is received during an intern position at 'Cordaid-Haiti' (in the cities Léogane and Port-au-Prince) with a total duration of four weeks. Observations of Cordaid's post-disaster activities are made within the post-disaster context of Haiti and interviews (both formal and informal) have been held with Cordaid employees (both Haitian and Dutch).

3. 'CASE STUDY' (chapter 4)

Part III of the research project will describe a case study, in which an evaluation model is used to examine the differences between the rural and urban context. Several themes will be used as indicators to specify conditions of the implementation process. Differences in effectiveness, efficiency and support between the two cases can then be used to relate the specific themes to be of more or less influence to the rural or urban context.

The selection of cases will be introduced in the first paragraph of chapter 4. The end of chapter 3 will elaborate the method of examination.

What are the differences of the shelter implementation process, between the rural and urban context, performing a cross-case analysis?

a- What are the specifications of the cases?

b- Which problems did occur during the implementation process of each case?

c- What is the effectiveness, efficiency and support of the shelter program within each case?

The composition of the case-study is similar to the reflective cycle of action research. The Haitian case-study will first be describe and analyzed, before the cases will be examined and compared.

- Data to be gathered and used to answer the questions are site-visit reports and process evaluations based on interviews and documents of Cordaid (manual of operations, site reports, statistics on deliveries, program evaluations).

- The examination is based on a qualitative comparison, answering the criteria. The case study gives an objective description of two cases, following a selection of themes, relevant to the criteria. The researcher suggests a higher or lower score, related to the description, classified per theme. The score is made thru the conception of the researcher and argued on the most important outcomes.

4. 'CONCLUSION' (chapter 5)

Part IV of the research project will conclude all preceding information. The themes that stood out in the cross-case analysis, confronting the problems of the urban context, could be a lead to adapted shelter strategies.

The sub-question has to reflect on the case-study, but also has to be strengthened by post-disaster reconstruction theory. Question 'b' has to investigate if the practice of the rural case describe solutions that can be applied to the problems of the urban case of the case-study. The cross-case analysis has to point out, which themes of the urban context have the opportunity to be adjusted in an adapted strategy.

Which lessons can be learned, out of a comparison of the differences between the shelter program implementation process of the rural and urban context?

a- Does the evaluation lead to features of the urban complexity?

b- Does the rural practice describe solutions that can be applied to the urban context?

- The method of data collection and analysis within this part of the research is based on a critical reflection of the results of the previous three sub-questions. The post-disaster reconstruction theory has to be found in the applied literature of post-disaster reconstruction of sub-questions one and two.

2. Post-disaster complexity

1. Which analytical framework can be used to overview the complexity of shelter program implementation, within the field of post-disaster reconstruction?

a- What is post-disaster reconstruction? (what is LRRD?)

b- How does a shelter program implementation process look like?

c- Which problems can be expected during the implementation process?

Introduction

Chapter 1 described the scope of the research, which was about the exceeding difficulty of post-disaster reconstruction within an urban context, focused on shelter strategies. This chapter will take a closer look on the **theory** of post-disaster reconstruction that is necessary to understand the activities within the post-disaster context.

2.1 Post-disaster reconstruction

'**Disasters** are defined as crises that overwhelm, at least for a time, people's capacities to manage and cope.'²⁴ Or in other words, a disaster is born when a society is failing to cope with a crisis. These definitions are given by the book *rising from the ashes, development strategies in times of disaster* (1998)⁵. Anderson and Woodrow emphasize an analysis of "capacities and vulnerabilities" as a tool to design aid programs within the field of post-disaster reconstruction. 'Acknowledging the **capacities** of the affected population is essential for designing and implementing disaster responses that have developmental impacts'.²⁵ The relationship between capacities and vulnerabilities and its relevance to post-disaster reconstruction will be explained in this first section of this theoretical background. The research subject of this report focuses on a **post-disaster context** in which natural hazards have had a dominant role in the destruction of urban areas.

A more recent book *rebuilding after disasters, from emergency to sustainability* (2011)³ by (Lizarralde, Johnson and Davidson) is in line with the theory of "capacities and vulnerabilities", but also describes 'access to resources' next to 'capacities' as indicator of developmental impact. Lizarralde (et al.) are following the definition; 'a disaster is a serious disruption of the functioning of a community or a society involving widespread human, material, economic, or environmental losses and impacts, which exceeds the ability of the affected community or society to cope **using its own resources**'.²⁶ Capacities are within this definition mentioned as abilities, and are seen as being dependent on the availability of resources.

This is illustrated by a model (see figures 7- a, b and c.), explaining the **concept of vulnerability** for post-disaster reconstruction.

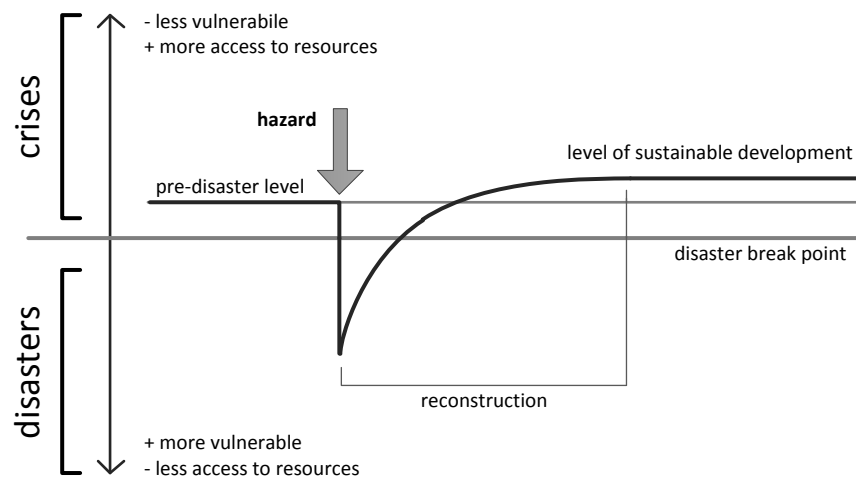


figure 7a: (author, revision of source⁶) 'access to resources and vulnerability'

24. Krimgold, F., *Overview of the Priority Area Natural Disaster*. 1976, United Nations: New York.
5. Anderson, M.B. and P.J. Woodrow, *Rising from the ashes, Development Strategies in Times of Disaster*. 1998, London: Intermediate Technology Publications. 338.
25. Lizarralde, G., *Organisational design, performance and evaluation of post-disaster reconstruction projects*. 2002.
3. Lizarralde, G., C. Johnson, and C. Davidson, *Rebuilding after disasters, from emergency to sustainability*. 2010, New York: Spon Press.
26. UNISDR, *United Nations International Strategy for Disaster Risk Reduction*. 2009, UN/ISDR: Geneva.

- The model indicates that a hazard creates a situation in which the vulnerability increases and the access to resources decreases. A crisis turns into a disaster when the impact of the hazard crosses the disaster break point. Reconstruction has to convert the disastrous situation back into a crisis, by increasing the access to resources, strengthening capabilities, with a decrease of vulnerability as a result.

When own resources will not support the ability to recover from a disaster, the need to access external resources will originate. **External aid** will become necessary in this situation. Following the theory of "capacity and vulnerability", two responses of the external (aid) world can be specified for post-disaster reconstruction.

The first response of post-disaster reconstruction is to assist in the direct disaster response to turn the disastrous situation back into a crisis. **The second response** is to increase the access to resources of the affected society, so that they will be able to increase their capacities to cope with the crisis and reach a level of sustainable development.

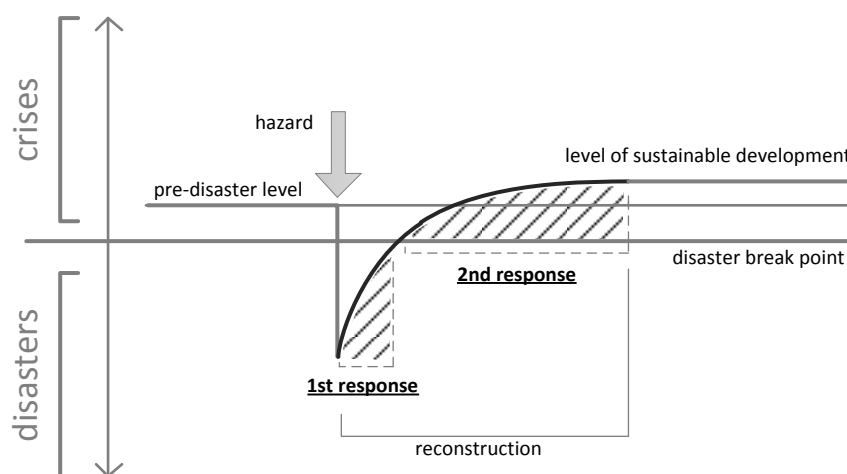


figure 7b: (author) '1st- and 2nd- response'

Box 3

Most capacities will be increased within the stage of development, which would eventually mean that outside aid becomes obsolete during the **ideal response** after a hazard. The 'disaster break point' will then hardly be reached, which means that own capacities are sufficient to cope and manage the crisis.

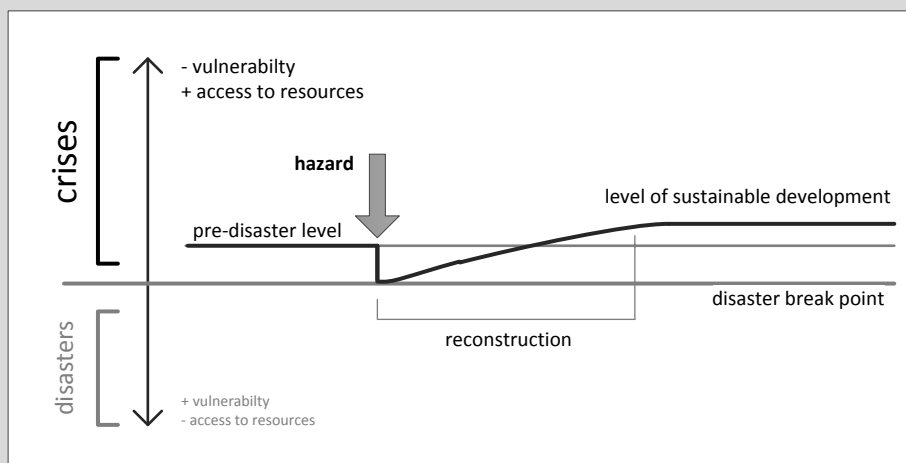


figure 7c: (author) 'ideal hazard response'

Post-disaster responses

External aid is divided over the two different responses of relief and development. 'Over the years, international non-governmental organizations (NGOs), aid agencies and main donors have been categorizing aid interventions into two main areas: emergency relief and development. It is a fact that these two kinds of intervention often require specific skills, approaches and, most of all, specific timings.'³

- The first post-disaster response answers to the direct needs of the affected society and can be seen as **relief aid**. Relief is focused to be short-term efforts, supplying essential needs directly to an affected society.

- The second response is focused on a long-term process of development, increasing capacities and reducing vulnerabilities. Anderson and Woodrow elaborate this second response within their theory of "capacities and vulnerabilities". 'Vulnerabilities refer to the long-term factors which affect the ability of a community to respond to events or which make it susceptible to calamities.'⁶ And; 'to avoid increasing vulnerabilities, it is necessary to identify capacities in order to know what strengths exist within a society on which future development can be built.'¹⁹ This process of development (Development itself defined as 'the process by which vulnerabilities are reduced and capacities increased'¹⁹) is an essential long-term need, but cannot be supplied to the affected society directly. '**Societies reconstruct, they are not being reconstructed.**'²⁷ The affected society has to develop themselves to become more capable and by that, more resistant to new disasters. This process can only be promoted by indirect support. This stimulation of local capacities by the outside aid world can be seen as **developmental aid**.

Lizerralde (et al.) describes another approach of vulnerability. 'Vulnerability is the lack of access to resources'³. For which there are two types of resources, "hard" resources (tangible and physical) such as housing, infrastructure and public services, and "soft" resources (non-tangible or non-physical) such as employment, education and information. Lizerralde (et al.) describes the stimulation of development as a pairing of local and external resources. '**Post-disaster reconstruction** is defined as the process of improvement of pre-disaster conditions, targeted to achieving long-term local development and disaster risk reduction through the pairing of local and external resources, thus giving residents increased access to both "hard" and "soft" resources'.³ The availability of resources will lead to an increase of development during a process of improvement, in which developmental aid has to follow relief aid in sequence.

Post-disaster reconstruction can be seen as a collection of interventions after a disaster, with the intention to increase capacities during the process of relief and development. It would be most interesting to study such a process from practice. The motivation behind the research subject is to understand how external aid has the potential to improve internal capacities.

International Non-Governmental Organizations, who operate in both relief and developmental aid, have to accomplish a transition within their strategy of aid program execution. During the first response they have to supply "hard" resources, and this has to transit into "soft" resources on the long term. This transition can be seen within the shelter program, where the aid has to shift from handing out emergency tents, to stimulating the realization of permanent housing.

This research study will be focusing on a shelter program, performing a case-study with the support of an international NGO, to describe a practical example of this process.

6. *Linking relief to rehabilitation and development*. VOICE out loud, 2006(4).

27. Hilhorst, D., *Saving lives or saving societies? Realities of relief and reconstruction*. 2007.

2.2 LRRD

The previous paragraph defined disasters and the concept of vulnerability with its first and second response of post-disaster reconstruction and the influence of NGOs. This paragraph will elaborate the recovery process into more detail and describe the main issue confronting the transition between the support of "hard" and "soft" resources.

The first priority of post-disaster reconstruction would be to save lives on the short term, but the following goals are to recover damage, and to prepare for the next disaster on the long term. In order to achieve these goals, it would be most important to **link relief aid with** the efforts of **developmental aid**, in order to facilitate a successful recovery of the affected society. 'If relief and development can be "linked", deficiencies can be overcome. Better "development" can reduce the need for emergency relief, better "relief" can contribute to development, and better "rehabilitation" can ease any remaining transition between the two'.²²

'Linkages in disaster response between immediate relief operations and subsequent efforts in reconstruction and development, are also known under the acronym LRRD'.²⁸ It stands for 'Linking Relief, Rehabilitation and Development'. The aid world uses the term of '**LRRD**', which refers to the linking process of different phases of post-disaster reconstruction. '**Reconstruction** is defined as an integrated process designed to reactivate development, and at the same time create a peaceful environment'.⁷ LRRD is used as a method to specify and organize this integrated process.

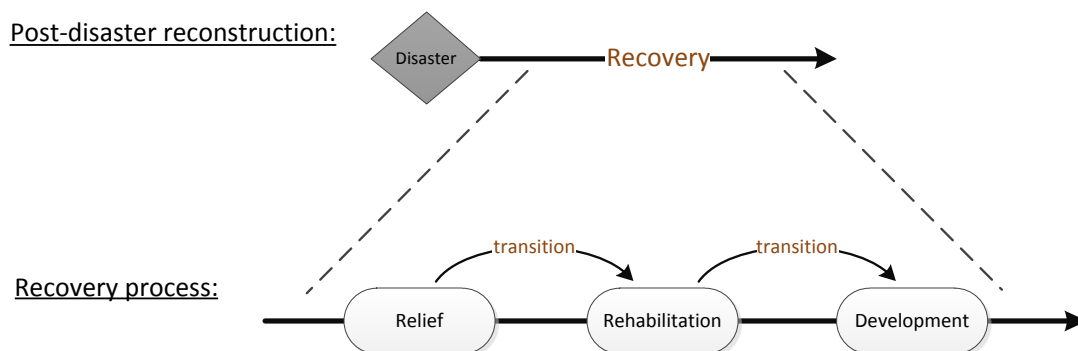


figure 8: (author) 'transitions within post-disaster reconstruction'

- The recovery process is a subsequence of the three LRRD-phases. Relief can be seen as the first aid given in ways of food, water and emergency shelter. Development leads to an ongoing process, 'strengthen livelihood security and reducing vulnerability'.⁵ Rehabilitation is positioned between relief and development, to create a transition between short-term and long-term goals. 'According to the European Commission, rehabilitation may be defined as "(...) an overall, dynamic and intermediate strategy of institutional reform and reinforcement, of reconstruction and improvement of infrastructure and services, supporting the initiatives and actions of the populations concerned, in the political, economic and social domains, and aimed towards the resumption of sustainable development".⁶ This definition of rehabilitation is reasonably profound, but does not give a very practical view on how rehabilitation as a phase represents itself in reality. Rehabilitation will be more elaborated explaining its application to the housing program as an example.

22. Cannon, T., *Vulnerability Analysis and the Explanation of 'Natural' Disasters*. John Wiley & Sons, 1994: p. 13-30.

28. Christoplos, I., *Links between relief, rehabilitation and development in the tsunami response*. 2006, Tsunami Evaluation Coalition.

7. Barakat, S., *Post-War Reconstruction and Development: Coming of Age*, in *After the Conflict. Reconstruction and Development in the Aftermath of War*. 2005: London. p. 11.

- Within a **housing program**, relief can be seen as the phase in which the affected people get provided with emergency shelters. The phase of rehabilitation will execute a strategy to bring the people out of their emergency shelters, into a temporary shelter, to be followed by a strategy to support the realization of a more permanent house that would bring the rehabilitation phase into the phase of development. In this way rehabilitation is a strategy, but also has its own specific influence on post-disaster reconstruction (linking both “hard” and “soft” resources). It is a separate phase in which temporary measures are taken to mediate between the efforts of relief and development.

The main issue is that the two responses of relief and development are fundamentally different, which almost makes them being contradictory to each other. The approach of relief aid is to support the direct needs and focuses on short-term survival. And the approach of developmental aid is to support the long-term needs and focuses on prosperity. 'There is no such thing as relief projects that are neutral in terms of development. They either support it or undermine it.'²⁵ Relief by external support of food and healthcare for example, saves lives on the short-term, but undermines the ability to develop an own food distribution system and a healthcare system on the long-term, if relief is not transferred into development. 'Classic forms of relief are criticized for undermining local people and institutions, but are capable of getting large life-saving operations running within a matter of days'.¹⁸

The idea of LRRD for post-disaster reconstruction is to make both approaches compatible with each other. 'The early LRRD discourse reflected a need to proactively search for ways to ensure that, at a minimum, relief did not undermine the prospects for future development, and hopefully, that it would greatly improve the prospects for a smooth transition back to normal development modalities.'¹⁸ This requires a transition from relief aid to development aid, without downgrading each single effort. 'The challenge is how to define effective relief interventions which benefit the victims of an emergency crisis but do not jeopardize development strategies'.⁶

Conclusion

The aid world is aware of the issue to link relief with development, but there is no easy solution to the problems it brings along. The concept of vulnerability of the previous paragraph points out that in theory the transition from relief to development has to evolve from supplying “hard” resources into stimulation of the “soft” resources. But in reality the circumstances of post-disaster reconstruction makes is very difficult to create this transition. It is the question of how to identify vulnerability, for which the next paragraph will focus post-disaster reconstruction on the process of shelter program implementation, being one of the many efforts of post-disaster reconstruction.

Box 4

'In geographical areas repeatedly threatened by famine, aid agencies frequently intervene by providing **food aid**. In many circumstances, such aid appears to be the only kind of intervention able to meet the risk of massive starvation. At the same time, both local governments and aid agencies are aware that a long term solution to famine can only be overcome by reducing the dependency to rain fed agriculture (for instance by increasing the use of irrigation and the diversification of local rural economy). In other words, the ultimate answer to food emergencies is development. In this perspective, LRRD is more than a “fashionable” academic concept; it is an effort to reduce the distance between external aid and the field reality.'⁶

- *'Give a man a fish and he will eat for the day, teach a man to fish and he will eat for a lifetime.'* (Chinese Proverb)

2.3 Shelter program

The shelter program implementation process, is a practical example of how vulnerability is to be reduced, during the phases of LRRD.

The concept of "Shelter" is explained by the '*Disaster management glossary*⁴, being the 'basic housing provision to protect against the elements'. To shelter is the minimum of "housing standards" ('determination of an acceptable level of size and use of a dwelling in terms of the number and composition of the inhabitants, varying according to climate, economy or tradition.') 'Minimal standards are those deemed sufficient to maintain health'. During the phases of LRRD, the acceptable level of housing standards has to evolve from minimal standards to a more developed standard. A **shelter program** is an aid program that has to answer the housing needs during the period of post-disaster reconstruction. A shelter program can therefore also be named a **housing program**, if the recovery process is reaching beyond the phase of relief aid. Temporary shelter solutions of relief aid, have to evolve into the realization of sustainable housing to bring a society from life-support into development.

The issue with LRRD was explained in the former paragraph. **Development is a process** which can't be reconstructed, it can only be stimulated by aid organizations. That would mean that the phase of relief and rehabilitation already have to be focused on supporting developmental effects, when the post-disaster situation is being controlled by NGOs.

A scheme by Alexander (2002)²⁹ illustrates post-disaster development as the last phase of **post-disaster reconstruction**. It also gives an extra phase called 'reconstruction' following relief and rehabilitation. This phase represents the activities necessary to reach the phase of development. The scheme compares the phases on the scale of time and unit costs. It shows that the phases are overlapping each other and that phases of reconstruction and development take a lot more time to accomplish in comparison with the phases of relief and rehabilitation.

The scheme is used as an example to visualize the recovery process in order to increase the understanding of the theory of post-disaster reconstruction and the shelter program.

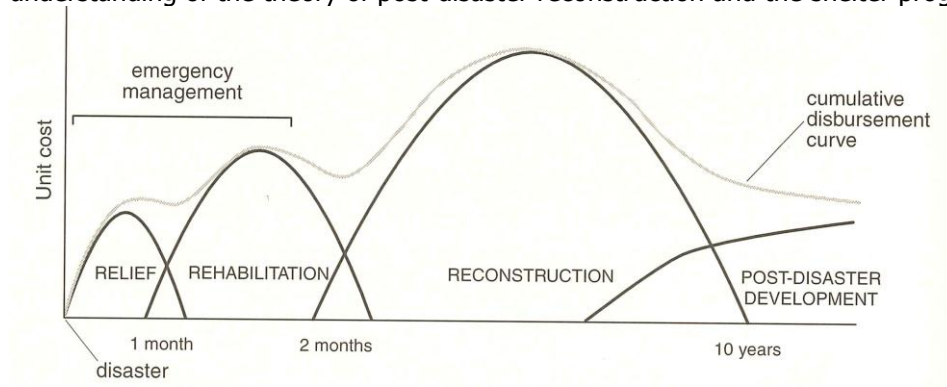


figure 9: (Alexander, 2002) 'costs and time per phase of post-disaster reconstruction'

Following the theory of "capacities and vulnerabilities" by Anderson and Woodrow (1998)²² and given the difference that development has to be accomplished by promoting a process and not by providing a (relief-) product, the position of development can also be projected more forward in this scheme.

4. Nimpuno, K.U.H., *Disaster management glossary*. 1998, (DERC) Disaster and Emergency Reference Center: Delft.
29. Alexander, D., *Principles of emergency planning and management*. 2002, Oxford: Oxford University Press. 340.

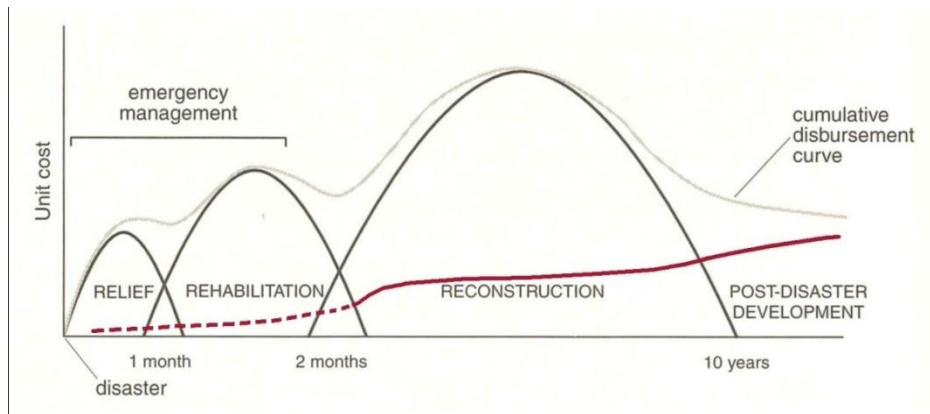


figure 10: (own revision of source) 'Development as ongoing process'

- The phase of development should at least be started before reconstruction and should for example enable participation with the local community during reconstruction. It would be even better to support developmental aspects already during the relief phase, by for example assigning community leaders to distribute emergency food and water. It is the focus of post-disaster reconstruction that first has to have its priority on Relief, then Rehabilitation and at last Development. That doesn't exclude that relief also can have developmental effects.

The activities of a shelter program are described in several books and reports^{30,31}. Summarized they are: the supply of emergency shelters, needs assessments, temporary shelters, community participation, selection criteria, shelter design, permanent housing, quality control and after care. The activities are elaborated in table 2 and figure 11.

Subject	Description
'Emergency shelters'	- can be created by the use of tarpaulins or it can be facilitated by insertion to public buildings or host families.
'Needs assessments'	- are being done by NGOs in order to investigate for which kind of aid the demand is high and by who, to deliver the aid more adequate.
'Temporary shelters'	- can be facilitated by tents, prefabricated shelters or other temporary structures.
'Community participation projects'	- are been done to strengthen the community and to deliver the aid more functionally. Community members can point out priorities (for example infrastructural bottlenecks) and can support in building activities or social activities.
'Selection criteria'	- are needed to point out the weakest inhabitants of an area who are in greatest need for help. They will be given aid first because the effects will be the highest.
'Shelter design'	- will have to follow the demands of the beneficiary in order to be satisfying. Pilot projects have to point out the best building materials and methods within a specific context.
'Permanent houses'	- can be created by building them new, repairing repairable houses or building transitional-shelters or semi-permanent houses.
'Quality control'	- is needed to control the craftsmanship of the builders. New houses have to be resilient to next disasters. Money would be spent wrong if the quality won't fit all necessary demands that are related to the shelter design.
'After care'	- is needed to support the beneficiary in unforeseen faults which can lead to alterations to the design of the building. But 'after care' can also be seen in the support of micro-credits to support an economic function within the permanent house (shop, office, and service).

table 2: 'shelter program activities'

30. UNDRO, *Shelter after Disaster; Guidelines for Assistance*. 1982, United Nations Disaster Relief co-Ordinator (Geneva): New York.

31. FEMA, *Rebuilding for a More Sustainable Future: An Operational Framework*. 2000, Federal Emergency Management Agency.

figure 11: (author) *'Shelter activities during the phases of post-disaster reconstruction'*

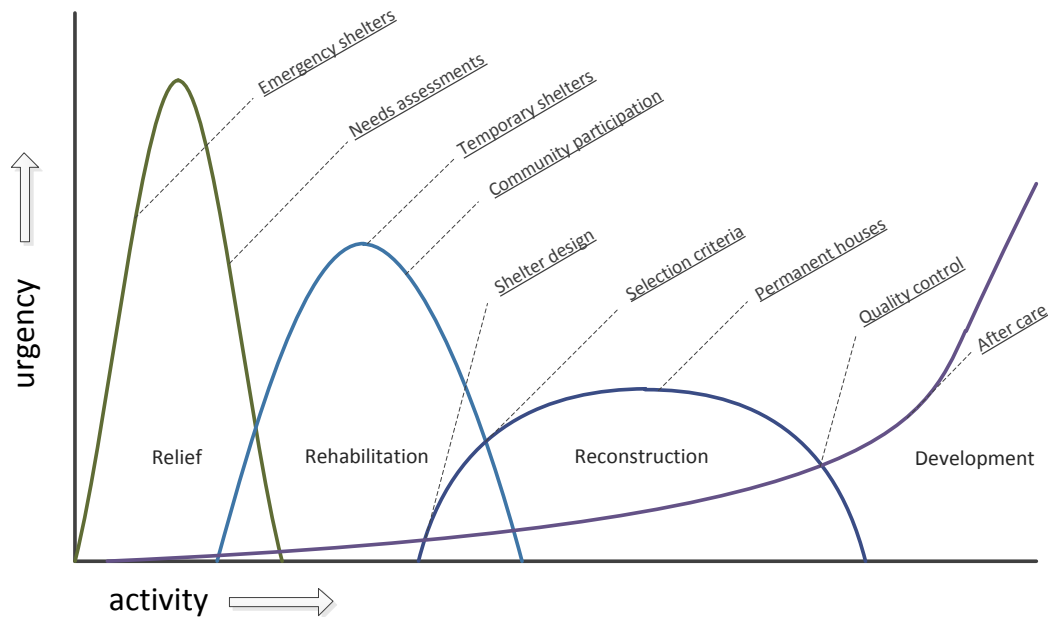


Figure 11 illustrates the same phases of post-disaster reconstruction as also been illustrated by Alexander in figure 9.

- The first phase of 'Relief' got the highest priority, because this stage requires first-aid responses. (People's lives can be saved directly.) Emergency shelters and needs assessments are tasks relevant to the shelter program within this phase.

The second phase 'Rehabilitation' got the second priority, because the affected people have to be transferred back to their home area. The creation of a temporary shelter area is one of the most important tasks during this phase, but also community participation takes an important role.

The task of 'Shelter design' is connected with rehabilitation, reconstruction and development. A temporary shelter could be designed to transit into a permanent house, which suggests a physical evolvement of the accommodation facility. This can be done following the typology of transitional shelters which has fit the local needs very well, in order to be developmental.

The task of 'Selection criteria' is located in the intersection between rehabilitation and reconstruction. People within the temporary settlements have to be given adequate reconstruction of their homes. For some this could only require some small repairs, for others a new constructed house.

The phase of 'Reconstruction' reconstructs infrastructure, public buildings and permanent houses. 'Quality control' has to reflect on the quality of reconstruction, implementing criteria that also focus on the creation of developmental impact. 'After care' adjusts any faults or unpleasant secondary results of the implemented aid program.

The phase of 'Development' is active during all other phases, but its priority rises at the end of the scheme. The last phase of post-disaster reconstruction is confronted by the urgency to prepare for the next disaster. A drawback of all recovery efforts has to be prevented when a new disaster strikes.

2.4 Problems that can be expected during the implementation process

The shelter program implementation process is a collection of dynamic activities, to be executed within a period of time. Multiple actors perform multiple tasks within the whole process, which can be seen as separated hordes.

- The problems that can be expected during the shelter program, is that the cooperation with (local) stakeholders can be unfit. The import and transport of resources can delay. Government policies to dedicate national coordination can be absent. And local institutions could be insufficient knowledgeable to join the reconstruction effort. This would all lack the effectiveness of the shelter program to increase capacities and decrease vulnerability of the affected society.

- Next to this, the available amount of international money could be low or linked to fierce requirements from the donors. Expenses could sum up due to corrupt stakeholders or money could be lost because of stagnation within the execution. Time could also be a problem in as well the duration as the probability to a new disaster (political, natural, economical etc.). Unfortunate use of time and money will lack the efficiency.

- At last the shelter program could be taking the wrong intention for its strategy. Shelter designs and locations could miss to answer the needs of the affected population. The execution of the building process could also be conflicting with the needs of the local stakeholders, which can result into obstructions or negative side-effects of the program. These problems would indicate a low support for the shelter program.

Within **the Haitian situation** the symptoms are that the transition to the phases of Rehabilitation and Reconstruction are lacking. People are still living in emergency camps or in temporary shelters that are not designed to last longer than year. Aid organizations are working to create the transition between Rehabilitation and Reconstruction, for which strategies to link reconstruction with development can be studied.

