

Improved Water Management in Rural Jordanian Communities Hosting Refugees

An examination of community participation as a facilitator

Hélène Robert



Supervisor

Philip Peck

Thesis for the fulfilment of the
Master of Science in Environmental Management and Policy
Lund, Sweden, September 2016

iiiee

THE INTERNATIONAL INSTITUTE FOR
INDUSTRIAL ENVIRONMENTAL ECONOMICS

© You may use the contents of the IIIIEE publications for informational purposes only. You may not copy, lend, hire, transmit or redistribute these materials for commercial purposes or for compensation of any kind without written permission from IIIIEE. When using IIIIEE material you must include the following copyright notice: 'Copyright © Hélène Robert, IIIIEE, Lund University. All rights reserved' in any copy that you make in a clearly visible position. You may not modify the materials without the permission of the author.

Published in 2015 by IIIIEE, Lund University, P.O. Box 196, S-221 00 LUND, Sweden,
Tel: +46 – 46 222 02 00, Fax: +46 – 46 222 02 10, e-mail: iiiiee@iiiiee.lu.se.

ISSN 1401-9191

Acknowledgements

Many thanks, to many great people.

Firstly - Jordan. To the people on the ground in Jordan who helped me make this research a reality: Dr. Marwan Raggad, Dr. Mohammad Aljaradin, Dr. Ghazi Abu Rumman, Dr. Ahmad Al-Harahsheh, Zaid, Manal and Mahmoud H; the Hassan family, and many more who took the time out of their sleep-food-&-drink deprived *and* scorching-hot days to be interrogated by me and to set me up to meet other people. I was blown away by the support I received. To GIZ - for the initial support and for providing the foundation to build this research on. To the taxi drivers for making me realise how naïve I *was* – and for helping me grow thick skin. Overall, I consider myself extremely lucky to have had this enlightening experience and it is thanks to all of you I crossed paths with in Jordan. Shukraan.

Dyakuyu to those in Ukraine who were a very welcomed thesis distraction and a part of positive procrastination.

Tack så mycket to some staff members at Lund University – Åsa and Ann. The staff at the insti - you are all great. Special thanks to Birgitta – for radiating warmth throughout the year (especially appreciated on those long hot & bright Swedish winter days). Beatrice, for making each step a little bit easier. Philip, I appreciate your encouragement, support, honesty, positivity and extended stories. To Luis and Håkan also – Luis for your support to get me to the thesis stage, and Håkan for your antics.

The Malmö livers, it was short but so sweet, live on, livers. Kim. Just for being Kim and making the home-stretch deliciously enjoyable and tasty. To Mascha, Tanja, Lindsey & Mel. Classmates, the whanau – I learnt a lot more from all of you than I thought I would. I know in a matter of time I'll be nostalgic thinking of the year we've spent together. Wishing you all the best for the future. And remember, in the wise words of Lonely Island, *everything is awesome, everything is awesome when you're a part of the team*, right?

To *the fair traveller* team – Julia, Alexandre, Petra, Franco & Alex – merci mille fois for your patience while I pursued and explored a domain that is important and special to me.

Closer to home: the FFE (+) clan for supporting me from day (minus) one, you really are great humans; Dad, thanks for making this journey possible; Félie & Bea, vous êtes chouettes; Schatz, mon bonhomme, for being supportive, teaching me the art of 'perspectivification'. Heartfelt thanks. I'm glad you're in my life.

Abstract

This research set out to examine if participation can improve the management of water resources in rural Jordanian communities. Jordan is second most resource-scare country in the world, and is facing significant increase in demand for water as a result of the arrivals of refugees from the Syrian conflict. The purpose of this work is to delineate the role of participation as a facilitator for improved water management in rural communities in Jordan. This overarching aim was supplemented with two objectives – to examine the factors that influence participation in water management in rural communities hosting refugees and secondly, to examine the applicability the participation of Syrian refugees in water management. Participation was examined through the lens of Integrated Water Resource Management (IWRM) as this is commonly cited as a new ‘global norm’ for water management and has been adopted in Jordan.

The basic methodology used and the key research techniques applied in this work were based on the collection of both primary and secondary data. Secondary data consisted of a literature review, and primary data drew on 20 semi-structured interviews with predominantly aid agencies and observations from the field. Secondary data was built into an analytical framework to structure the interpretation of the primary data. Primary data was coded based on the analytical framework and key themes. The major findings were that the key factors influencing participation at the community level include *trust, capacity at the grass roots, and preference for consultants and neglect of local knowledge*. According to the data collected primarily from the aid agencies, participation of Syrian refugees in community-level water management appears not yet being relevant due to the *conditions and thus priorities of the refugees, and the limitations of aid agencies*. Both *water consumption and awareness about water scarcity* are factors that influence participation at both the community-level and for Syrian refugees. The three recommendations of this research include: *prioritising awareness and education of the water scarcity issues in Jordan for both Jordanians and Syrians*; adopting a *participatory approach at the institutional level*, and finally, *harnessing knowledge about participation from aid agencies*. This data represents the views of informants from a particular segment of society and by no means reflects an objective reality. However, it does highlight the perspective from predominately the aid agency segment of the population in Jordan. Future research could investigate the perspective of the refugees themselves to achieve a more objective representation of the situation.

Keywords: participation, water management, Jordan, rural communities, refugees, Syrian conflict, IWRM

Executive Summary

Water is a resource that underpins our existence. Not only do we depend on the consumption of water for survival, it also plays an important role in food production, social stability and provides employment. However, water systems have often fallen victim to management failure and, for a number of countries around the globe, this is a pressing issue that needs to be addressed as water scarcity becomes an increasing part of an everyday reality as a result of climate change.

Research in water management is abundant. One aspect that has received ample attention is the role of participation in the management of natural resources. Proponents of participation in the management of water claim that benefits range from pragmatic ones, relating to the quality and durability of environmental decisions, to benefits to society at large, such as citizenship and equity. Participation in management is also a term with many different concepts and meanings that vary depending on the resource in question. Integrated Water Resource Management (IWRM) was the lens adopted to examine participation for this research. IWRM is labelled as the new global norm for a holistic approach to managing water resources adopted by many countries and strongly advocated by development agencies. IWRM is the key framework today that underpins management of water in many countries. Alternatively, traditional methods of water management are characterised by a top-down segmented approach where water is managed according to the purpose it serves – such as water for irrigation, waste water, drinking water etc. IWRM is a holistic approach intended to improve the sustainability of water use. One of the five principles underpinning IWRM is the Participation Principle. Although IWRM is accepted and adopted worldwide, scholars claim that it is a vague concept that is still in its infancy. Many argue that participation is a fundamental component that underpins its ability to improve water management.

Jordan is one of the most water scarce countries in the world, and along with scarcity, the Kingdom is currently facing a surge in population, and consequently, a surge in demand for this vital natural resource. Grappling under pressure, efficient and effective management of water resources appears to be a pressing issue. The water structure in Jordan has undergone many reforms backed by international organisations, such as privatisation in the 1990s and IWRM is a key strategic area of the National Water Strategy of 2016-2025. Progress towards decentralisation has been made, but there is still much to be achieved in terms of participation at the local level in rural communities.

The purpose of this research was to examine participation as a facilitator for improved water management in rural Jordanian communities hosting refugees. Jordan is home to a population of 7.5 million, which has absorbed 1.4 million Syrian refugees over the past 5 years, 600 000 of those are officially registered according to the UNHCR (United National High Commission for Refugees). Jordan has the second highest refugee-to-citizen ratio in the world after Lebanon. Over 80% of refugees live outside refugee camps, however, water interventions, and aid in general, has been heavily concentrated in refugee camps. People living in rural communities are dealing with water shortages on a frequent basis and the continual influx of Syrian refugees is exacerbating the demand, rendering the situation tense and volatile. In the northern villages, 70% of households receive less than 100L/day which is the global standard.

Research Aim and Objectives

Aim	To delineate the role of participation as a facilitator for improved water resource management
Objective (1)	Examine the factors that influence participation in water management at the community level in rural host communities
Objective (2)	Examine the applicability of participation of Syrian refugees in water management in rural host communities

Methodology and research design

Primary and secondary data was collected for this research. The secondary data was comprised of a review of literature in the field of natural resource management. Two types of primary data were collected – semi-structured interviews and field observations. Field observations included notes from interactions and discussions with stakeholders or Jordanian nationals. This data was collected during a two-week visit to Jordan in June 2016. Majority of interview data was collected from aid organisations – both international and national, active in the response to the Syrian refugee crisis as well as the development of Jordan. A total of 20 informants provided the primary information into this research based on 45-60 minute semi-structured interview during the field research. Of these informants, two were from private companies, three university academics/ water experts, one government official, and one from a donor organisation (Sida). The rest of the informants (13) represented aid agencies, principally responsible for emergency relief (local, national to international NGOs such as UNICEF, Oxfam, ACTED). Data was coded according to key themes that were repeated and based on the analytical framework. The coded qualitative data was organised using the STEEP framework (Social, Technological, Economic, Environmental, and Political). The first step consisted of organising the key findings from the literature analysis into the STEEP categories. This produced the analytical framework. The analytical framework was then used to structure the analysis and discussion of both the primary and secondary data. It is important to note that the findings, conclusions and thus recommendations for this research was partially based on the perceptions of a small segment of the community involved in managing water related issues in Jordan. These perceptions are based on informant’s world views, beliefs, perceptions and observations. Thus the insight provided by this thesis does by no means represent an objective reality of the issues highlighted in this research.

Main findings and conclusions

Based on the findings of this research, the main factors influencing participation at the community level include *trust, capacity at the grass roots, and preference for consultants and neglect of local knowledge*. There are indications that participation of Syrian refugees at community-level water management may be premature due to the *conditions and thus priorities of the refugees, and the limitations of aid agencies*. Both *water consumption and awareness about water scarcity* seem to be factors that influence participation at the community-level for Jordanians and for Syrian refugees.

Objective 1: *Main findings from the examination of factors that influence participation in water management in rural host communities.*

Trust – trust was cited as an important component of participation in natural resource management. This examination found that participation risks being compromised by lack of trust in three areas: in aid agencies the government and data. Lack of trust in aid agencies

appears to stem from limited communication between agencies and the community about water projects. Lack of trust in the government appears to stem from both the systems of favour-exchanges, and also from a perception of lack of fair distribution of water leading to theft of water, being a common practice. Many informants indicated their lack of trust in government data also, as it appeared that people were sceptical of the reliability of government-sourced data. Examples of establishing trust in the past were identified – through implementing agencies working with community organisations, tribe leaders, religious leaders and women.

Capacity at the grass roots – this refers to the perceived lack of capacity at the grass-roots to participate in the efficient and effective management of water level according to a few informants. The benefits of working closely with communities are well cited and acknowledged among aid agencies interviewed and in academia. However, it appears that in the case of Jordan, there is a perceived lack of capacity at the grass-roots level in terms of professionalism and accountability. However, a mandate imposed by the Jordanian government requires international organisations and NGOs to collaborate with a local organisation. This is perceived as being a step in the right direction and increases the likelihood that knowledge and know-how will be transferred from aid agencies to the community level. According to an informant, an example of a best practice is where engineers were sent out to live with farmers to help bridge the gap between the local farmers and scientists, improve understanding and consequently, implement projects that have a greater meaning, impact through involvement of local people and bridging the gap between different stakeholders with differing perspectives. This is an example based on water conservation in agriculture in Jordan. Lessons in participative management could be drawn from the management of water in this industry and implemented at the community level to meet basic needs.

Preference for consultants, lack of local knowledge - the findings suggest that a challenge for participation in general is the tendency for organisations working for aid agencies to favour external consultants. This is a commonly cited problem in academia in the field of develop and a complex predicament – on one hand, there may be an identified need for specialist that cannot be found in a given location or country, whereas, on the other hand, there is a push to utilise and harness local knowledge to solving problems. According to informants in this research, there appears to be frustration towards the use of external consultants. One of the main frustrations involved the money used to cover administrative costs, flights, and wages of international workers. There is an agreement amongst interviewees that this money could be used for better interventions on the ground. From another perspective, it is questionable to what extent local-knowledge can be drawn upon for water management issues at the small-community level. This is also the case when dealing with the new era of the Anthropocene which is climate change – local knowledge is also difficult to incorporate as climate patterns are shifting, which is the case in Jordan. For large-scale supply projects, community-level participation is unlikely to extend beyond informing and consulting as opposed to partnering and empowering. However, in this host community context, there appears to be room for informing and consulting when it comes to demand management of water. This can be accomplished through reducing waste and improving water efficiency at the household level.