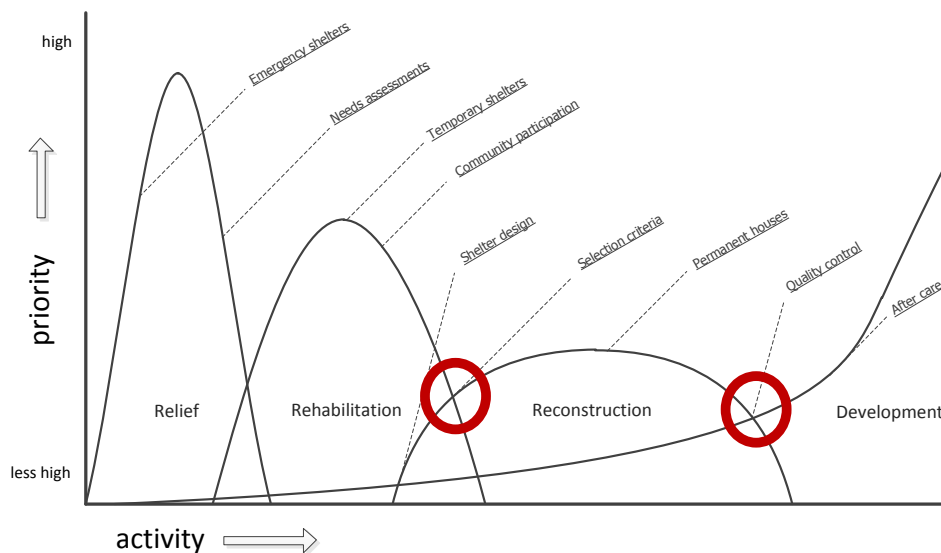


figure 12: (author) 'Shelter activities during the phases of post-disaster reconstruction'

With focus on the current Haitian state (left circle) and focus on future transition (right circle).

It would be interesting to study how permanent houses are being build, which answers the building standards of the local community. If the NGO approaches the shelter program only as relief aid, it would be hard to create permanent houses that will be used on a long-term. If the NGO approaches the shelter program only as developmental aid, it would be hard to create short-term and cheap results to satisfy their donors.

2.5 Analytical framework

The complexity of post-disaster reconstruction is that the values of capacity, vulnerability, access and use of both "hard" and "soft" resources, and reconstruction itself are existing out of extensive theories. The analytical framework of this research project, focused on the task of housing will take the notion that the effectiveness of a shelter program, is to meet the most current housing standards for the population concerned. These housing standards are in relationship with the needs of the population and the prosperity their society can realize. These needs are linked to the common benefit of the society to reduce vulnerability to become a developing country.

Still the question is how to define vulnerability from theory to practice, within the housing situation of Haiti. The next chapter will elaborate on shelter strategies, which continues on how the housing needs are to be answered.

3. Shelter strategies

2. What paradigm can be used to understand and examine the use and impact of shelter strategies?

a- How do NGOs operate within a post-disaster context?

b- Which strategies can be used for the shelter program implementation process?

c- What are the challenges of the urban context?

d- How can the effectiveness, efficiency and support of shelter strategies been examined?

Introduction

Chapter 2 explained the **theory** of post-disaster reconstruction that is necessary to understand the activities within the post-disaster context. This chapter will outline the actors and actions within the execution of shelter strategies.

3.1 introduction of actors within the post-disaster context

'Post-disaster reconstruction is complex, involving many people, many agencies and many governments at the international, national, regional and local levels'.² Several actors are related to the post-disaster context of a less-developed country. The previous chapter also elaborated that the theory of post-disaster reconstruction is complex, which creates a difficult task towards many stakeholders, divided over multiple levels.

A range of actors related to post-disaster reconstruction will be introduced:

- International Community (UN)

The United Nations are founded after the second world war in 1945 and has 195 member states (anno 2011). Important institutions are UNDP (UN-Development Programme) and UNOCHA (UN-Office for the Coordination of Humanitarian Affairs). They strive to empower lives, create more resilient nations and offer coordination to save lives, to countries that are in need for aid.

- INGOs (International Non-Governmental Organizations)

Another part of the international community are the international operating Non-Governmental Organizations. These charitable institutions support the recovery process in post-disaster situations around the world to represent the altruism of their donors.

- Government

The instant need to recover large dysfunctional urban areas, is one of the hardest task an government can get. Especially within less-developed countries. The government that exists is often limited in their actions and has a lot of work to catch up from their predecessors.

- Municipality

Municipalities are the representatives of the government within a local area, but their workforce can be very small. Communication and decisions making processes can often take a lot of time.

- Local NGOs

Voluntary works, organized by local initiators (like churches, wealthy people, politicians, community leaders) to operate locally. Also named CBOs (Community Based Organizations).

- Private Organizations

Local and international profitable organizations. They operate next to the NGOs or in command by them. They could also be founded by local entrepreneurs after the disaster.

- Local Community

Next to the local entrepreneurs (businessmen, farmers, shop keepers), there are also other people who are able to contribute to the reconstruction process. They can contribute directly as staff of the NGOs or indirectly as contribution to a reconstruction project. (all professions can be used, especially the service industry: teachers, nurses, drivers etc.)

- Diaspora

People in less developed countries often have relatives living in developed countries who are sending them money. Those relatives often fled the country in the past to find prosperity elsewhere and are called the Diasporas.

- Donors

Individuals and organizations that collect funds after a disaster occurred and transfer these to NGOs who are able to convert this money into interventions.

- Media

The interventions directed by NGOs are often closely monitored by the media. Journalist who started to report the need of aid, often evaluate within their reports what aid have been given, and how the situation within an affected society has been changed.

The focus within this research lays on the execution of shelter programs, executed by NGOs. This focus is taken because the NGO has got the most influence among the actors. The NGO is positioned between the United Nations (UN) and the Local community and is able to link the needs of the state (top-down approach) with the needs of the community (bottom-up approach).

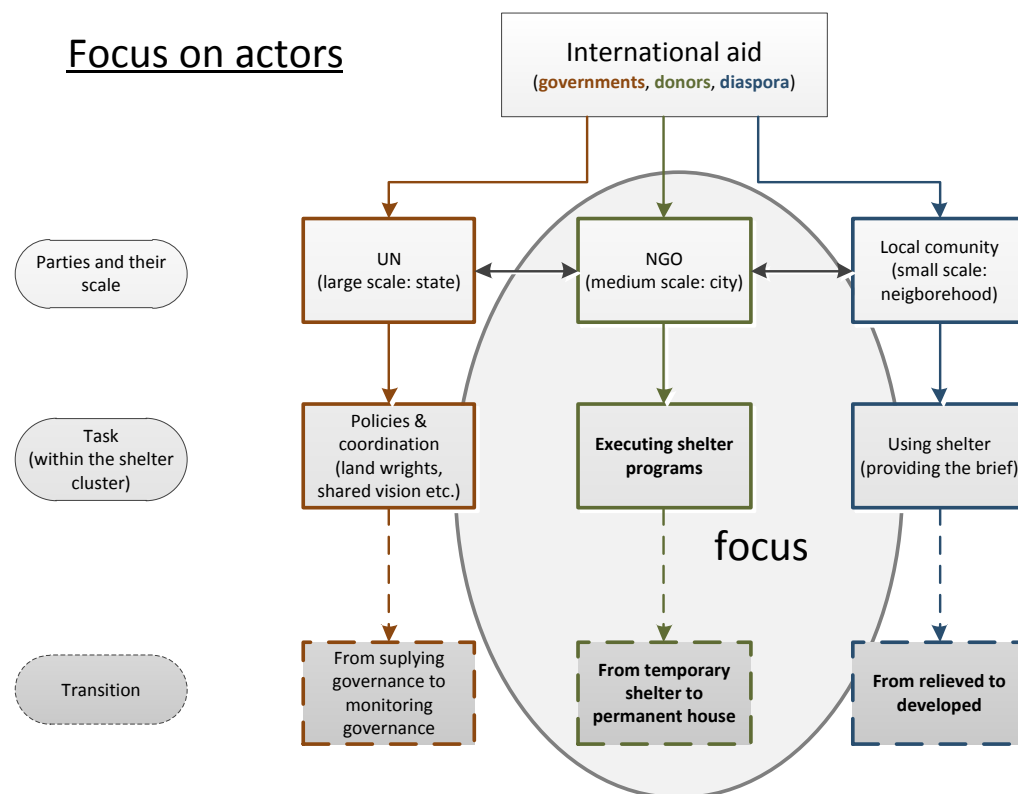


figure13: 'focus on actors'

The case-study focuses on the execution of shelter program, executed by NGOs, following a strategy to create a transition between relief with development. Within the 'focus on actors' – framework, this relationship between NGO, shelter program and the transition between temporary- to permanent- shelters is positioned in the center column of the framework. The left column represents the relationship between the UN, the implementation of policies with transition to local governance, is active within the frame but has the least focus of the research. The right column of the beneficiary that uses the shelter and has to become more developed, is also present within the focus, but the main focus lies on the shelter program implementation process.

3.2 NGOs (Non-Governmental organizations)

This paragraph will explain the term NGO. The features of NGOs will be described from general perspective.

The NGO-sector started growing by tenfold during 1970 - 1985. In 1992, international NGOs already obtained 7.6 billion dollars and the growth still continues.³² The estimation of obtained money for 2009 is 90 billion dollars*, to be used by more than 40.000³³ NGOs worldwide. NGOs have different backgrounds and can be founded based on religious values but also on private humanitarian backgrounds. CARE for example was founded by 22 American private organizations in 1945 and is not affiliated by a specific religion or belief system³⁴. Cordaid on the other hand, was founded in 1914 as a Catholic committee to help child refugees of the first World War.

A definition for 'Non-Governmental Organization' is given by the 'World Bank':

'private organizations that pursue activities to relieve suffering, promote the interests of the poor, protect the environment, provide basic social services, or undertake community development'
(Operational Directive 14.70, August 28, 1989)

In a wider usage, this definition can be applied to any non-profit organization which is independent from government (including labor organizations, civil rights movements, environment preservation organizations). It does not describe the term "NGO" as being used in this report. Also this wider usage and the term itself literally taken, only raises more questions. Some NGOs are mainly funded by the government of their homeland, which could provide them with secondary objectives. And most NGOs are delivering voluntary services, but their own staff needs to be paid. This opens the debate about the actual 'non-profit' and 'non-governmental' identity of NGOs.

The World Bank also describes two main categories of NGOs:

1. *Operational NGOs* - whose primary purpose is the design and implementation of development-related projects.
2. *Advocacy NGOs* - whose primary purpose is to defend or promote a specific cause and who seek to influence the policies and practices of the Bank.

These categories help to distinguish non-profit works, within the orientation of practical and political development. But large NGOs often work on both fields.

This research will not seek to create a definition that has a better fit for the term NGO, but it wants to give an insight into its confusing terminology. This research will look at the term NGOs as *'organizations who wants to improve the living conditions of all poor societies, by executing interventions into the affected society'*. They want to improve the quality of life. Whether they originate from an altruistic or governmental background, will not change their incentive to deliver aid. Also the question to what kind of degree a NGO can be seen as non-profit, will not change the role they already have within the developing world. What this research wants to address, is that the confusing terminology could be a lead to more complex matters within the NGO-system.

32. website, W.B. *NGO Research Guide*. 2001; Available from:

http://library.duke.edu/research/subject/guides/ngo_guide/igo_ngo_coop/ngo_wb.html#def.

* 15% of the total aid given internationally source: <http://data.worldbank.org/indicator/DT.ODA.ALLD.KD>

33. Anheier, H., M. Glasius, and M. Kaldor, *Global civil society 2001*. 2001.

34. CARE. *'Defending dignity. Fighting poverty.'*. Available from: <http://www.care.org/about/history.asp>.

3.3 Shelter program coordination

The aid-programs from Cordaid and hundreds of other NGOs within Haiti, are being coordinated following the cluster approach.³⁵ The cluster system was proposed in 2005 in order to strengthening effectiveness and addressing gaps. All activities within post-disaster reconstruction, are divided over fifteen clusters. The fifteen clusters are: Agriculture, Camp Coordination, Child Protection, Education, Early Recovery, Food, Gender, Health, Information Management, Logistics, Nutrition, Protection, Shelter and NFI, Telecommunications, Water Sanitation and Hygiene.

The Early recovery cluster is facilitating the reconstruction of dysfunctional urban areas. The main objective includes:

- Support of adequate return
- Provision of basic services to most vulnerable groups
- Socio-economic integration of vulnerable groups
- Disaster preparedness
- Reinforcement of local communities

Clusters



figure14: 'cluster logo's'

The cluster '**Shelter and NFI**' (Non-Food Items) arranges the coordination of who is doing what and where (3W-database) concerning rehabilitation. It provides an overview and a platform for NGOs to exchange information like maps, damage assessments and NGO-presence within a specific region.

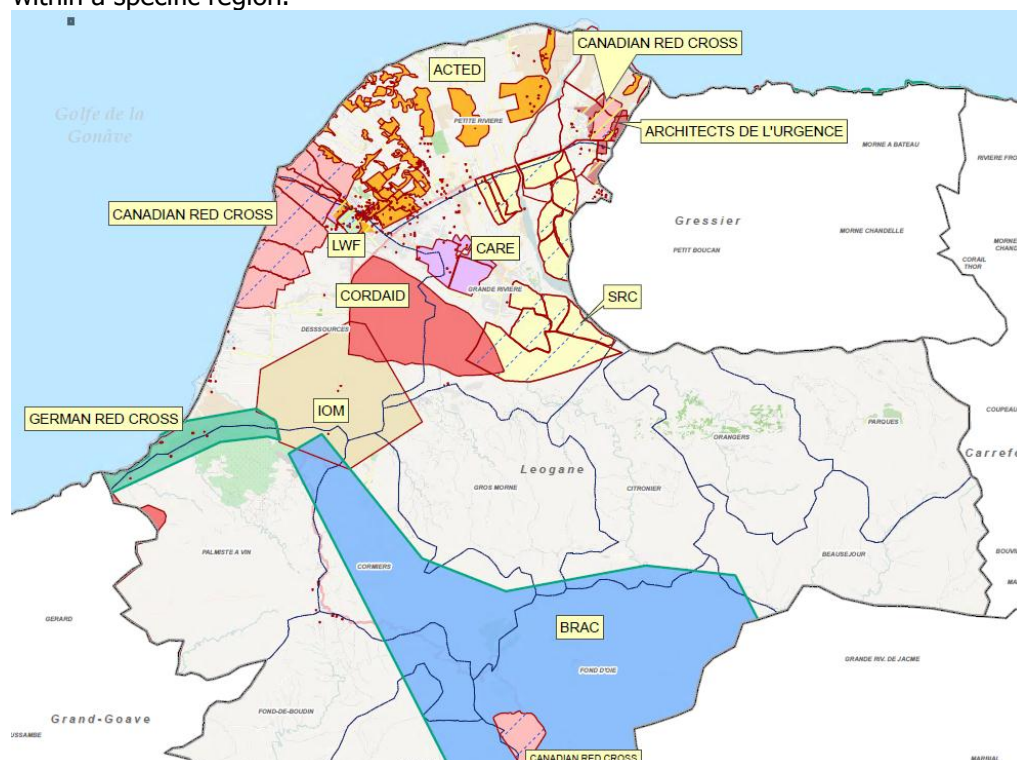


figure 15: 'division of NGOs in Léogane'

In red the geographic position of Cordaid, together with other NGOs within the region of Léogane.

- The chaotic composition of the areas in the illustration and the large range of clusters in general, can be seen as a lead to flaws within the coordination system.

35. OneResponse. *Cluster Approach*. 2010; Available from: <http://onerresponse.info/Coordination/ClusterApproach/Pages/Cluster%20Approach.aspx>.

Cordaid's shelter program is being coordinated by the '**Shelter cluster**'. Meetings between multiple NGOs are held, to compose guidelines which can be used for shelter programs of all NGOs. It tries to lead different NGOs into the direction of a similar shelter design with an equal quality. But there is limited responsibility to act following these guidelines. Also the cluster system itself or the topographical location for aid programs are not compelling. This leads to critical reviews, suggesting controversial strategies of some NGOs.^{36 37 38 39}

The NGO coordination system has got its shortcomings. It is a problem that should be addressed by a higher authority like the United Nations. Political debates should be held and international agreements should be made in order to improve the organizational structure of the NGOs. This research will not go into this overhead problem. It wants to give a general remark to this complex system in which all kinds of other reasons can be found why the NGOs are not working optimal.

A more feasible approach will be taken within this research project, by focusing on the management of a shelter program.

Box 5

Section of a letter from the American congress: April 20, 2011

'USAID is not cooperating with Haitians.

USAID has significant leverage with NGOs to enforce complete coverage of IDP communities, genuine local participation, and true collaboration with governmental and nongovernmental partner groups. Last but not least, we must collaborate closely with Haitians themselves in this effort, and particularly the Haitians living in camps.*

If there is any constant in the criticism that has been directed at relief efforts in Haiti, it is that the international community has failed to adequately consult and coordinate with the Haitians receiving assistance.'

* (Internally Displaced Person)

http://clarke.house.gov/UploadedFiles/Executed_Letter_to_Sec__Clinton_re_IDP_Camps_in_Haiti.pdf

36. Polman, L., *War Games - The Story of Aid and War in Modern Times (a.k.a. The Crisis Caravan)*. 2008.

37. Moss, D., *Haiti's Reconstruction: Who Benefits?* Foreign Policy In Focus, 2011.

38. blog, c.e.p.r. *Haitian Companies Still Sidelined from Reconstruction Contracts*. 2011; Available from: <http://www.cepr.net/index.php/blogs/relief-and-reconstruction-watch/haitian-companies-still-sidelined-from-reconstruction-contracts>.

39. Odzer, A., *Haitian doctors in South Florida say they can't get to Haiti to help*. NBC Miami, 2010.

3.4 Post-disaster shelter (LRRD strategy)

The execution of a shelter program as part of a disaster response is a big task, which is often done by international NGOs. **The shelter program** can be divided into a sequence of multiple activities divided over the phases of post-disaster reconstruction²². 'Expert opinion inclines to the view that shelter after disaster is a dynamic rather than a static phenomenon, an evolving process rather than a fixed goal.'³ Alexander (2002) gives an overview of options in accommodating people as an example of the shelter program process.

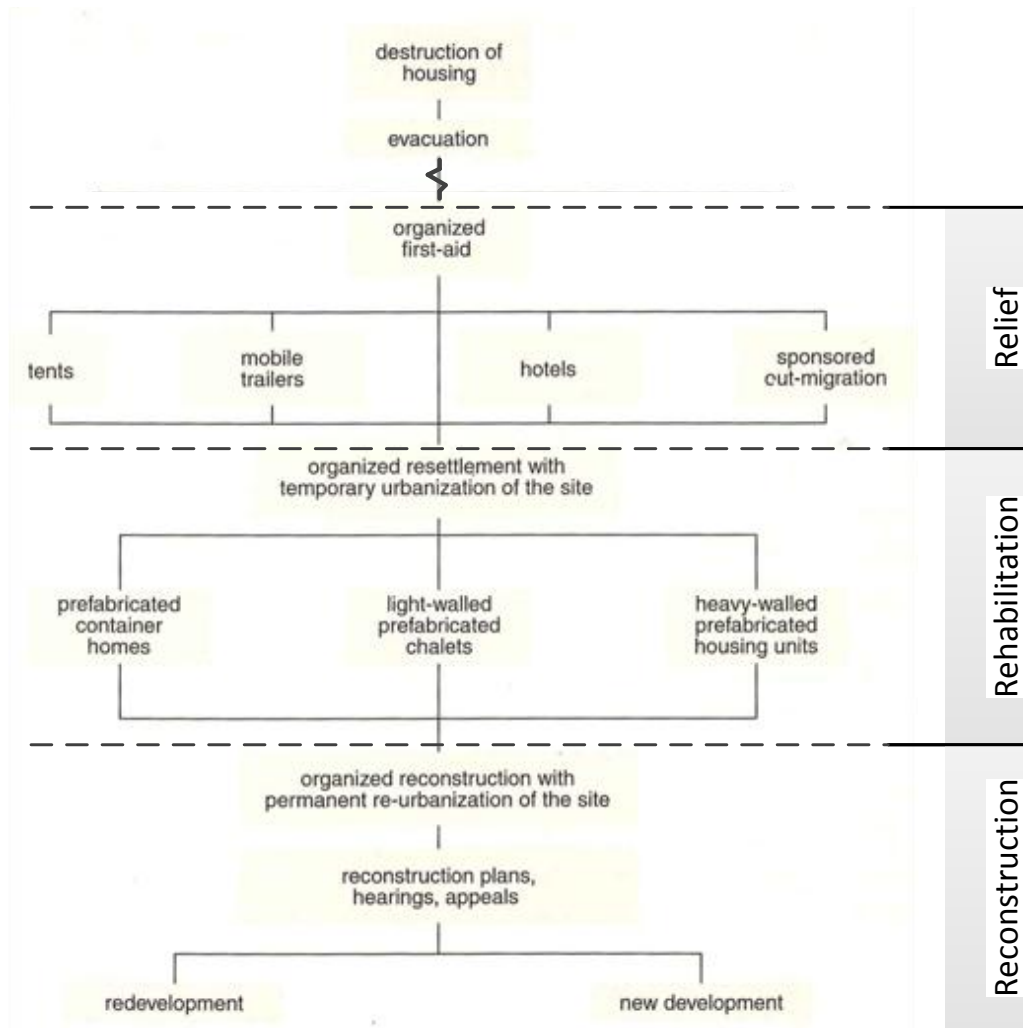


figure 16: (own revision of source³²) 'Sequence of options in accommodating people'

The scheme is linked with the phases of post-disaster reconstruction. And the options in accommodating people correspond with the activities that evolve during the post-disaster aftermath. Emergency shelters have to be organized during the relief phase. Resettlement with temporary urbanization has to be organized during rehabilitation. And reconstruction organizes permanent re-urbanization which has to lead to development.

When a NGO executes a shelter program, another scheme can be followed that will illustrate the evolving housing standards during the execution. The 'post-disaster re-housing process' describes the three phases of response to a disaster, which will have to convert the housing situation from being disastrous, to the situation that focuses on development.

Post-disaster re-housing process

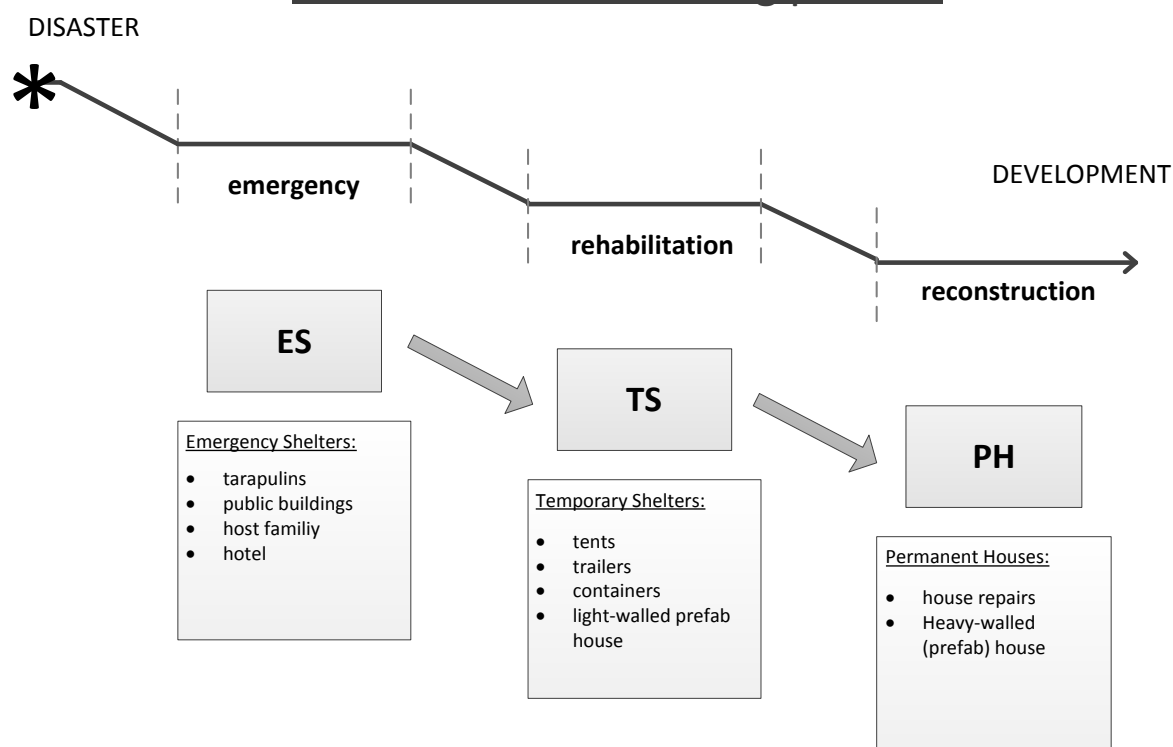


figure 17: (author) 'the post-disaster re-housing process'

- The scheme illustrates the range of possibilities to accommodate people, divided over three phases of post-disaster reconstruction just as figure 16, but focusses more on the transition between the phases. The three phases represent an evolving housing process, from emergency (emergency shelter), to rehabilitation (temporary shelter), to reconstruction (permanent housing). The shelter types and their specifications are described in the book *'Principles of emergency planning and management'* (2002)²⁹.

During the **relief** phase, the emergency needs only require a place to shelter. This can be facilitated in by plastic sheets, public buildings, hotels, or at host families. During the phase of **rehabilitation**, the beneficiaries will need a place of their own. This can be facilitated by temporary shelters like tents, trailers or container houses. The phase of **reconstruction** would have to facilitate the final transition to permanent housing. This would require more building standards than just the need for shelter and some privacy. The permanent house has to answer housing standards that increases comfort and supports general development of the society (connection to electricity, water, sewage, public services, waste collection etcetera).

The report *'Shelter after disaster, guidelines for assistance'* (1982)²⁹ also describes a general time indication per phase of post-disaster reconstruction. The phase of emergency shelter should take about 5 days. By then the affected people find emergency shelter themselves within the first days and are given emergency supplies at the end of the phase. The disaster should then been taken under control which creates an opportunity to start a program for rehabilitation. The phase of rehabilitation should take up to 3 months, after which the affected people has been placed in temporary settlements. The last phase of reconstruction has to return the affected population to a renewed permanent housing area.

29. Alexander, D., *Principles of emergency planning and management*. 2002, Oxford: Oxford University Press. 340.
 30. UNDRO, *Shelter after Disaster; Guidelines for Assistance*. 1982, United Nations Disaster Relief co-Ordinator (Geneva): New York.

Time Phases	Time period	Shelter type
Phase 1 'Emergency'	from impact to day 5	emergency shelter
Phase 2 'Rehabilitation'	day 5 to 3 months	temporary shelter
Phase 3 'Reconstruction'	3 months onward	permanent housing

table 3: 'shelter types per time period'

The transition from temporary shelter (rehabilitation) to permanent housing (reconstruction) can be seen as the representation of the transition between relief-aid and developmental-aid for post-disaster reconstruction. Development was defined as the phase of '[strengthen housing conditions and securing livelihood](#)'.² This would at least mean that a permanent house has got a long design live, or offer some good opportunities to improve the durability of the house.

Shelter type	Costs (dollar)	Design live
Plastic sheeting (tarpaulins)	1-10	1-3 year
Tents	150	6-24 Months (when constant used)
Mobile trailers	- 5.000	2-3 years
Container housing	- 10.000	- 10 years
Light-walled prefabricated housing	- 15.000	- 15 years
Heavy-walled prefabricated buildings	- 20.000	- 20 years

Table 4: 'shelter costs and design live per type of shelter'

It would be clear that plastic sheeting and tents do not offer the durability that belongs to permanent housing conditions. But it is hard to say that trailers and containers cannot play the role of a permanent house within the poorest societies of the earth. An interesting sub-question would be to investigate the border between temporary and permanent housing conditions within less developed countries.

3.5 Content and examination of strategies

Chapter 2 described post-disaster reconstruction as the act to reduce vulnerability. The LRRD-strategy has to create a transition from delivering "hard" resources to stimulation of "soft" resources. Within shelter strategies to be used by NGOs, this would mean a transition from giving tents, to stimulating the local building industry to build permanent houses. The case-study of this research project, would have to point out **the vulnerability within the urban context**, in fulfilling this transition of the shelter strategy.

The question of vulnerability is difficult for the need of housing. During a famine somebody is vulnerable because he has the direct threat to starve. When he is supported with a bag of rice, he is less vulnerable to starve on the short term. And when he gets seeds to plant his own rice, he is less vulnerable on the long term.

The vulnerability of a poor housing situation is similar but a bit more complicated. Somebody who lives within an emergency shelter can make a living on the short term, because his need to shelter has been answered with a roof. But additional needs than a roof has to become answered for the long-term, to turn a shelter into a house. And next to the quality of the house, also the location of the house has to answer the needs of the inhabitant. Services like schools, shops and jobs has to become available within an area.

The vulnerability of housing has a connection with several conditions, like the quality of houses and infrastructure, but also safety, social activities and job opportunities within the housing area. These features are selected as themes which are (to be) influenced by a shelter program implementation process. **Housing is more than the supply of houses**, it requires interventions into more than one condition.

The overview of the conditions and themes is made by following the theory of urban regeneration⁴⁰. Regeneration of residential areas can only be reached if next to the environmental-, also social-, economic- and political-conditions are improved.

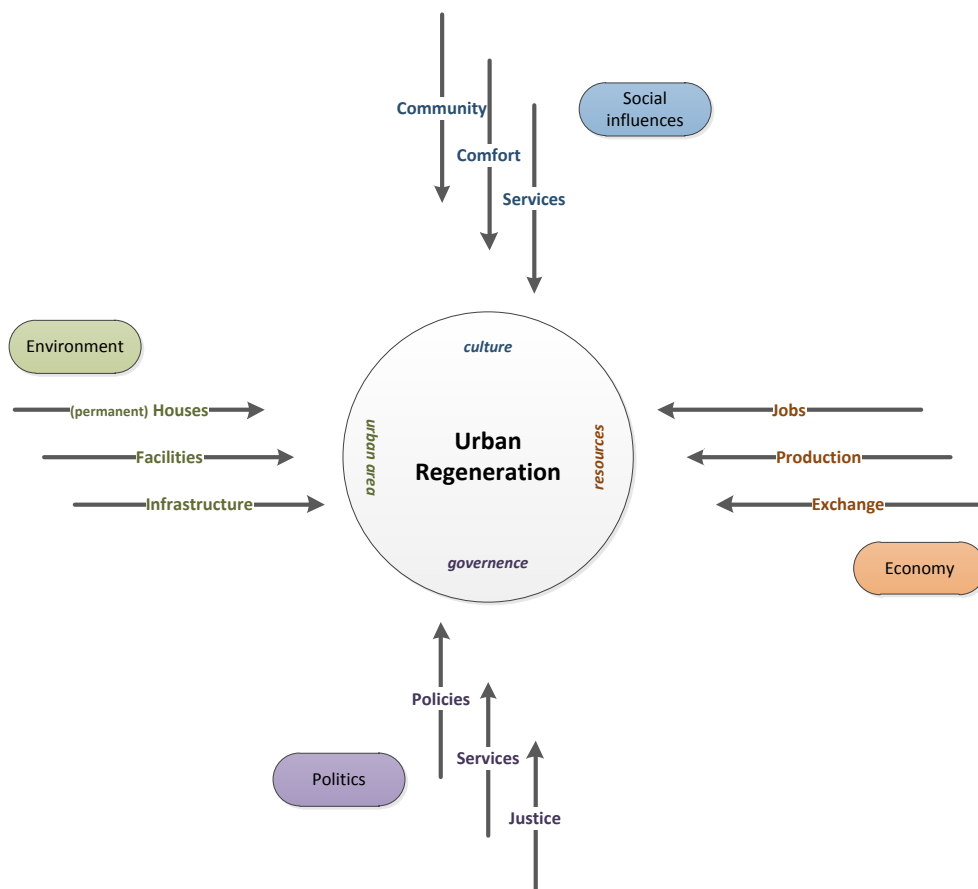


figure 18: (author) 'conditions for Urban Regeneration'

40. Roberts, P.W. and H. Sykes, *Urban regeneration: a handbook*. 2000.

Urban regeneration is defined as 'the holistic process of reversing economic, social and physical decay in areas where it has reached a stage when market forces alone will not suffice'.⁴¹ The responsibility to assign the necessary services lays at the local society. The society decides which housing standards come to a level of acceptance. NGOs who are incorporating the services should therefore cooperate with the local society (inhabitants, municipality and government) to address the right needs.