In summary, the findings of this research suggests that there is a preference for consultants which seems to be a hindrance to participation at the local-community level as it reduces the likelihood of using local knowledge, or maximising the benefit for the end users. But in some cases it may be necessary. To improve water in terms of meeting basic needs of both Jordanians and Syrian refugees, and improving the ability of end-users to deal with scarcity,

participation in terms of informing, consulting and empowering seem to be viable options that are worthy of further research.

Centralised government – it was acknowledged that the government of Jordan has made a lot of progress in terms of decentralising and has undergone major reforms. However, in terms of including local level communities and promoting participation in water management, there appears to be room for improvement according to sources. Participation in water management can be a means of improving democracy and provide momentum for decentralising power. This was cited as the case in Denmark, where the roots of democracy evolved from water management. Participation initiated from aid sectors can provide an important impetus to instigate a change towards a more democratic management system and a trickle-up effect is possible according to literature. One organisation, Oxfam, is implementing a water management project at the host community level that, in the future, aims to work on the modification of law and policy once participatory projects are up and running on the ground. This represents an example of a bottom-up approach to changing policy. Overall, a centralised government seems to be a significant influencing factor in participation at the community level, as supported in literature. Yet, it appears to not be an essential component in promoting participation, especially in this context where there is a high presence of aid organisations that advocate participation as a core policy and promote a rights-based approach.

***Objective 2:** Main findings from the examination of the applicability of participation for Syrian refugees in water management in rural host communities:*

Tension – according to the findings of this research, tension is a possible constraint to participation in water management at the community level. Informants and literature indicate that although many Jordanians have traditionally welcomed refugees, their patience, as well as resources are starting to wear thin due to the impact imposed on their own ability to manage with limited resources. Tension appears to stem from perception about the negative impacts of Syrian refugees on the Jordanian society as a whole. Syrians are perceived as being high water consumers in comparison to the local population. This is viewed as a consequence of being used to higher consumption habits in the refugee's homeland, Syria, where water is comparatively abundant. There also seems to be tension stemming from the support that the refugees receive from aid agencies, while local Jordanians deal with the same level of poverty but with fewer resources due to the increase in demand. In order to manage water so that basic needs are met, equally for both Jordanians and Syrians, it is important to have Syrian representation to voice the needs of this group. But, according to informants, it appears that the social stigma towards Syrian refugees further isolates them and decreases the likelihood that they will participate in dealing with community issues such as water management. This situation, characterised by tension towards refugees, seems to pose a challenge to including Syrian refugees in community initiatives. For example, it was cited that Syrian refugees try to keep a low profile and do not interact with Jordanians due to a few cases on hostility that some have experience. Based on the perception, improvements in the relationship and understanding between the two groups may be necessary in order to achieve participation in issues relating to water management. Participation may even provide the means to build relationships, which was cited as being a success in one approach based on water and energy efficiency by a local NGO.

Priorities and hardship – at this current point in time of the crisis, from the perspective of interviewees, there are indications that some Syrian refugees may not overly willing or prepared to participate in the management of water. As insinuated by informants, some refugees are not settled in one village, others are preoccupied with findings shelter and

employment. Some organisations have decided to exclude refugees as a result of refugees not being an integrated part of the local host community. This was rationalised by informants as being a result of the refugees not settling in one location or village, for reasons aforementioned. This is not to imply that the refugees should be excluded from participating in water management, but highlights the barriers that were identified through interviews that may explain their lack of willingness to participate. From these findings, it can be assumed that as the crisis reaches maturity and Syrian refugees find more stability, participation in the management of water will become increasingly feasible and relevant. Until this eventuates, it is important to keep the door open to refugees for when they are willing to partake in greater issues concerning the community. It is also important to consider that some refugees are already fairly well integrated into the Jordanian society, thus some may be interested in partaking in such activities. Future research aimed at investigating the perspective of Syrian refugees would provide answers to this assumption. Participation entails different methods depending on the circumstances – varying from informing, consulting, partnering and empowering. At this stage, informing is a viable strategy of water management participation at the community level considering the circumstances that refugees are facing.

Financial capacity and priorities of aid agencies – in Jordan, it appears that aid agencies are predominantly in charge of providing for Syrians refugees. Representatives of this sector agree that they rarely extend their reach beyond meeting basic needs, thus rarely work in issues that relate to more long-term environmental management in host communities. Informants explained that this translates to implications for the inclusion of refugees because if the organisations working with refugees are not promoting a participatory approach then the likelihood of the Syrian refugees is highly likely to be compromised. This is understandable as aid agencies have specified priorities which are constrained by limited resources. Participation in water resource management has been cited in literature as an intensive process that requires time, skills and money, depending on the type of participation. However, it was mentioned by a few aid agencies that there is a transition from a predominantly humanitarian response to the Syrian crisis to more of a development approach that extends to host communities, which is promising for participatory practices. According to interviewees, this is a result of the refugee situation being at a considerably stable position.

Recommendations

The three recommendations of this research include: *prioritising awareness and education of the water scarcity issues in Jordan for both Jordanians and Syrians*; adopting a *participatory approach at the institutional level*, and finally, *harnessing knowledge about participation from aid agencies*.

The first recommendation involves ***prioritising awareness and education*** for both Jordanians and Syrian refugees living in rural host communities about key water issues and water scarcity. This recommendation is aimed at both the Jordanian government as well as aid organisations involved in water management in host communities. It was highlighted by interviewees that there is a lack of awareness from both these two key groups about the shortage of water that Jordan is facing and the rapid depletion of principal aquifers. In order to improve water management, in terms of reducing the demand at the household level, it would require the collaboration and participation of as many end-users as possible. This entails reduced water usage, which would require behaviour change. For this to happen, there needs to be instigators, both push and pull factors to prompt behavioural change amongst end users. Information about water issues needs to come from a trusted source. This could be attained through the involvement of religious groups and leaders. Focussing efforts on key players in a community such as women and schools responsible for educating children is a means already being exploited that should be continued. Information relating to water issues needs to be reliable and easy for all people of different educational backgrounds to

understand. Action should be based on the exemplary interventions involving aid agencies collaborating with schools and with local-women groups. Secondly, communication channels and marketing of water issues and participation need to be updated and utilise the most modern and relevant means of communication. The current advertisements aired on Jordanian television have been deemed as being outdated and ineffective.

The second recommendation is adopting a ***participatory approach at the institutional level***.

The second recommendation advocates the adoption of a participatory approach at the 'higher level' – meaning the organisations directly involved in implementing water management participatory project – the government and aid agencies. According to a number of interviewees, compared to the collective 'refugee response' of Jordan, the 'resilience response' which long-term host-community water management falls under, has very little inter-organisational cohesion and collaboration. The response addressing needs of refugees is significantly more organised. For example, there is a data and information portal that presents each organisation involved in the Syrian response providing information about what projects are being implemented, by whom, when and the location. A suggestion is that data about the resilience response is incorporated into this platform as organisations such as UNICEF move into working in host communities and focus on more in host communities as a result of a stabilisation of the refugee needs. However, it is acknowledged that type of initiative would be difficult due to limited resources.

The third and final recommendation is ***harnessing knowledge about participation from aid agencies***.

Although Jordan has made a lot of progress in terms of restructuring and decentralising their water management systems, interviews with informants hint sentiments of dissatisfaction when it comes to participation in the management of water at the local level. Jordan has indeed a long history of collaborating with aid agencies such as GIZ and USAID in dealing with water issues and IWRM approach in Jordan appears to be already well-integrated into national policy. Nonetheless, resources in Jordan are currently stretched in most domains as a result of the influx of population thus, participation, which requires resources, may not be the most viable option at the present time for the government. However, with the high number of aid organisations currently working in Jordan as a response to the Syrian crisis, this can be utilised as an opportunity to harness knowledge and savoir-faire from these organisations who are at the frontline when comes to advocating participation. It is important for Jordan to continue being open to collaboration, and attempt to approach the crisis as an opportunity as opposed to being a burden.

Aid agencies, having been primarily focused on the emergency response, are venturing into more development-based interventions in host communities according. There are key lessons to be learned from initiatives that have already been implemented through a collaboration between the Jordanian government and development agencies. An example is the set-up of Water User Associations (WUAs). These community associations have proven to be an effective means of achieving participation from end-users, through providing structures for community-level contributions, facilitating the distribution of knowledge and providing a channel for grass-root opinions and concerns. WUAs has been promoted and implemented as a strategy to improve water management in Jordan Valley by the German national development agency (GIZ) and the Jordanian government to improve the efficiency of water used in agriculture. Currently, one aid organisation, Oxfam, is drawing on this model for their approach to participatory management of water in host communities. This is a governance

project that aims to empower and raise the voice of the communities, provide a place for discussions and deliver formal communication channel between the end-users and water utilities. Although the door is not closed to the participation of refugees, the target audience of this approach is Jordanians. WUAs appear to be an excellent example of a structured means to implement participation that, according to interviewees, has had some success in the context of Jordan, but in a different context – farmers and irrigation. The key learnings of the project run by Oxfam in rural host communities is an important one that could provide vital information for future endeavours in participation in the management of water in rural host communities.

These conclusions and recommendations were based on the findings comprised of the perception of 20 interviewees, field observations and literature. It is important to note that this is thesis represents a reality that is based on the opinions, beliefs and experiences of a small number of stakeholders in the realm of water management in Jordan. This research could be supplemented by either enlarging the scope and the sample size, possibly through the distribution of questionnaires to a number of different stakeholder groups, and/or focus on the perspective of one group, for example, Syrian refugees. In doing so, a comparison could be made with the findings of this research.

Table of Contents

ACKNOWLEDGEMENTS	I
ABSTRACT	II
EXECUTIVE SUMMARY	III
LIST OF FIGURES	XI
LIST OF TABLES	XI
ABBREVIATIONS	XII
1 INTRODUCTION	1
1.1 PROBLEM DEFINITION.....	2
1.2 RESEARCH AIM & OBJECTIVES.....	4
1.3 LIMITATIONS.....	4
1.4 SCOPE.....	5
1.5 ETHICAL CONSIDERATIONS	7
1.6 AUDIENCE	7
1.7 DISPOSITION	7
2 BACKGROUND	9
2.1 WATER IN JORDAN.....	9
2.2 WATER IN RURAL COMMUNITIES IN JORDAN	10
2.3 WATER AND IMPACT OF REFUGEES IN JORDAN.....	10
2.4 TENSION IN SHARING WATER RESOURCES IN COMMUNITIES HOSTING REFUGEES.....	11
2.5 WATER MANAGEMENT IN JORDAN.....	12
2.6 PARTICIPATION IN THE JORDAN’S NATIONAL WATER STRATEGY	12
2.7 PARTICIPATION IN THE SYRIAN CRISIS RESPONSE IN JORDAN	13
3 METHOD	15
3.1 METHODOLOGY & RESEARCH DESIGN.....	15
3.2 SECONDARY DATA COLLECTION.....	16
3.3 PRIMARY DATA COLLECTION.....	16
3.3.1 <i>Semi-structured interviews</i>	16
3.3.2 <i>Field Notes</i>	17
3.4 DATA PROCESSING	18
4 LITERATURE ANALYSIS	19
4.1 PARTICIPATION: RURAL COMMUNITIES AND RESOURCE COMPETITION	19
4.2 HISTORY OF DEVELOPMENTS IN PARTICIPATORY MANAGEMENT	20
4.3 PREVIOUS RESEARCH IN THE FIELD OF PARTICIPATION IN NRM	21
4.4 IWRM AS A WATER MANAGEMENT TOOL.....	25
4.5 PREVIOUS RESEARCH METHODS.....	26
4.6 SECTION SUMMARY	27
5 ANALYTICAL FRAMEWORK	28
5.1 STEEP AS A FRAMEWORK.....	28
5.2 ANALYTICAL FRAMEWORK WITH STEEP	29
6 FINDINGS	32
7 ANALYSIS & DISCUSSION	33
7.1 FACTORS INFLUENCING PARTICIPATION AT THE COMMUNITY LEVEL.....	34
7.2 EXAMINATION OF APPLICABILITY OF THE PARTICIPATION OF SYRIAN REFUGEES	38
7.3 FACTORS INFLUENCING PARTICIPATION - RELEVANT TO BOTH GROUPS	44

7.4 IWRM AND PARTICIPATION46

8 REFLECTION AND CONCLUSIONS 48

8.1 RESEARCH SUMMARY48

8.2 PRACTICAL RECOMMENDATIONS.....51

8.3 FUTURE RESEARCH.....54

8.4 REFLECTION ON METHODOLOGY56

BIBLIOGRAPHY 58

APPENDIX 69

List of Figures

Figure 1. Development of Resources and Projected Demand in MCM (million cubic metres) - from National Water Strategy of Jordan (2016 - 2025), Ministry of Water and Irrigation (pp.11) 9

Figure 2. Population of Syrian refugees in Northern Governorate of Jordan. Source: Tapped-Out, Mercy-Corps (2014) (pp. 12)..... 11

Figure 3. Participation comes in different shapes and sizes and different types of participation depend on different stages of a project, and also the scale of the project – if it is large scale or small scale (Source: author) 74

Figure 4. The Jordan Times, Sunday 3rd of July 2016 – a timely article that reflects a large number of opinions from interviewees and perceptions from casual conversations. Source: author.....75

Figure 5. Flight from Doha (Qatar) to Amman (Jordan) on 19th of June 2016, water is a rare sight; there is very little surface water. Underground water sources supply 60% of water for Jordan. Source: author.75

Figure 6. Water storage units above apartments in Amman. Water is supplied to homes once per week. It is up to homeowners to manage their own resources and have to make do with what they get. Many run out of water well before the next delivery..... 75

Figure 7. Friday 1st of July 2016. Landscape near Madaba. Mujib dam in the distance (top) for agricultural purposes. Source: author.....75

List of Tables

Table 1. Research aim and objectives 4

Table 2. Major phases of progression of stakeholder participation (adapted from Reed, 2008) 21

Table 3. Potential benefits of stakeholder participation – adapted from Reed (2008) 22

Table 4. Weaknesses and negative perceived aspects v. strengths and positive perceived aspects of public participation (Adapted from Ker Rault & Jeffery, 2008) 24

Table 5. Analytical framework - key themes in participation organised according to STEEP categories with overview of references29

Table 6. Key issues identified from secondary data literature analysis with key issues from primary data collection – this table identifies key links between literature and primary data collection	32
Table 7. Summary of key factors that will be addressed in the analysis and discussion	33
Table 8. Overview of research aim and objectives.....	48
Table 9. Interview questions to guide semi-structured interviews.....	69
Table 10. List of interviewees for primary data collection.....	72
Table 11. Evolution of typologies in the field of participatory management (adapted from Reed, 2008).....	76

Abbreviations

ACTED – Agency for Technical Cooperation and Development

ACWUA – Arab Countries Water Utilities Association

ADB – Asian Development Bank

CA – Community Associations

CARE – Cooperative for Assistance and Relief Everywhere

CBO – Community-Based Organisation

CBNRM – Community Based Natural Resource Management

CB-PES – Community-Based Payments for Ecosystem Services

GIZ - Deutsche Gesellschaft für Internationale Zusammenarbeit

GWP – Global Water Partnership

GWP – Med – Global Water Partnership Mediterranean

HRCU – Humanitarian Relief Coordination Unit

ICDP – Conservation and Development Projects

ICWE - International Conference on Water and the Environment

IDP – Internally Displaced Persons

INGO – International Non-Governmental Organisation

IWRM – Integrated Water Resource Management

JD – Jordanian Dinar

JRM – Joint Forest Management

JRP – Jordan Response Plan

JRPSC – Jordan Response Platform for the Syria Crisis

LCD – Less-developed country

M&E – Monitoring and Evaluation

MENA NRC – Middle East and North Africa Network of Water Centres of Excellence

MCA – Millennium Challenge Account

MDG – Millennium Development Goals

MOPIC – Ministry of Planning and International Cooperation

MoSD – Ministry of Social Development
MWI – Ministry of Water and Irrigation
NGO- Non-Governmental Organisation
NRC – Norwegian Refugee Council
NRM – Natural Resource Management
NRW – Non-Revenue Water
PA – Participatory Approach
PMU – Project Management Units
PP – Public Participation
PRM – Participatory Resource Management
Sida – Swedish International Development Cooperation Agency
SDG – Sustainable Development Goals
STEPP – Social, Technological, Economic, Environmental, Political
UN – United Nations
UNICEF – United Nations Children Emergency Fund
UNDP – United Nations Development Programme
UNSDG – United National Sustainable Development Goals
USAID – United States Agency for International Development
USCR – United States Committee for Refugees
UNHCR – United Nations High Commissioner for Refugees
WAJ – Water Authority of Jordan
WASH – Water and Sanitation for Health
WUA – Water User Associations

1 Introduction

“What is common to the greatest number has the least care bestowed upon it” Aristotle.

Water plays a pivotal role in society. It is a fundamental resource that supports life, provides food security and underpins livelihood opportunities. Sufficient access to clean water for all inhabitants on the planet could be possible, however, poor economics, infrastructure and management has resulted in many people suffering from the consequences of inadequate water supply, sanitation and hygiene (UNSDG, 2016). Today, water scarcity affects more than 40% of the global population and this is projected to rise. Over 1.7 billion people are currently living in river basins where water use exceeds recharge. While 633 million people globally are without sanitary drinking water, 70% of water extracted from rivers, lakes and aquifers is used for irrigation purposes. Continuing on this trajectory paints a grim picture. According to the (UNSDG, 2016), by 2050, at least one in four people is likely to live in a country affected by extreme shortages of water. In some areas, such as the Middle-East and Africa, the depletion of water resources along with increased demand by population growth sets grounds for conflict and can have a destabilising effect on a country’s social and political systems (Allan, 2002). One needs to look no further than Jordan’s neighbouring country Syria, where, according to (Francis, 2015), mismanagement of water resources played a large role in the political destabilisation of the nation during the Arab uprising. Syria suffered severe droughts between 2006 to 2010 causing internal migration and malnutrition. Environmental factors combined with some fifty years of mismanagement of natural resources is claimed to be one of the major culprits of this movement, which caused a mass national disruption (De Châtel, 2014).

Jordan is one of the most water scarce countries in the world, and for Jordanians the battle to meet an increasingly high demand for water is a familiar encounter. However, the continuous influx of Syrians seeking refuge in recent years is placing additional pressure on the already fragile systems. Jordan, a country of 7.5 million people (World Bank Group, 2016) is providing refuge to an official 600 000 refugees registered with the UNHCR (United Nations High Commission for Refugees) and up to 1.4 million refugees in total including unregistered refugees (JRPSC, 2016). Jordan is home to the second highest refugee-to-citizen ratio in the world after Lebanon (Francis, 2015). This drastic influx has placed serious pressure on many of the socio-economic systems and infrastructure from housing, food, education, and waste management to natural resources such as water (JRPSC, 2016). The influx of Syrians seeking refuge in Jordan, the increasing Jordanian population, along with the increase in the demand for water has “swayed the already-critical water resource equation towards a projected deficiency of 56% of the national sector needs by 25%” (Ministry of Water and Irrigation, 2016). Those most afflicted are the populations living in rural communities, some of which are facing strict water shortages and are incapable to meet basic water needs (Mercy Corps, 2014).

The management of natural resources has evolved from traditional top-down and command-and-control, based on the premises that ‘science knows best’ (Mauerhofer, 2016). In the 1980s, momentum for a participatory approach in natural resource management developed as scholars and practitioners recognised the value of benefits of this approach (Reed, 2008). They included both benefits for society at large, such as democracy, as well as benefits on the ground, such as projects with greater longevity, better acceptance, as a result of greater inclusion of beneficiaries throughout the process of project development (Reed, 2008). Different terms, concepts and approaches evolved from different sectors and different

resource management domains, for example, Joint Forest Management (JFM) for, as implied, the participative management of forests (Dyer, Stinger, Dougil, Leventon, Nshimbi, Chama, Kafwifwi, Muledi, Kaumbu, Falcao, Muhorro, Munyemba, Kalaba, & Syampungani, 2014). For water, the dominant paradigm is Integrated Water Resource Management (IWRM) with one of the five underlying principles being the Participatory Principle. However effective implementation in the field remains a problem and a major challenge lies in reducing the gap between “theoretically agreed policies and implementation” (Rahaman & Varis, 2005, pp.18).

When it comes to water management in rural communities, the traditional top-down approach has been criticised for not taking into account community-members opinions or seeking consent when it comes to issues that affect their welfare; ignoring local knowledge related to the traditional management of water resources; excluding vulnerable groups in important decision making and planning processes, to name a few (Dungumaro & Madulu, 2003). Local community participation is argued to provide important information, experience and ideas that “could lead to practical, relevant, achievable and acceptable solutions to water related problems” (Dungumaro & Madulu, 2003, pp.1101). In terms of IWRM and the participation principle, it has been criticised as being a principle that is widely cited, but rarely understood (Van der Zaag, 2005). It has been implemented by governments and aid agencies on the line of least resistance (Swatuk, 2005). Participation is widely supported as a fundamental component of IWRM and a key aspect to facilitate the management of water resources.

1.1 Problem definition

In such a resource-competitive environment, efficient and effective management is imperative. A participatory approach to the management of natural resource is well-cited in literature as being a fundamental component of a sound management system. This thesis aims at examining participation as a facilitator of improving water management in rural communities hosting refugees in Jordan. The examination of participation is broad and the outcome was to determine the nature and condition of participation in this given context.

Numerous terms, concepts and definitions exist when it comes to the field of participation in natural resource management (Reed, 2008). Thus, this thesis takes the approach of viewing participation through the lens of Integrated Water Resource Management (IWRM).

IWRM – Integrated Water Resource Management

Traditional water management systems around the world have been criticised as being inefficient and ineffective. Deficiencies in water management have been associated with governance failures over actual problems of the physical resource base (Bakker, Kooy, Shofiani, & Martijn, 2008; Rogers & Hall, 2003). A need for a shift in environmental resource management has been deemed as necessary as the current mechanistic and technocratic strategies neglect complexity and the human dimension, and fail to take contextual factors into account (Gleick, 2003; Holling & Meffe, 1996; Ludwig, Walker, & Holling, 1997). This has been a driving factor in the world-wide adoption of IWRM, and being dubbed as the new ‘global norm’ in water resource management.

IWRM is based on five principles, one of which is participation. It is argued by many scholars that participation is a fundamental component of IWRM, but one that the least understood and underutilised. IWRM has been labelled as a ‘fuzzy’ term that rarely translates from policy to practice (Van der Zaag, 2005). However, according to (Dungumaro & Madulu, 2003), in rural communities, many benefits can be attained through participation in water management. Enforcement of democratic structures as well as improving the likelihood that projects are sustainable – through community acceptance and support - are some cited benefits.

The purpose of this research is to build knowledge that can be fed into the participatory principle of IWRM through the examination of participation as a facilitator of improved water management. IWRM is not a scientific theory that needs to be proved or disproved, and this is not the purpose of this research. IWRM is a set of rational suggestions to build a type of natural resource management that can adapt to diverse and national contexts (Hassing, Ipsen, Clausen, Larsen, & Lindgaard-Jorgensen, 2009). The purpose of this research is to add knowledge, through a general examination of participation in water management in the Jordanian context. These findings can be fed into the IWRM model as a pathway for improved water management in rural host communities

Participation of refugees in IWRM is a new topic

Participation in rural communities has been well researched. However, little research has aimed at examining the relevance of the participation of refugees in the management of water resources. According to the GWP (Global Water Partnership)¹, participation in a refugee or internally-displaced persons (IDP) context is a new issue in IWRM that is currently being developed (personal communication, August 3, 2016).

The refugee environment can be described as an environment where there has been an exponential increase in population of ‘outsiders’, who are dealing with trauma, forced displacement, and possible discrimination in their host country (Field Notes, 2016; Mercy Corps, 2014; JRP, 2016, Martin, 2005). These populations are vulnerable not only due to the effects of the war, but because some are dealing with significant loss, not to mention an uncertain future as a consequence of losing vital support structures provided by family and finances (Field Notes, 2016; Mercy Corps, 2014, Martin, 2005). Thus, it is important to understand if participation in water management is appropriate for refugees considering the hardship being faced by these populations based on the assumption that their involvement will improve management. With a resolution for the Syrian war being far from sight, Jordan is expected to becoming a shelter for many more people fleeing their home country. On more of a global scale, the concept of climate refugees is becoming more of a reality – with the first official climate refugee recognised in 2015 from Kiribati to New Zealand. Populations living in increasingly water scarce regions are fleeing to areas that have greater resources.

Another source of rationale for this research is that little research has sought to investigate the implications of the refugee context in the participatory principle of IWRM. This was confirmed through communication with GWP (Global Water Partnership) who stated they have not worked on the refugee issue and that it is an agenda they currently developing (personal communication, August 3, 2016).