Political, economic and social 'conditions' were also mentioned as political, economic and social 'domains', within the definition of rehabilitation from chapter 2. 'According to the European Commission, **rehabilitation** may be defined as "(...) an overall, dynamic and intermediate strategy of institutional reform and reinforcement, of reconstruction and improvement of infrastructure and services, supporting the initiatives and actions of the populations concerned, in the political, economic and social domains, and aimed towards the resumption of sustainable development".⁶

What it says, is that rehabilitation as method to link relief with development, is a reconstruction strategy that has to support actions within more than one domain. So **a shelter strategy that focusses on the long-term, has to effect multiple domains** or conditions. With this statement in mind, the following themes to evaluate the Haitian cases of post-disaster reconstruction are formulated:

Theme	Specification
1 Density	- people per square meter
2 Geographic's	- conditions of the surface area
3 Accessibility	- connection and quality of infrastructure
4 Economy	- employment, income
5 Policies	- policies, governmental support
6 Social conditions	- community feeling, social capital
7 NGO performance	- vision and results
8 Local stability	- conflicts and safety
9 Local capacity	- knowledge and professions

table 5: 'the themes to describe the cases'

- The first three themes indicate the environmental conditions.

1. 'Density' indicates vulnerability in the scale and threat of a possible destruction. A higher density of a residential area will come along with a higher risk and scale of destruction from a natural hazard.
2. 'Geographic's' indicates the threat of a natural hazard. An area can be prone to floods, earthquakes, droughts, land-slides and hurricanes.
3. 'Accessibility' indicates the connectivity of the area with outside areas or facilities.

- The second three themes indicate the vulnerability other than environmental.

4. 'Economy' indicates the availability of resources.
5. 'Policies' indicates the top-down capacity to react on a crisis.
6. 'Social conditions' indicates the bottom-up capacity of (health)care between the residents.

- The last three themes indicate the influence the NGOs have on reducing vulnerability.

7. 'NGO performance' has to indicate the internal capacity of the aid-organization.
8. 'Local stability' indicates an important part of the feasibility of the aid program.
9. 'Local capacity' indicates the external capacity to cooperate with the NGO and the capacity to use and develop the available resources.

41. Cowan, R., *The dictionary of urbanism*. 2005, Streetwise Press

6. *Linking relief to rehabilitation and development*. VOICE out loud, 2006(4).

Method for case-study evaluation

Two Haitian cases are to be evaluated, in which a rural and an urban shelter program implementation process, are to be studied. The method is to start at first, with a **description** of the cases by the selection of themes. Second, by an **analysis** of the information within the themes for each case. And third by an **examination** of each case, following specific criteria. A final conclusion of the case-study is given by comparing the differences within the outcome (a comparison of themes and criteria) as a **cross-case analysis**.

The selected cases of the case-study are both part of a similar shelter program, executed by the same NGO (Cordaid). The phenomenon to be focused on within the cases is the transition between relief and development. The goal of the evaluation is to highlight specific occurrences that can be connected to the more or less urbanized context and how that context influences the possibilities to connect relief with development. This is translated into the criteria of effectiveness, efficiency and support.

- The examination is based on a qualitative comparison, answering the criteria. The case study gives an objective description of two cases in which resources are being given in relevance with the need for housing. The description is following a selection of themes, relevant to the criteria.

The researcher suggests a higher or lower score, related to the description, classified per theme. The score is made thru the conception of the researcher and will be argued on the most important outcomes.

Criteria

'Effectiveness' would be the capability to link the phase of relief with the phase of development. The process, in which a community is supplied with resources, has to increase the internal capacity and reduce vulnerability. This has to reduce the dependency on external resources and increase the knowledge and skills within the community. Effectiveness has to be examined especially by the theme of local capacity, next to other themes. This criterion questions whether the long-term purpose of the aid program will be reached.*

'Efficiency' would be the capability to execute tasks with the least necessary amounts of time and money. This has to be examined especially by the theme of NGO performance on how they deal with drawbacks within their process. This criterion questions at what costs the aid program is executed, for which it is especially interesting why the Haitian rehabilitation process had to endure a lot of time.

'Support' would be the capability to do interventions with a certain level of assistance and appreciation from the beneficiaries, within the implementation process. This has to be measured especially by the theme of local stability, policies and the social situation. The local population and other stakeholders have to appreciate the implementation process of the NGO as well as their end products. This criterion questions whether the implementation process of the aid program has had the optimal relationship with all stakeholders.

* The connection to the phase of development has not been completed within the post-disaster situation of Haiti. At this moment (two years after the disaster), only the connection between relief and rehabilitation can be evaluated. The phase of rehabilitation is still active, for which the first transitions to the phase of development are being made.

Hypothesis

Post-disaster reconstruction within rural areas, was stated to be fit for simple interventions. 'Rural areas offer a lot of space, which makes it easy to supply temporary shelter and to reconstruct permanent houses. Aid programs to recover high-dense urban areas are not fit for simple interventions, because they have a lack of space and are not very well known.' (see paragraph 1.2)

This creates **the hypothesis** that the urban case will have a lower score on effectiveness, efficiency and support than the rural case. Themes that are depending this lower score of the urban case, will be compared with the rural case. Principles related to the described conditions of those themes, could then be used to formulate adapted strategies for the urban context.

Conceptual scheme

The themes are set out within a conceptual scheme, to illustrate a method of examining the shelter strategies. Within this scheme the theory of vulnerability as elaborated in the former paragraphs, is used within a model to study the shelter program implementation process. And by doing so, a paradigm has been created in which theories and generalizations are combined within a concept to understand and examine shelter strategies.

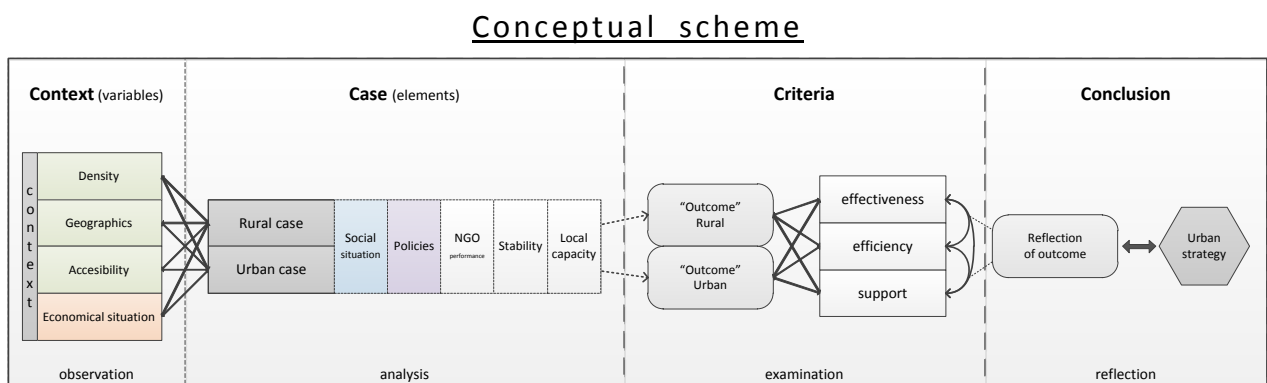


figure 19: (author) 'conceptual scheme'

The cross-case analysis of this research project, has to seek if the approaches to meet the criteria within the rural and urban context, can be linked to specific themes of the shelter implementation process.

The themes describe specific occurrences of each case, in which conditions can be found, which are problematic to the reconstruction process. These conditions are hindering the transition from "hard" to "soft" resources, for which solutions can be found. The differences between the themes of the two cases, can lead to solutions or insights that clarify the problem. Adapted strategies for the urban context has to be found by reflecting on the cross-case analysis.

4. Case study

3. What are the differences of the shelter implementation process, between the rural and urban context, performing a cross-case analysis?

a- What are the specifications of the cases?

b- Which problems did occur during the implementation process of each case?

c- What is the effectiveness, efficiency and support of the shelter program within each case?

4.1 Introduction of case study set-up

The issue to transit relief aid into development aid, will be compared between the rural and urban context performing a cross-case analysis. The cases are to be studied, following a selection of nine themes to describe the specific conditions of the cases. The content has to answer the criteria effectiveness, efficiency of and support for shelter strategies. The hypothesis is that the urban case will have a lower score on effectiveness, efficiency and support than the rural case. Themes that are depending this lower score of the urban case, will be compared with the rural case. Principles related to the described conditions of those themes, could then be used to formulate adapted strategies for the urban context.

The case descriptions will be given per theme in paragraphs 4.2 and 4.3. Paragraph 4.4 will end this chapter with the cross-case analysis, specifying the problematic conditions of both the rural and urban context.

4.1.1 Post-disaster Haiti

The Haitian recovery process is already taking on for some time, but has not been very progressive. There are still tented camps, which are depending on emergency supplies, now two years after the earthquake of 2010. The phase of relief has not really been ended yet. "Normally" (by the shelter strategy of chapter 3) the phase of relief should only take days, but the poor context and the large scale of disaster within Haiti had specific consequences.

The level of destruction was one of the highest within the history of post-disaster reconstruction. The density of the number of people in need of aid was unprecedented. People were sleeping on the streets within the first week after the disaster⁵. Tarpaulins and simple tents were handed out as emergency shelters within the first weeks, but these are still used as temporary shelters, two years after the disaster. The phase of rehabilitation should bring people back to their home areas, but half of the rubble had not yet been cleared.

This situation is hard to be compared with the guidelines for reconstruction within the book '*Principles of emergency planning and management*²⁸'. The guidelines (as described in paragraph 3.4) can simply not be met in the context of post-disaster Haiti.

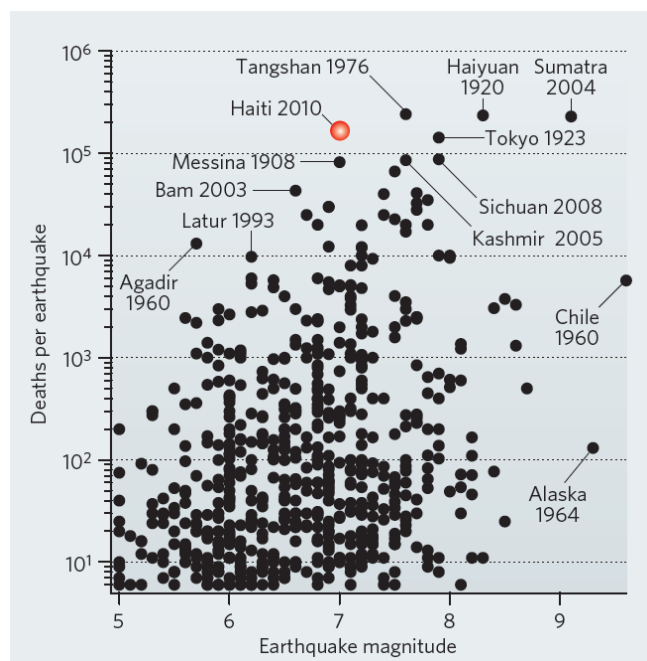


figure 20: 'casualties by magnitude'

Temporary shelters started to become build by NGOs, for which it can be expected that these structures will be used as permanent houses. With this expectation in mind, the approach of Cordaid was to deliver "transitional shelters" (T-shelters). These shelters should be delivered quick and cheap as a temporary shelter, but should also have the potential design-life of a permanent house. The T-shelter exists out of one basic room per family, but has flexible features. It would be possible to add additional structures to the house or upgrade individual components.

12. *Surviving Haiti*, in *This World*. 2010, BBC: UK. p. 00:59:02.

29. Alexander, D., *Principles of emergency planning and management*. 2002, Oxford: Oxford University Press. 340.

figure 21a: 'T-frame Cordaid'

4.1.2 T-shelter

The T-shelter was designed to be able to shift its composition from a basic shelter into a permanent dwelling. Hereby it is designed to fit the rehabilitation phase of recovery, as well as the development phase, by making it possible to improve the building during time. In other words, this shelter would be able to create a link between relief and development.

The hurricane proof prefabricated core-structure (see figure 21) exists out of a wooden frame poured in a concrete foundation and completed with a corrugated roof. A basic (temporary) wall could then be constructed by plastic sheets. This basic composition can be erected within twelve hours.

Walls and floors with a better quality can be added to this core-structure within a second phase. Cordaid has chosen to develop a process in which the beneficiary signs contracts for the construction of floor and walls. Cordaid is arranging the delivery of materials and a selection of local bosses. The bosses are in charge of the construction of the floors and walls per sub-area (5 shelters per time). Cordaid is monitoring quality and performance and pays the labor via the bosses.



figure 21b: 'T-shelter Cordaid'

A T-shelter build by Cordaid, constructed with solid walls.



figure 21c: 'T-shelter USAID'

A T-shelter, build by 'Medair', constructed with plastic sheets, funded by 'USAID'.



Most of Cordaid's beneficiaries are very positive about the Cordaid shelter in comparison with shelters from other International NGOs. While in the first place Cordaid wanted to build temporary shelters, they quickly decided to shift towards more permanent houses. Instead of using tarpaulins for the walls, Cordaid decided to use cement. Beneficiaries are really content with this change as it gives them much more protection against the heavy rainfall and wind. Another aspect people appreciate from the Cordaid house, are the three doors in the shelter. Culturally most of the traditional houses have three doors or more, so it is part of their socio-cultural identity and it strengthens their feelings of security. (A comprehensive overview of Haitian housing types is given in appendix D.)

4.1.3 Cordaid shelter program

The Dutch donor 'Samenwerkende Hulp-Organisaties' (SHO) collected 111 million euros after the earthquake in 2010.⁴² The SHO supported Cordaid with a budget of around 22 million, assigned to support a shelter program. This shelter program was specified within the project proposal to be a rehabilitation program, titled: '*Rehabilitation Support for survivors of the Earthquake*'.⁴³ The proposal comes along with a description of a focus, general objectives and implementation activities.

Focus:

- On a reconstruction of 6.300 new houses and 2.200 repairs, combined with water and sanitary facilities as well as improvements to the neighborhoods infrastructure and to build capacity to enhance safety.

Objectives:

- To facilitate the return of families to their original place of habitation by providing safe shelter.
- Improving health of target beneficiaries through water and sanitation and hygiene infrastructure.
- Creating safe and friendly neighborhood infrastructure and community facilities.
- Reducing vulnerability of communities to natural disasters.
- Increasing social protection by ensuring land tenure protection.
- Developing social capital through strengthened organization of-, and cooperation between, local government, community committees, and non-governmental organizations.

Implementation activities: ⁴⁴

1. Field survey, assessments including physical mapping
2. Community Action Planning (to select local committees)
3. Beneficiary Selection for Shelter
4. Shelter Construction (see also appendix E)
5. WASH (which would require the support of other NGOs)
6. Community improvements, like solid waste disposal, drainage, roads, retaining walls etcetera.

The proposal also describes that Cordaid does not automatically implement and fund all of the activities. However: '*All these aspects however will be included in the planning and implementation strategy and support will be provided to ensure that communities obtain these services.*'⁴³ Cordaid and its partner organizations will play a key role in bringing local authorities and local communities together.

The general vision of Cordaid is to facilitate the link between relief and development for areas within Haiti that got affected by the earthquake. '*Cordaid focuses on emergency aid and structural poverty eradication through reinforcement of local organizations, so that its assistance has a lasting effect.*'⁴¹

They are specialized in Participation with slum dwellers, Health and Well-being and Entrepreneurship. The project proposal enhances this vision with a lot of objectives and implementation activities to be executed.



figure 22: 'Cordaid, Linking Relief and Development'

42. SHO. *Aardbeving Haiti 2010*. Available from: <http://samenwerkendehulporganisaties.nl/actions/aardbeving-haiti-2010/>.

43. Cordaid, *SHO proposal phase II*, in *Rehabilitation Support to survivors of the Earthquake*. 2011: The Hague.

44. Meijerink, H., *SHELTER IMPLEMENTATION STRATEGY*, H.O.M. Cordaid, Editor. 01/11/2010.

1. Caritas. *Cordaid specifications*. Available from: source: <http://www.caritas.org/worldmap/europe/netherlands.html>.

4.1.4 Cordaid field-offices

In 2010 Cordaid started with a shelter programme near the cities of 'Port-au-Prince' and 'Léogane'. A field office was set up in both cities to address multiple areas. Near Port au Prince, Cordaid became active within the areas 'Villa Rosa' and 'Carefour'. Near Léogane, Cordaid Became active within 'Lompré', 'Septieme Gerard' and 'Grand Goave'. Each area is assigned to an employee of Cordaid, named the 'area manager' of the specific area. The area managers connected to the field office in Léogane are directed by the 'rural shelter manager' and the shelter managers connected to Port-au-Prince are directed by the 'urban shelter manager'. Both rural and urban shelter managers are supervised by the 'shelter program manager', which oversees all shelter activities of Cordaid within Haiti.

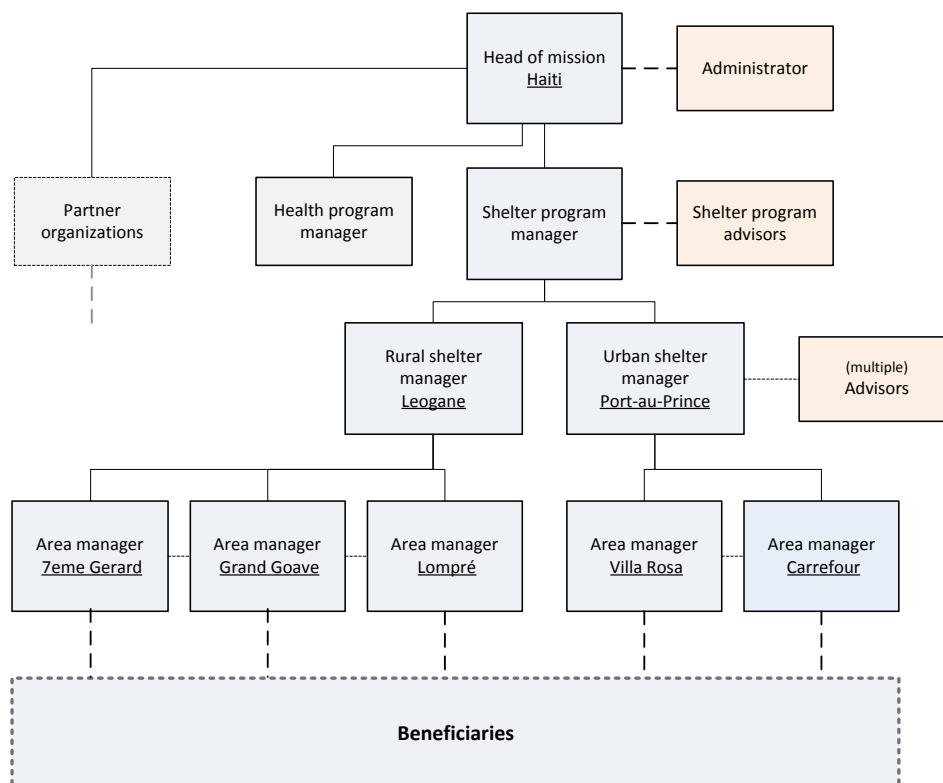


figure 23: 'organization chart Cordaid Haiti, within Oct 2011'

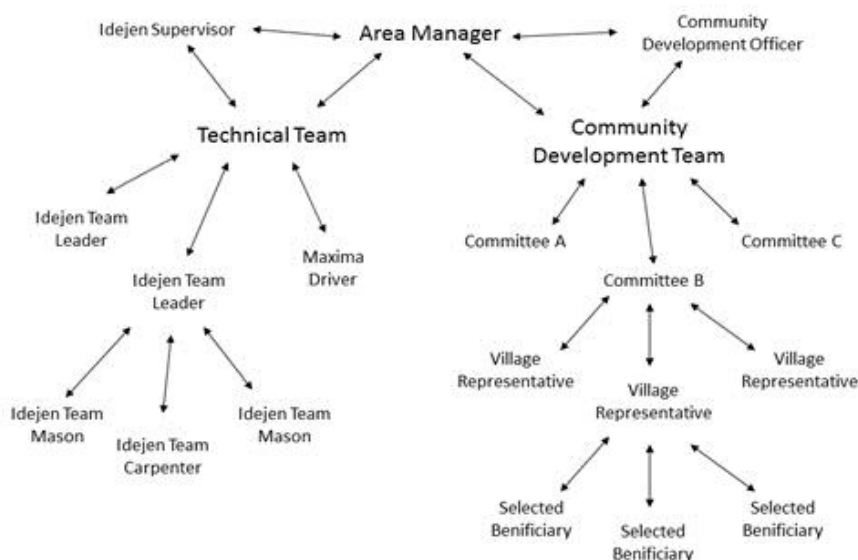


figure 24: 'Relationship chart for the area manager of Septieme Gerard'

The **area managers** have to coordinate the shelter implementation process for their area. They're doing this with a 'Community Development Team' and a 'Technical Team'. The Community Development Team executes the process of Community Action Planning and selects committees who represent villages and beneficiaries. Within the scheme of Septieme Gerard, there are three committees, because of the wideness of the area. The Technical Team exists out of two local stakeholders. 'Idejen' is an organization who educates masons and carpenters, and assembles the basic frame of the shelter delivered by 'Maxima'. Maxima is a local organization located in Port-au-Prince who cooperates with two other companies to import the building materials, compose the frames and deliver it to Cordaid within the areas.

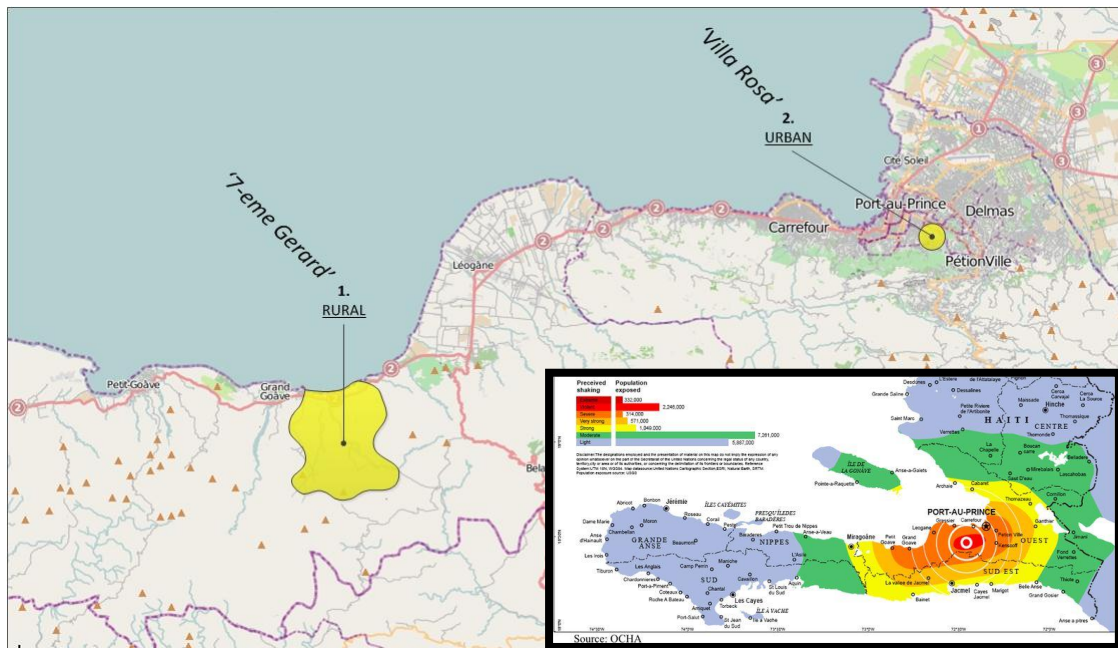


figure 25: 'selected operational areas of Cordaid'

Within this research project, the areas of 'Septieme Gerard' and 'Villa Rosa' are selected as rural and urban cases. The cases will be described in the next paragraphs (4.2 and 4.3). Data to describe the themes per case are derived from Cordaid employees, Cordaid database and fellow UE-students.

Cordaid employees were interviewed informally during site-visits into the area or for example during lunch. But also formal interviews have been completed with the area managers, shelter managers and the shelter program manager, conducted within Haiti and The Netherlands. The Cordaid database supported the research with formal documents like the manual of operations, evaluation reports and community profiles.

Fellow UE-students Angela Jansen and Loukie Molenaar went to Cordaid-Haiti prior to my stay, performing quantitative and qualitative research during their two month visit to Cordaid-Léogane. Angela is connected to the University of Amsterdam and Loukie to the Wageningen University and Research centre. They investigated the influence of 'social capital'⁴⁵ within the rural shelter program of Cordaid, as part of their master thesis of International Development Studies.

45. Jansen, A. and L. Molenaar, *The complexity of local participation* September 2011 International Development Studies.

4.2 Case #1: 'Septieme Gerard'

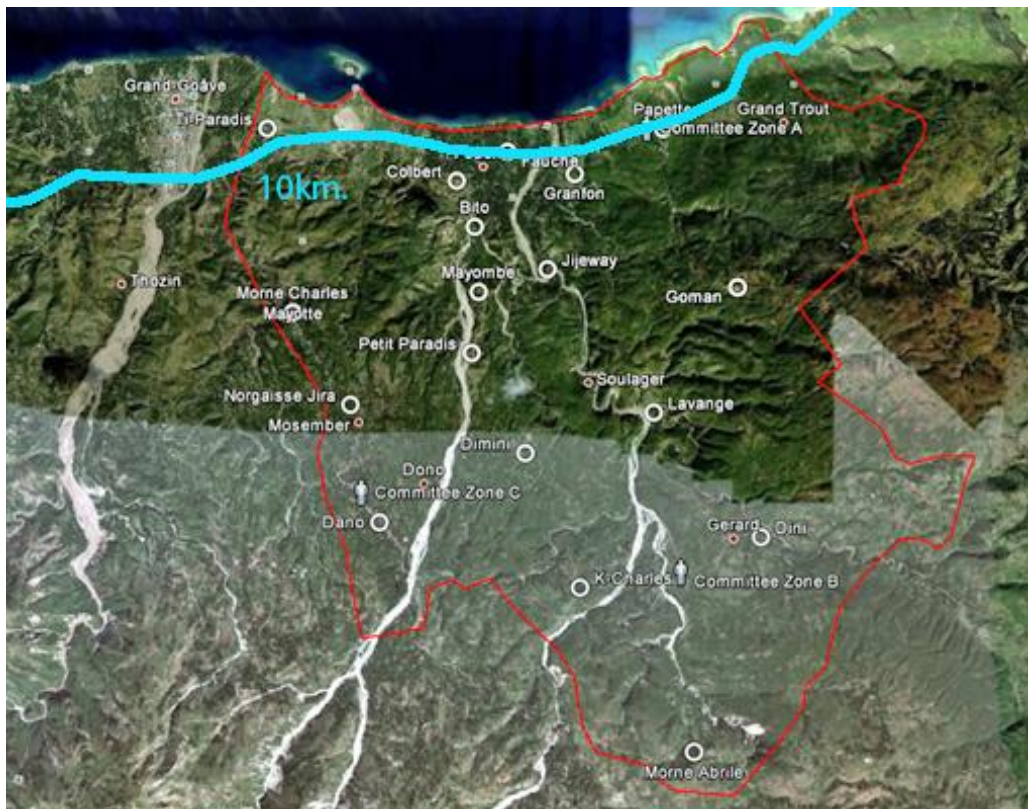


figure 26: 'satellite view Septieme Gerard'

figure 27: 'area view of a rural context'



RURAL

4.2.1 General features

Septieme Gerard is a collection of small villages, located between coast and mountains, west of Port-au-Prince and connected to the east-side of Grand Goave city. Parallel to the coast lays a paved national highway on which public transport can be used. Connections from this road to the south, (up into the mountains) are unpaved and partially run thru river beds.

Population:	Approximately 2000 families, 10.000 people.
Earthquake damage:	40% destroyed, 30% in need of repairs.
Building program of Cordaid:	1200 shelters
Start of operation:	March 2010

Septieme Gerard became selected by the shelter cluster as an area in which a lot of damage was done by the earthquake and in which people had low means to rebuild their own houses. The area has a history of 200 years of inhabitation (since the independence of Haiti). Family structures have shaped each village in the mountains for several generations and communities are connected by churches and schools. Villages near the national road don't have this rich history. They generally exist out of migrated people from the past decennia's. In general the area is very wide and some of the villages are very remote from the nearest cities. The general activity is low and peaceful, which makes Septieme rural.



28.



29. and 30.



figures: 28. 'Community "kitchen"' 29. 'Basic house' 30. 'Traditional house'

4.2.2 Context variables

This paragraph will give a description of the first four themes, describing the environmental conditions of the case. These are the conditions that have not got influenced by the shelter program of Cordaid.

1. Density

An estimated population of 10.000 people, divided over 2000 households, lives on an area around 74 square kilometers. That brings a density of 135 people, per one square kilometer of Septieme Gerard. This is 7400 square meter (a soccer field) per person. This is more than twice as low as the general density for Haiti (362 people / km²*). This can be noted as a very low density for Septieme.

2. Geographic's

Septieme Gerard is a mountainous area with a coast line along its northern edge. The area is divided by large rivers and mountainous valleys that often become influenced by heavy rainfall. The mountains on the south and east, brings along the threat of landslides. But because of the low density, people are able to move to safer grounds. Another result of the mountains is that the roads can be very steep. The wideness of the area is an advantage, but it influences the accessibility.

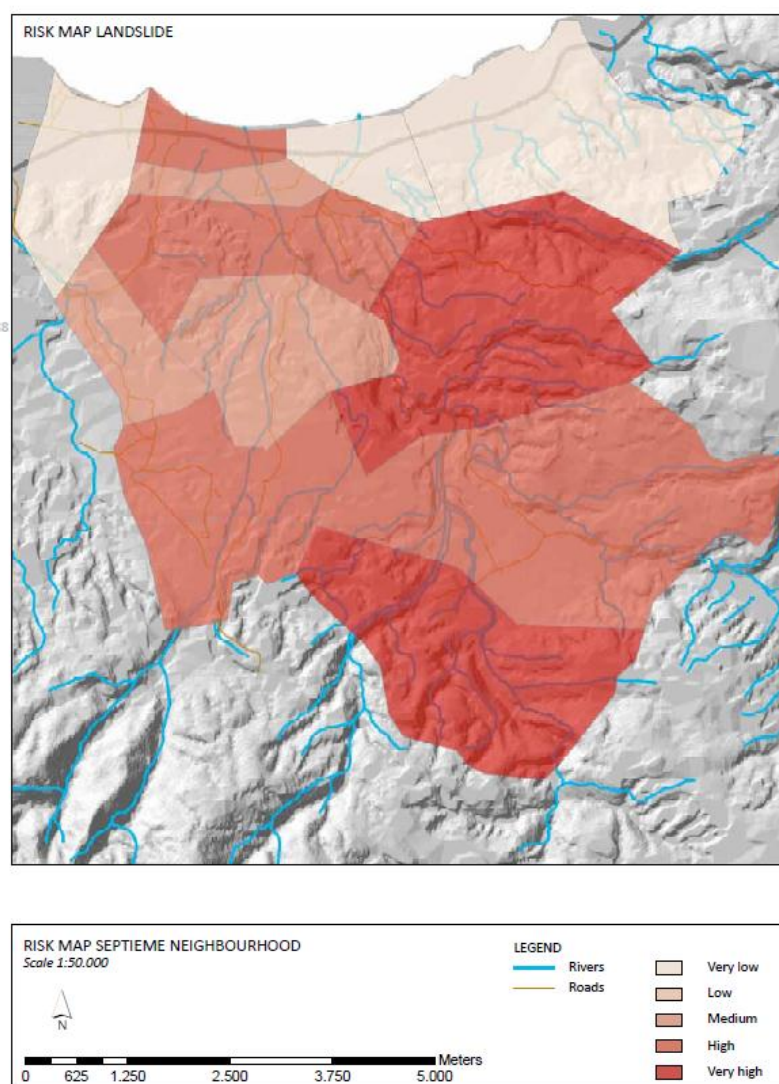


figure 31: 'UE-risk map'⁴⁶ of landslides for Septieme Gerard'

* http://en.wikipedia.org/wiki/List_of_sovereign_states_and_dependent_territories_by_population_density
(The Netherlands has 403 people / km²)

46. Amerongen, A.v., et al., *Risk map Léogane / Haïti*. February 2012, Urban Emergencies, Cordaid.

3. Accessibility

The closest urban centre near Septieme Gerard is the small city of Grand Goave that is positioned on the upper west border of the area. Past that, Petit Goave is another small city within a 15 minute drive of the Septieme. The closest large city is Léogane, that lies 30 minutes away by car to the east. The road network is focused around the 'Route National 2' which is paved and in good condition. It bisects Septieme Gerard from East to West. The roads from north to south, connecting the Route National to the mountains, is much less substantial and mostly consists of rocky tracks often incorporating river beds. Internal roads within the mountains eventually break off into a network of footpaths created by tamped dirt. For Cordaid the accessibility to remote households within the south of Septieme Gerard, demands more travel time reaching them. Travel time from the base in Léogane to the villages halfway the area, takes around one hour by car. For the delivery of shelter materials by truck, this can go up to multiple hours. In the occasion of high water levels along the river, the accessibility by truck or car can be zero. (During these occasions, the deliveries of materials have to be postponed to another day.)

By feet the accessibility for the inhabitants towards the national road, where they can find public transport, is in general one hour up to two hour for the middle and most southern parts of the area. In the more inhabited areas motorcycles-drivers can be paid to facilitate transport from the road up to the hills and back (downhill costs less). Other means of transport are donkeys and bicycles.



figures 32 and 33: 'rocky track of 7-ieme' and 'local children walking with donkey'

4. Economic situation

Everybody within Septieme Gerard lives on the poverty line of less than 2 dollars a day. Some people generate little bits of money out of the charcoal business, but most activities are based on subsistence living. They live from what they can find and occasionally sell the excess on the streets. A few chickens and pigs are being held and sometimes people get hired on a day-labor system. People trade merchandise with trespassers along the national road, but within the hills the economic activity is very low.

4.2.3 Case elements

This paragraph will give a description of the five last themes, describing the context other than environmental conditions and related to the activities of Cordaid. These are the conditions that did get influenced during the shelter program implementation process, which requires a more elaborated description.

Box 6

Social capital is explained within the research report of *Jansen and Molenaar (2011)* to be *'the main engine of long term recovery'*. It is a bond which ties citizens together. The first post-disaster response is not given by trained emergency personnel but rather by local residents and neighbors. Information, (financial) help, and physical assistance are given by those, before official response is activated.

Social capital functions as an 'informal insurance' for those individuals who have a good connection with other individuals. This community feeling can also be a benefit during 'normal life activities' (like baby-sitting, housekeeping etc.). Second to that, *'organized communities can better mobilize their needs and overcome barriers by collective actions'* (Jansen en Molenaar).

The level of social capital is decisive for the impact that interventions of relief and development has in communities. The vulnerability within communities as a whole has to become decreased. This requires an approach towards the social values within post-disaster communities. An overview of social conditions has to be made in order to create the right approach towards- and expectations from- the community.

5. Social conditions

Social capital is a complex value to be assigned to communities, but estimation can be given based on inquiries of 'reciprocity, levels of trust and social structures' as a few of many indicators of social capital. *Jansen and Molenaar* describe these three indicators within their report, which elaborate the social conditions of the Léogane areas.

- social structures

Within Septieme Gerard, the people along the road are in general more active than the more conservative people within the hills. *'Within the hills people have a simple life, but they seem to manage themselves'* (Area Manager)⁴⁷. They use what they can find from the land, wash themselves within the river and live without the need of electricity. Along the road people tend to be more "modern". They're more conscious of national occurrences and more active within politics.

Family structures in Haiti appear to be strong. Especially in the rural areas, a lot of families share a common yard where the whole family is living. People, who have a lot of family-members living close to them, have the feeling that they have a lot of friends. Especially in the villages up in the mountains, residents often have many (extended) family members nearby, while in the places where a lot of migrants live, inhabitants usually only have their direct family around. As a result, the networks of relatives are typically stronger in the mountains. In the areas where family lives strongly together, Cordaid faces less problems with the implementation of their program. In the area's where a lot of migrants live (mostly around Route National), there is more jealousy and even more violent conflict in these areas. The people living in the same village for several generations seem to share a collective identity and generally feel more satisfied with their lives.

47. Area-Manager, *Interview Septieme Gerard*, H. Janse, Editor. October 2011: Leogane.

- levels of trust

Generally speaking, a lot of people in the different communities don't have any faith in the government on both the local as the national scale. They perceive them as important people, simply because they wear this title, but they think they do not act in the best interest of the communities. A lot of people feel neglected by the government and distrust them. They think the national government is only investing in Port au Prince. This feeling of distrust trickles down to the micro-levels of societies. Some of the interviewees of Angela and Loukie said: *'Haitians just don't trust Haitians'*. There is a high level of distrust towards fellow citizens and a high level of distrust towards Cordaid employees. Trust goes as far as the boundaries of the family.

- reciprocity

Reciprocity exchanges make people help each other with the expectation that they will be repaid in the future, but since levels of trust are rather low in the areas, people don't seem to believe in a system of reciprocity.

6. Policies

The emphasis of the shelter strategy of Cordaid, is to create a participating role with the local community. Community members will be empowered to participate in the political process, to have a voice in decisions that shape the community. A community driven approach was set up as the 'CAP' (Community Action Planning) as main method, which had to lead to the formation of local committees. Each committee representative represents their own community or village and is chosen by their own community members. The main role of the representative is to function as a bridge between the community and Cordaid.

The overall objective of the CAP strategy is described by Cordaid as follows:

*'To stimulate and empower the populations of the communities in which we work, to identify and prioritize development interventions relating to reconstruction in order to find sustainable solutions based on community ownership.'*⁴⁸

The participatory process should follow three key stages:

- 1 - The early community mobilization and formation of an initial committee.
- 2 - An assessment of community priorities using the CAP workshop where the committee members engage in discussion about the shelter program, community needs and priorities and make active decision on the implementation.
- 3 - The eventual formation of a stronger integral committee that plays an active role in the development of the communities.

The manual of operations describes the local committees to be of great importance, but within Septieme Gerard the CAP-strategy was hard to fulfill, because of the wideness of the area. Three grand forums, in which the intentions of Cordaid would be explained, were needed instead of one. This was related to the travel time of the population, which would have to be able to participate within walking distance. As a result, more preparations and contacts needed to be made by Cordaid. The necessary staff to execute the CAP strategy was not available, which let the third stage of the participatory process inactivated.

48. Hingorani, D., *MANUAL OF OPERATIONS for the construction of a Cordaid Shelter*. 2011, Caritas Cordaid Haiti: Pétion-Ville. p. 86.

7. NGO performance

The execution of the shelter program implementation process was quite complex. First of all, the main program itself changed during time, which had specific influence on the program for Septieme Gerard.

- main program

The first investigation into the post-disaster needs of Haiti started ten days after the earthquake. An external expert on emergency aid was sent out by Cordaid to report a draft proposal to support the disaster victims. The final outcome of this report (February 2010) was that there was a high need for shelters in the areas of Lompré, Septieme Gerard and Villa Rosa. A detailed proposal was set-up by the expert to construct 2.000 shelters by his coordination. A first pilot of 150 t-shelters was being executed during March 2010, two months after the disaster. The intended strategy was to build the shelters before the hurricane season with temporary walls, made out of tarpaulins. Within 2011 a second process would have to start, in which the tarpaulins would be replaced with solid walls. The headquarter of Cordaid (The Hague) decided they would like to build more shelters, which had the result that they had to coordinate the shelter building process themselves. A potential increase from 2.000 to 10.000 shelters became possible because of the fact that the donor (SHO) possessed sufficient amount of money. The external expert and his contacts became hired as advisors and Cordaid would provide a manager to direct the operation. Until January 2011, five different head of missions and four different shelter managers, had been appointed, which brought the shelter operation a lot of discontinuity. *'The fierce amount of work let the experienced but senior (50+) managers leave the program due to burn-outs.'* (Rural Shelter Manager)⁴⁹ The result was that after the pilot in March, mass production of the shelters could not start until November 2010. Preparation to support the areas with shelters was in progress, but the decision making process to start delivering took a lot of time. Within these months the shelter design also changed, in which the decision came to invest more into the quality of the shelter. The decision to upgrade the wooden frame was already made in April but the strategy to use tarpaulins was altered in the summer of 2010. A decision was made to add the solid walls and floor directly to the shelters instead of postponing this to a second phase. These two alterations increased the costs per shelter from 1.500 dollar to 3.500 dollar and resulted into a decrease of delivery numbers. The potential amount of 10.000 shelters went down to the estimation of 6.300, but with the note that the durability of the shelters would be much better.

Other decisions made within the period of April until October, were to add new areas to the portfolio of Cordaid Haiti. During May, Grand Goave city was added as a third area within the Léogane region and two building sites were added to the Port-au-Prince region, because no other NGOs were active within those areas and Cordaid still needed to allocate some areas. Also the area of Septieme Gerard increased after a promise to take over the neighboring area in which other NGOs couldn't get proper funding. But this last decision created a shortage into the budget of Cordaid and doubled the surface of Septieme, which was already large. From November until the end of 2010, 20 shelters a week became built within the Léogane area. This scaled up to more than 100 shelters a week in 2011.

Timeline 'Leogane'

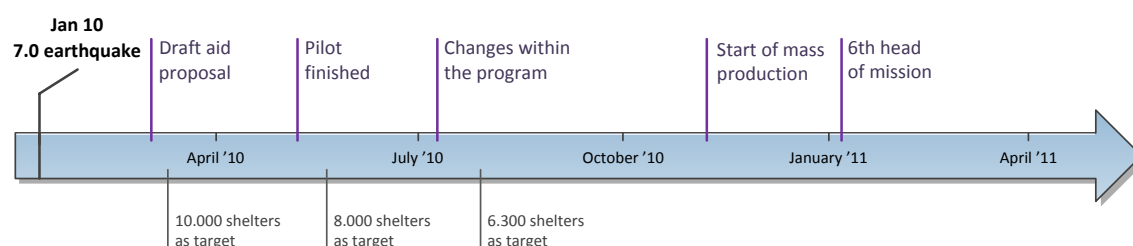


figure 34: 'timeline Léogane'

49. Rural-Shelter-Manager, *Interview Leogane areas*, H. Janse, Editor. February 2012: The Hague.

- program Septieme Gerard

In October 2010 a program of 1.850 shelters for the Léogane areas combined, started to become executed. For Septieme Gerard, this intended a program of 1.200 shelters. The community action planning process took a lot of time, because of the wideness of the area.

'Cordaid bit more than it could chew.' (Area Manager) The intended process of assessing the communities would have taken Cordaid two years to complete. This resulted into the compromise of executing 'emergency assessments', because normal assessments would take too much time.

The normal assessment strategy would be to assess every house and label all the houses into 'destroyed', 'repairable' or 'save'. Cordaid's first statement to Septieme Gerard was that they would replace all destroyed houses with their T-shelter. But because the strategy changed and the area became bigger than anticipated, only 75% of the destroyed houses could become replaced.

The emergency assessments strategy was to empower the community representatives, with the ability to select the families that should be assessed. Ideally the most vulnerable families would be pointed out, but it also occurred that the representatives gave preference to their personal connections. This resulted into controversial selection process of beneficiaries.

Cordaid did also bring up the statement that the communities of Septieme Gerard could expect a WaSH-program and community improvements next to the shelter program. Plans to execute these programs were set up, but no funding could be found.

The construction of the basic shelters in Septieme Gerard (the wooden skeleton) went from 4 shelters per day in November 2010 to 10 shelters a day in January 2011. But the execution of the solid walls and floors took more time to start. A lot of skeletons were standing unused for months, until the construction of walls and floors were finished. *'Some of the beneficiaries lost faith in Cordaid and thought that Cordaid would never finish the shelters.'* (Janssen & Molenaar) But once the construction of walls and floors started, it ran in to the amounts of skeletons that were waiting to get the solid cladding, until the program of skeletons and walls went parallel.

At February 2012 the program of 1.850 was almost finished and the field office within Léogane will be brought to a close in the summer of 2012.

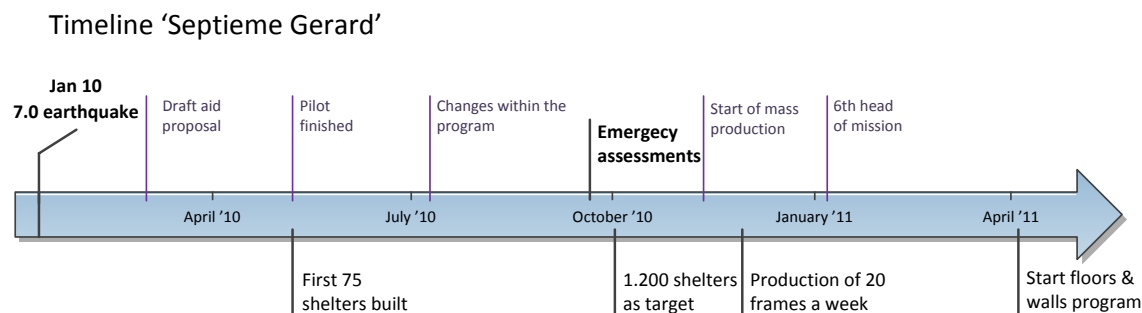


figure 35: 'timeline Septieme Gerard'

8. Local stability

The construction of shelters started within Septieme Gerard before all the assessments were finished. This caused some misunderstanding by the community members. Roadblocks did occur, in which the community demanded answers from Cordaid. *'We started to deliver shelters to people in villages, who were sometimes less vulnerable than their neighbors, which hadn't been assessed yet.'* (Area Manager) The level of frustration of the people was the catalyst to run the emergency assessments. The shelter program couldn't go on before the right people became assessed quickly.

A lot of conflict across the community members was caused by the announcement that Cordaid was not able to replace all destroyed houses. The staff of Cordaid had to calm the people down by saying that they have to be patient, but a great part of them will probably not receive a shelter. *'Many people in the communities are still expecting aid in the future.'* (Janssen & Molenaar).

9. Local capacity

There are some small schools present in Septieme Gerard for the younger children. Most of the children do go to school, but when they get older this becomes more difficult. They have to travel from the national road to the nearest village or even to Port-au-Prince if they want to learn a more specialized profession. Travel-times of 2-3 hours to get to school do occur. Students have to be supported by family members or church communities. People who completed a higher education try to make a living within the city. While having a job, they often send money to their relatives living in rural areas.

The nearest hospitals for Septieme Gerard can be found in Grand Goave or Léogane. Within the mountains people go to voodoo temples in which they can find treatment to physical and mental diseases from the priest, who also solves conflicts within the community. Leisure activities can be found by participating within the ceremonies of the voodoo temples and churches or gambling at small gamble sheds or during cock-fights.

There is no heavy industry or other fabrication activity present. The only exception is the construction of houses and schools.

For Cordaid it is hard to assign local capacities within Septieme Gerard. The biggest help they get from the people is a helping hand in moving the building materials up to the building plot. Local institutes other than small schools and churches, or local NGOs are very rare. This makes cooperation with local capacities to implement spatial planning or other future development plans for Septieme, very hard.



figure 36: *'forest within rural Haiti'*

4.2.4 Analysis of 'Septieme Gerard' shelter program

All themes can clarify some part of the problems within implementation process of the rural shelter program. The main occurrences to be clarified are the delay of shelter deliveries and the miss-match in approaching community participation. Additional information related to the description of the themes is given within this paragraph.

1-4. density, Geographic's, accessibility, economic situation

The geographical condition of Septieme Gerard has the risk of land erosion. It makes the area less attractive to become inhabited. The low density of the area has the indirect result that the accessibility is poor. 'But the reason because it is poor, is because they don't need qualitative roads' (Area Manager). There is no industry in the hills that requires qualitative infrastructure. (In the end the most remote houses are still accessible by wheelbarrow.) The delivery of building materials did not have a big part in the delay of shelter deliveries. The lower accessibility was taken into account during the process.

'The threat of the hurricane season was overestimated' (Rural Shelter Manager). No hinder due to hurricanes occurred within the operational areas of Léogane during July – November 2010.

The charcoal business within the hills is not a sustainable economy. It evokes deforestation which is an issue that needs to be treated for sustainable long-term development. This issue could have been attended if community development programs were started. Support for alternative economic activities next to the rural shelter program, would have created a better effectiveness because it would increase the capacity of the communities.

5. Social conditions

'The beneficiaries are very pleased with the quality of Cordaid's shelters. The quote that lives among the inhabitants is that 'Cordaid is not building shelters, they're building houses'.' (Area Manager)

The shelters were received very positively by the beneficiaries (after the solid walls had been made), but the implementation process created a lot of tensions within the communities. Not everybody was given aid and the selection of beneficiaries could occasionally been unfair towards community members who had a poor relationship with the community representative. Also problems rose between people who received shelters from other organizations next to the communities who received a shelter from Cordaid. 'This often created social problems, as many people preferred the Cordaid shelters' (Janssen and Molenaar). Some inhabitants were asking their community representative if they could apply for a Cordaid shelter if they would destroy the shelter they got from another NGO.

6. Policies

The CAP-process became not fully implemented because of several reasons. Funding for other programs next to shelter couldn't be found, time was running out and the focus of the shelter program became centered on output. But also the means of Cordaid to fulfill an extensive participatory process were low.

Only one community development team was available for all three area managers of the Léogane areas. And next to that the area of Septieme Gerard was divided into three areas, which decreased the amount of time to execute the Community Action Plan. The implementation process became very stressful for the Cordaid employees, which decreased the attention on local power structures.

7. NGO performance

Next to the low allocation of personnel, means assigned to the Cordaid field office within Léogane were low in general. 'The operational needs for the field office in Léogane were structurally underestimated by the continuously changing (and because of that continuously starting over) higher layers of management.' (Rural Shelter Manager).

This combined with the lack of continuity in vision and leadership within the first year after the earthquake, can easily clarify why the shelter program became focused on output. Shelters had to become built. Contractual obligations to material suppliers and donor organizations became leading arguments, with an ever rising time pressure on outputs to compensate for the numerous sustained delays. **Efficiency in supplying hard-resources became more important than the effectiveness in stimulating soft-resources during the implementation process.**

The shelters themselves do have a good long-term quality, but 'the realistic scenario is that there are no other NGOs to take on the other aspects of long-term aid within the future of Septieme Gerard' (Area Manager). This would mean that some people will live within a very good house, but with less developed necessities like electricity, water, sanitation and other neighborhood improvements.

It is pitiful that no funding had been found for other aid programs next to shelter. The participating approach could be of better use if other aid programs (like WaSH; Water Sanitation & Hygiene) were also operating thru the local committees. Cordaid did take some responsibility to find other funds, but cannot be taken responsible for the absence of a proper donor. 'Cordaid wanted to try to link relief with development. The Léogane areas have missed opportunities, given that view.' (Shelter Program Manager)⁵⁰ More interventions could have been executed. The area became selected because of the developmental opportunities which haven't fully been addressed.

8. Local stability

A condition for the Léogane area that should be noted is the local safety. Cordaid didn't execute aid programs within the city of Léogane, which avoided protests of local inhabitants next to their office. This did occur at other NGOs who experienced violent threats and other criminal activities within the residence of their staff. Several NGOs decreased the amount of aid to be supported around the Léogane area, or stopped their aid program, because of this violence.

Cordaid occasionally had to close their office due to violence within Léogane city, because it prevented them to execute their program in safety. In total around 8 weeks were lost because of the low stability within the area. This influenced the efficiency, but also the effectiveness of the shelter program.

Some local politicians took offensive positions against NGOs, which created a negative image to the employees of NGOs but also to the use of tarpaulins for example. It became debated that tarpaulins would not possess the quality necessary to rebuild Haiti. This influenced the choice to execute the solid walls program directly.

9. Local capacity

'The exclusion of certain people to the shelter program will always be part of working through participatory approaches.' (Janssen and Molenaar) Whether Cordaid uses existing power structures or creates new parallel structures of community participation. People will use power to help their own family and other people within their social capital, when they are given the power to assign beneficiaries. Cordaid's task is to be aware of that principle within communities and look for mechanisms which can control the misuse of power and to limit the exclusion of people.

'Cordaid should really try to involve local organizations, local government and the people from the communities in their programs.' (Janssen and Molenaar)

50. Shelter-Program-Manager(2), *Interview shelter strategy*, H. Janse, Editor. 2012: Rotterdam.

4.2.5 Examination of the criteria

The description of the themes within the former paragraphs, will be used to elaborate an examination following the criteria for the shelter program. A description will be given to the effectiveness and efficiency of the shelter program implementation process and a description on the support for the process.

Effectiveness

The effectiveness of the shelter program was defined as the capability to reduce the vulnerability and increase the capacities of the local community, within the transition of relief to development.

The vulnerability of beneficiaries who got a Cordaid shelter became decreased, but the capacity of the local community as a whole did not increase. This is due to the approach of Cordaid, which came to be more focused on the output of the shelter program, than on the participating potential of the implementation process. Participation was not primarily stimulated as the leading end goal of the program, but more as a means to get the shelters built.

The local bosses, craftsman, and suppliers of materials did get experienced in shelter construction, but their activities were still all initiated and controlled by Cordaid. The actors of the implementation process were all depending on Cordaid for the overall management of the reconstruction effort, just as the beneficiaries, who were given a shelter with limited involvement into the management of the process. It is not expected that the implementation process will continue after Cordaid has left Septieme Gerard. 'The reasons for this are the locally absent sources of funding, education in construction and engineering, and organizational/ managerial capacity. Other reasons are the general lack of trust and the lack of governmental support.' (Rural Shelter Manager)

Some principles of the newly introduced earthquake-proof building techniques might be continued to be used in the local way of engineering and construction of qualitative houses. But the particular implementation process was not focused to improve the traditional way of building, to be a catalyst within the development of the common building practice (which is not earthquake-proof).

An explanation can be given why participation became used as a means, by reflecting on the timelines of the theme 'NGO performance'. Throughout the first year, the general vision (of replacing/ repairing as many earthquake-stricken homes as fast as possible) was troubled by an inconsistent inflow to the question 'How?', and coordination over the shelter program was troubled by inconsistent Human Resources. This made the participation process hard to facilitate, but could also be considered a secondary problem, compared to hinders of the total program. 'The discontinuity of the decision making process was a severe opposing factor, while the amount of work was overwhelming' (Rural Shelter Manager). The time pressure to spend money into results led the participating role of the community into a mean instead of an end.

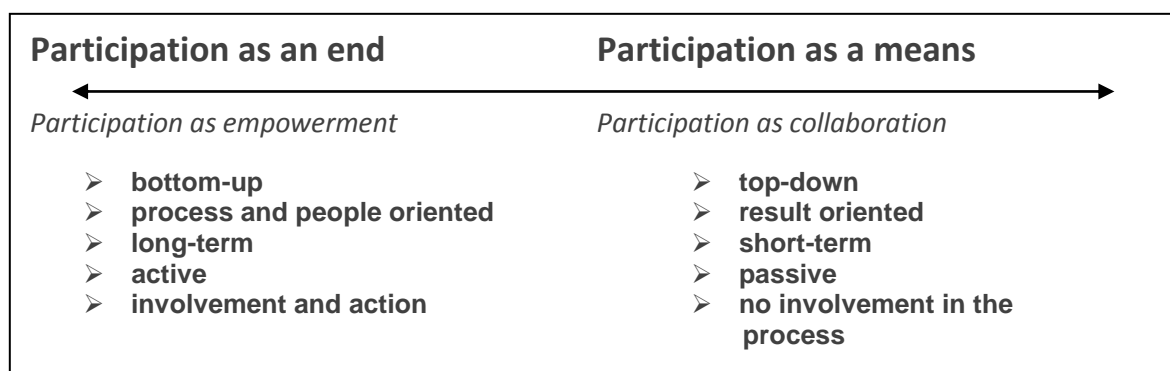


figure 37: 'participation scheme output vs. input' (Janssen & Molenaar).

- Janssen and Molenaar advice within their report to find a balance between the output-centered approach and the impact-centered approach, in which the actual development of communities forms the main focal point. This would have been more developmental, but within the case of Septieme Gerard, this was not a realistic approach for Cordaid. Time bound obligations contractually forced the operation to generate output. Another restraint was the severe logistical challenges the program continued to face. 'The Léogane office did not get the support necessary to run a smooth operation' (Rural Shelter Manager).

Efficiency

The efficiency of the shelter program was defined as a cost-benefit comparison, in which the benefits towards the local community had to be made with the least amounts of time and money.

The shelter program implementation process can be seen as very efficient, if the purpose of the aid program is considered to be the support of the most vulnerable of the community with high quality houses. This consideration neglects the effectiveness to stimulate the use of "soft-resources" (within the transition of relief to development), but this can be noted irrelevant for the examination of efficiency.

Although in the beginning a lot of time was lost due to the problems related to the discontinuity of management, construction did go very efficient after a year. Participation was effectively to get the shelters built and inhabited. Mass production started in which the overhead costs did stay within the range of 15% of the budget. Also the decision to complete the shelters with solid walls directly, made a second implementation process unnecessary, for which it can be assumed that this did save money and time. Also compared to other shelter-designs, the building quality of the Cordaid shelter performs very well.

The costs of one shelter divided by the design life gives the rate of approximately ($3.500 / 20 =$) 175 dollar/ year. For tents and temporary shelters (with less quality) these amounts are 150 and 500 dollar/ year⁵¹. This gives the Cordaid shelter a good value for money (the price included all costs: materials, transportation and labor). 'Tents with costs of 500 dollar each, only lasted one year because of the Haitian climate.' (Shelter Program Manager)

Support

The shelter program didn't get a lot of appreciation during the implementation process, because the beneficiaries didn't had a big participating role. On the end of the program, when the shelter became handed over to the beneficiary, the appreciation for the end product was very high.

The community representatives did have a big assisting role, for which these persons became empowered by Cordaid. This causes social issues within the communities. Committee members lost respect from the people who did not receive a shelter, but gained a lot of respect from people who did benefit. This empowers the representative to select beneficiaries who can be useful to him in the future, which influences internal power structures. On the other hand these power structures will always exist within communities and it could be seen as an experiment to the question if local representatives are able to make a fair selection of beneficiaries.

51. Macintyre, A.W., *Transitional Housing Haiti Projects*. 2011. p. 22.

4.3 Case #2: 'Villa Rosa'

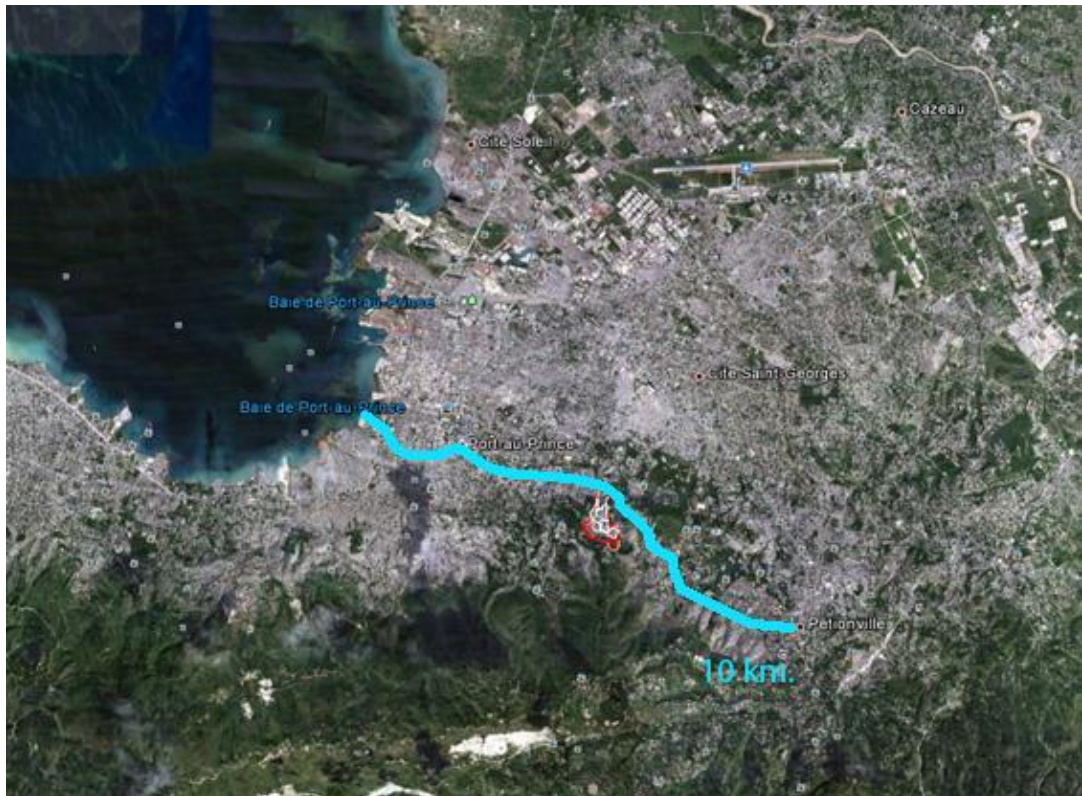
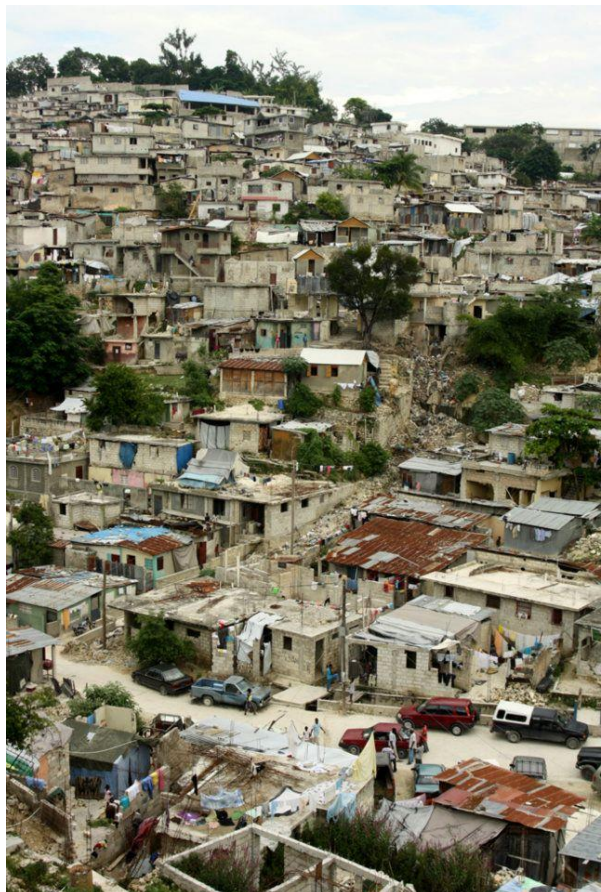


figure 38a: 'satellite view Port-au-Prince'

figure 38b: 'section of Villa Rosa'

URBAN



4.3.1 General features

Villa Rosa is located between the centre of Port-au-Prince (downtown, near the coast) and the rich part of the city on the south-east (named Petiton-Ville). Villa Rosa is one of the many informal areas of Port-au-Prince dated from the 70's and has never had an official zoning plan. But electricity is often available by informal regulations and infrastructure is connecting individual houses. Dwellings are stacked on each other and uninhabited pieces of land are very scarce. This makes Villa Rosa a very urban area.

Population:	Approximately 2000 families, 10.000 people.
Earthquake damage:	40% destroyed, 20% needs repairs.
Building program of Cordaid:	1.200 shelters & 600 repairs
Start of operation:	August 2010

Villa Rosa is divided over five zones, which borders are derived from the network of infrastructure (pedestrian) roads, stairs and drainage canals.