Participation and conflict alleviation

In Jordan, there has been evidence of growing divide between Syrian refugees and host populations (REACH, 2014). According to literature reviewed, a participatory approach to natural resource management can provide a means of conflict alleviation. The research by Martin (2005) found theoretical and empirical evidence that supports the claim that participative and inclusive resource management systems may empower communities to construct resource use conflicts in a way that help to prevent unproductive conflict. Additionally, this type of governance system can be applicable in situations where the state has failed to mitigate conflict through its own institutional resources (Martin, 2005). Suliman (1999) claims that external interventions based on outsider’s attitudes to resource tenure are an

¹ GWP is an international network aimed to foster IWRM

inadequate solution to conflict and the best means is to facilitate local people to frame solutions.

Research gap

The decision to examine participation as a facilitator for the improvement of water management were based on calls made by previous authors in the domain. Many authors (e.g. Brooks et al, 2012; Blaikie, 2006, cited in Dyer et al, 2014) have made appeals for an improvement of the understanding of factors associated with project success and failure in participatory management. This research aims to contribute to examining participatory management in the context of Jordan. Dyer et al (2014) demand an identification of practices that “can increase the likelihood of meaningful community engagement with externally initiated projects” (pp.124). The identification of barriers in the Jordan context will provide context for more meaningful community engagement, or participation. The focus on this research was also an examination of barriers from predominantly aid agencies perspective, corresponding to ‘externally initiated projects’.

1.2 Research Aim & Objectives

The dilemma delineated above leads to the research aim and two objectives that will guide this master thesis research. Participation will be viewed through the lens of IWRM.

The overarching purpose of this research is to contribute to the field of natural resource management, with a particular focus on water. The main context being investigated is rural communities in Jordan. The rural communities of interest are those under two conditions: firstly, they are dealing with scarcity of a natural resource; and secondly, an increase in competition for this natural resource due to an influx of population. As aforementioned, the key natural resource that is of central focus is water in Jordan. The scope (*section 1.4*) will provide justification for this direction.

Table 1. Research aim and objectives

Aim	To delineate the role of participation as a facilitator for improved water resource management
Objective (1)	Examine the factors that influence participation in water management at the community level in rural host communities
Objective (2)	Examine the applicability of participation of Syrian refugees in water management in rural host communities

1.3 Limitations

There were a number of limitations in this research that are important to be acknowledged.

Language

This research was based on Jordan and the water management system there. The researcher does not speak the predominant language of the country, Arabic. This research draws uniquely on data restricted to English and French literature if necessary. Research or literature in Arabic was not used, and interviews were held in English. A translator was needed to overcome the language barrier in some situations. A professional translator was not hired which means that

data is subject to error due to the inexperience of the translator: a limitation that leaves more room for misinterpretation and/or incorrect translation.

Ramadan

This research consisted of a field-research trip to Jordan from the 19th of June until the 6th of July, 2016. The researcher was based in Amman. The fact that this research was conducted during Ramadan, the only time available for the field research, posed significant restrictions upon data collection work. During Ramadan working hours are generally reduced to 5 hours, between 10am and 2-3pm. This meant that interviews were restricted to around one per day. Notes and reflections from observations during the field trip will be incorporated into this thesis and referenced as 'Field Notes, 2016' where deemed appropriate (see 3.3.2 *Field Notes*)

Inspired by project being run by a multi-lateral organisation

This thesis research subject was originally inspired by the project run by a German national development agency (GIZ) and aimed to supplement the project by providing limitations of participation. The participatory approach is characterised by advocating local and national dialogue with relevant stakeholders and capacity development for decision makers of water providers to deal with the crisis.

This project bound the research to a course of action, particularly in terms of the scope: from the focus on marginalised groups, rural communities, and participation in water management (elaborated on below in *Scope* section). The fact that this thesis aim initially draws on this particular project adds credibility as it highlights a real practical need for research in the domain. It also provided relevant boundaries with a clearly defined audience. However, since this collaboration did not eventuate, the researcher adapted the study to compensate for the loss of anticipated benefits such as insider information, and general support and input from this organisation. Consequently, there was a change in direction to examine participation from an IWRM perspective and adopt a more general examination of participation in the context of Jordan, whilst still assuming a similar scope to the original project.

1.4 Scope

The focus of this work is based on choices of the author. These choices are limitations on the research and have implications on the generalisability of the findings. However, setting boundaries was imperative to work within a designated time-frame.

Broad approach to examine participation

This research took a broad approach to investigating the participatory process in the Jordan refugee context. Water management is complex – it is comprised of many sectors such as drinking water, wastewater, reusable water etc. Participatory management is also complex – it can occur in many stages, illustrated in Figure 3 (*Appendix*) as being divided into three stages - design and planning, implementation and monitoring and evaluation (M&E). In order to grasp the bigger picture of the situation in Jordan, the research was not scoped to address any of the aforementioned sub-sectors and took a holistic approach, which was fundamental to gain an oversight of participation in rural communities in relation to water management.

Focus on rural host communities

The research focuses on water management in rural host communities. As mentioned above, the term 'host communities' is referred to as communities which host Syrian refugees in Jordan (JRPSC, 2016). The reason for focusing on rural communities is that they are situated in areas where there is a higher prevalence of marginalised people living below the poverty line. They are also areas that are less likely to be serviced by the national water pipelines. Also, in terms of refugee response and support from the government, aid agencies and the

international community, majority of funds and support have been allocated to refugee camps as opposed to host communities. The majority (84%) of refugees live outside of refugee camps (UNHCR & UNDP, 2016).

Focus on marginalised peoples

With reference to the IWRM participatory strategy, poor groups of the population are less likely to benefit from participatory environment without the efforts of enhanced participation mechanisms (Dyer et al., 2014). According to GWP (2016), decentralised decision making to the grass-root level is the principle strategy that allows for enhanced participation. Butler & Adamowski (2015) state there is a lack of work done that examines the experiences of marginalised communities and the barriers that prevent their participation in decision-making processes. In rural communities in Jordan, poverty is more prevalent compared to urban areas and with the increasing threat of drought due to climate change, and the increase in demand on natural resources such as water, living conditions are increasingly difficult. The aforementioned GIZ project focuses on supply and participation of marginalised groups. These are categorised as being women, low-income families, people with disabilities, seniors and children; and is currently being implemented in three rural communities with a high percentage of Syrian refugees that are affected by insufficient water supply.

Improvement of water management

The title of this research implies that this thesis will provide an examination of participation as a facilitator for *improved* water management. The meaning of improvement of water management is drawn heavily on the GIZ project mentioned above. According to the project description, the participatory approach aims to secure basic service essentials that serve both Jordanians and Syrians equally, build water suppliers' and government bodies' ability to cope with a crisis situation, and for marginalised groups and civil society to deal with insufficient water supply. This approach and programme seeks to enhance the absorption capacity in Jordan on a national level, in terms of finding adequate solutions to the drastic surge in population.

Research approach from the perspective of aid agencies

This research is examining the bottom-up local scale from a top-down perspective – meaning an examination of participation and data collection is predominantly informed by aid agencies, experts, academics and the government as opposed to gathering data from the field and targeting end-users. Aid agencies include NGOs from international (INGO) to national and grass-root NGOs, member of the United Nations family, multi-lateral organisations, and donor organisations. The perspective of Syrians or Jordanians is not included. These scoping decisions were made by the author in consideration of a number of factors. First and foremost, the focus on aid agencies reflects the situation where Jordan has a long history of working with international aid organisations, thus they play a significant role in the management on water amongst other domains (Francis, 2015). Finally, the exclusion of an end-user perspective was also based on the 'research fatigue'² that one interviewee claimed refugees are suffering from. Thus, it was also from an ethical standpoint that this research was conducted predominantly from a Jordanian 'top-down' perspective. It is important to note that the findings are based on the world views of the informants, thus may not be close to an objective representation of reality, albeit, builds an image of the current situation in Jordan important to understand when dealing with participation in this given context.

² Research fatigue: The Syrian crisis has received a lot of attention from the international community since the start of the crisis and many researchers and international organisation have conducted studies, which add to the stress that the Syrians are already dealing with.

1.5 Ethical considerations

This research has been developed and written by the author, independently of any external organisations. In terms of data collection, the primary and secondary data from interviews was collected and analysed by the author. A conscious effort was made by the author to avoid misinterpretation of the qualitative data collected through interviews. This was achieved by repeating the key phrases and verifying with the interviewee that the information was correct. This was done during the interviews with information that were deemed as being of value and of use to the research. Additionally, where necessary, clarification was sought via email for permission of use of information that the author might perceive as being sensitive. The primary data collection sought to collect opinions on processes and other organisations which risks putting relationships in jeopardy. Thus, the author avoids using the names of the participants and only discloses their position, role and organisation they are currently affiliated with or have been affiliated with (see *Table 10, Appendix*). The interviewees were selected from the author due to their relevance to the topic in question and a large majority of interviewees were selected through recommendations. The potential interviewees were contacted either by phone or email and were asked if they accepted to participate in the research which ensured that their participation was voluntary. The methods section provides further details to the data collection process (see *Chapter 3 Method*).

1.6 Audience

This research was written for the primary purpose of fulfilling requirements for the Master in Environmental Management and Policy at the International Institute of Industrial Environment (IIIEE). The intended target audience is organisations working in the field of development, with a particular focus on the management of natural resources, as well as academia. This research will provide key learnings to organisations such as aid agencies in the field of development that are considering projects in rural communities, not only restricted to water, but interested in pursuing research or information about participatory processes in a refugee context. The results of this examination provide a good initial starting point for endeavours in participation in Jordan, as well as providing generalisable results for other contexts around the globe.

Organisations such as the GWP may find the findings useful in providing fundamental preliminary steps into the research of participatory water resource management in the refugee context and the barriers that may need to be taken into consideration. This research will be disseminated to GWP as well as the informants to this research via email.

This research could be of use for the government of Jordan who are advancing in adopting a participatory approach in the water sector, particularly under the IWRM framework (Ministry of Water and Irrigation, 2016). This will be sent to the key informants who were involved in this research who will have the right to distribute to other parties. It can also be useful as a base to build off further research areas for researchers and academics (see *8.3 Future Research*). This research is accessible and useful for audiences who may not have background in IWRM and participatory management, as it provides key definitions and background information adequate to acquire a solid grasp on the subject matter.

1.7 Disposition

Chapter 2 provides background information pertaining to the case that is being studied – Jordan. It provides information on the water situation in Jordan, water in rural communities, water and impact of refugees, tension in host communities, participation in relation to two key documents – Jordan’s National Water Strategy and the Syrian Crisis Jordan Response Plan (SCJRC). **Chapter 3** presents the method section, comprised of a methodology and results

section, primary and secondary data collection methods, and finally, data processing procedure. **Chapter 4** presents an overview of key pertinent literature and theories in the field of participation in natural resource management, as well as background information on IWRM and outlines two examples of previous research methods that are drawn upon for this research. **Chapter 5** introduces the analytical framework that is a product of the literature analysis. **Chapter 6** presents the outline of the findings which are based on the triangulation of data from the three methods of data collection – interviews, field notes, and literature review. **Chapter 7** is the analysis and discussion of these findings, providing the reader with an interpretation of the findings based on literature and data collected. The final chapter, **Chapter 8**, offers key reflections and conclusions as well as practical recommendations, and areas for future research.

2 Background

This section will provide background information that paints a picture of the water situation in Jordan. More precisely, the following chapters will provide an overview of the water situation in Jordan in general, then relevant to rural communities, impact of refugees, and the management system. The final sections provide an overview of two key documents – the National Water Strategy of Jordan and the Jordan Response Plan and highlight references to participation in water management strategies.

2.1 Water in Jordan

Jordan is one of the most water scarce countries in the world (JRP, 2016; Mercy Corps 2014; Humpal et al., 2012). The Jordan River, one of the major surface water sources, is at near-depletion before entering the Kingdom. The situation is not on the path to amelioration due to increasing temperature and decreasing and variable precipitation as a result of global climate change (Martin, 2005). Rapid population growth, outdated water infrastructure, changing lifestyles, and insufficient water planning all contribute to the problem (Francis, 2015). Along with higher demand, groundwater over-abstraction, over-extraction, and effects of climate change, the challenges ahead are significant, especially considering the population of Jordan is forecasted to double by 2050 (Ministry of Water and Irrigation, 2016). The Kingdom of Jordan is categorised as being a semi-arid to arid region. The annual rainfall is less than 200 mm over 92% of the land. The country measures 89,297 km², and 92% is desert/rangeland (Ministry of Water and Irrigation, 2016).

The majority of the water (64%) in Jordan is sourced from underground aquifers. They are being over-pumped at an annual rate as high as 55% (Humpal et al., 2012), which annual usage depletes at twice the rate the aquifers recharge. This is problematic because when aquifers are over-exploited, they can collapse or become saline and thus, destroying their potential for use by future generations (Francis, 2015).