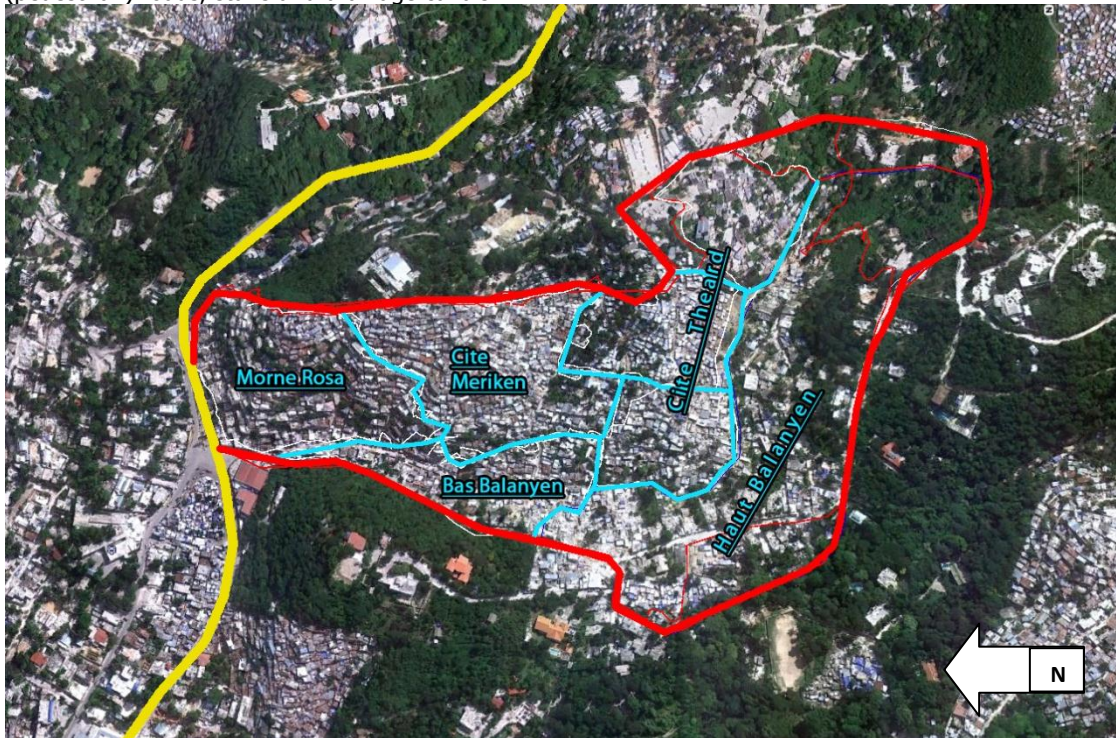


figure 39: 'satellite view Villa Rosa'

Water tanks, roads and canals have to organize the urban area with some housing standards. (Waste management doesn't have the priority of everyday live.)



figures 40, 41 and 42: 'water tank', 'infrastructure' and 'canal'

4.3.2 Context variables

This paragraph will give a description of the first four themes, describing the environmental and economic conditions of the case. These are the conditions that didn't get influenced by the shelter program of Cordaid. The information is mostly found by desk-research and observations.

1. Density

Villa Rosa contains an area of 0,25 square kilometer for 10.000 people, which brings a density of 40.000 people per square kilometer. This is 25 square meter per person and more than 100 times as high as the general density of Haiti (362 people / km²).

2. Geographic's

Villa Rosa is built outside the formal border of the city and has gradually been developing as an urban centre over the past 30 years, because of the growth of the capital. 'Three families lived at the area of villa-Rosa: Turenne-Rosa family managed Morne Rosa, Theard family cite Theard and cite American owned by American citizen. After the departure of Duvalier (President from '71 – '86) these families began to sell plots without issuing of title deeds.'⁵²

The area is positioned between two hills, along the street 'rue rosa'. The north-east border is fenced by a high wall on the top of the hill of a religious institute called Saint-Marie. Internal sections of Villa Rosa are divided by main footpaths and canals.

The main building material throughout the area is concrete. 40% of the houses were destroyed by the earthquake, for which the most of them were located on softer and steeper soil. The houses within Morne Rosa seemed to gained less damage than houses within the other parts of the area. The south of Villa-Rosa contains several make-shift camps, occupied with emergency tents.



figure 43: 'view on Villa Rosa from west'



figure 44: 'Morne Rosa'

52. Cordaid, *Community profile Villa Rosa*. 2011: Port-au-Prince.

3. Accessibility

Villa Rosa is enclosed by hills to the east and west, by a main road to the north and by smaller paved roads to the south. 'Morne Rosa' to the north has a very good accessibility. A house within this area can reach public transport and a market building within 5-10 minutes walking distance. 'Haut Balanyen' to the south is more remote, but can still reach a public transport within 30 minutes walking distance. All houses are accessible by wheelbarrow, which can commute from a house to the nearest road within 5 – 20 minutes.

Pedestrian pathways were made by NGOs within 1998. A system of stairs and paths made out of concrete is still present along the houses within Morne-rosa and cite-Merican. Most pathways within the other parts of Vila-Rosa exist out of tapped dirt and rocky tracks.



figures 45 and 46: 'concrete footpaths' and 'gutters'

4. Economic situation

Some people within Villa Rosa are less poor. The city offers job-opportunities and creates more diversity in professions. It creates a dynamic society in which small businesses can be found, which for example operate a copy-machine or sell specific hardware.

Still most people do work on a day labor system or sell goods along the roads or main pedestrian pathways.



figure 47: 'view from Villa Rosa on downtown Port-au-Prince'

4.3.3 Case elements

Description of five themes, describing the conditions related to the activities of the NGO. These are the conditions that did get influenced during the shelter program implementation process of Cordaid. Most information is derived by performing interviews.

5. Social conditions

Villa Rosa is a slum neighborhood which has managed itself into a regulated residential area. It erected outside the formal borders of Port-au-Prince and never had official support from the government. That's why the area is poorly connected to the services of Port-au-Prince (water, electricity, waste management) and has no policies to survey housing standards, which are the biggest problem. But compared to other informal areas it is a well-established part of the city. 'The social cohesion is very good; they feel they belong to Villa Rosa.' (Urban Shelter Manager)⁵³ They rely very heavily on Saint Marie, which is a more formal community with a school, church and hospital dispensary. 'People tend to be very religious' (Area Manager)⁵⁴.

6. Policies

The emphasis of the shelter strategy of Cordaid, was to create a participating process with the local community. But the arrangements for Villa Rosa had to be made from top-down, in order to make a bottom-up approach possible. The informal area has to become formal. Any legal intervention in Villa Rosa has to be authorized by the mayor and the CASEC. (The CASEC is a local official who represents multiple communities towards the mayor and government.) The CASEC of Villa Rosa was born in Saint Marie, on the border with Villa Rosa. His area covers a third of Port-au-Prince with 100.000 people. 'He's very progressive and forward pressing. It helps to have a local politician who stands up for the project'. (Urban Shelter Manager)

The intended shelter program was first coordinated together with the NGO 'Goal', because Cordaid didn't had a lot of staff allocated to the area. Cordaid chose to prioritize its first efforts on the Léogane areas. The emergency phase within Villa Rosa was being controlled by other NGOs but Cordaid kept being informed about the situation in order to become active during a secondary phase.

NGOs were running everywhere within Port-au-Prince; 'They like to coordinate, not to be coordinated' (Shelter Program Manager). Cordaid was already experienced in post-disaster housing and took the decision to hold back, until a clear approach would be possible. After a few months the government of Haiti took some actions to address the chaos and took the decision together with the United Nations to end the phase of relief. Relief aid should be taken over by developmental aid, which meant that temporary shelters should become replaced by permanent houses.

Another decision by the government was to give an overview of 16 neighborhoods, in which they would support and monitor the effort of post-disaster reconstruction. Six of those 16 should were given priority to be leading projects, for which Villa Rosa became one of those 6/16.

53. Urban-Shelter-Manager, *Interview Port-au-Prince areas*, H. Janse, Editor. 2012: The Hague.

54. Area-Manager(2), *Interview Villa Rosa*, H. Janse, Editor. 2011: Port-au-Prince.

7. NGO performance

- main program

The main program, in which shelter delivery would start in the Léogane areas, experienced delays due to the inconsistency of leadership. 'The position of Shelter Programme Manager was not permanently employed until 1,5 year after the disaster' (Urban Shelter Manager). This also delayed the shelter program for the Port-au-Prince areas. A deliberate choice was made to start the aid operation within the Léogane areas, from which lessons could become implemented into Port-au-Prince. 'The Port-au-Prince areas had to be the follow-up of the Léogane program'. (Shelter Program Manager) But Cordaid couldn't start with a refined approach for Port-au-Prince, because this was not yet prepared by the higher levels of management at the start of the urban program.

The intended program for Port-au-Prince was to build around 1.200 T-shelters within Villa Rosa and 1.200 within Carrefour. After the shelter program in Léogane came into mass production, the shelter program in Port-au-Prince also started their T-shelter construction during November 2010.

It did not take a long time to see that the rural shelter design did not fit into the urban context. The shelter had to fit building plots on which still parts of the former house were standing and rubble had to be cleared. The shelter often had to be positioned on a steep slope, and most of the times the building plot was not registered. Therefore the T-shelter became updated into an urban model, in which the panels became interchangeable to improve its flexibility. The shelters did get build and directly given solid walls, but another shelter strategy to support more beneficiaries was necessary and became into existence during June 2011. A pilot for another approach was set up, which enabled a participatory process for house owners who's building plot were not applicable with the prefabricated T-shelter. Those houses were to be retro-fitted or redesigned to fit the urban fabric.

Cordaid presented an evaluation of their shelter program within a cluster meeting during May 2011. The end conclusion was that the shelter implementation process of the rural areas of Léogane, would not answer the problems of the urban area. Force fitting of the Cordaid T-shelter was tried, but the smaller plot sizes and incompatibility with multi-story buildings resulted in the conclusion that the shelter strategy did not reach the majority of the urban inhabitants. An alternative strategy of '**owner driven housing**' was needed (see box 7).

Another problem was the broader range of needs within the high-dense community. Houses only would not bring the area into development. Cordaid made a call to join forces and prepared an integrated approach. 'Cordaid wants to show that reconstruction of multiple elements together develops a neighborhood, not only one of those elements.' (Shelter Program Manager) If different organizations would be able to work together on different disciplines, they would be able to address the broad range of needs more effectively and efficient compared to the common practice. This new idea became very much appreciated and composed under the name of '**the integral approach**' (see box 7).

Timeline 'Port-au-Prince'

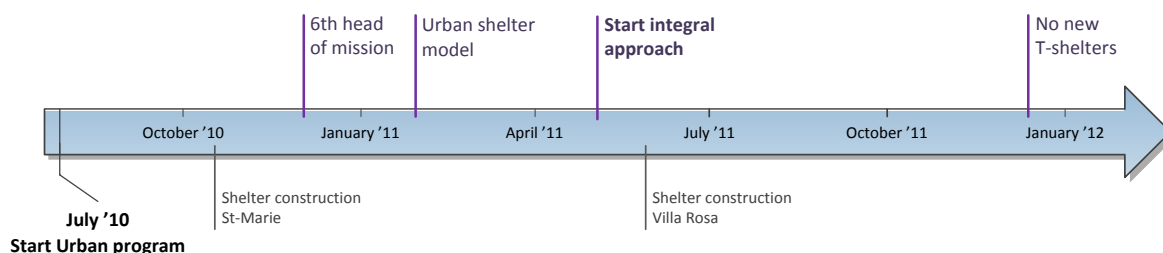


figure 48: 'Timeline Port-au-Prince'

Box 7 'The integral approach'

'The Cordaid definition of a shelter program is a combination of land rights, protection, building, water, sanitation and Disaster Risk Reduction (DRR).' (Shelter Program Manager)
An integral approach is necessary to affect (slum) neighborhoods on the multiple facets of housing. Rubble management, WaSH, drainage, infrastructure and services needs to be combined and supported within an integral strategy.

The focus of rebuilding houses would have to be on repairs, retro-fitting or custom new-builds, by using local means instead of implementing an alien building practice without additional neighborhood improvements. This approach became named "**owner driven housing**", in which the owner would take part within the decision making process of recovering his house as part of an integral approach.

The main parts of the integral approach are:

- 'Community development program' in which participatory planning with a 'Neighborhood Reconstruction Committee' is used to select and prioritize neighborhood improvements.
- 'Debris' to clear the rubble.
- 'Infrastructure' to address damaged roads, stairs, canals, etcetera.
- 'WaSH' for the supply of Water, Sanitation (latrines and showers) and education on Hygiene.
- 'Logement' to execute the approach of **owner driven housing**.
- 'Urban planning', to combine and overview all programs.
- 'Project coordination' to manage the integral approach.

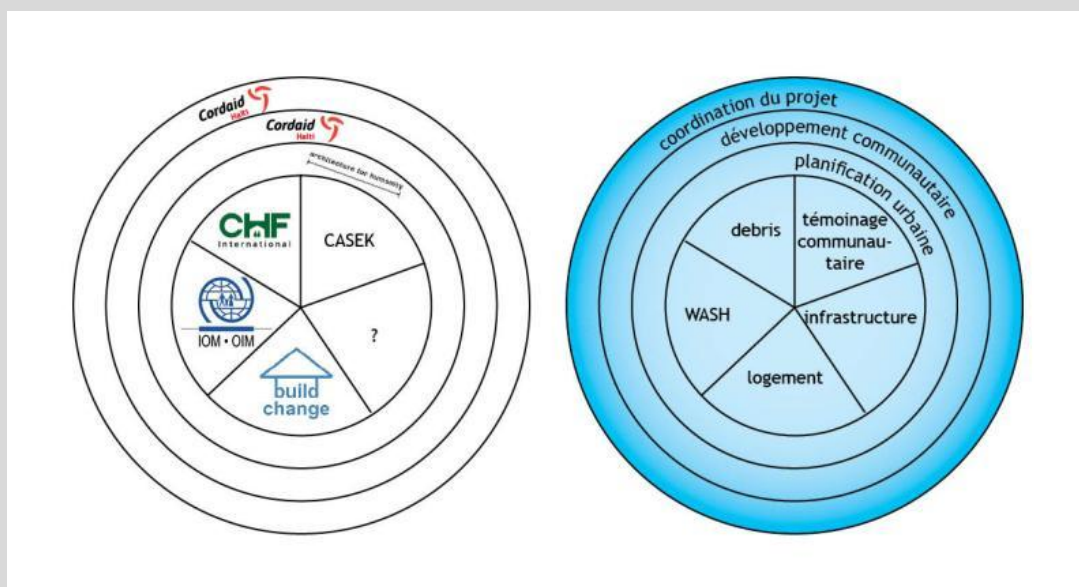


figure 49: 'Main parts of the integral approach for the area of Villa Rosa'

Other additional programs are 'social protection' which is mainly focused on registering ownership of houses. 'Disaster Risk Reduction' which embeds education on risks and vulnerability into all programs. And 'sustainable livelihoods', which support community initiatives and social-economic services.

- program Villa Rosa

The area of Villa Rosa was selected as an operational zone, because Cordaid supported former projects within the area. This made an introduction with local NGOs and former committees more easy.

The integral approach changed the shelter strategy for Villa Rosa. The shelter program first intended to build 1.200 shelters, but this became altered to 400. 'Cordaid can only build shelters when the building plot is save to natural hazards, is cleared from rubble, has land rights and is in compliant with the urban plan.' (Area Manager) After it became clear that the rural shelter strategy would not fit, only 120 T-shelters became planned. 'Less shelters were built in Villa Rosa than in Carrefour, because the building plots of Villa Rosa were less suitable' (Shelter Program Manager).

After May 2011, a small part of Villa Rosa (100 households) became assigned for the "initial phase" of the integral approach, in which all elements of post-disaster reconstruction became activated. The initial phase has to function as an example, a demonstration for future reconstruction projects, on which Cordaid took the role of project coordinator, the community development plan and the urban planning. Next to that Cordaid supports the organization 'Build Change' in executing the approach of owner driven housing.

Owner driven housing did not limit itself to the area of the initial phase, but came applied to the whole of Villa Rosa. The program was estimated to contain 300 retrofits, 120 T-shelters and 400 new-builds, but this resulted into 680 retrofits, 102 T-shelters and 40 new-build houses. This brought the total addressed households of the Villa Rosa shelter program to 822. Problems for the initial phase were the policies of the government which hindered the program by blocking registrations of ownership. This is one of the reasons why the process to build the new-build houses took a lot of time. Parts of Villa Rosa containing a steeper slope of 35% should get retaining walls or no buildings at all, due to the regulations. And some parts would not get a permit for a permanent house, while it did get a permit for temporary houses or repairs.

The coordination of the integral approach will in the end be handed over to the Neighborhood Reconstruction Committee (the NRC), that has been formed during the final stage of the CAP-process. Cordaid will leave the project before June 2012. The Neighborhood Reconstruction Committee then has to play an active role for the development of the community. The urban plan, driven by community participation will have to become a master plan for future interventions for the whole of Villa Rosa per element of post-disaster reconstruction. It contains an overview of multiple projects for community upgrades projected on the long-term. 'This saves a lot of preparation for future NGOs and eases the communication with donors'. (Shelter Program Manager) An action-plan will support the NRC in the decision making process to keep the urban conditions developing.

The 'initial phase'-area of Villa Rosa has the potential to be an example for future programs funded by big donors like the 'World Bank' or 'UN-habitat'. Other organizations show a lot of attention to the integral approach. 'One to three times each week, Cordaid informs other organizations about the integral approach during on-site presentations'. (Shelter Program Manager) It is also expected that the government will copy elements of the integral approach within their next reconstruction policies.

Timeline 'Villa Rosa'

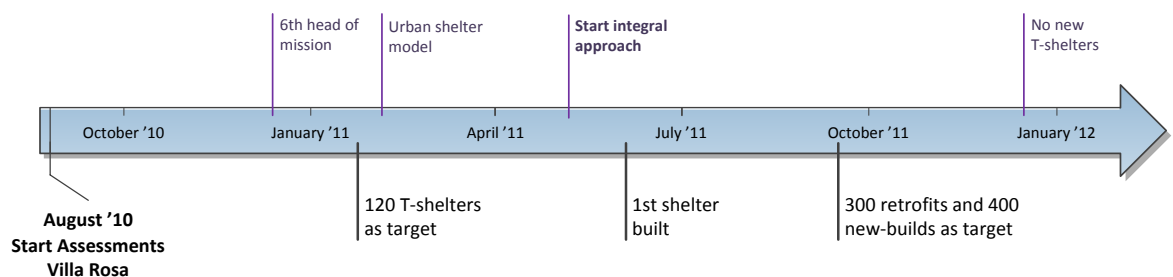


figure 50: 'Timeline Villa Rosa'

8. Local stability

The history of Villa Rosa which gave its inhabitants already some experience with NGOs, which benefitted the necessary time for communication. Also the existing contacts with local NGOs could be used, which prevented a potential struggle to set-up new community representatives.

'It is a safe (enough) area, because it is established and therefore people know each other creating social control.' (Urban Shelter Manager) Also the camp that does exist within Villa Rosa, mainly contains local people from the community itself, it does not house newcomers.

9. Local capacity

Villa Rosa got a lot of small shops and pedestrian traffic within the area. The area contains some schools and churches which generate a dynamic atmosphere. Cockfights do occur as leisure and an improvised basketball field is present.

'A lot of people are able to be the boss-masons or skilled builders and a lot of the women have small businesses on the street'. (Urban Shelter Manager)

The area got 21 Community Based Organizations which are in contact with multiple NGOs. This gives the area a great potential to regulate future developmental activities.

NGOs were already active within Villa Rosa before the earthquake to upgrade the housing conditions (footpaths, drainage and water supply). These NGOs were quickly involved with the efforts of post-disaster reconstruction after the earthquake. 'Many NGO's (local and international) have been active in Villa-Rosa immediately after the earthquake.' (Community profile) They mainly provided healthcare and WaSH programs.

Cordaid was supporting one of the local NGOs which were active within Villa Rosa before the earthquake. Contact was made with the local NGO and former partners, to prepare a shelter program.



figures 51 and 52: 'local production of building materials -1.' and '- 2.'

4.3.4 Analysis of 'Villa Rosa' shelter program

All themes can clarify some part of the problems within implementation process of the urban shelter program. The main occurrence to be clarified is the conversion of the shelter strategy. An analysis on all themes will give more insights how the complexity of the city became used to create a stronger approach. Additional information related to the description of the themes is given within this paragraph.

1-4. density, Geographic's, accessibility, economic situation

The high density and informal character have a lot of disadvantages to the progress of the shelter program. The steepness of the area made it difficult to execute legal interventions. The steep areas were not assigned to maintain permanent houses, and in some cases they could get a permit for the prefabricated (temporary) shelter, but not for the owner driven houses which were labeled permanent. Within these cases the choice was made to build the T-shelters which were formally "temporary" but designed within the urban plan to be permanent.

'The infrastructure was not that bad compared to other areas, but the WaSH situation is bad.' (Area Manager) A lot of latrines were broken down, full or out of service because of other reasons. The local people could not manage the public latrines themselves, which is pitiful.

5. Social conditions

The CAP-process (Community Action Planning) was executed different within Villa Rosa than within the rural areas. The negative side effects of the rural CAP were prevented by making no false promises and allocating more staff towards the area. Specialized 'community developers' and 'community development facilitators' were assigned to Villa Rosa. 'The Cordaid urban team was large with a significant social development team. In the urban programme the CAP-process was taken very seriously.' (Urban Shelter Manager) People got picked up at their houses and were noted down during community meetings. The different committees were aware of each other and are being managed by the main Neighborhood Reconstruction Committee. A day before a meeting in which decisions are being made by community representatives, a forum gets organized to ask permission from the inhabitants.

One example is the water system, which misses one pump and equals an investment of 15.000 dollar. It is up to the community when this will be dealt with. They decide which aspects of their community gets priority within community driven urban planning.

6. Policies

Other NGOs also operate with the committees of Villa Rosa to execute their specific aid program. This way Cordaid is able to leave the integrated approach (to be taken over by another organization) which increases the independency on Cordaid. The integrated approach is depending on governmental support. The urban context is connected with policies and other external factors that a NGO can't influence. 'A NGO is not a stakeholder of the area, but most other actors are.' (Shelter Program Manager)⁵⁵ The NGO is to support the city with information and to start off relationships. It is not benefiting from a successful program other than publicity.

The initial phase was started without consulting the shelter or early-recovery cluster, but the project was reported as feedback after it was prepared and started. The integral approach is supporting on 'Memorandums Of Understanding' (MOUs) between the actors, which inscribe the mutual expectations.

55. Shelter-Program-Manager(1), *Interview shelter strategy*, H. Janse, Editor. 2011: Port-au-Prince.

7. NGO performance

Several notions can be given analyzing the performance of the NGO.

- A decision of Cordaid The Hague was made to leave Haiti within the near future (summer 2012). This could be considered a strange conversion of the operation. The phase of development has just been brought into perspective and Cordaid used to proclaim to have the intention to link relief with development. They have made an effort within the phase of rehabilitation, in which they gained a lot of experience, which could be used within the phase of development. On the other hand they are bringing the dependency on Cordaid to zero, when they are leaving their positions within the integral approach.

'The paradox of the ideal NGO is that they are very good in making themselves unnecessary.' (Rural Shelter Manager)

- A big building cannot be replaced by a small shelter. 'One advantage of owner driven housing is at least, that it starts to build the beginning of a big building again.' (Urban Shelter Manager) (And not a small T-shelter-building) The foundations should be strong enough to take a second and third story and flexible enough to fit the urban building plots.

- Although it did take a lot of time to develop the integral approach, it was done and became implemented. 'The earthquake gave the possibility to re-plan, implement policies and bring services into a neighborhood' (Shelter Program Manager) Cordaid was the first NGO to use this potential and follow the ideal that reconstruction should be more than replacing houses. 'The construction of the T-shelters within the urban areas, was something we did as something we had to do, but wasn't our main reason for being. It was just something our engineers did and not something I concerned myself with.' (Urban Shelter Manager) The development and implementation of the integral approach was the most important task within Port-au-Prince. Output of shelter numbers and overhead costs were to be compensated by Léogane and areas of other NGOs who were given building-kits of the Cordaid T-shelters.

- The integral approach, in which multiple disciplines and actors comes together within a joint venture, sounds very clear and logical. But the aid world is not used to join forces and delegate tasks among each other. 'Until now, some other organizations didn't even think about the idea of cooperation.' (Shelter Program Manager) The integral approach really has to prove the mutual benefit that neighborhood based projects can offer. The perception of giving aid has to go towards an 'area of effect' instead of addressing single disciplinary projects focusing on output numbers. 'Many NGOs arriving in Haiti after the earthquake see the disaster as an event and do not take a developmental approach.' (Urban Shelter Manager) The integrated approach is not applicable to a single relief or development program. It's continuing on the pre-disaster capacities.

8. Local stability

There are some areas in Port-au-Prince that doesn't get addressed by a lot of NGOs because they are considered unsafe. It is those areas which are often in biggest need for support, but the threat of violence towards external aid is considered too big.

The shelter program of Cordaid Port-au-Prince was also locked down for a month during elections. Villa Rosa is in general a safe area with a lot of exposure to the international community. This helps a lot to make the area a formal part of the city.

9. Local capacity

The main capacity of the people within Port-au-Prince, is that they are less dependent on agriculture because they have a mature relationship with other people within the city. The urban network exchanges services which makes specializations into different disciplines possible. The people are dependent on each other, which erects businesses and interactions with mutual benefits.

'Too often NGOs pay no attention to the capacity of communities. Not often do reconstruction efforts capitalize on the local knowledge and systems.' (Urban Shelter Manager)

4.3.5 Examination of the criteria

The themes of the former paragraph will be used to elaborate an examination of the criteria for the shelter program. A description will be given to the effectiveness and efficiency of the shelter program implementation process and a description on the support for the process.

Effectiveness

The effectiveness of the urban shelter program, to link relief with development was done by giving people a new permanent house and creating a political system (by assigning committees) into the slum neighborhood. Especially the latter, a formal democratic system, brings the neighborhood into development, which could alter the title of "slum" within the near future of the area. Handing over prefabricated houses (the rural T-shelter) won't make this possible, but the participatory process in which the beneficiaries decides the particular upgrade for their housing area, (owner driven housing) does.

'Neighborhood reconstruction needs to be more than building small houses. "Somewhere inside" Cordaid knows that she would like to leave more behind than the new-build wooden structures. That should be the capacity of self-help, to be more independent from external aid.' (Shelter Program Manager)

The vision of the Shelter Program Manager was to implement a broad package of aid programs into a selected area. Other programs next to shelter couldn't get implemented within the Léogane areas due to a lack of funds and/or the availability of other NGOs. Proper funding and other NGOs were found within Port-au-Prince. This, together with the availability of the government and the problems of the urban context, created the possibility and need for an integral approach. The multiple problems within the high dense urban context of Villa Rosa, enforced a multi-disciplinary cooperation.

But the development of the integral approach happened to be the wrong way around. **'We build houses (T-shelters) first, and then we started thinking about the urban plan and other components and then we did rubble clearance at the end...'** The first thing you should do is to make the urban plan. And in sequence rubble clearance, ground works, retaining walls and houses are to be built at last (that's even the one thing people can do themselves). **'The whole thing was already on its head from the beginning.'** (Urban Shelter Manager)

The situation was far from ideal, but that's also due to the approach the aid world has on the situation. **'When a newspaper reports that thousands have become homeless, the reaction is to provide houses. Not even housing, but purely a roof.'** 'But the real impact of giving purely a roof, without considering latrines, schooling, and etcetera, is shortsighted.' (Urban Shelter Manager)

When you are homeless, the first thing you might want can be a latrine more than a roof over your head. Or you want access to schooling or to continue to be able to go to work, and the road to be repaired. **'It's too simplistic the way we approach disasters. That's because the worlds too complicated and we like to make it simple.'** (Urban Shelter Manager)

Disasters are described in numbers of destruction and deaths, and solutions are put to the numbers of reconstructing houses, schools and hospitals. **'This simplistic thinking does make it easier to convince people to give money.'** (Urban Shelter Manager) But this doesn't enforce an effective approach of post-disaster reconstruction. Houses alone do not make a housing area. The integral approach addresses this issue that is active within the aid-world, which is being recognized by most employees of NGOs.

Efficiency

The efficiency of the shelter program was defined as a cost-benefit comparison, in which the benefits towards the local community had to be made with the least amounts of time and money. The efficiency of the shelter program implementation process of Villa Rosa is described by a few negative and some positive notes.

- There had been no contact between the Rural Shelter Manager of Léogane and the Urban Shelter Manager of Port-au-Prince. This contact could have been used for a better learning process and evaluation of the T-shelter program. This could have given a better insight into the problems of the urban context.

- A choice has been made to extend the building program of the Léogane areas and to give building-kits of T-shelters to other NGOs, to compensate the poor numbers of the Port-au-Prince areas. This did increase the overall efficiency of the program, but indicates that the urban program was not able to meet its target.

- A decision that did increase the efficiency of the Port-au-Prince areas, was to start the building process within Saint-Marie. St-Marie has more space and less land rights issues, which made it possible to give the shelter program a convenient start. The assessments and shelter constructions were performed subsequently from Saint-Marie towards Villa Rosa. This gave the employees already some experience, before the context in which more problems were pressing had to be addressed.

- The numbers of T-shelters were altered within Villa Rosa. Less shelter became built because of the context, and the money allocated to those shelters became partially transferred to the management of owner driven housing and the integral approach. *'Compared to many other organizations, we had some flexibility in how we used our budget.'* (Urban Shelter Manager) This flexibility of time and money enabled the possibility to develop the integral approach, which lowered the efficiency, but increased the support of the program.

- Consensus that the T-shelters would not be the solution for Villa Rosa, was already made at the beginning of the project in 2010. But it took at least half a year before 'owner driven housing' could start. *'The job of Shelter Program Manager is one of the heaviest jobs.'* (Urban Shelter Manager) And this position was next to the position of 'Head of mission' not continuously manned. *'The chaotic management of human resources at the beginning of the project resulted into larger overhead costs.'* (Urban Shelter Manager) Arrangements within the higher management of Cordaid had to be made, until the practical preparations for the integral approach could start within April 2011. *'The T-shelter program was still running during the time to prepare the integral approach, to generate output and to build trust with the community.'* (Shelter Program Manager) T-shelters kept being built, although it was known, not to be the solution towards permanent housing within the urban context.

- *'It is easier to control a construction process, than to control many different actors.'* (Urban Shelter Manager) The coordination of the integral approach took a lot of time and thinking. The 'Head of mission' didn't want Cordaid to become the 'Shelter cluster' who would organize "everything". The role of Cordaid was to bring houses up again. That was 'the piece of the pie' of Cordaid. But the coordination also had to be done, which was not the main official objective to be in Haiti for. It was bad for the general efficiency, but necessary to make the integral approach possible.

- *'The new built houses take too much time. They had to be finished within January 2012, but construction has not been started yet.'* (April 2012, Shelter Program Manager) Beneficiaries do understand that the preparation costs time, but time is really pressing to start delivering. Also the overhead costs have to become more efficient. This will be better when Cordaid gets more familiarized with owner driven housing.

Support

The support of the shelter program results and implementation process within Villa Rosa, will also be elaborated by several notes.

- The implementation process was being done in two ways, by the implementation of the T-shelter for some beneficiaries and the process of owner driven housing for those whose building plot was not sufficient (the majority). The T-shelter was very appreciated by the beneficiaries as an end product. 'The people weren't convinced about the permanent houses, because they hadn't seen them. They knew the shelters that Cordaid provided. They were largely well received among the people of the community.' (Urban Shelter Manager)
This caused some problems, because some building plots were kept vacant for the future potential of rebuilding a permanent house. (For example; in case when three connected building plots offer the potential to rebuild one new multistory building, instead of three T-shelters.) Trust had to be created with those beneficiaries who had to wait longer, which was done by the participatory process of owner driven housing. 'The integral approach is more clear towards the beneficiaries.' (Urban Shelter Manager) Cordaid, as coordinator and main executor of the Community Action Plan, was often requested to answer questions of the community, even when they considered tasks, being executed by other NGOs (of the integral cooperation). 'The community liked Cordaid and also trusted us to a large part. As Cordaid provided real results, the community trust grew.' (Urban Shelter Manager) After the first results of the retro-fitted houses the community shifted its preferences from the T-shelter towards the owner driven housing. 'The community now prefers the owner driven houses as more appealing than the T-shelters.' (Shelter Program Manager)
- The shelter program in Villa Rosa was very much supported by the CASEC of the area. He's a strong man who understands the problems of Port-au-Prince and was really driven to make a difference. Also the appointment of Villa Rosa, to be one of the 6/16-areas, did also help to implement the required policies from top-down.
- Other NGOs were willing to support the integral approach within Villa Rosa more easily than within a second area of the initial phase (within Carefour). 'Villa Rosa is an area with a good appearance for publicity'. The potential to become a "normal" part of the city is high, which makes the willingness of NGOs to participate very high.' (Area Manager). The high chance of success within Villa Rosa gives a good support of the pretentious project to implement the "new" integral approach.
- 'The creation of the committees themselves was a success; Cordaid couldn't have done it without them.' (Urban Shelter Manager) Cordaid is using the community as a means for problems they cannot solve themselves. The community always came up with solutions, but they also indirectly took the responsibility of the decisions which would make it possible for Cordaid to be more independent.