According to the World Bank, water secure counties are those which possess an annual per capital threshold of 1,000 cubic metres or more (cited in Mercy Corps, 2014). In 2008, each Jordanian received a mere 145 cubic metres. By 2025, the annual per capita supply is predicted to reach as little as 95 cubic metres (Mercy Corps, 2014). There is a severe and growing imbalance between supply and demand (Ministry of Water and Irrigation, 2016).

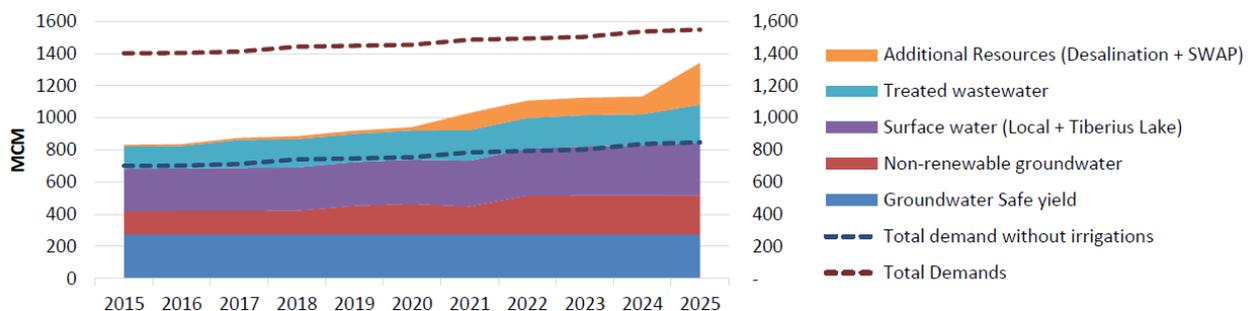


Figure 1. Development of Resources and Projected Demand in MCM (million cubic metres) - from National Water Strategy of Jordan (2016 - 2025), Ministry of Water and Irrigation (pp.11)

2.2 Water in rural communities in Jordan

The area of interest for this research is rural communities hosting refugees in Jordan. As aforementioned, there is little research that examines the experiences of marginalised people and the factors that influence participation in decision making processes when it comes to natural resource management (Butler & Adamowski, 2015).

Jordan is classified as a chronically water-scarce country which has implications for people living in rural communities. Only 5% of the land is arable and the decreased rainfall as reduced cultivation and production opportunities (Rural Poverty Portal, n.d.). This means that people not only have less to sell but also less to eat. Hunger and food security is a constant looming threat. Approximately 20% of Jordanians live in rural areas where poverty is more prevalent than in urban areas (Rural Poverty Portal, n.d.). Of the 20%, 19% are classified as poor. Because of the arid nature of the land, many rural people cannot grow enough crops to feed themselves and their families. People who find other ways to supplement their incomes generally earn very little. Regular drought that Jordan has experienced exacerbates the situation (Rural Poverty Portal, n.d.). According to Francis (2015), water depletion disproportionately impacts marginalised communities. The competition for this scarce resource is amplified as a result of the surge in population.

2.3 Water and impact of refugees in Jordan

As highlighted, water scarcity is not a new problem in Jordan, but it has been exacerbated in recent years due to the influx of Syrians seeking refuge in Jordan and the consequent increase in demand (JRP, 2016). This situation is far from one that is foreign to Jordan. Jordan is home to many migrants who have fled major wars in the region – from Palestinians in 1948 and 1967, who account for 2.1 million of the population, to Iraqis as a result of the Gulf war in 1991, and the Iraq war in 2003 (Francis, 2015; USCR, n.d.). Palestinians make up over half of Jordan's current population of 6.5 million, and an estimated 60,000 are Iraqis (USCR, n.d.). Official number of Syrian refugees is at 600,000 and up to 1.4 million unofficial refugees, including those who arrived prior to the official beginning of the war (JRPSC, 2016). In terms of the Syrian crisis, those feeling the greatest impact are in the northern governorates hosting a high concentration of Syrian refugees where 70 per cent of households receive less than the national standard of 100 litres per day (JRP, 2016). Minimum standards of water supply are being met in both camp and non-camp settings; however, water delivery to households in the northern governorate (see *Figure 2*. below) is becoming less frequent as water supply struggles to maintain the demand. This is the area where almost half the refugees are housed. In this setting, the per capita consumption has decreased from over 88 litres to 64.5 litres (JRP, 2016). In Jordan, 95% of households have access to a piped network for water supply, however, an estimated 40 to 65% of water is lost, called non-revenue water (NRW), through either leakages or theft. Theft of water is a problem in Jordan, particularly for irrigation where farmers illegally connect their own pipes to the network. Although the water-distribution system is well developed, during dry summers, there is sometimes a lack of supply to isolated villages. Currently, a water rationing system is in place in attempt to ensure a more equitable distribution (JRP, 2016). Among those suffering water shortages, for example, in the North of Jordan, only those who can afford extra purchase it – either bottled water or through the additional supply provided by water tanks (Mercy Corps, 2016).

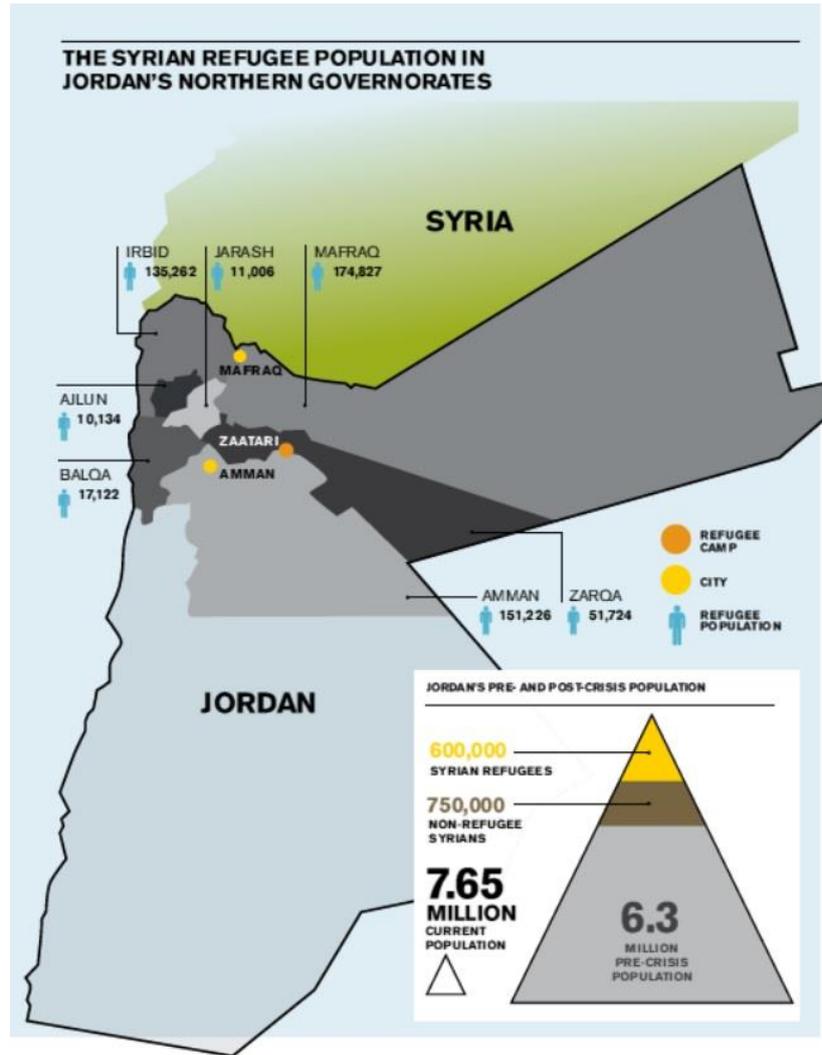


Figure 2. Population of Syrian refugees in Northern Governorate of Jordan. Source: Tapped-Out, Mercy-Corps (2014) (pp. 12).

2.4 Tension in sharing water resources in communities hosting refugees

Since the beginning of the war, Syrians have generally been welcomed and well accepted into communities. This cohesion is well enhanced by the fact that many of the refugees have tribal ties with Jordanians, through for example, marriages and also attributed to the fact that the populations generally share the same religion, language, and culture (Field Notes, 2016). Nevertheless, their capacity to accommodate is wearing thin as their ability to meet their own basic needs is being compromised resulting in mounting tension and instability (Field Notes, 2016; Mercy Corps, 2014; JRP, 2016). Tension is being catalysed by the fact that support from the international community is focused on catering to Syrian refugees – such as receiving food vouchers - both in camp and outside of the camps. In host communities families who have been living in hardship are not being considered; on top of this, their own limited resources are being stretched as a result of an influx of refugees (Mercy Corps, 2014; JRP, 2016; Francis, 2015). An incident highlight the extent of the tensions in a particular area – Syrian refugees would avoid walking down certain streets in fear of being insulted by Jordanians when returning home with food from aid organisation (Field Notes, 2016). The Yarmouk Water Company reported that between 2011 and 2013, complaints from Jordan users quadrupled (Mercy Corps, 2014). In 2012, water shortages triggered protests and riots in Mafraq region.

One year later, when a village ran out of water, the community protested on the streets and barricaded the highway and burned tyres, demanding affordable water (Francis, 2015).

2.5 Water management in Jordan

The international sector has a lot of influence in the water sector in Jordan, notably GIZ and USAID (Field Notes, 2016). These international organisations have pushed for a participative, small-scale and decentralised approach to water delivery, as opposed to the traditional top-down approach. In the 1990s, Jordan initiated structural and institutional reforms including a process of market-based water policies which promoted privatisation and participation. There are three private water companies that manage water provision in different parts of the country. The Ministry of Water and Irrigation (MWI) is the overarching institution that formulates national policy and strategies. The Water Authority of Jordan (WAJ) is in charge of the development and management of water resources across the country, although now most of these responsibilities have been allocated to the private sector. The Project Management Units (PMU) are in charge of overseeing and monitoring water companies. International organisations were successful in supporting Jordan to move to the major structural and institutional reforms and continue promoting best practices in participatory management (Scott, 2015). One example is the establishment of Water User Associations (WUA) which is a participatory approach to management of water for agriculture in the Jordan valley. As is the case on the global scale, participatory approach are more prevalent in initiatives aimed at better managing water for irrigation (Altieri, 2002). This is understandable as approximately 70% of water is used for irrigation in Jordan (Ministry of Water and Irrigation, 2016), and many farming practices are based on traditional methods which tend to be highly wasteful (Field Notes, 2016).

Although some important developments have taken place, water consumption is still increasing overall (see *Figure 1*), and according to one informant, despite all the measures that have taken place so far, little progress is evident – calling for the need to more concrete interventions that respond according to the urgency of the situation in Jordan (Personal communication, 21 June, 2016).

2.6 Participation in the Jordan's National Water Strategy

According to the National Water Strategy of Jordan (2016-2025), the MWI (Ministry of Water and Irrigation) will adopt IWRM as a strategy and “process to promote the coordinated development and management of water, land and related resources in order to maximise the resultant economic and social welfare gains in an equitable manner” (pp. 22). This move is in line with meeting Sustainable Development Goals on Water and Sanitation. It has been recognised that this shift represents a huge challenge. In terms of participation, the strategy calls for involvement, participation and education of all stakeholders, including the private sector. The urgency in improving public awareness on water scarcity is also identified as a key issue to be addressed. The IWRM strategical framework includes social equity as a principle – “the basic right for all people to have access to water of adequate quantity and quality for sustaining human wellbeing will be recognised” (Ministry of Water and Irrigation, 2016). The MWI seeks to develop a framework for IWRM that takes into consideration the needs of all stakeholders, varying from the private sector to local authorities, civil society institutions, NGOs and CBO (Community-Based Organisations) (Ministry of Water and Irrigation, 2016).

2.7 Participation in the Syrian Crisis Response in Jordan

The Jordan Response Plan (JRP) is a nationally-led response that combines both refugee and development responses in one national plan. It is the first of its kind and has been hailed as one of the leading responses in the region to the crisis (Francis, 2015; JRPSC, 2016). The JRP (or sometimes referred to JRPSC – Jordan Response Plan to the Syrian Crisis), is an outcome of the 3RP *Regional Refugee & Resilience Plan* that “brings together plans developed under the leadership of national authorities” – those being the neighbouring countries of Syria. The JRP brings together key actors such as the Government of Jordan, donors and UN agencies for the “development of a refugee, resilience-strengthening, and development response to the impact of the Syrians crisis on Jordan”. The Jordan Response Plan (JRP) is a three year programme (2016-2018) which highlights areas of high priority interventions that is divided into numerous sectors such as energy, health, education, justice, water etc.