4.4 Cross-case comparison

Insights to the differences of the shelter program implementation process within a rural or urban context is brought by answering the question, whether the urban or rural context has the advantageous conditions, confronted with the execution of a shelter program. These conditions will be given per theme and criteria, and are based on the cases of Septieme Gerard and Villa Rosa, but are also generalized to fit the general urban or rural context.

Which context has advantageous conditions to execute a shelter program?

Themes:	Rural or Urban?	Main condition	Main argument
1. Density (people / m2.)	Rural	More space	Less regulations
2. Geographic's (condit. of the surface)	Rural	Less unsafe housing locations.	More flexibility in position of building plots.
3. Accessibility (connection and quality of infrastructure)	- neutral	Longer travel time for Rural context. Tight infrastructure for Urban context.	Transport can be tough within both contexts.
4. Economic situation (employment, income)	- neutral	Self-subsistence in Rural context. More opportunities in Urban context.	Financial means are low in both contexts.
5. Social conditions (community feeling, social capital)	- neutral	More independency within the Rural context. More interactions within the Urban context.	Both contexts have their own specific social capital.
6. Policies (governmental support)	Urban	More intense More potential to support services next to shelter.	If inhabitants can participate within the process.
7. NGO performance (vision and results)	Urban	Vision and result to deliver developmental aid is possible.	If local stakeholders are able to cooperate and multiple disciplines are present.
8. Local stability (conflicts and safety)	Rural	More peaceful, better manageable	More social protection, less potential conflicts.
9. Local capacity (knowledge and skills)	Urban	More organizations present within reach.	Higher diversity, more experience with multiple disciplines.
Criteria:			
- Effectiveness (link relief with development)	Urban	More potential for long-term development.	When sufficient local support is present.
- Efficiency (use of time and money)	Rural	Hit & run or prefabricated solutions could be possible. (is more focused on short-term)	If less substantial interventions to the living environment are necessary. (both tangible and social)
- Support (appreciation for process and product)	- neutral	Rural population has less knowledge. Urban population is more dependent and criticizing.	Both contexts can be hostile or friendly against external aid.

table 6: 'overview of cross-case analysis'

Table 6 indicates several differences between the advantages to execute a shelter program within the rural or urban context. The most important difference is between the criteria of effectiveness and efficiency, which can be related to the main conditions of the themes belonging to the rural or urban context. The urban context has a better effectiveness for the shelter program than the rural context, but the rural context scores a better efficiency.

- The themes being advantageous toward shelter implementation within **the urban context** are 'Policies', 'NGO performance' and 'Local capacity'. The conditions belonging to those themes are the potential of a participatory process, cooperation with local stakeholders and the higher diversity of professionals that can be contacted. These conditions of the urban context, are also the argument why the urban context offers a better effectiveness in linking relief to development.

- The themes being advantageous toward shelter implementation within **the rural context** are 'Density', 'Geographic's' and 'Stability'. The conditions belonging to those themes are the availability of space, more safe building plots and the manageability of safety. These are also the arguments why the rural context offers a better efficiency toward a shelter program.

This paragraph will continue with a description for each theme and criteria, to elaborate the scores given within the overview of the cross-case analysis of table 6.

1. **Density** (people per square meter)

In general the density is the indicator of an urbanized area. It is a lead to problems because of a higher density, but not a problem itself (people can live satisfied within a sky-scraper). An urban area is an area in which more people live, than within a rural area and is therefore more dynamic and requires more developed infrastructure. More people lead to more interactions within the tangible and social living environment between people. Every interaction needs a space to connect people, which causes problems within the urban context, because it is lacking space. More formal and informal regulations are necessary within the urban context, than within the rural context, to prevent conflicts between people.

Within Septieme Gerard as one of the rural Léogane areas, the low density led the shelter program implementation process towards an end product oriented approach. The efficiency became the leading challenge, because the density of the area didn't evoke many problems to the execution of the shelter program.

Within Villa Rosa as one of the urban areas of Port-au-Prince, the high density led towards a revision of the shelter type to cope with the urban context. The multiple damage conditions of the urban context were stacked within the same surface area, for which an integral approach needed to become developed. This hindered the execution of the shelter program.

2. **Geographic's** (conditions of the surface area)

The geographic condition of an area makes an area more complex by introducing technical problems. The steepness of building plots or vulnerability towards landslides are problems which bring risks to the inhabitant.

The rural context has less problems with these risks. Within Septieme Gerard the geographical conditions are managed by 'not living' on the most unsafe building plots. Within Villa Rosa retaining walls and multi-story buildings are needed, or people just (aware or unaware) accept the higher risk they have, living in houses prone to natural hazards.

3. **Accessibility** (connection and quality of infrastructure)

The access to the living environment can be considered even between Septieme Gerard and Villa Rosa. Septieme is more remote but individual houses are better accessible by car. Not all houses are accessible by car in Villa Rosa, but they have shorter travel distances towards other people. The delivery of building materials can be problematic for both areas, but not to the proportion that it becomes impossible to find solutions.

4. Economic situation (employment, income)

Septieme Gerard tended to be more inhabited along the road where more economic activities can be found. Within the mountains the people are more independent but less part of the formal society.

Villa Rosa is as an informal area positioned externally to the facilities of the city. That made the pre-earthquake conditions already very poor. But there is a potential to become an active part of the city.

Jobs are needed in general within both areas, but more research into specific rates of employment, income and expenses is necessary to make a comprehensive comparison. This research cannot say whether the rural or urban economic conditions are better, and if it has a positive influence to the shelter program.

5. Social conditions (community feeling, social capital)

'The committees within the villages of Septieme Gerard are functioning better than the committees of the inhabitants near the main road.' (Shelter Program Manager) The social control among the inhabitants near the road is worse than within the mountains. People are more jealous and less able to cooperate. But it is hard to assign primal differences between inhabitants of the city and inhabitants of the rural areas.

The assumptions can be made, that people within the rural context are more independent and people within the urban context are more aware of each other presence and capabilities. But it is unknown how social capital influences the participatory process of a shelter program. This would be a complex but very interesting topic to be studied by sociologists.

No advantages to the execution of a shelter program, could be found due to the social conditions within a rural or urban context. The score is 'neutral', because it would require additional research, just as the score for the economic situation.

6. Policies (governmental support)

People do not know each other within the city and more people are coming in every day. Laws are necessary and the shortcoming of government is more easily recognized within the informal parts of the city.

Septieme Gerard does not need large scale governmental interventions. They don't live by the official law, but by social arrangements. People know each other and the possessions of another. But the people feel ignored by the government. This is the same for Villa Rosa.

The government used to ignore the slums (the informal areas). 'The rich Haitians even say that the slums should become cleared by force.' (Area Manager) The opinion of the NGOs is that they will keep exist, if no developmental actions are taken. Programs of slum improvements, with the support of local stakeholders like the CASEC, are a great contribution to create more formal areas.

'The one thing that the emergency has really done is that the informal areas are on the map, they're being discussed in general.' (Urban Shelter Manager) There were two different worlds, but the government was forced by the UN, but also the NGOs, to pay attention to the informal areas. It is said to be one of the biggest positive outcomes of the post-disaster situation.

Governmental support is an advantage for the urban context, because it has a bigger presence of government. Public services can become supported and needs can become addressed once communities organize themselves. This can be an advantage for the shelter program, when it facilitates a participatory process with the inhabitants and cooperates with the local governmental officials.

7. NGO performance (vision and results)

A NGO should be a catalyst for local intern processes if they would like to help to redevelop a society. 'The most important pivot is the community itself.' (Shelter Program Manager)

Within Léogane the available resources to the Cordaid program (mainly Time, and Human Resources) were too limited to facilitate a truly participatory process. But Cordaid did not do

a bad job, compared to the achievements of other NGOs.

Within Port-au-Prince, the approach of the shelter strategy became more embedded within the local community. 'The Early recovery and Shelter cluster are very much output oriented and focused on time. The integral approach is not, which is quite revolutionary.' (Shelter Program Manager) Cordaid has proven themselves and their donors to be a mature NGO by recognizing their shortcomings and acting toward new solutions.

'The experience in the rural areas of Léogane (on which no funding was found for other aid programs) gave the justification and argumentation to redevelop a multidisciplinary approach for the urban areas.' (Shelter Program Manager) And the lack of space within the urban context, which confronted the shelter program with additional problems, led the needs towards the integral approach.

The urban context was advantageous to the vision and result of the shelter program, which was to bring beneficiaries into the phase of development. It became possible within the urban context to change the implementation process and have an active process of participation and cooperation with other NGOs and stakeholders. This was more hard within the rural context.

8. Local stability (conflicts and safety)

The condition of stability can be considered to have a similar effect on the shelter program for both the rural and urban context, but for different reasons. 'Within the rural context instability is created by ignorance and canalized anger. Within the urban context, instability is created by gangs and corrupt politics' (Rural Shelter Manager). Both have the end result that it becomes unsafe for a NGO, to operate within the field.

There are some differences in trying to cope with the risk of instability. Ignorance and anger can be prevented by informing and educating the inhabitants of the rural context. Corrupt politics within the urban context are harder to prevent. This cannot be done without cooperation of other actors.

Stability within the rural context is better manageable, because there are less possible conflicts within the living environment. 'The stability within the rural areas is bigger than within the urban areas, where the level of aggression is higher.' (Shelter Program Manager)

The margin of errors was bigger within the rural context, because people within the urban context tolerate fewer flaws.

These statements can be assumed to be true, for the general urban and rural context. But the stability within a more specific area will differ on the local population, atmosphere and occurrences. It cannot be said that Septieme Gerard is a safer area than Villa Rosa.

9. Local capacity (knowledge and skills)

There are less NGOs within a rural area, which creates less opportunities for cooperation. Next to that there are less local organizations and the organizations that do exist can be less skilled. The urban area has a bigger diversity of organizations (governmental, profit and non-profit). This diversity offers more potential for cooperation between organizations.

'The bigger division of labor and density increases the dependency on resources and services of the urban context.' (Shelter Program Manager)

A farmer within the rural context is more independent, because he's more diversely skilled and hardened. He harvests his own food and repairs his own house.

'The people in the city are more familiarized to complain at the authorities.' (Shelter Program Manager) They rely more on the services within their social living environment and are more jealous on their neighbors.

Development of the social, economic and political conditions have to become stimulated by soft-resources (employment, education, information). This is better possible within the urban context, because there is a bigger diversity in skills and knowledge.

Effectiveness (link relief with development)

'A pessimistic view would say that the shelter program within Léogane has not changed the way Haiti is able to deal with its issues by itself.' (Rural Shelter Manager) The intervention of the prefabricated houses was too much depending on high technology that will not get copied by local building practices. The dependency on Cordaid was too high within the program. The earthquake was just a small part of all present problems within Haiti. Land rights, registering of ownership, traffic, energy, education and deforestation are some of the basic problems that also need to be addressed to become into development.

'Léogane was more product oriented and Port-au-Prince more on process. The rural program could have been more sustainable if programs for livelihoods, WaSH and disaster risk reduction were to be implemented next to shelter.' (Shelter Program Manager)

A realistic view would say that the Cordaid shelters brought 1.200 families in Septieme Gerard an improvement of their basic living environment by giving them a new home. An optimistic perspective could be that this new home is a starting point, from which they can start the phase of development by themselves. 'The shelters increase the health of the inhabitants and are hurricane proof, which saves investments to repair their house after each storm.' (Shelter Program Manager)

The shelter strategy of Villa Rosa became more focused on development. The implementation of the prefabricated shelter gave insight to a lot of problems, which resulted into a renewed approach. The integral approach facilitates a platform in which NGOs, government, local committees and other organizations can work together. This addresses the effectiveness (to increase local capacities) of post-disaster reconstruction thru a process in which the decision making power and responsibilities are given to the local inhabitants. This enforces a transition in which the local community becomes independent from aid.

It requires a more intensive implementation process for the NGOs to be effective within the general urban context, but the effort will have bigger results once they have the support of local organizations. This will give the urban context an advantage in executing developmental aid, compared to the rural context which has a lower availability of local capacities.

Efficiency (use of time and money)

'Being an area manager within Léogane was totally different compared to being an area manager for Villa Rosa. In Léogane we were running a machine.' (Area Manager)

The efficiency to build houses was better within Léogane. Mass production became possible, which converted a lot of money into houses. The context was just as challenging, but more problematic within Port-au-Prince. 'We felt like we couldn't build as fast as they did, because we had obstacles, land right issues, rubble clearance issues, cooperation with other NGOs, who is where and who does what.' (Urban Shelter Manager) The rural areas were building 30 shelters a week, the urban areas only 30 each month. But these shelters did get inhabited directly where in Léogane the first shelters were standing empty, due to a longer total construction process.

- Post-disaster reconstruction was not easy within the Léogane areas, but the implementation of prefabricated shelters was possible. Within Port-au-Prince an alternative strategy and cooperation with other actors became necessary to get the majority of damaged houses rebuilt.

The phase of relief was really long for the urban context, for which it is still alarming that people are living in tents. Systems of cooperation and participation first have to be created before the creation of permanent housing becomes possible for the long-term. This makes the integral approach cost a lot of time and money. 'Participation introduces higher overhead costs, but it got a lot of additional value. The emphasis of effectiveness has not to be put on financial results.' (Shelter Program Manager)

- The efficiency of owner driven housing is depending on the integral approach. If all actors are able to make agreements thru one platform which addresses multiple problems (multiple

aid programs), the decision making process can be seen as a very efficient one. In theory the integral approach could save time and money, because it shares its preparation time with the other aid programs. But the integral approach still has to prove itself in practice. It cannot yet be said that the integral approach is more efficient than the former practices.

- A shelter program is not dependent on a multi-disciplinary approach within a rural context, when it offers enough space for NGOs to execute their aid programs un-integrated. Then it is not necessary for NGOs to cooperate, especially when the solutions to the problems won't require multidisciplinary interventions. This simplifies the implementation process within a rural context, which increases the efficiency.

An example of a very efficient aid strategy is a "hit and run"-project. This supports beneficiaries with prefabricated solutions, containing mainly hard-resources (tarpaulins, food packages, bandage). The rural context has the advantage in receiving efficient aid programs, but with the note that these programs are more focused on a short-term effect.

Support (appreciation for process and product)

The inhabitants of Septieme Gerard appreciated the supply of shelters, but the implementation process did not strengthen the independency of the community. Next to that the economic position, WasH and other elements of development could still need some interventions, which the community cannot organize themselves.

The inhabitants of Villa Rosa were very fond of the Cordaid shelter, but they were even more content with the owner driven houses. The implementation process required participation and cooperation of inhabitants and local stakeholders, which has strengthened the local capacity to start future developmental projects, with or without NGOs.

It can be debated if a so called "hit-and-run" strategy is sufficient to assist the general housing problem within rural areas. The rural population of Septieme Gerard was already less dependent on services before the earthquake, in comparison with the urban population of Villa Rosa. The earthquake destroyed the tangible houses, but the social living environment (social, economic and political conditions) could still be acceptable. The assumption can then be made that the supply T-shelters was sufficient to aid the rural context. *'The supply of houses within rural areas evokes a major improvement of the situation for a local community.'* (Shelter Program Manager) An integral approach would also be impossible, if other NGOs, CBOs and governmental organizations are absent within the wide rural context.

Additional problems were blocking a prosperous life than just the issue of rebuilding houses, within Villa Rosa. *'It seemed much more to be about complex larger questions, where we were a little bit more stuck in'. 'It has all to do with the difference of context.'* (Urban Shelter Manager)

By implementing an urban aid program, a NGO cannot ignore the social living environment. Services for water, sanitation, electricity and safety have to be implemented next to the construction of houses, to create a housing area. (The accessibility to rivers, for example, is often very low within the city.) This requires formal and informal regulations between the stakeholders of the urban area. Inhabitants, government, profit and non-profit organizations, have to come to agreements. The shelter strategy of a NGO is therefore depending on the support of the local stakeholders within an urban context.

A rural area could prefer a "hit-and-run" strategy, when the population prefers a quick support. An urban area could prefer long-term solutions, which requires a participatory process as part of an integral strategy. *'The city got a larger range of professions, but a less strong traditional social cohesion.'* The affected urban community has to have the capacity to endure the process of participation and cooperation. *'The city does have better organizational skills when they are confronted with a common "enemy". But when this enemy doesn't exist, everybody stands for themself.'* (Shelter Program Manager)

5. Conclusion

4. *Which lessons can be learned, out of a comparison of the differences between the shelter program implementation process of the rural and urban context?*
 - a- *Does the evaluation lead to features of the urban complexity?*
 - b- *Does the rural best-practices describe solutions that can be applied to the urban context?*

5.1 Introduction

The differences within the problematic conditions for a shelter program within the rural and urban context were explained within the former chapter, by an evaluation following a selection of nine themes. A hypothesis was formulated connecting the nine themes with the criteria to examine the level of problems, related to the conditions of the themes.

The hypothesis was stated as; *'the urban case is expected to have a lower score on effectiveness, efficiency and support than the rural case'*. And themes that were depending this lower score of the urban case, would have to be compared with the rural case. Conditions that stand out of the comparison between the themes, should be used as preconditions to formulate adapted strategies for the urban context.

This chapter will first summarize the answers to the research questions that have been described within the former chapters. Paragraph 5.3 will answer the hypothesis and elaborate the differences between the rural and urban context. 5.4 will answer the main research question and paragraph 5.5 illustrates the recommendations for shelter programs. Paragraph 5.6 will support the recommendations with the necessary topics for discussion. 5.7 reflect on these topics with suggestions for future research. The chapter will end with an evaluation of the Cordaid shelter program and an evaluation of the research method.

5.2 Elaboration of lessons

The former chapters were answering several sub-questions. This paragraph will rephrase these answers to summarize the case-study and focus the relevant information gained by answering these questions. This will prepare the answer to the hypothesis of the cross-case analysis and the answer to the main research question within the next paragraphs.

(PROBLEM DESCRIPTION)

Shelter programs are being implemented within Haiti by hundreds of Non-Governmental Organizations, but there is a lack of experience in shelter strategies confronting the urban living environment. A comparison on the implementation process of shelter programs, between the rural and urban context, has to point out which difficulties a more dense context brings along. The focus lays on facilitating the transition from relief aid to development, within the act of post-disaster reconstruction.

1. Which analytical framework can be used to overview the complexity of shelter program implementation, within the field of post-disaster reconstruction?

A case-study, comparing Haitian cases for the rural and urban context has been executed following the method of 'action research'. The cases were studied, following a selection of themes, and the criteria of effectiveness, efficiency of- and support for- shelter strategies. The hypothesis was that the urban case, was supposed to have a lower score on effectiveness, efficiency and support than the rural case. The relationship between the themes and the outcome of the scores have been compared and described. Principles found within this study could at the end be used to formulate adapted shelter strategies.

- The analytical framework, used to perform this case-study followed three subsequent stages. At first a general analysis on the theory of post-disaster reconstruction and shelter strategies were given. At second a detailed evaluation of a shelter program within a rural and urban context has been described. As third, recommendations will be given, focusing on a neighborhood scale of a post-disaster housing program.

(ANALYSIS)

2. What paradigm can be used to understand and examine the use and impact of shelter strategies?

A method had to be found, to review the strategies found within the cases. The paradigm used, created a link between the theory of LRRD and the conceptual method to perform the cross-case analysis. This was done by incorporating the definition of "successful LRRD", derived from theory, into the criterion of effectiveness.

- Improvements towards the basic living environment of a less-developed country within a post-disaster situation like Haiti, have to evolve from handing out external hard-resources, to stimulating the use of soft-resources. This demands a transition from handing out imported tarpaulins, tents and building materials, towards a stimulation to increase local processes of education, employment, cooperation (between local organizations) and local decision making processes, without dependency on other societies. This was evaluated as the effectiveness of a shelter program implementation process. Indicators for the effectiveness are participation, cooperation and local decision making, within the shelter program implementation process.

(CASE-STUDY)

3. What are the differences of the shelter implementation process, between the rural and urban context, performing a cross-case analysis?

The case-study gave the notion that a shelter program can be considered to be a housing program, in which the living environment is strengthened with other services (like healthcare, safety, sanitation, water and electricity) next to the shelter function of a house.

A multidisciplinary approach towards long-term housing is possible when facing multiple problems within an area. An integral neighborhood approach could be desirable when multiple problems are overlapping the same surface area and are related to multiple stakeholders.

The shelter program of Septieme Gerard had a single disciplinary intervention, which was to give new houses to the most vulnerable of the community. The shelter program of Villa Rosa was multidisciplinary and addressed the multiple conditions of a housing area, selected by the community themselves. The latter shelter program was stated to be more effective in terms of developmental aid.

The efficiency of- and the support for- the end product of the rural shelter program was good enough towards the beneficiary. The supply of tangible (hard-) resources answered the need for shelter, which resulted in an efficient and supported rural shelter program.

The beneficiaries of the urban program were given **more than a tangible end product**.

The implementation process was designed to also increase soft-resources within the local community thru a process of participation and cooperation. It did not only reduce the vulnerability within the quality of some individual houses. It also strengthened the local capacity to improve the multiple housing conditions that are relevant for the neighborhood. (Like public services for water, sanitation and hygiene, job opportunities, education and infrastructural improvements.) This difference in objectives, was the main difference being observed, comparing the implementation process of the rural program with the urban program.

(CONCLUSION)

4. Which lessons can be learned, out of a comparison of the differences between the shelter program implementation process of the rural and urban context?

The urban context scored a better effectiveness within the shelter program implementation process than the rural context, but the rural context scored a better efficiency. The themes being advantageous toward shelter implementation within the urban context were 'Policies', 'NGO performance' and 'Local capacity'. The conditions belonging to those themes were the potential of a participatory process, cooperation with local stakeholders and the higher diversity of professionals that can be contacted. These conditions of the urban context, are also part of the argument why the urban context offers a better effectiveness in linking relief to development.

The first conclusion of the cross-case analysis is that shelter strategies for post-disaster reconstruction should **use participation and cooperation with the local stakeholders as a condition, to achieve developmental efforts** within the urban context.

The themes being advantageous toward shelter implementation within the rural context were 'Density', 'Geographic's' and 'Stability'. The conditions belonging to those themes were the availability of space, more safe building plots and the manageability of safety. These are also the arguments why the rural context offers a better efficiency toward a shelter program.

The rural context has **the advantage of being flexible (enough) to implement prefabricated shelter solutions**. The better manageable context with more space, offers a better efficiency. This benefit can be translated into the second conclusion of the cross-case analysis. The urban context needs flexible shelter strategies, which can adapt to the specific conditions (indicated by participation and cooperation with local stakeholders), to achieve an efficient implementation process.

5.3 Answer to the hypothesis

The hypothesis described the expectation that the urban context, would have a lower score on the criteria of the evaluation, in comparison with the rural case.

This hypothesis can be rejected, because the conditions of the urban context did not have a lower score on all of the criteria (as stated in paragraph 4.5). The urban conditions resulted to a better score on effectiveness, considered that the focus of an aid program was to bring a society to the start of development.

- Effectiveness	Urban	More potential for long-term development.	When sufficient local support is present.
- Efficiency	Rural	"Prefab"-solution possible.	Less substantial intervention to the living environment necessary. (both tangible and social)
- Support	- neutral	Rural population has less knowledge. Urban population is more dependent and criticizing.	Both contexts can be hostile or friendly against external aid.

table 7: 'section of table 6 (on page 74): verdict of cross-case analysis'

The argumentation behind the statement, that '[the urban context has advantageous conditions for effective shelter programs](#)', can be subdivided into three parts. The statement will be elaborated per topic of each part.

1. Development

The conception of "development" leaded the urban case to be 'more developmental'. Within this research, the emphasis of a shelter program was put on making a local society less vulnerable for future disasters and independent of foreign aid. Theory defined development as '[the process by which vulnerabilities are reduced and capacities increased](#)'²⁵. This has formulated the conception of development, used within this report.

Vulnerabilities refer to the long-term factors which affect the ability of a community to respond to events or which make it susceptible to calamities.¹⁵ Vulnerability is in relationship with the risk of damage during a natural disaster.

Capacity: 'Ability, Talent, Mental power to understand.'⁴ Capacity is in relationship with the creation of independency of foreign aid. It is the local capacity that has to answer the needs of the affected population, with aid of external resources.

- The rural shelters given by Cordaid, are hurricane proof, but do only offer a solution to a select amount of people. The shelters reduce the vulnerability of some individuals, as long as the design life of the shelters. Not much else within the community has been changed to increase the local capacity.

- The urban shelter process addressed the local capacities next to the vulnerability of houses through a process of participation. Also more conditions have been improved than that of individual houses. A neighborhood approach addressed housing as a method **to increase capacities by reducing vulnerabilities**. Committees has been installed and have appointed to be a stakeholder within the decision making process for the reconstruction of their neighborhood.

25. Lizarralde, G., *Organizational design and performance of post-disaster reconstruction projects in developing countries*. 2004, Montréal.

[5]

[4]

NGOs and governmental officials have to cooperate with the neighborhood representatives, when executing an intervention into the urban living environment. This will continue to exist, also after departure of Cordaid, which makes the approach developmental.

But the conception of vulnerability for the rural context can be debated. Once you consider that the social living environment is less substantial within the rural context, (because they are living with less dependency on each other) it could also be less damaged after a disaster. The social living environment could even still be acceptable, which simplifies the implementation of aid programs. Programs to improve social, economic or political services could not be necessary to answer the needs within the rural context. The interventions into the environmental domain could be enough to bring a rural society into the independency of foreign aid again. A program to improve houses would then be sufficient instead of a program to improve the housing situation.

This notion of a normative discussion between the meaning of development between rural and urban areas, will be reconsidered within the answer of the main research question.

2. Capacity building

An urban area is simply said, a more elaborated version of a rural area. It has more social dynamics, which increases the dependency on social, economic and political services, but this also offers a higher local capacity. A city for example, offers universities and other institutions to support the development of knowledge within a society.

New businesses and skills are being developed within urban areas, which also support the rural areas (with hospitals or technological equipment). The need to build capacities could therefore also be lower within rural areas.

The local capacities within rural areas themselves are lower than within urban areas, before and after post-disaster reconstruction. This can be seen as one of the characteristics of rural areas. Capacity building will therefore find more different potentials within an urban area, than within the rural area. Developmental effects require knowledge and skills that can be activated to learn from the experience that post-disaster recovery has to offer. The urban context has more potential for long-term development, because it can increase or activate more local capacities.

- 'The city is more complex, but has its own definition or reach of development.'
(Shelter Programme Manager)

3. Organizational skills

The third arguments continues on the potential of capacity building within the urban context, but enforces this on a socio-economic way.

- 'The people who move into the city, believe that they are better able to have a more developed life, and by that increase the possibility that urban areas will easier come into development then rural. It is the certain mentality of people who live within the city, who get that "vibe"... (Urban Shelter Manager)

An urban context attracts more knowledgeable people, or at least more active people who have "the vibe" to develop themselves and their environment. The urban context houses therefore more people with organizational skills, which seem to be more progressive towards future development. This dynamic atmosphere of the city can be strengthened by two recent studies.

- Doug Sanders writes within his book *'arrival city'*, that "the immigrant" is crucial to the development of a city. London, New York and Chicago all have a history of immigrants who started businesses and flourish within the ghettos of the cities.⁵⁶ Sanders describes a decisive role for the immigrant which has the capacity to support the development of a city.

- Geoffrey West is a researcher who has compared the city as a biological organism and found principles related to the economy of scale.⁵⁷ He found that the bigger a city is, the higher the wages per capita are, but also the more aids, more crime, more patents, etcetera. His analysis proved that when you double a city, instead of needing twice as many gas stations, only 85% more gas stations were needed. And this seemed to be a truth for all variables. 'All the socio-economic quantities, all increase systematically with fifteen percent, wherever in the world.' 'And this saves 15% on all infrastructures.'⁵⁰ (roads, electrics, etcetera) This proves that the urban living environment can be more effective and efficient than the rural area, but also on the negative results of a higher density.

Conclusion

The topics of 'capacity and organizational skills' refer to the conception of development for the urban environment, which claims to have a better potential of having effective housing programs. The criteria of efficiency and support will not be debated, but will be addressed within the answer of the research question.

56. *Tegenlicht: Making cities: de stad van de toekomst*. 2012, VPRO. p. 00:50:17.

57. West, G.B., *Growth, innovation, scaling, and the pace of life in cities*. 2006.

5.4 Answer to the main research question

'What are the differences within the shelter program implementation process between a rural and an urban post-disaster area in Haiti, and what recommendations can be given to Non-Governmental Organizations, to improve the effectiveness and efficiency of, and support for shelter strategies?'

The case-study as described in chapter 4 and the former paragraphs, gave insights into the shelter program implementation processes, which answers the first part of the main research question. The rural shelter strategy was to implement prefabricated houses with activation of community representatives directed by Cordaid. The urban shelter strategy was to implement a participatory process, enforcing committees to make decisions and take responsibilities. The urban case had a better effectiveness in performing developmental results, but the rural case had a better efficiency.

The conclusion of the case-study was that effective (developmental) aid should be given through a process which facilitates participation with local stakeholders and cooperates with local organizations to activate and increase local capacities. Efficient aid should be given by flexible shelter strategies and incorporates single disciplinary interventions.

This paragraph will reflect on all former information, to answer the second part of the main research question. The recommendations will be illustrated within the next paragraph, with a suggested action plan to execute a shelter program that answers the needs of its context. The action plan will be related to a scheme which gives an overview of the multiple variables and relations between an urbanized context and the (post-disaster) reconstruction process of houses.

Hypothesis

The hypothesis was rejected within the case-study, which showed that rural and urban shelter strategies have big differences. The rural context was not simply better because it is fit for more easy interventions. It was more efficient, but not more effective. The urban context introduced a lot of additional conditions, which can be seen as more problematic, but which also offered more potential for development.

It was assumed that lessons from the rural practice, could be adapted towards the urban context. This is still possible, despite the rejection of the hypothesis. But the rejection of the hypothesis gave the insight that recommendations should also be made towards the rural context, next to the urban context. General recommendations towards NGOs will therefore be given before the specific recommendations for the urban context.

General recommendations (urban and rural context):

Three recommendations are given to address the level of ambition, that a NGO takes when formalizing their objectives at the start of a shelter program.

- A common conception of development should be given to focus the ambition of a shelter strategy.

The subject to be developed within the shelter program should be clear within the NGO, as well as towards the community. This can be the hard-resource of houses, but also the soft-resource of jobs and independency. The restrictions of the ambition should be clear within the NGO, as well as the local community, to gain an effective, efficient and supported implementation process.

The restrictions of a low ambition (hard-resources), is that it is focused on short-term results. No additional aid on other conditions should be expected from the community. The restrictions of a high ambition (soft-resources), is that the implementation process will take some time and requires a process of participation and cooperation. It is focused on long-term results, which will address the (intangible) root of a problem instead the (tangible) effects.

- The ambition to implement a shelter program, is more than building houses, within the phase of rehabilitation during post-disaster reconstruction.

A living environment has to answer more needs than shelter. The conditions related to the other needs than shelter, have to be on a level of acceptance within the housing area, to justify a single disciplinary shelter strategy. Otherwise a higher ambition should be taken, which addresses more conditions and disciplines within a shelter strategy.

- The level of damage within a selected area should be taken as a lead for the ambition of the shelter strategy.

The level of damage would be the surplus of severity of damage (incorporating the density of the build environment) within an affected area, over the amount of conditions being affected (environmental, social, economic and political). A high level of damage would require a higher ambition, because there are more conditions to be dealt with. And a higher density of the build environment would automatically require a higher ambition, because there will be more stakeholders within the same suffice area.