The following text will highlight the references to participation that relate to the WASH section (Water and Sanitation for Health) of the JRP. In the WASH section of the JRP, there are seven objectives: improving the quality and quantity of drinking water; expanding and improving sanitation services; awareness and community engagement in schools and other public institutions; enhancing planning and monitoring of water institutions, provision of water services to camps and host communities; safe and equitable access to gender appropriate sanitation services; and improving health through hygiene activities (JRP, 2016). These objectives are implemented by the designated WASH taskforce.

According to the JRP impact assessment that was undertaken to understand the impact of the refugee crisis, the increase in numbers has had some negative consequences. For example, the increase in population has impacted social cohesion in host communities and is exacerbating existing drivers of tension. Small host communities are demanding a more effective response to their own needs from state institutions and local authorities. There is also a perceived lack of participatory governance (JRPSC, 2016).

One of the mentioned achievements to date is budget allocations were made to communities that emphasised community engagement and social cohesion. For example, communities outreach an engagement trainings were conducted in 17 municipalities. Community projects were also implemented to strengthen social cohesion and resilience in host communities.

In terms of the future plans there is a focus on supporting municipalities on strengthening state-society relations and focusing on the participation of women and youth in host communities. There are plans to develop projects and activities that address the areas where tension is anticipated between refugees and host communities. Strengthening the administration, planning, budgeting and information management in the local development units of governorates and municipalities with focus on citizen engagement and participatory approaches is featured as a goal in the plan. Finally, another plan related to participation and water is the strengthening of “trust, communication, coordination, outreach and engagement capacity at municipal level to ensure the responsiveness to the needs of men and women, with a special focus on marginalised groups” (JRPSC, 2016, pp. 65).

The JRP is an example of a world-leading response to a refugee crisis (Francis, 2015). However, international support has not kept pace with the needs – as of November 2015, around US 1.07 billion dollars was committed to the JRP, corresponding to a mere 36% of the funding actually required to meet the needs outlined in the report. In the JRP, the refugee inflows is recognised as providing opportunities for Jordan for important transformation, but Jordan’s resilience has been severely compromised by funding shortfalls.

“Overcrowded health centres and schools, overstretched water, sanitation and municipal services, as well as pressures on the environment, labour and housing markets have left Jordanians feeling increasingly disenfranchised and neglected. Slower-than-forecasted macroeconomic performance and pressure on public spending continues to limit Jordan’s ability to invest in development, ultimately eroding the country’s capacity to maintain its developmental gains and deal with future challenges” (JRP, 2016, pp.9).

The JRP is a well thought out and planned call out to the international community to support Jordan in their pledge to build their resilience and help them provide the support and absorb the stream of arrivals of refugees.

3 Method

The purpose of this chapter is to delineate how objectives are met through research design and procedures, in turn, allowing the aim of this thesis to be achieved.

Section 3.1 outlines the methodology and research design that this thesis was based on and highlights the key changes that were made to adapting to a change in circumstances. Section 3.2 provides an outline of the secondary data collection, referring to the data collected through a review of pertinent literature. Section 3.3 does the same but relating to the primary data collection process which was based on semi-structured interviews and field notes. The final section 3.4, allows readers insight into the data processing methods adopted for the primary data.

3.1 Methodology & research design

According to Perri 6 & Bellamy (2012), drawing sound conclusions is dependent on basing the design of the stages of research on sound methodological principles. This section is devoted to delineating the methodological principles that underpin this research and to present the steps that were taken to produce sound inferences that provide context to the research objectives (see 1.2 *Research Aim & Objectives*).

This research is based on an observational research design. As opposed to experimental research where control is exercised over the key variables and seeks causation, this research seeks a description of a situation. In this case, the field research was conducted to arrive at an examination of the role of participation as a facilitator for improved water management in rural communities. It would be impossible to know which processes need to be controlled deduce a relationship of causation. Observation is also necessary because this research is seeking to depict information that exists the “uncontrolled world of everyday life... where there are many potentially important factors” that place a role in the phenomena under observation (Perri 6 & Bellamy, 2012). This case also consists of complex interaction issues, which deals with interaction effects that cannot be controlled, thus a trade-off is made of control for external validity (Perri 6 & Bellamy, 2012). With these points made above, it is evident that an observational research design is the adequate choice for this thesis.

This research was draws on both inductive and deductive approaches. Initially, the plan for this thesis was to conduct a deductive research. Typically, deductive research draws on the findings of a literature analysis that provides structure for the data collection process, the analysis and criteria for evaluation. However, due to the restrictions of time, the field research was conducted very close to the start of the research period. Consequently, the preliminary research needed to structure the field research was not conducted accordingly. The researcher adopted an inductive approach. Inductive research is based on observations leading to a theory and is based on reasoning that is more open-ended and exploratory in nature (Perri 6 & Bellamy, 2012). The intention is to elucidate patterns and regularities in the findings and draw conclusions based on interpretations of the data collected. Inductive is particularly approach in a setting where a dearth of research is already published. This is the case when referring to IWRM – a widely researched, discussed and utilised framework for water management.

A risk of inductive research is that the initial assumptions that the researched is based on might not eventuate to be plausible, relevant or helpful about the subject of interest (Perri 6 & Bellamy, 2012). This was a problem that the researcher encountered. The secondary data collected was indeed based on IWRM and the role of participation through this lens. However, the primary data collected had little associated with this framework. This is because the researcher was limited to interviews that predominantly involved members of aid agencies.

Thirteen of the twenty interviews were with informants representing aid agencies. Only two interviewees were familiar with IWRM (see *Table 10*. List of interviewees for primary data collection found in *Appendix*). This is due to the obstacles that the researcher faced in fixing interviews on short notice and during Ramadan. Informants affiliated to the government would have been more appropriate for gathering data relevant to IWRM as IWRM is principally government policy. Aid agencies are principally in charge of providing basic needs to refugees, especially in the case of Jordan who is not a signatory to the 1951 convention to the status of Refugees. Consequently, there is no national legislation governing the protection of asylum-seekers and refugees and this is a gap that is filled by aid agencies.

With this in consideration, data relevant for the examination of participation as a facilitator to the management was collected and is usable to draw conclusions that are usable for both IWRM and aid agencies working in rural communities.

3.2 Secondary data collection

The secondary data collection was accomplished through a literature analysis that was terminated prior to the field trip and then later added to post-field trip.

The pre-field literature analysis fed into the background information provided in *Chapter 2 – Background*. This initial literature analysis sought to overview and summaries key literature in participation in terms of relevant research theory, history of development, outline of previous research, and previous research methods. The structure for this literature analysis was drawn from Williman (2006). This section also provided key information about the IWRM framework.

As aforementioned, the post-field literature analysis was conducted to support the findings from the primary data collection. Due to a limitation of time leading up to the field trip research period, the information needed to build a framework for the data collection process, analysis and criteria for evaluation was lacking. Accordingly, the primary data was processed based on interpretation and afterwards, literature was reviewed that supported the findings. This represents an inductive approach.

3.3 Primary Data Collection

The primary data collected was through two means – semi-structured interviews and field notes.

3.3.1 Semi-structured interviews

The purpose of these semi-structured interviews was to examine the participative approach in the management in water, and where possible and more specifically, to get an insight into the participatory approach in water management in rural host communities. Semi-structured interviews were conducted, both in Jordan, via Skype, telephone and email contact when necessary. Each perspective will help build an understanding of the complexities that are intertwined in the field of the participation approach. The procedure for data collection and analysis follows those delineated in the book *Social Research Methods* by Williman (2006). The reduction and analysis of data was a sequential and continuous procedure that increased in complexity as the research progressed.

First of all, background information was sought through contact with experts in water management. This information fed into the development of the research and aim and goals. Next, for interviews, potential interviewees were contacted via email and phone. Organisations active or with experience in the domain in the Jordan context were contacted, either to

organise an interview of to ask for relevant contacts. Identification of organisations likely to be relevant and valuable for the research conducted primarily via the “Syria Regional Refugee Response – Interagency Information Sharing Portal” which lists names of organisations working in certain domains, current missions and key literature. A broad criterion was used to identify relevant organisations – such as – working with water issues (i.e. WASH), have experience in the participatory approach with water issues, and experience in rural communities. Candidates with experience in water project management in rural host communities were prioritised to interview with in the field, as well as those with experience in projects under IWRM. Otherwise, others were flagged for possible later contact, via phone, skype or email. During the field trip, some meeting were organised by others with little information about the interviewee, thus it was at times difficult to decide if it was a priority, but out of respect and gratitude to the organiser, the researcher would pursue the interview.

Semi-structured interviews were conducted during a two week period in June, 2016 and took place predominantly at the place of work of each interviewee. Unfortunately with the limited working hours (10am – 2pm), the availability of interviewees during the month of Ramadan, as well as the excessive travel time to each office due to traffic, one interview was conducted on average on a daily basis. Specific numbers of interviews were fixed through the recommendations by interviewees.

Each interview commenced with an introduction about the project and the researchers role, the purpose of the interview and finally, confirmation that the participants consent to the information being incorporated into the thesis, as well as consenting to the interview being recorded and the interview being transcribed (drawn from Flick, 2015). Interviewees were informed that their identity will not be disclosed in this research, but rather their organisation, role and position. All interviewees will be made aware of the fact that they are not obliged to answer certain question and they can terminate the interview at any time. Following each interview conducted, a one page summary of the conversation was made, along with information such as the contact details of the person, role, responsibilities. After each interview, key information was organised under key headings, as well as notes about the interesting new issues raised and new questions

The aim was to obtain a balanced number of participants from different stakeholder groups – this includes representatives from: donor agencies, INGOs, government, private sector and universities. However, under the prevailing time and travel constraints, the full suite of informants could not be covered: only one donor organisation, one from the government, two from universities, one from the private sector, one from the municipality. However, 12 informants were from either and INGO or NGO working at various levels. One-on-one interviews were conducted that lasted no more than 1 hour. The interviews were semi-structured and were guided by discussion topic list (*see Table 9, Appendix*). Following approaches described by Flick (2015) and Perri 6 & Bellamy (2012), open-ended questions were prioritised, but more guidance and intervention was given when the conversation was deemed to be straying from the topic. In order to respect the providers of data, the interviewees, a clear channel of communication with regards to the use and interpretation of the interview material was adhered to. In total, 20 connections were made, with 15 face-to-face interviews, 2 via emails, 1 via skype and 2 via telephone.

3.3.2 Field Notes

The second means of primary data collection was through field notes that were taken during the two week period in Jordan in June 2016. The author noted observations, opinions, interpretations, from numerous interactions and experiences with predominantly Jordanian people. These people ranged from shop owners, taxi drivers to students and the unemployed

– the majority were encountered during social interactions – organised dinners, a hiking trip and spontaneous encounters. Many informants suggested meeting with friends and acquaintances whom are knowledgeable in the field of water management, others had nothing to do with water but represented a ‘commoners’ perspective. These interactions are valuable as it enables a fuller picture of the situation in Jordan.

According to Mulhall (2003), unstructured observation is an underused tool in research. Observation is argued to be advantageous because it captures data in more natural circumstance. Other benefits of unstructured observation, as cited by Mulhall (2003), are that it provides insight into interactions between groups, illustrates the whole picture, and captures context and processes and it can be used to understand and interpret cultural behaviour. From a human geography perspective, Latham (2003) argues that the way that geographers do empirical research has been limited, and the range of methods used are narrow. Latham (2003) argues that emerging ways of approaching research is imperative to grasp the complexities of human nature and ecological surroundings. He advocates the use of diary-photographs and diary interviews.

3.4 Data processing

This section provides information to how both primary data was processed to contribute to findings.

The primary data collected is interpreted and organised according to the key themes that organically arose from the interviews. For example, one overarching theme that was commonly cited was ‘*trust*’. These were coded and then further coded into high levels of abstraction. To continue with the previous example, the ‘trust’ theme was divided into different areas of trust – such as trust in the government, trust in aid agencies, etc. The researcher then either made connection with literature reviewed prior to the data collection on the ground, or found literature that supports these findings, which was then fed into the analytical framework. This procedure is based on ‘interpretation’. According to Perri 6 & Bellamy (2012), interpretation is an inherent part of the research process. It is necessary when deciding which segments of data fit with particular categories, which data can be used to draw conclusions or support arguments.

More specifically, the process followed was inspired by the content analysis procedure outlined by Flick (2015). The data collection processes draws on three main steps: summarise content analysis, explicative content analysis and structuring content analysis. The first involves ‘first reduction paraphrasing’ which involves two reductive steps. The first reduction entails skipping less relevant passages and paraphrases with the same meaning. The second reduction entails bundling and summarising similar phrases. The explicative content analysis was applied when it was deemed necessary to clarify content that is not clear, through the use of a dictionary definition for example. The final step was a structuring content analysis. Out of the four methods, only one was relevant to this research – content structure. This is where material is extracted and condensed to certain domains of content, meaning that specific topics and domain where identified that characterise the text. In terms of data processing for the field notes collected, notes were taken by the author on a daily basis, sometimes noted on computer or by hand.