Recommendations to the urban context

An NGO who is preparing a shelter strategy for the urban context should notice the following specifications of the urban context:

- The more "urban" an area is, the higher the amount of needs could be.
- The more "urban" an area is, the higher the amount of local capacity is.
- The more "urban" an area is, the higher the amount of cooperation and participation necessary, to run a supported shelter program.
- The more "urban" an area is, the higher the ambition of the shelter strategy should be.

Recommendations for effective, efficient and supported shelter strategies

- Effective shelter strategies, which objective is to bring the affected population into development, should focus on urban areas because of the higher availability of local capacity.

- Efficient shelter strategies, which objective is to create quick and affordable results, should focus on rural areas, because of the better manageable context.

- Supported shelter strategies, which objective is to please the needs of the affected population on both short- and long-term (during the implementation process, as well as with the end product), should be focusing on both rural and urban areas.

A shelter program that addresses both types of areas can be both effective and efficient. Short- and long-term objectives can be addressed and one area can compensate an alteration within the objectives of the other.

The selected urban area should be located within reach of the selected rural area. This way the rural area is supported by the development of the urban area, or will have to be supported by the urban area within the near future. This way it would be justified to aid rural areas with a more simple shelter strategy and aid an urban area with a far more substantial strategy. Simply said this would mean a combination of **houses for rural areas and housing within urban areas**.

This recommendation also answers the normative discussion of "development". A rural area can be neglected developmental aid, when developmental aid will be given within an urban area, which services are also available for the population of the rural areas. (healthcare, schools, factories, markets etcetera) A society exists out of a combination of neighborhoods which all may have their specific capacities. The interactivity between neighborhoods will enforce the identity and development of both areas.

5.5 Illustration of Recommendations

This paragraph will illustrate the former recommendations with a suggested action plan to execute a shelter program that answers the needs of the selected context. The action plan will be supported by other schemes which have to give an overview of the multiple variables and relations between an urbanized context and the (post-disaster) reconstruction process of houses.

The main recommendation towards NGOs is to acknowledge the differences between relief and development, the differences between rural and urban, and the differences between houses and housing. A profound conception of the differences within these terms, will give a NGO a better focus of their shelter strategy. This would make it easier to set their targets and discuss their progress.

This was mentioned within the former paragraph as the ambition of the NGO, connected to the shelter strategy. The following action plan will suggest a decision making process to select a shelter strategy that has to fit the level of damage and the level of ambition. Another scheme will illustrate the connection between the level of damage and the level of ambition, also referring to the case-study. And the last scheme will give an overview of all possible shelter strategies, connected to the level of ambition.

Action plan to select a shelter strategy:

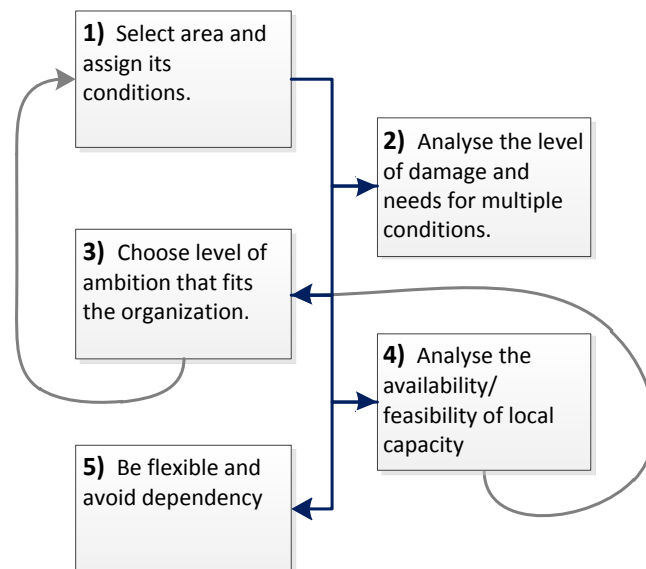


figure 53: 'shelter strategy action plan'

1. The first task, preparing a shelter program, should be to understand the build environment of the selected area. No area will be purely rural or urban, but a first overview of density, Geographic's and accessibility will give a more profound insight of the interactions within the community.
2. Second, the level of damage should be analyzed for the multiple conditions. Multiple disciplines of aid are necessary for recovery, when next to destroyed houses; also social, economic and political services are diminished.
 - The level of damage is the surplus of multiple damaged conditions, which relationships toward each other also amplify the intensity of the damage.
3. Define the notion of development within the ambition level that fits the organization. The ambition level has to answer the level of damage. When the ambition is not sufficient to answer the needs within the context of the selected area, another area has to become selected.
4. Analyze the availability and feasibility of local capacity. When this is more or less than required for the taken ambition, the ambition should become altered for maximum result of the program.
5. The end goal of an affected society should be to become independent of foreign aid. Be flexible to address multiple needs within the build environment with multiple stakeholders.

level of ambition <-> level of damage

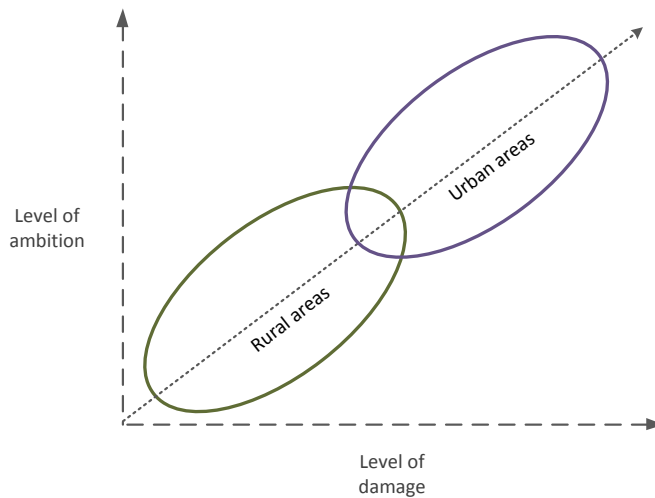


figure 55: 'level of damage vs. ambition'

The level of damage results in specific needs of the affected community. And the possible level of damage is higher within the urban context, than the rural context. This also requires a higher level of ambition for shelter strategies within an urban context. The feasibility of the ambition also relies on the internal knowledge and capabilities of the NGO. A low ambition will be more focused on 'short-term single disciplinary interventions', and a high ambition is more focused on 'long-term multi-disciplinary implementation process'.

- Multi-disciplinary programs are necessary within the urban context. The urban context often combines multiple problems (rubble, infrastructure, houses, water, and sanitation) and the high density of the build environment amplifies the problems. The urban housing conditions are too weak to become improved by single disciplinary efforts from single NGOs. Development is necessary to address the root of the problems, like housing policies and social regulations, which are necessary to rebuild the city. The internal capacity of stakeholders has to become strengthened for which an integral approach (like the one set-up by Cordaid, see chapter 4) proclaims to be able to do this.

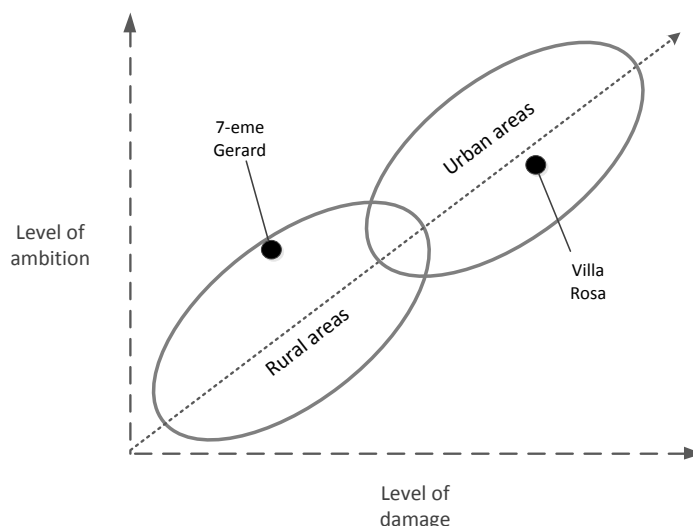


figure 56: 'level of ambition of the cases'

Cordaid was very ambitious within Septieme Gerard, but couldn't find enough assistance to execute a multidisciplinary program. The level of ambition for the shelter program within Vila Rosa was better proportioned. Cordaid's ambition was answered by the local capacity, which gave the community a "common enemy" to enable a process of participation and cooperation.

Overview of shelter program strategies

The level of damage and the ambition is leading towards the choice of a specific shelter strategy. The next scheme will give the options for shelter strategies, related to the required level of ambition. The differences within the approaches of relief and development, and the approach towards reconstructing houses or housing are given within this overview.

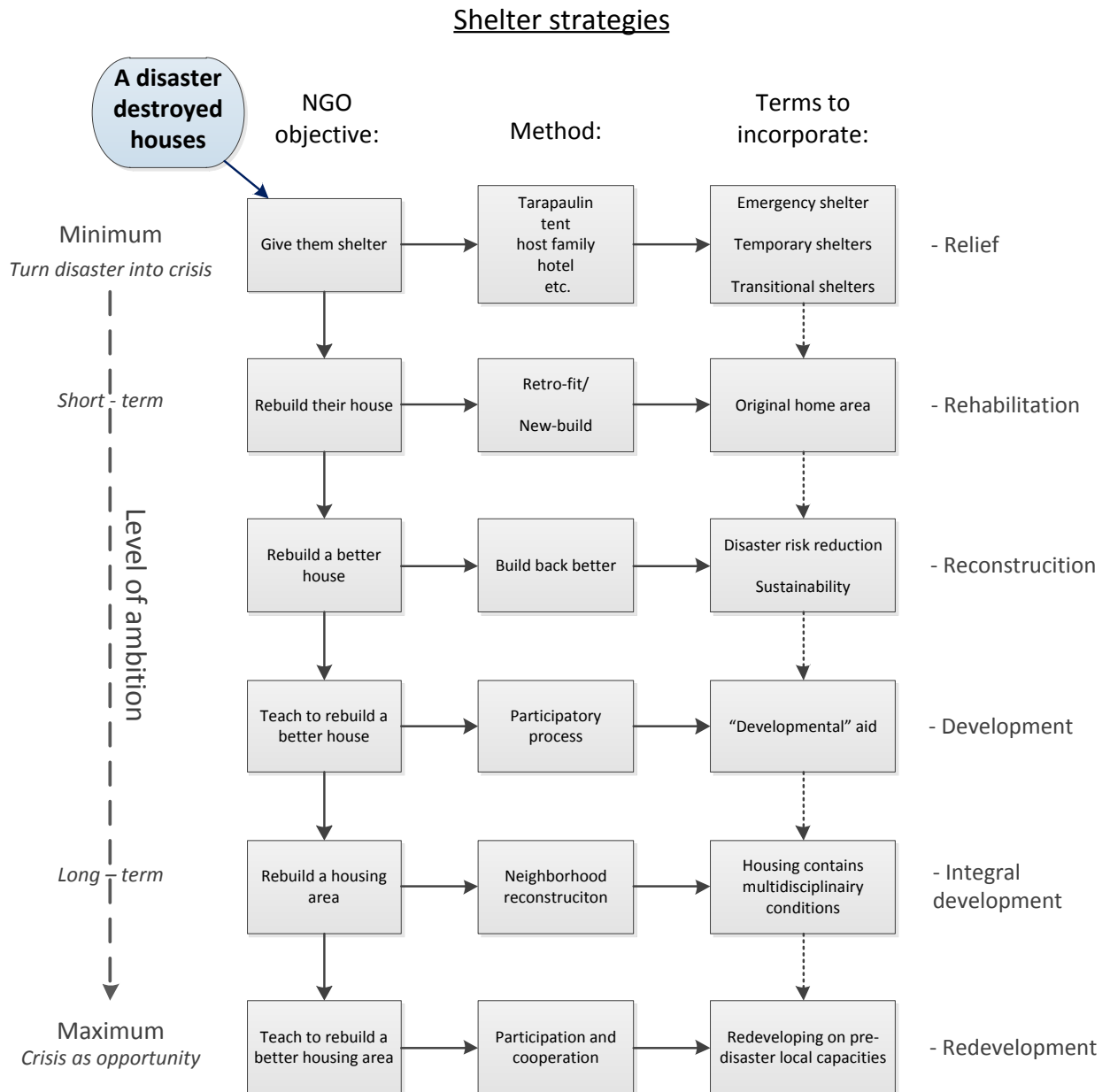


figure 54: 'overview of shelter program strategies'

After a disaster destroyed houses, a reaction can be given by a NGO that will set the objective. A more developmental ambition will require a more profound method with more additional terms to become incorporated.

- The least ambitious strategy is to supply an affected area with tarpaulins and tents. This is named a 'relief-strategy' and stands at the top of the possible shelter strategies. Next strategy is rehabilitation, which rebuilds a house within the original home area. When the method of building back better is followed, a 'reconstruction-strategy' is used which objective is to rebuild a better house.

The next level of ambition would require a participatory process which will teach the participant to rebuild a house. The local capacity is increased during the intervention that has to lower the vulnerability, which is named a 'developmental-strategy'.

The next step is to rebuild a housing area, which incorporates the notion that multiple houses together lead to multiple needs within a neighborhood. An 'integral development-strategy' is necessary to approach these needs and this is named redevelopment, when this strategy also incorporates a participatory process to involve the multiple local stakeholders.

A process of redevelopment is only possible when sufficient (local) capacities (multiple disciplines and professions combined within organizations) are present within the context. The approach would not be desirable or even impossible when the context is lacking capacity. The lack of local capacity is more likely to occur within the rural context, than within the urban context. That's why this research recommends:

- Shelter strategies for rural areas can be less ambitious than strategies for urban areas. (but a rural area should be supported by an urban area)

- A multidisciplinary approach towards long-term housing is (only) possible when facing a high level of damage (/problems) within a neighborhood.
(a common need/ enemy has to exist to start an integral approach)

- A high ambitious strategy requires both the internal capacity of NGOs, as the possibility of participation and cooperation with local stakeholders.
(development is limited by both the capability of NGOs and local stakeholders)

5.6 Discussion

Several topics related to the research study can be given, which could influence the perspective on the outcome of the research.

1. **Post-disaster reconstruction within rural areas.**

A preference can be given to aid rural areas only. The shelter strategy could then be simpler, focused on hard-resources, which will cost less. The other conditions next to environmental could be considered irrelevant within the rural context. There are also less risks for disasters within rural areas and investments into rural areas could perhaps also lower the rate of urbanization.

The negative side of this notion is that the aid program will not address the root of the problem, but it will only react to the problem at hand. The long-term situation from which the problem has grown in time will not be addressed. The question is whether a NGO is the appropriate party to focus on the long-term situation. This could be a typical task for a government instead of a non-governmental organization.

2. **Focus on neighborhoods or individuals?**

An integral neighborhood reconstruction program, gives aid towards all inhabitants of a community. Also the less vulnerable are given aid, when they're also part of the community. This creates the question whether you should give a small proportion of aid towards a big group of beneficiaries, or a large proportion of aid towards a selection of beneficiaries. This deviation should become debated with the local community, because it could influence the social conditions.

3. **Funding for long-term?**

Donors could prefer to give money for short-term results. The intention of NGOs to focus on long-term results would then miss support of donors. A long-term housing strategy should become directed by the local government, so why should a foreign NGO implement this?

'People who give money see destroyed houses and want to give a new house. That creates the question which weight you should give to the implementation of development.'
(Shelter Program Manager)

The objective of a NGO has to be in line with the vision of a donor. Communication from the NGO towards the donor should discuss their perspective on short- and long-term development and the ambition of the aid program.

5.7 Recommendations for future research

Several topics related to the former paragraphs of discussion and the answer of the main research question, can be appointed for additional research.

1. The differences between the rural and urban context (within less developed countries), can become studied into more detail:
 - The difference of social capital and how this influences an integral approach, would be very interesting. Also the willingness to cooperate/ participate could differ. What are the differences in group dynamics? What is the competitive nature between neighbors and villages who have to struggle to survive?
 - The difference of economic activity could be studied into more detail.
 - The difference within political influence and power structures would be interesting to study. Slum improvements are often done by incorporating the inhabitants into the formal political network. A research could be performed which studies if informal areas with political activity, have a better quality of life, than informal areas without political activities.
 - The difference in the amount of present professions, professionals and specialized organizations. To what extend do urban areas have more local capacity?
 - Is it true that housing within rural areas is less dependent on public services than housing within urban areas?
2. Does a rural population prefer relief aid? And an urban area developmental aid?
Or are these assumptions more related to other conditions, which cannot be connected to the difference in density?
3. What are the minimum standards to perform an integral approach?
Which support and capacities are required? What should be the minimum outcome?
4. Are urban areas less resilient than rural areas? (Resilience is the opposite of vulnerability.)
A study following the principles of 'Urban Resilience' could answer this question. Opportunities for development can be given more "body" due to this research.
5. What is the additional value of living within the city?
"Urban live" within informal areas can become studied into more detail. Lessons can be learned about the attractiveness of the city. Support of specific conditions of the urban context, can enforce an urban shelter program.
 - A lot of present researchers with relevance to Urbanism try to answer this question. Saskia Sassen studies the 'global city' and human migration. Rem Koolhaas studies the dynamics and quality of 'modern cities'. And Jane Jacobs developed the knowledge on 'urban renewal' which has led to the present knowledge of 'urban regeneration'.It would be most interesting to compare the present knowledge of cities, with the specifications of urban areas within less-developed countries. This could offer the practice of post-disaster reconstruction some new potentials.

5.8 Evaluation of Cordaid shelter program

- The research started in which the lack of urban strategies was assumed to be a technical problem. Cordaid also approached the problem of linking relief with development with the transitional shelter as a technical solution. But this solution did not work, because the problem of linking relief to development was more based on socio-political values. A participatory process needed to become implemented, instead of a high technical shelter concept.

Within the evaluation, the problems manifested themselves to be of an organizational and political kind. Technical challenges didn't pose to be a big problem and were beaten by the presence of sufficient money and time. The answer to the research question showed that the problem of linking relief to development, has to be brought in relationship with the ambition of the NGO and the context of the shelter program.

- **Cordaid's objective** was to facilitate a developmental program for both the rural and urban areas, which was very ambitious. The outcome of Septieme Gerard was more a short-term relief project. The outcome of Villa Rosa was focused on development, but did costs a lot of time and money.

It would have been better if Cordaid decreased their ambitions for the rural areas, and synchronized their shelter program with the results of other NGOs within the area. For the urban areas it would have been better if Cordaid was already focused to facilitate an integral approach at the starting point of the aid program. But on the other hand, the integral approach did not exist yet and the capabilities of other NGOs can never be predicted by forehand.

The selection of both rural and urban areas made it possible to adjust the implementation strategy of the urban areas into the integral approach. This had a positive outcome to the results of the total Cordaid shelter program. The ambition of efficiency became met within the rural areas and the ambition of effectiveness within the urban areas.

- Overall a big **difference in efficiency and effectiveness** can be seen within the shelter program of Cordaid. The demonstration of the integral approach was good for the effectiveness, but came at a high cost for the efficiency. From the initial 8.000 – 10.000 households (focus of February 2011) only around 4.000 - 6.000 will be reached (focus 2012^{58 59}).

My personal opinion is to agree with the priority on effectiveness instead of efficiency. But it should be better for the future practice of post-disaster reconstruction if the suggested output numbers were more easy to be met.

An idea could be to also evaluate the secondary effects of a neighborhood approach. Official experienced evaluators of post-disaster reconstruction efforts, should be able to guess the amounts of additional households which have been reached by a secondary connection thru the improvements of local capacities and social capital within a community. This would require an evaluation of the increase of soft-resources. This could help Cordaid to justify the poor efficiency of direct housing results by a rich result of effectiveness.

58. Cordaid, *Revision of SHO proposal phase II*, in *Rehabilitation Support to survivors of the Earthquake*. 2012: The Hague.

59. Cordaid, *Project proposal 2*, in *Urban request revision*. 2012: The Hague.

5.9 Evaluation of the research method

This paragraph will within its first topic reflect on the research method, but on the last topics also on the general research.

- The selection of nine themes did give an insight on the occurrences of the shelter program implementation process that influenced the effectiveness, efficiency and support. The focus was to create an overview of all relevant conditions of post-disaster reconstruction. The emphasis was not to give a detailed description of a single theme. Every single theme could have been elaborated into much more detail.

Two themes can be evaluated to have a higher or lower outcome of relevance, due to the research method for the case-study.

The insights given on 'economy' were very low within both cases, but it resulted to be less important than assumed to be. (All funds were being arranged by the NGO. There were no complicated financial cooperation's or contracts between the stakeholders of the shelter program implementation process.)

The opposite is thru for the theme of 'social conditions'. More insights are necessary to value the relevance of this theme, for which it can be assumed to be of great importance for the participatory process and the effectiveness of a shelter program within a specific context. The relevance of economy was not overestimated. It could still use a quantitative comparison on income and expenses within the two contexts, to get a more substantial part within the research. This has not been executed to keep a broad and equal focus on all of the themes.

- The conclusions are plausible, but they are just based on two cases, for which Villa Rosa can be seen as a very peaceable case. Villa Rosa could be defined being not the typical problematic urban area, because a lot of conditions were already in benefit of the post-disaster recovery. On the other hand, which area within a city is the typical problematic urban area? All neighborhoods are different and need a specific approach. The integral approach started at Villa Rosa so that its lessons can be taken to programs for other urban areas.
- The conclusions of the research project are aimed to be valid for all shelter programs within less-developed countries. But additional cases, within other countries, are needed to prove this assumption.
- A lot of inhabited areas have a density between a typical rural or typical urban. The recommendations of this report have to become converted to be able to address these 'semi-urban areas'. This research was about the extreme differences between rural and urban. Experts of post-disaster reconstruction have to value the outcomes of the research into their own perception of shelter strategies.

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3	<i>'tented city, Port-au-Prince'</i>	http://www.boston.com/bigpicture/2011/01/haiti_one_year_later.html#
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Appendixes

Appendix A: **Haiti earthquake news reports** (29 January 2010 – 18 January 2011)

Haiti was struck down by an earthquake almost one and a half year ago. Several news reports will illustrate the emergent state which has evolved over time. Reports from January 2010, until January 2011 will be given and reflected on.

18 January 2011

The crisis at a glance

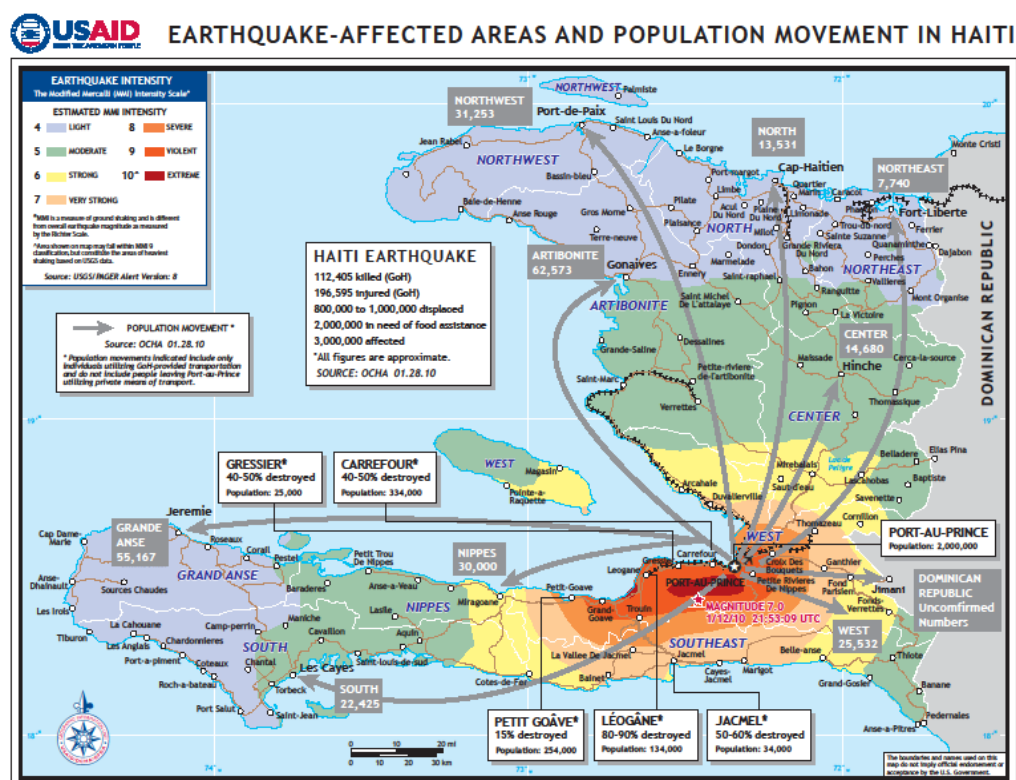
A 7.0 earthquake struck Haiti on 12 January 2010, affecting 3 million people.

- In Port-au-Prince 2.8 million people affected; in Léogane / Gressier 70% of homes destroyed or damaged.
- Response activities of UN and partners for 2010, requiring \$1.5 billion, currently funded at 72% excluding pledges.
- Effects of this disaster will be felt throughout 2011; humanitarians continue to respond to needs.

Impact

- The earthquake directly affected Port-au-Prince, Léogane, Petit and Grand Goave and Jacmel, causing over 222,570 deaths and 300,572 injuries.
- Widespread destruction in Port-au-Prince left over 1.5 million people homeless, many of whom resettled in over 1,354 spontaneous settlement sites across the earthquake-affected area while 661,000 people fled the capital for the regions. At present nearly 810,000 people live in 1,150 spontaneous and organized sites.
- The earthquake compounded pre-existing problems of structural problems, severe poverty and low development, very limited access to education, health and sanitation services.

<http://www.unocha.org/issues-in-depth/haiti-one-year-later>



Source: <http://www.usaid.gov/ht/doingresearch.html>

- **The scale and impact** of the disaster was enormous. Three million Haitians are affected by the earthquake disaster. That is one third of Haiti's total population. International officials were needed to draw up a strategic response on national scale.

Friday, 29 January 2010

The challenge of rebuilding Haiti

'Government and international officials in Haiti are drawing up a strategy to help rebuild the long-impooverished country, while continuing to provide emergency aid to the hundreds of thousands survivors left homeless.'

<http://news.bbc.co.uk/2/hi/americas/8482237.stm>

12 July 2010

Quake-stricken Haiti bears scars six months on



Tent "cities" are still home for thousands of displaced Haitians.

Six months after the quake, parts of Haiti look like the disaster struck yesterday.



<http://www.bbc.co.uk/news/10593255>



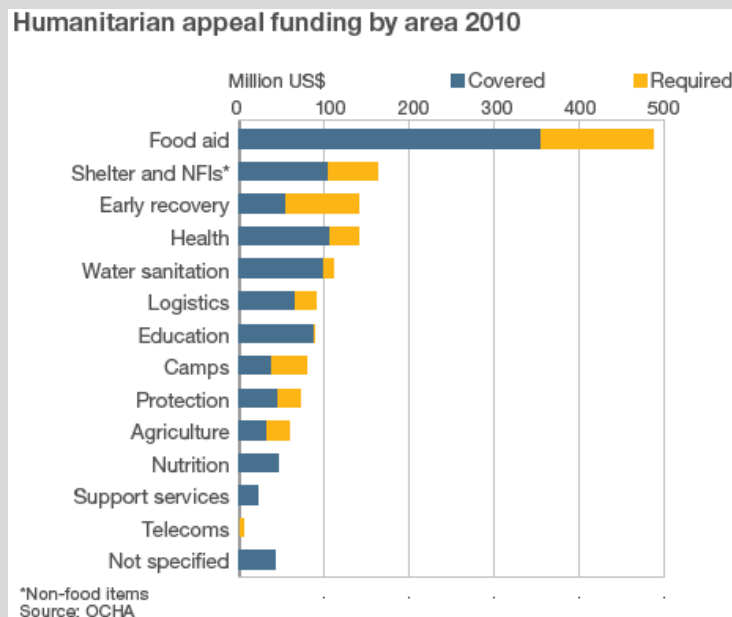
source: http://www.boston.com/bigpicture/2011/01/haiti_one_year_later.html#

- **6 and 12 months** after the earthquake, the post-disaster situation identifies itself by tented cities and of piles of rubble that hasn't yet been cleared. The photo shows an aerial view of a tented city in Port-au-Prince (date: January 10, 2011). Video documentations describe the harsh living conditions within the emergency shelters.⁶⁰⁶¹

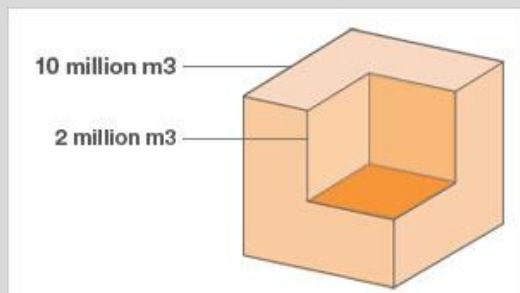
12 January 2011

Haiti earthquake: One year on

By December, donors had provided just over \$1bn of the \$1.5bn required for quake relief and recovery, the UN Organization for the Coordination of Humanitarian Affairs (OCHA) has said.



In 2011, the UN has said it will be seeking an additional \$906m to help Haiti.



How Much Rubble Has Been Cleared

Rubble remains an obstacle to reconstruction in many neighborhoods of Port-au-Prince.

'Confusion over property ownership, the unforgiving geography of Port-au-Prince and its tightly-packed housing are all major challenges', explains Michael Wyrick - one of those contracted by the government to help with debris clearance and building demolition.

⁶⁰12. *Surviving Haiti*, in *This World*. 2010, BBC: UK. p. 00:59:02.

⁶¹13. Reed, D., *The Battle for Haiti*, in *Dispatches*. 2011: Great Brittan. p. 00:48:20.

***'I have been in this kind of work for 30 years all over the world, and I have not yet experienced anything of this complexity and magnitude.'* – M. Wyrick**

<http://www.bbc.co.uk/news/world-latin-america-12135850>

- Billions of **Aid money** entered the recovery programs of Haiti, but the magnitude and complexity of the disaster makes it very hard to execute the recovery.

11 January 2011

Bill Clinton frustrated at pace of Haiti rebuilding

Former US President Bill Clinton says he is frustrated at the slow pace of reconstruction in Haiti, a year after the earthquake that killed more than 250,000 people.

Bill Clinton told the BBC's Matthew Price he was confident the speed of recovery would pick up .



<http://www.bbc.co.uk/news/world-latin-america-12166910>

12 January 2011

Haiti earthquake: One year on

By Matthew Price, BBC News, Port-au-Prince

Why has seemingly so little been achieved?

You can point fingers in many directions. At the government and its weak leadership - but then 17% of its civil servants died in the earthquake, and it was weak anyway.

At the international community, for failing to live up to their promises, but then all agree this is one of the most complex humanitarian disasters of the modern age, and addressing it is going to take decades.

At the NGOs - of whom there are thousands here - for failing to start longer-term projects, but then they have been pushed to the limit by other challenges, a hurricane and a cholera epidemic. They have kept Haiti alive on life support.

The challenge remains though, to move this country off emergency care, and into long-term rehabilitation.

The big stuff needs to be addressed.

A more able political leadership needs to be established. Infrastructure projects need to be planned - new streets, a sewage system and power grid. Jobs need to be created. Houses built. An entire country needs to be recreated.

How though, do you do that? Let's hope in a year's time we're not still asking the same question.

<http://www.bbc.co.uk/news/world-latin-america-12135850>

Political context

Haiti's history has been one of political unrest, beginning with the wrestling of independence from France in 1804 and subsequent occupation by the United States from 1915-1934. Successive military coups from 1946 to 1954 finally gave way to the 30-year Duvalier dictatorship. During that time, many people lost relatives to repression and much of the intellectual elite migrated to Africa and North America. Since Jean Claude Duvalier was forced out of power in 1986, the country has gone through yet more instability in its search to establish a functioning democracy.

The arrival in power of a former priest, Aristide, hinted at possible social change for the poorest but he was forced out of office in 1991 by a military coup, during which there was widespread persecution, including mass rape of women. Aristide returned in 1994 with the assistance of the international community and was reelected again in 2000. However, despite having abolished the army in a bid to remove the source of instability, he was forced out of office once again by a protest movement in 2004. It was in the period immediately following his departure that the UN peacekeeping force, MINUSTAH, was established to back up the interim government that followed. Their mandate, despite provoking controversy, is still in force. A few years of stable and legitimate government followed the election of Rene Preval to office in 2006, bringing relative social calm and economic stability, although three Prime Ministers in as many years was a reminder of the fragile nature of the political system.

Security conditions, although still a matter for concern, have improved, but food security and service provision became worse due to the succession of disasters that have hit the country, from the 2008 hurricanes to the January 2010 earthquake and most recently the cholera epidemic. To make matters worse, the presidential elections in November 2010 have been heavily contested as a result of mismanagement and allegations of widespread fraud. This situation has led the country into a renewed crisis, postponing action to deal with the country's many woes and jeopardising much of the funding promised by the international community for Haiti's reconstruction.

This prolonged instability has prevented Haiti from consolidating its national political institutions and has perpetuated a situation of poor governance that is also experienced at a local level. Although the country's constitution allows for a high degree of decentralisation, it has never been properly implemented for want of the requisite structures. Prolonged interruptions in the parliamentary cycle have prevented the passage of much needed legislation and proper discussions around the state budget have failed to take place, encouraging a lack of transparency that permits corruption and nepotism to flourish.

Economics

Over the last few decades, political instability has been accompanied by economic decline, even though there were signs of a slight economic revival just before the earthquake. Haiti has traditionally been a predominantly agricultural country, but productivity is low and accounts for only 25% of the country's Gross Domestic Product (GDP). As a result, about 60% of the country's food needs have to be imported, leaving it very vulnerable to international price shocks. High food prices in 2008 were behind riots that resulted in the dismissal of the then-Prime Minister.

Haiti's economy has shrunk over the past 25 years, with per capita GDP falling by 50% since the mid-1980s²⁹. This situation leaves the country highly dependent on remittances and fluctuating levels of international aid. Thus, in the face of the poor returns from agriculture, people have resorted to migration abroad and to urban areas. Remittances from abroad have become a hugely important pillar of the economy: Haiti is the world's most remittance-dependent country when measured as a % of GDP and 44% of urban households receive them. In urban areas, however, jobs are scarce. The unemployment rate is estimated to be 49%, and still higher for youth³⁰. This situation drives large numbers of people, particularly women, to seek precarious employment in the informal sector.

To address these issues, Haiti's Poverty Reduction Strategy Paper (PRSP) identifies four key areas for growth: agriculture and rural development; tourism; trade and industry; and infrastructure. It also identifies four strategic areas: promotion of rapid economic growth and sustained pro-poor policies; increased investment in human capital and improving access to basic social services; protection of vulnerable groups, environmental protection and risk management; and institutional strengthening and modernization of the state, and promotion of good governance. This fragile situation has been made worse by the earthquake. The Post Disaster Needs Assessment (PDNA), the document prepared by the government after the earthquake, will cost US\$ 11.5 billion to implement (52% for social sectors; 15% for infrastructure, including housing; 11% for the environment and managing risks and disasters) but only a small part of this has been disbursed to date. Donor funds are to be managed by the Interim Haiti Recovery Commission (IHRC), which must approve all projects before implementation, but they have been slow to be released.

Environment

A mountainous country, once covered almost entirely by trees, Haiti has been stripped of most of its vegetation as a result of exploitation of its forests for commercial purposes, land clearance for cultivation and the production of charcoal for cooking fuel. This deforestation, combined with high population densities in flood-plain areas, has left the country highly vulnerable to the risks of natural disasters to which it is exposed. Haiti is situated in a region susceptible to hurricanes and, as a result, suffers serious damage every few years. In August-September 2008, a series of hurricanes in rapid succession caused serious devastation of infrastructure and the loss of livelihoods for tens of thousands of families.

Consequently, although it was known that Haiti is subject to earthquakes, most risk reduction efforts had been concentrated on the regular threat of flooding, with little attention given to less frequent risks. As a result of a high rate of urban growth (5.8% per annum in recent years), slightly more than half of Haiti's population of 10 million now live in urban areas, and of these, approximately 2.3 million live in metropolitan Port au Prince³¹. The unplanned nature of urbanisation has led to heightened vulnerability, with much of the population concentrated in poorly constructed settlements on steep hillsides, ravines and by the edge of the sea. Drains blocked by rubbish that accumulates in the absence of adequate waste management, and hard surfaces which prevent water infiltration, increase

²⁹ World Bank (2006), *Haiti: Social Resilience and State Fragility, a country social analysis*. Washington

³⁰ Ibid

³¹ Population estimate for 2009 in metropolitan area, IHSI, Population Totale, Population de 18 ans et plus, ménages et densités estimés en 2009

the serious risk of flooding. These same slum areas are densely inhabited³² and have limited road access, making it difficult for emergency services to reach them in the case of fire or episodes of violence.

Port au Prince has witnessed very rapid population growth in recent decades. Estimates suggest that the city has quadrupled in size over the past two decades, and currently has a population close to three million. With close to one third of the country's population concentrated in this one city, urban domination by the capital impacts not only Port au Prince (through chronic overcrowding) but the other cities and countryside, as there is overdependence on the capital for goods and services, further straining its overwhelmed systems. Much of the city's growth has been through spontaneous and unplanned settlements. As a result, neighbourhood facilities fall short of physical and social infrastructure standards, further forcing people to move around the city in search of livelihoods, education, markets and services, thus straining its informal transportation network. All of these gaps are reflections of the absence of a comprehensive urban development plan, or master plan for the city. Needless to say, sub-city growth has taken place without effective Zonal Plans and Local Area Plans. As a result, settlements have sprawled along unstable hillsides: there are almost no green areas, garbage piles up in the absence of a solid waste management system, and the city is vulnerable to floods and disease in the absence of a sewerage system. The lack of sub-division regulations sees the plot sizes reducing to unviable sizes and dimensions, with many living in spaces that do not meet emergency shelter requirements even without a disaster. The absence of building regulations, byelaws and building codes has led to mushrooming of unsafe structures, many of which failed in the earthquake.

Social context

Haiti is characterised not just by high levels of poverty but also of inequality. Over half of its population (56%) lives on less than one dollar a day and another 20% on under US\$2. With a Gini coefficient of 59.5, it is ranked as the fifth most unequal country in the world³³. Although poverty indicators are generally worse in rural areas, there are still large pockets of severe deprivation in over-crowded urban slums. While it is easier for the population in Port au Prince to reach key services, access in urban areas is limited not so much by distance as by cost. Both health and education services are provided largely by private institutions run on a for-profit or cost-recovery basis. This fragmentation has led to large gaps in coverage, with qualified professionals overwhelmingly concentrated in Port au Prince, inconsistent quality, and a weak policy environment.

Given the private nature of the system, parents are forced to make considerable sacrifices to send their children to school. Among the poorest, this may often be at the expense of meeting their food requirements³⁴. The high cost means that parents are frequently unable to keep up with school fees with the result that schools find it difficult to pay qualified teachers and drop-out rates are high. These difficulties are compounded by the weak regulatory capacities of the state, which is unable to ensure basic standards. 18% of primary school aged children in urban areas were not able to go to school at all in 2003³⁵. As a result of the earthquake,

³² IHSI, op. cit. shows that population densities reach to over 55,000 inhabitants per km² in Port-au-Prince, despite the fact that most construction is single storey

³³ UNDP Human Development Index 2010

³⁴ FEWS NET, *Port-au-Prince Urban Baseline: an Assessment of Food & Livelihood Security in Port-au-Prince*, April-May 09.

³⁵ IHSI, *Objectifs du Millénaire pour le développement: Etat, tendances et perspectives*, décembre 2009

87% of schools in Port au Prince were damaged or destroyed, according to a rapid assessment carried out by the Education Cluster, compounding the already serious difficulties faced by the education sector³⁶. While access to clean water and sanitation prior to the earthquake was better in urban areas than in rural areas, they are still largely inadequate. According to UNICEF, 70% of Haiti's urban population used improved drinking water sources in 2006, while only 29% had access to improved sanitation facilities³⁷. This situation, combined with the poor access to health services, explains how rapidly cholera has spread throughout the country, including its capital city.

Women outnumber men at a rate of 10 to eight in urban areas and the majority of households in Port au Prince are female-headed (53%³⁸). It is women who have to support much of the burden of families' economic needs while still being responsible for most reproductive tasks. This is why, although girls attend primary school in equal numbers to boys, they drop out of education earlier and are unable to participate actively in professional and public life. Instead, women are overwhelmingly engaged in the informal sector of the economy where returns are low and they are vulnerable to external shocks.

Prevalence of HIV in Haiti stands at 2.2%, a figure which represents an improvement on earlier levels due to a combination of factors, including early control of the blood transfusion service and greater awareness about HIV prevention. In metropolitan Port au Prince, the rate for women is slightly higher than the national average at 2.5%, while the figure for men stands at 1.3%, a difference which reflects women's greater vulnerability. Women also face high levels of maternal mortality, at 630 per 100 000 live births nationally³⁹, as a result of women's poor nutritional status and the lack of qualified medical personnel. Rates of under-five mortality have improved slightly over recent years but still stand at close to one in 12. Rates of acute malnutrition are below WHO's emergency thresholds⁴⁰, a fact which is attributed to the effectiveness of the humanitarian interventions in preventing the situation from deteriorating⁴¹. Nonetheless, conditions are such that this could change rapidly if the situation evolves unfavourably. 12.5% of children in Port au Prince were chronically malnourished in 2005-06⁴², reflecting low incomes and poor diets of the poorest sectors of the population. The National Food Security Coordination (CNSA) body estimates that in June 2010, 39% of households (1.1 million people) living in areas directly affected by the earthquake were food insecure - less than in the period immediately after the earthquake but still way above pre-January levels⁴³. However, there are strong indications that food prices are likely to rise from March 2011 onwards, causing increased hardship for poor families.

Family structures have been eroded as a result of urban migration changing cultural norms, while urban-rural, economic and religious divides result in a relatively fragmented social structure. The abuse of power is often exercised in an

³⁶ draft Post-Disaster Needs Assessment, op. cit.

³⁷ UNICEF, see http://www.unicef.org/infobycountry/haiti_statistics.html

³⁸ Haïti : Enquête Mortalité, Morbidité et Utilisation des Services (EMMUS—IV), 2006-06

³⁹ EMMUS-IV, op. cit

⁴⁰ The nutrition survey carried out from April-June 2010 shows that malnutrition rates in affected areas are similar to those prior to the earthquake (5.36% global acute malnutrition; 0.55% severe).

⁴¹ MSPP-Unicef-Nutrition Cluster, 'Rapport Préliminaire de l'enquête nutritionnelle et de mortalité rétrospective dans les zones affectées par les séismes en Haïti du 12 janvier 2010

⁴² EMMUS IV, op. Cit.

⁴³ CNSA, Summary of Findings, Emergency Food Security Assessment (EFSA II), 22/9/10

abusive way at all levels of society. With the high rates of youth unemployment, poverty and inequality, competition evolves over the limited availability of resources and, when combined with the availability of weapons and political manipulation, has resulted in episodes of urban violence exercised by predatory gangs. Political and security initiatives have contributed towards bringing this largely under control but certain areas continue to experience violent incidents.

Technological challenges and opportunities

Over the last 10 years mobile phones have revolutionised communications in Haiti. Whereas once telephones were available only to a privileged few, they are now widely accessible and the networks cover even remote rural areas. Internet, on the other hand, remains relatively expensive and access is restricted because of the cost of hardware and the lack of electricity. This presents significant opportunities even though, for the first days of the disaster, the mobile network was largely unable to function. This experience had led to the realisation that optic fibre connections are vitally important and a new joint venture company, NATCOM, is set to introduce access to broadband internet. Now many young people have been given jobs in new services such as call centres, social networks and geolocation information sites or web 2.0. This holds out the potential for young people to find employment and to develop creative new initiatives.

During the response itself, mobile and social networks played a major role in the rescue effort, provision of information, family reunification and location of survivors. Digicel was able to trace population movements using the patterns of callers from different locations, while others used text messages to promote awareness about public health and safety issues. With the cholera epidemic, special numbers have been set up to call an ambulance to take sick people to treatment centres so that transport difficulties do not prevent people from getting the care they need. To help cope with the difficulties of making cash transfers and cash for work pay-rolls in insecure environments, mobile phone providers are currently experimenting with payments using their networks. The ability to identify locations using geo-information systems was widely used in helping to map and therefore coordinate responses in the densely populated urban and rural areas where several sites may have different names. All that was best in terms of computerized geolocation was quickly put in place. Large multinationals such as Google and Cisco quickly intervened to restore service infrastructure.

SHELTER IN HAITI

188,383 DESTROYED OR SERIOUSLY DAMAGED HOUSES IN HAITI
1.5 MILLION PEOPLE NEED SHELTER ASSISTANCE



EMERGENCY SHELTER consists primarily of tarpaulins and fixings such as ropes, nails, a hammer etc. Tents can also be used for emergency shelter but, because they are less versatile than tarps, their use is limited. Emergency shelter can be distributed quickly but offers only limited protection against heavy rains.



TRANSITIONAL SHELTERS are simple timber or steel frame structures that provide better protection, more privacy and more space. Transitional shelters will often have a concrete foundation and can last years. Once people have found permanent homes, transitional shelters can be put to other uses. They take longer to build but can be dismantled and moved if necessary.

THE ACHIEVEMENTS

AS OF 7/6/10

MEMBERS OF THE SHELTER AND NON-FOOD-ITEMS CLUSTER have delivered vital aid to the estimated 1.5 million people who were directly affected by the earthquake. Despite a destroyed port, a severely damaged airport and a lack of infrastructure, cluster members reached an average of 100,000 people per week in the first four months of the response operation. Each family received two tarpaulins or one tent.

TRANSITIONAL SHELTERS

Today, shelter cluster agencies are increasingly focusing on transitional shelters. These are simple structures that provide better protection than tents or tarps but take longer to build.

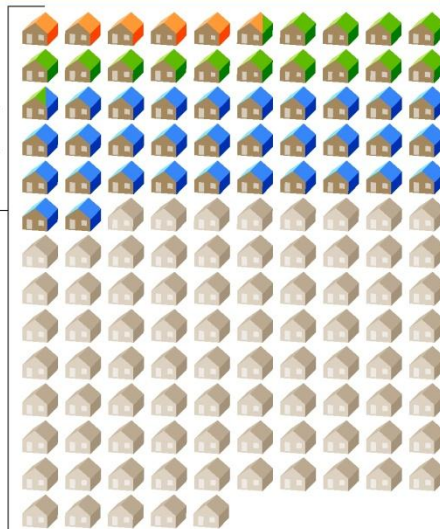
= 1,000 TRANSITIONAL SHELTERS

OF TOTAL **135,000** PLANNED

5,657 COMPLETED

14,932 IN COUNTRY

31,335 IN PIPELINE

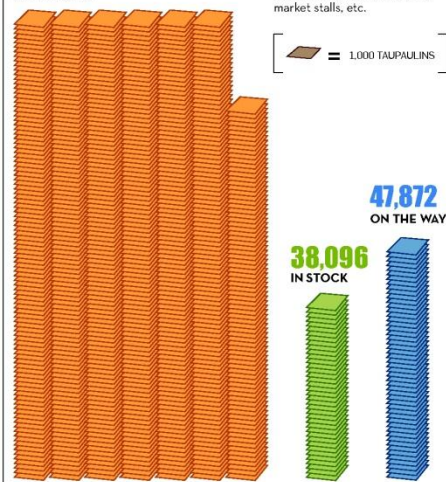


HEAVY DUTY TARPULAINS

681,490 DISTRIBUTED

Tarpaulins are primarily used for family shelters, but can also be used for latrines, wash rooms, market stalls, etc.

= 1,000 TARPULAINS



HOST FAMILIES



500,000-600,000 PEOPLE LIVING WITH A HOST FAMILY

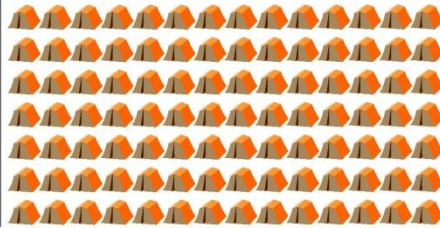
30% PERCENT OF DISPLACED PEOPLE LIVING WITH A HOST FAMILY

TENTS

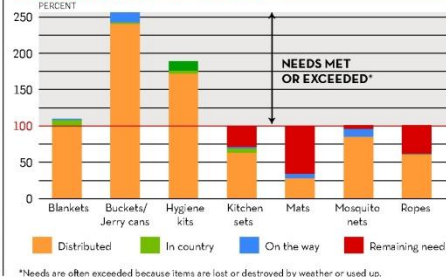
97,054 DISTRIBUTED

Tents are less versatile, need more space and do not last as long as tarpaulins, so fewer were distributed.

= 1,000 TENTS



HOUSEHOLD NFI'S COVERAGE AND GAP



*Needs are often exceeded because items are lost or destroyed by weather or used up.

THE CHALLENGES

Because most people were renters or squatters and don't own land, all aspects of shelter are very complicated. All steps have to be agreed with the tenant and the land owner.



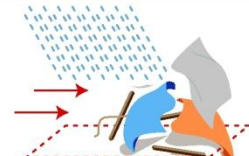
1 OWNERSHIP OF LAND IS OFTEN UNCLEAR BUT OWNERS HAVE TO GIVE PERMISSION BEFORE ANY WORK CAN BE DONE.



2 SITES ARE BLOCKED BY DEBRIS. EVEN WITH HEAVY EQUIPMENT IT WILL TAKE YEARS TO REMOVE IT.



3 MANY ROADS ARE TOO NARROW FOR HEAVY EQUIPMENT. MULTI-FAMILY BUILDINGS CANNOT BE EASILY REPLACED.



4 HURRICANE SEASON: EMERGENCY SHELTERS CAN BE DESTROYED BY HEAVY WIND AND RAIN.

THE WAY FORWARD

The provision of transitional shelters is gaining momentum, particularly in rural areas where more land is available. It is essential that the identification of additional, safe relocation sites, debris removal and the required planning processes are urgently addressed by the authorities to enable the large scale construction of transitional shelters and ultimately the provision of permanent housing solutions.



EMERGENCY SHELTER



TRANSITIONAL SHELTER



PERMANENT SHELTER

SOURCE: IASC HAITI SHELTER CLUSTER, 2010

CC BY-ND

GRAPHIC BY STANFORD KAY/STUDIO.COM

Appendix D: **'Typology of Haitian houses'** (section from UE-report 'Léogane'*)

* Amerongen, A. v., P. Arnts, et al. (February 2012). Risk map Léogane | Haïti, Urban Emergencies, Cordaid.

Group report of the Urban Emergencies studio, containing results of collaborate field research.

- The types of houses give insight into the "traditional" building standard and the common living environment.

W1

Cordaid T-Shelter



Figure 6. W1 Goman, LS, 12-10-2011

This type is developed by Cordaid to provide temporary shelter to beneficiaries after the 2010 earthquake.

The shelter has a timber frame, a corrugated metal sheet roof and walls that vary in infill. The preferred method is rendering the walls, but glissade walls or wooden walls are possible also.

The type is only seen in areas where Cordaid is active, but the design is based on vernacular Haitian building forms.



Figure 7. Sketch structure, EV, 11-2011

W1	Structure	Vertical elements	Horizontal elements
Cordaid T-Shelter	Columns Imported soft pine wood	Walls Chicken wire with cement rendering	Roof Wooden structure with aluminium corrugated sheeting
	Beams Imported soft pine wood		Floor Concrete

Figure 8. W1 characteristics
Risk map Léogane

W3

Other structures out of unprocessed wood



Figure 10. W3 Bois Norgaïsse, EV, 14-10-2011

The rural areas of Léogane have a lot of wooden structures that are hard to classify. All of these we have dubbed W3.

They have wooden frames with walls made out of planks of other wood. The roof is can be anything from wood to corrugated metal sheets. The floor can be a concrete slab, or just compacted earth.

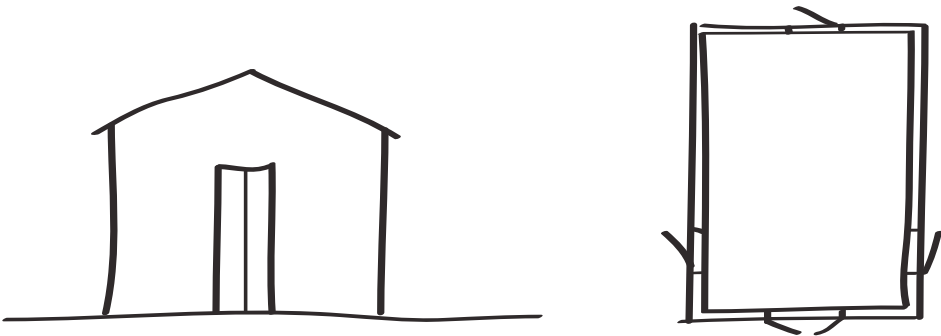


Figure 11. Sketch structure, EV, 11-2011

W3	Structure	Vertical elements	Horizontal elements
Structures of unprocessed wood	Beams: Timber	Walls: Wood. Planks or glissade	Floor: wood or slab
	Columns: Timber		Roof: Wood or corrugated metal

Figure 12. W3 characteristics

C4-HBFS-UHM

Concrete structure, block infill, slab roof



Figure 14. C4 UHM Norgaisse Jira, EV, 13-10-2011

This type consists of a concrete frame, hollow concrete block walls (en-reinforced), and roof and floors of un-reinforced concrete (in some cases filled with concrete blocks as well). These houses are found in rural areas as well as urban areas.

The people living in this type of house are generally a bit more wealthy, since the construction materials are not cheap. The knowledge on how to work with these materials however is not present on most building sites.

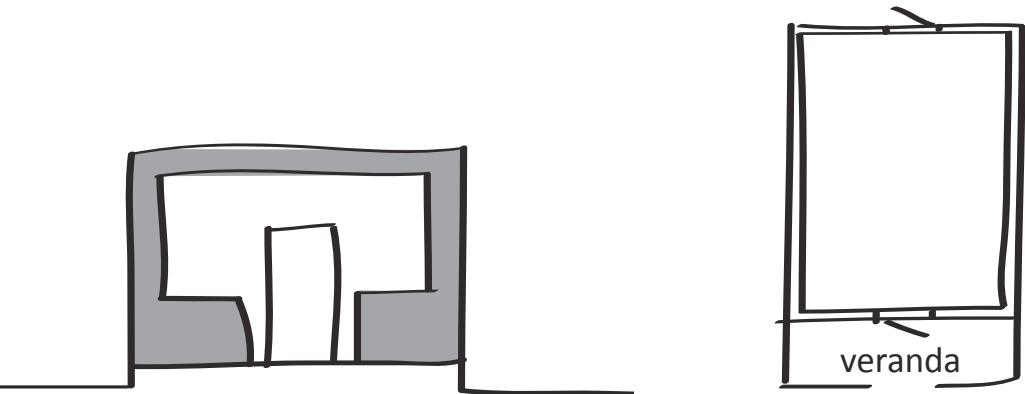


Figure 15. Sketch structure, EV, 11-2011

C4-HBFS-UHM	Structure	Vertical elements	Horizontal elements
Concrete structure, block infill, slab roof	Beams: Concrete	Walls: un-reinforced concrete (cement) blocks	Floor: concrete slab
	Columns: Concrete		Roof: concrete slab

Figure 16. CB Characteristics

C4-HM-TCR

Concrete structure, block infill, CMS roof



Figure 18. C4 TCR Colbert, EV, 14-10-2011

This house is much the same as the UHM type (see previous section). It is made out of a concrete frame filled with un-reinforced concrete hollow blocks. The roof however is not made out of concrete but of a timber frame covered with corrugated metal sheets, much as in the more cheaper houses. This alternative roof construction makes the house cheaper.



Figure 19. Sketch structure, EV, 11-2011

C4-HM-TCR	Structure	Vertical elements	Horizontal elements
Concrete structure, block infill, CMS roof	Beams: Concrete	Walls: cement blocks	Floor: concrete slab
	Columns: Concrete		Roof: timber frame with corrugated metal sheets

Figure 20. C4 characteristics

C3

Concrete structure, block infill, slab roof, two stories



Figure 22. C3 Grand Goave, PA, 14-10-2011

This type consists of a concrete frame, hollow concrete block walls (en-reinforced), and roof and floors of unreinforced concrete (in some cases filled with concrete blocks as well). They always gave more than one storey, although rarely more than two. These houses are mainly found in urban areas.

You need to be quite wealthy to be able to afford a house like this in Haiti. Unfortunately this does not mean the quality of the materials used, and the knowledge of the workmen involved is up to standard.

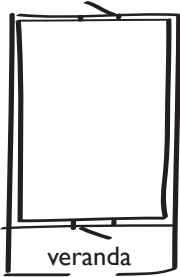
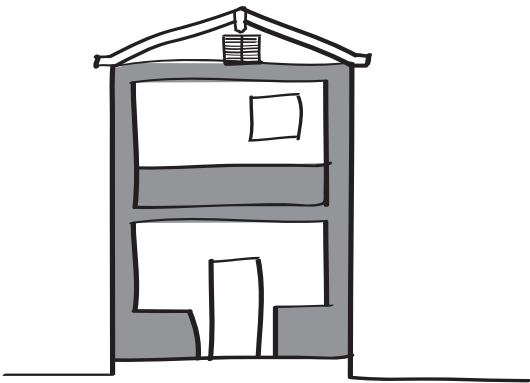


Figure 23. Sketch structure, EV, 11-2011

C3	Structure	Vertical elements	Horizontal elements
Concrete structure, block infill, slab roof, two stories	Beams: Concrete	Walls: cement blocks	Floor: concrete slab
	Columns: Concrete		Roof: concrete slab

Figure 24. C3 characteristics

CB

Collombage



Figure 26. CB Babo, EV, 14-10-2011

The CB house is the most traditional house. The gingerbread houses are of this type, although most colombage houses we saw were smaller than the gingerbread ones. The gingerbread house is a typical, richly decorated, type of house found in the entire Caribbean region.

These houses are made from a light timber frame with walls made of stones laid in a (mud) mortar. The construction of this types is not very expensive and does not require difficult techniques (ARUP, 2010).

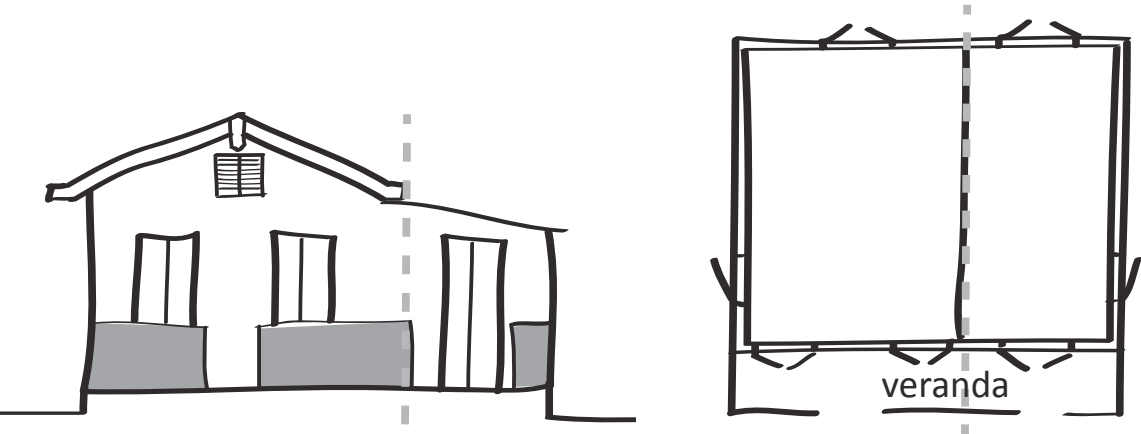


Figure 27. Sketch structure, EV, 11-2011

CB	Structure	Vertical elements	Horizontal elements
Colombage	Beams: Timber	Walls: Masonry infill. Stones laid in mortar.	Floor: wood or slab
	Columns: Timber		Roof: wooden shingles

Figure 28. CB characteristics

A

Ajoupis, made out of natural elements



Figure 30. A Mayombe, PA, 12-10-2011

The ajoupas type is made out of natural elements only. The structure is mostly wood, with ‘glissade’ (woven palm leaves) walls. Sometimes walls are rendered with cement made from a local limestone source (as in the picture above), or made from planks or stones. The roof can be made of thatch, straw or palm leaves. The floor generally consists of compacted earth (EBERHARD ET AL, 2010)

Because of the nature of the construction materials this type is almost exclusively found in rural areas. It is a traditional type, and has been build like this for many decades.

Like the Taudis type, this house is mainly inhabited by the poor or the very poor in the rural areas (IHSI, 2003).

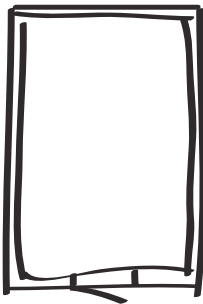


Figure 31. Sketch structure, EV, 11-2011

A	Structure	Vertical elements	Horizontal elements
Ajoupas	Beams: Local wood, found around the house	Walls: Glissade, planks, stones, rendering	Roof: Palm leaves, tatch, straw.
	Columns: Local wood, found around the house		Floor: compacted earth

Figure 32. A characteristics

T

Taudis, made out of waste



Figure 34. T Lompré, AA, 12-10-2011

This type is more a shed than a house. It is made from whatever people can find in their close proximity. The house is under constant construction, improving and adding elements often.

The better ones are made from waste construction material, but many are made out of waste only. The roof can be made out of either palm leaves, corrugated metal sheets or cardboard, or a combination of these materials (ARUP, 2010). The walls are made from whatever is available, in the post earthquake situation this often is tarpaulin.

Not surprisingly the inhabitants of this type are often very poor. They do not have the money to invest in their house, instead making a shelter from whatever they can find on the streets.

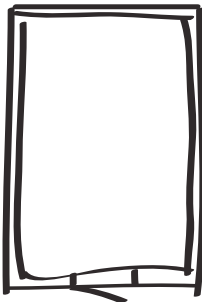


Figure 35. Sketch structure, EV, 11-2011

T	Structure	Vertical elements	Horizontal elements
Taudis	Undefined, Easily rebuild or fixed	Varying, mainly tarpaulin, Easily replaced	Varying, mainly tarpaulin, Easily replaced

Figure 36. T characteristics

Appendix E: '**Cordaid cartoon about shelter implementation**'

Huizen bouwen in Haiti, hoe gaat dat eigenlijk?

Disaster



Tijdens de aardbeving raakten meer dan een miljoen mensen hun huis kwijt. Cordaid bouwt, gesteund door partners als Sam's Kledingsactie, voor meer dan 8000 gezinnen aardbevingsbestendige huizen.

Is dit uw huis? Wat is de schade?



De helft van mijn huis is ingestort tijdens de aardbeving

Het eerste wat we doen is onze teams het gebied laten verkennen waar we gaan werken...

Needs assessments

Community participation



Tijdens een grote bijeenkomst leggen we aan de gemeenschap uit wie we zijn en wat samen met hun willen gaan doen...

Samen met jullie willen we een plan te maken om...

Bernadette heeft haar huis verloren en heeft vijf kinderen...



Ik ben ook alles kwijt...

De gemeenschap kiest vertegenwoordigers. Zij bepalen de volgende stappen: wie krijgt er een huis en wie niet? Wat moet er verder gebeuren?

Selection criteria



Ondertussen worden de onderdelen van de huizen in een lokaal fabriekje in elkaar gezet...



Wanneer duidelijk is wie er een huis krijgt worden de materialen bezorgd. De nieuwe eigenaar draagt de onderdelen zelf naar de plek van het nieuwe huis...

Reconstruction



De huizen worden door lokale vakmensen ter plaatse in elkaar gezet. De nieuwe bewoners kunnen zelf beslissen met welke materialen ze hun huis af willen werken.



Eindresultaat...

**een nieuw huis...
...en een nieuwe start!**