4 Literature Analysis

The purpose of this literature review is to provide a comprehensive description of existing body of literature relating to participation in natural resource management. It provides an overview of the key concepts in the field and justification for this research.

4.1 Participation: Rural communities and resource competition

The narrative that stipulates that population growth and economic marginalisation leading to environmental degradation has been challenged through the results of micro-scale empirical research. This research shows that the rural poor have been successful at adapting to environmental change through a striking heterogeneity in environmental management (Scherr, 2000). However, according to Scheer (2000), as population increases, which is the case in rural communities in Jordan, the response from the local population to adapt or modify resource use is not instantaneous. Degradation along with the welfare effects are felt by the local population, but not necessarily to the degree needed to trigger a response. As effects of degradation become more distinct, in this case highlighted by Scherr (2000), farmers will find means to stabilise or improve the resource base.

Participation in rural communities

This research is based on the assumption that participation is a facilitator to improve water management in rural communities. Community-based Natural Resource Management (CBNRM) is a widely cited and used participatory approach to attain sustainable development in rural communities. It can be initiated by community members themselves, the government or aid agencies. Participation is a fundamental component of a ‘bottom-up approach’ to development, and is now a widely used term by major international aid agencies, and is an integral part of their policy. According to Dyer et al (2014), participation is a widely discussed topic in the field of international development and, through involvement, engagement and benefit-sharing, is acknowledged as an avenue to improve the lives of marginalised people. It also provides a means of protecting and conserving natural resources.

Refugees and resource competition

The presence of environmental and war-fleeing refugees is becoming increasingly a part of our global reality, and has been cited by scholars as a factor contributing to violent conflict (Martin, 2005). The impact of forced migration on the social, economic and environmental systems of host countries is currently a hot topic on the global agenda. According to Martin (2005) “refugee movements are generally the result of conflict but can also be a cause of conflict” (pp.331) and incidents of forced migration are likely to present a continued and growing challenge, as root causes of population displacement such as climate change and political instability are unlikely to diminish in the foreseeable. The problem for host countries is the increase in competition for resources, putting significant pressure on the host countries’ infrastructure and institutions. Managing an exponential increase in the population is particularly problematic in resource-poor countries around the globe, such as the Middle-East and Africa; and often occurs in cases that are intrastate, small scale and with a context of poverty (Baechler, 1999; Homer-Dixon, 1994). Additionally, migration is more likely to occur from developing countries, where political instability and armed conflict are more likely to be present (Gleditsch, 1998; Stewart, Holdstock, & Jarquin, 2002). In many cases, refugees are dealt with through the intervention of international aid agencies, to compensate for the hosting countries’ inability to provide basic needs (Martin, 2005).

At the same time, global climate change will further impact agricultural productivity, greater populations will be exposed to flood and drought, and even the viability of some island societies will be threatened (Barnett, 2001). It is widely accepted that influxes of refugees into

an area can place considerable stresses on natural resources, leading to a range array of repercussions on environmental, social, health, cultural and economic systems (Adisa, 1996). This emphasises the need to consider the social aspect of resource management. According to Martin (2005), certain sections of the local population can suffer as much as, if not more than, refugee populations which is why rural communities hosting refugees are a focal point of this research. Additionally, majority of support for the refugees from the international community has been focused in the refugee camps, where only a small majority of the refugees are located (JRPSC, 2016).

Peaceful responses to resource scarcity are not only desirable, but they are commonplace, as resource use competition is a part of everyday life in all corners of the globe (Martin, 2005). In some scenarios, scarcity can bring different groups closer together, “encouraging cooperation and building forms of social capital that may then be drawn upon to deal with other, perhaps more difficult, problem” (Martin, 2005, pp.336). According to Ratner et al. (2013) little research has explored how resource competition can be transformed to “strengthen socio-ecological resilience and mitigate conflict” (pp.13).

4.2 History of developments in participatory management

This section will provide information about the seminal work in participation and insight into participation on the global agenda.

Seminal work in participation

One of the most influential works in theories behind resource management is that of Hardin (1968). Hardin (1968) stipulates that when it comes to managing natural resources, users have the tendency to act in self-interest, which results in the in depletion of common-good resources. This is referred to as the tragedy of the commons. According to Dietz, Ostrom, & Stern (2003), Hardin claims that only two mechanisms – centralised government and private property – can sustain resources on the long-term, because of the fact that resource users are “trapped in a commons dilemma and unable to create solutions” (pp. 1907). Without effective government institutions at the appropriate scale, natural resources “are in peril from increasing human population, consumption, and deployment of advanced technologies for resource use, all of which have reached unprecedented levels” (Dietz et al., 2003). However, Hardin failed to recognise the ability of some social groups to self-organise in order to maintain resources through self-governing institutions (Dietz et al., 2003).

Ostrom, a renowned political economist, argues against the claim that only private ownership or government regulation can prevent a tragedy from occurring. As it is in the interest of the users to sustain access and supply to a resource, social schemes devised by the users themselves can be a means to maintain common assets efficiently (Dietz et al., 2003). The work by Ostrom (1990) on collective action of common pool resources, gave “the initial impetus for participatory strategies to more effectively and efficiently manage and sustain natural resources” (Dietz et al., 2003).

A brief review of the evolution of natural resource management is found in the work of Cundill & Rodela (2012). In the 1970’s, ‘command-and-control’ approaches was the dominant paradigm in natural resource management, led by the assumptions that interventions based on science would result in the most optimal outcomes and ‘science knows best’. Afterwards, adaptive management stemmed from the identification of a need to manage from a system-orientated perspective as a result of the realisation that the complex nature of ecosystems needs to make considerations to an array of interlinked complexity of ecology. Following, collaborative management gained prominence in the 1990s as there was an identified lack of greater civic participation in development decision-making. There was also a call for approach

that empowered the marginalised and improved their access to resources (Mansuri & Rao, 2004, as cited in Cundill & Rodela, 2012). This marked the beginning of participatory democracy, which was based on approaching conservation with greater benefits with communities in the realm of natural resource management.

Participation on the global agenda

Public participation first came on the agenda through Principle 10 of the Rio Declaration on Environment and Development, also known as the Rio Declaration in 1992 (Mauerhofer, 2016). It was touched on again in Chapter 23 of the Earth Summit Agenda 21. Two years later there was an emphasised need for public participation in dealing with degradation assessment and rehabilitation of land at the United Nations Convention to Combat Desertification (UNCCD) (Mauerhofer, 2016). This marked the beginning of public participation becoming increasingly discussed and implemented on the global scale. Further, public participation has been acknowledged as the basis to democracy and access to information as a basic human right (Ebbesson, 2011). In 1998, the Convention on Access to Information, public participation and Decision-making and Access to Justice and Environmental matters, also known as the Aarhus Convention was founded under the auspices of the United Nations Economic Commission for Europe – UNECE (Mauerhofer, 2016). Public participation also has strong links to the subsidiarity principle which stipulates that decisions should be taken as close to those who are impacted by that decision (Kastens & Newig, 2008).

Table 2. Major phases of progression of stakeholder participation (adapted from Reed, 2008)

Period	Movement
1960s	Awareness raising – the anti-modernisation critique of the transfer technology paradigm
1970s	Incorporating local perspectives in data collection and planning
1980s	Development of techniques that recognise local knowledge and “put the last first” such as farming systems research and rapid and participatory rural appraisal
1990	Increasing use of participation as a norm in the sustainable development agenda
2000	Critique of participation and disillusionment over its limitations and failings
2005	Growing “post-participation” consensus over best practice, learning from the mistakes and successes of this long history

4.3 Previous Research in the field of participation in NRM

There exists an abundance of literature that evidences that participatory management can be a facilitator to improved management of resources. The ‘improvement’ of water management

can be interpreted in many ways. This following section summarises benefits of participatory management as cited in literature.

The movement towards participation was based on the narrative that access to information, thus informed citizens, opens the door to valuable contributions in the decision-making process relating to issues and challenges faced in a society (Kranz, Ridder, & Patel, 2006). It can also facilitate acceptance and commitment of those involved (Bush, Gillson, Hamilton, & Perrin, 2005). According to Dryer et al (2004), empowerment & ownership, equity/fairness, trust, learning and information exchange, better accepted decisions, better quality decisions, consensus, aims and outcomes achieved, influence and impact on outcome are outcome-based components of ‘successful’ participatory process in natural resource management. It has been argued that participation can be a means of conflict resolution (Martin, 2005); opportunities for social cohesion through empowerment and collaboration of vulnerable groups (Dyer et al., 2014); information exchange, learning, acceptance, legitimation, ownership and balancing of interests (Kirschke et al., 2016); means to achieve efficiency in producing consensual and inclusive decisions as practice and trust are gained (Pahl-Wostl, 2002; Pateman, 1970); producing decisions that were responsive to community interests and values, and also helped resolve user conflicts, builds trust, and educate the public about the environment, within conflicting relationships of power, communication and objectives” (Rault & Jeffery, 2008); and capitalisation of local resources and skills, provision of training and education and employment.

Reed (2008) summarised the benefits of **stakeholder participation** into two categories: normative and pragmatic benefits. Normative benefits refer to greater benefits for a democratic society, citizenship and equity. The latter are benefits that relate to the quality and durability of environmental decisions that are made through collaboration with stakeholders. Under the right conditions, a number of authors argue that stakeholder participation can lead to a number of benefits. These are displayed in Table 3 (*below*). It is important to note that these benefits of participatory resource management largely depend on an array of factors for success. The table below is simplified and excludes some conditions needed to achieve these benefits.

Table 3. Potential benefits of stakeholder participation – adapted from Reed (2008)

Normative	Pragmatic
Reduce likelihood that those on the periphery of the decision-making context or society are marginalised (Martin & Sherington, 1997)	Enables interventions and technologies to be better adapted to local socio-cultural and environmental conditions (Martin & Sherington, 1997; Reed, 2007).
Increase public trust in decisions and civil society (Richards, Blackstock, & Carter, 2004)	Takes local interests and concerns into account at an early stage (Dougill et al., 2006)
Increases the likelihood that environmental decisions are perceived to be holistic and fair (Richards et al., 2004)	Leads to higher quality decisions (Beierle, 2002; Fischer, 2000; Koontz & Thomas, n.d.; Newig, 2007)

Critiques of participatory management

There have been a number of critiques of participatory approach to resource management.

The following section will provide insight into common weaknesses and thus contribute to the argument that there is a need for continuous work in the field in order to provide improvement pathways for participatory management. List of barriers to ‘successful’ participation include: unqualified nature of many of those attempting implementation (Dyer et al, 2014), policy failure in the devolution of power and authority (Dyer et al, 2014), poor quality of project design (Dyer et al, 2014), and lack of understanding of factors associated with project success and failure (Brooks, Waylen, & Borgerhoff Mulder, 2012).

What is meant by participation?

The number of approaches and terms that relate to or fall under the umbrella of participation compromises its functionality. For example, as mentioned previously, Community-Based Natural Resource Management (CBNRM) is amongst the most popular approaches to participatory environmental management (Dyer et al., 2014). Initiatives that fall under CBNRM include Integrated Conservation and Development Projects (ICDPs), Joint Forest Management (JFM), and community-based payments for ecosystem services (CB-PES). Many authors express their doubt pertaining to the use of the term ‘participation’, which is a fundamental issue when dealing with participation in resource management. For example, (Webler, Tuler, & Krueger, 2001) describe public participation or any synonymous terms as being one that everybody agrees on but understandings quickly deviate once it comes to putting it to practice. Webler (1999) continues on this rhetoric and claims that the term ‘participation’ is a catch all term with as many objectives as there are participants, leading to a dilution of the meaning and purpose. De Marchi (2003) also claims that participation is an empty word until concrete procedures are put in place to make it real and effective. Reed (2008) follows the same line – “although many benefits have been claimed for participation, disillusionment has grown amongst practitioners and stakeholders who have felt let down when these claims are not realised” (pp.2417).

Defining participation

There are many terms used that fall under the umbrella of participation, which adds a layer of complexity when conducting research in this domain. Dyer et al (2014) use the term ‘*community engagement*’ to evaluate participatory approaches in CBNRM, which include terms such as empowerment, ownership and equity. *Public participation* is coined as being “procedure designed to consult, involve, and inform the public to allow those affected by a decision to have an input into that decision” (Rowe & Frewer, 2000); it is defined by Wandersman (1981) as “a process where individuals, ground and organisations choose to take an active role in making decisions that affect them” (pp. 56). In research by Ker Rault & Jeffrey (2008), the term ‘*stakeholder participation*’ used over the broader term public participation. This is justified because most conservationists “focus on engaging those who hold a stake in the cope of their initiative” (pp. 2418) as opposed to attempting to engage with the wider public. In the research conducted by Ker Rault & Jeffery (2008), the term ‘public participation’ was defined intentionally vague. This was done in order to “avoid discriminating any given meaning and with the strategic intention to no bias or influence the stakeholder’s own understandings” (pp. 72). Rather, this research by Ker Rault & Jeffery (2008) encompasses “any synonymous participative concepts whether called involvement or engagement referring to stakeholders, affected or interested parties are included within the concept of public participation” (pp. 27). In some cases, authors writing about public participation use terms interchangeably without necessarily justifying the use of the term. Du Toit & Pollard (2008), for example, use the terms public participation, public engagement and stakeholder engagement interchangeably in their research looking into the IWRM participation in the National Water Act in South Africa. This can lead to some confusion in the field. For the sake of this current research, the same approach will be adopted by Ker Rault & Jeffrey

(2008), and a broad approach to the terms that relate to participation will be considered as falling under this umbrella.

When is public participation in natural resource management appropriate?

The second research aim is based on examining the appropriateness of the inclusion of Syrian refugees in water management. However, how is one to understand if participation itself is appropriate? The work of Ker Rault & Jeffery (2008) investigates factors that condition the relevance of public participation. They illustrate that there are conditions where participation is deemed inappropriate or less appropriate. The appropriateness of participation is determined by five conditions: size and scale, responsibility over water resources, source of project funding, the culture and objectives of and rational for public participation. It is argued that for large-scale state projects, participation is not appropriate, whereas local-scale projects hold many opportunities and benefits for participation. These are outlined in Table 4 (below). This research by Ker Rault & Jeffery (2008) illustrates the relevance of investigating small-scale water projects in rural communities, where participation is, as emphasised as being more appropriate at in small scale projects, are not run or funded by the state.

Table 4. Weaknesses and negative perceived aspects v. strengths and positive perceived aspects of public participation (Adapted from Ker Rault & Jeffery, 2008)

Weaknesses & negative perceived aspects of PP	Strengths & positive perceived aspects of PP
Messy, unrealistic, misuse of loans	Project acceptance & cooperation better definition of problems and solutions
Private interests prevail over common good	Increase trust, accountability, better decisions
Placation, corruption, “clientelism”	Improves people’s life
Irrational & emotional approach “fanatism” of professionals & NGOs	Develops technical, social and managerial skills for both decision makers and all stakeholders
Lack of communication between CA’s (community associations) & stakeholders	User’s involvement in project management, maintenance and monitoring, project ownership & shared responsibility of water rights and resource allocations, sustainable management.
Lack of education of affected parties and adverse to change	Promote stakeholders’ organisation (WUAs) and democratic society
Hence: No need for participation for state strategic projects – the state knows what people want	Hence: PP needs to be encouraged and facilitated, need to develop guidelines for both CA and all stakeholders

4.4 IWRM as a water management tool

Thus far, this review has highlighted the role participation can play in the management of a vital resource, water. However, it is evident that the term ‘participation’ is characterised by a number of meanings and interpretations. Thus, in order to scope this research, the IWRM framework was chosen as the principle lens to analyse participatory approach in water management. The rationale underpinning this scope is that IWRM has been cited as being the new global norm for water management. It is also a paradigm supported and used by international development agencies as a mantra for the management of water resources (Biswas, 2008; Merrey, 2008; Molle, 2008), especially for developing country-governments. Donors such as the World Bank and the Asian Development Bank (ADB) and international organisations such as the Global Water Partnership (GWP) have endorsed IWRM approach as the flagship of water programmes worldwide (Biswas, 2008; Chikozho, 2008; Dombrowsky, 2008; McDonnell, 2008; Saravanan, McDonald, & Mollinga, 2009). A vast majority of countries are in the process of implementing it or preparing to do so with the support of INGOs and NGOs (Tejada-Guibert, 2015). Work by Van der Zaag (2005) finds evidence from Southern Africa and around the globe that proves that IWRM has inspired a new generation of water managers and researchers to act creatively, as well as assists in addressing the MDGs and instilling mutual respect, understanding and co-operation among the water professionals in Southern Africa (Van der Zaag, 2005). According to Rault & Jeffery (2008) traditional top-down decision making processes for water related issues do not accommodate to the growing diverse needs of all stakeholders and there is a general rejection of centralised and exclusionary approach to managing natural resources.

This framework is relevant to this research for two reasons. Firstly, Jordan is a country that has a long history of close relations with the international community for national development, which promotes the participatory approach. This relationship is even closer since the beginning of the Syrian crisis (Francis, 2015). Secondly, IWRM is an approach adopted by the Jordanian government (Ministry of Water and Irrigation, 2016).

Why IWRM?

Effective and sustainable management of water resources is imperative to achieve sustainable development (Dungumaro & Madulu, 2003). However, to date, taking a look at the water consumption trends, especially in developing countries, efforts in water resource management are far from being effective (Dungumaro & Madulu, 2003). The water crisis has been dubbed as being a ‘water governance crisis’ (Dyer et al, 2014) and has been attributed to a fragmented approach to water management. The traditional approach to water management deals with different water-related sectors separately such as; water resources and services, potable water (production and supply), wastewater collection and treatment, and water for municipal, industrial and agricultural purposes. IWRM (Integrated Water Resource Management) is put forward by proponents as a holistic approach intended to reflect the interconnected nature of hydrological resources, protect the world’s environment, foster economic growth and sustainable agricultural development, promote democratic participation in governance, and improve human health (GWP, 2016). It is defined by the GWP (2016) as being “... a process which promotes the coordinated development and management of water, land and related resources in order to maximise economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems”.

Dungumaro & Madulu (2003) research argues that community participation is an essential component for projects in water management. They analysed the importance of community participation in the process of IWRM. This research cites a number of examples which demonstrates that public/community involvement is crucial for a successful and sustainable water resource management”. They claim that the involvement of local communities in water

projects “*not only ensure democracy, but also ensures acceptability, support, and sustainability of the respective projects*” (pp.1014). This supports the benefits outlined in the research by Reed (2008) that divides benefits of participation into two categories – normative and pragmatic. Participation is a means to ensure that local communities’ voices are heard and interests are taken into consideration. Participation has the potential to minimise conflict and ensures public trust, awareness, and interest as well as providing local communities with essential tools to take care of their own welfare by ensuring that their voices are heard, and their interests are considered (Dungumaro & Madulu, 2003). They argue that community involvement should be considered as a right and necessity and should be compulsory component in all development projects. They also argue that local communities should be seen as equal development partners in any water related development project who participate fully in all aspects of project design, implementation and evaluation (Dungumaro & Madulu, 2003).

Overview of IWRM

IWRM is based on the Dublin Principles established at the 1992 International Conference on Water and the Environment (ICWE) in Dublin. These principles evolved from the recognition the issue of increasing water scarcity as a result of conflicting uses and overuse. IWRM is based on five principles. Principle Number Two of the Dublin Conference report states “water development and management should be based on participatory approach, involving users, planners and policy-makers at all levels” (Calder, 1999, pp 56).

Problems with IWRM

Although IWRM is the most widely recognised and accepted tool for water management, it has also been deemed as being elusive and fuzzy term (Van der Zaag, 2005). According to Tejada-Guibert (2015), the nuts and bolts of IWRM and what it actually is comprised of and where it leads is far from being clear for stakeholders and practitioners. Additionally, the implementations of IWRM can be highly variable. It is dependent of how it is defined, the variable and institutions that are to be integrated (Dungumaro & Madulu, 2003).

This being said about the IWRM concept in general, it is thus understandable that the understanding of the definition and objectives of participatory principle, one of the five principles of IWRM, lies in murky waters (Van der Zaag, 2005). This is because interpretations and modes of public participation differ depending on the understandings of the project in question and also because of the evolving roles and nature of participants. Additionally, interpretations and objectives change as problems are being identified and solutions are being developed (Ker Rault & Jeffrey, 2008). Ker Rault & Jeffrey (2008) thus state that such factors render the implementation of public participation in IWRM a complex problem.

According to Du Toit & Pollard (2008), despite a strong emphasis of public participation in the National Water Act in South Africa which is based on IWRM, the implementation of a comprehensive and functional approach to public engagement is missing. This is partly due to the fact that actual requirements are not explicitly articulated. Du Toit & Pollard (2008) say that this reflects the common problem where participatory processes are “poorly conceptualised, misdirected and often perceived as confusing by stakeholders” (pp.707).

4.5 Previous research methods

The method used in this research was inspired by two key works in the field of IWRM. Firstly, Suhardiman, Clement, & Bharati (2015) looked into IWRM in Nepal and investigated key stakeholders’ perceptions and lessons learned. The research included a literature review on IWRM and semi-structured interviews with 17 organisations including government agencies, civil society and groups and international donors. This research followed the same structure, and sought to conduct around 20 semi-structured interviews with a variety of stakeholders,

from local NGOs to INGOs, the UN, academics, experts and the private sector. Suhardiman et al (2015) interviews focused on how key stakeholders view challenges and opportunities for IWRM application and how these views relate to their roles and responsibilities in water resource management.

Secondly, Ker Rault & Jeffrey (2008) sought to address stakeholder's understandings and expectations towards public participation in IWRM. Using a grounded approach they developed a framework to explore water management concerns and the appropriateness of different forms of stakeholder participation in Jordan, Syria and Turkey. This research is comprised of two parts. The first part sought to gain information on practices and the perceived added value of public participation in IWRM was initially elicited through seven semi-structured interviews with water experts, called 'scoping interviews'. The interviewees were academics, senior decision makers in competent agencies and one representative of foreign development agency. This information was used to develop an interpretative framework and then, for the second part of the research, used for a questionnaire submitted to local regional stakeholders during a workshop. This research drew heavily on the first section of the research by conducting semi-structured interviews. However, this research has a greater sample size of 20 participants, from NGOs, INGOs, donor organisation, private sector, and experts.

4.6 Section summary

This brief review of IWRM and the importance of participation highlight that as a concept, it is well accepted and being implemented around the world, Jordan included. However, this is not without problems.

In Jordan, IWRM is a relatively new concept that has been incorporated into national policy. Now with the presence of numerous aid and development agencies in Jordan as a result of the Syrian crisis, this is a timely opportunity to capitalise on the abundance of support and continue on the trajectory to ameliorate the management of their most scarce natural resource. Participation in water management has been well cited as providing many benefits to improve management overall. However, an examination of the role of participation in rural communities is needed to understand how it can improve the management of water.

5 Analytical Framework

This section outlines principle ideas gained through a review of literature relating to participatory management of natural resources. This analytical framework will provide structure for the analysis & discussion and findings. The purpose of this section is to describe the theoretical premises that this research is based on. The STEEP framework was used to build the analytical framework and structure the key issues in participation. The framework includes the most pertinent literature in the field.

5.1 STEEP as a framework

The STEEP framework was used to provide a coherent structure to organise information pertaining to a complex problem, and, in the results and analysis as a framework to categorise the findings (*Chapter 7, Analysis & Discussion*). STEEP stands for social, technological, environmental, economic and political. STEEP is a tool used to simplify information from a complex external environment and (Vining, 2011) claims its use is “a necessary precursor to managing the external environment and to understand it in some theoretically coherent manner” (pp. 65). Other variations include PEST (Political, Economic, Social and Technological), PESTEL (Political, Economic, Social, Technological, Environmental, and Legal), STEEPLE (same as above + Ethical) and STEER (same as above + Regulatory + Socio-cultural). According to Vining (2011), many scholars use these frameworks. They are often adapted to the context of their specific research and used for differing purposes. For example, Cronje (2016) used the STEEP framework to structure an analysis to identify trends, then identified how these trends are likely to impact the domain of research of educations, communication and technology. Iagaru, Anttilaa, & Iagarui (2014) used the PESTEL to characterise rural areas being studied, more specifically, to identify strategic options to promote the development and adapt to concrete needs.

The STEEP framework is a useful tool to organise data in to useful and relevant categories, making information more presentable and useable. STEEP was chosen for this research as main issues identified fit the categories that the acronym stands for (social, technological etc. – see above).

The procedure to fill this framework was the following: first of all, the categories that relate to STEEP were identified – for example, the subcategories that fall under the five sections – social, technological, environmental, economical, and political. These were drawn from Sharma, Sharma, Kumari, & Tiwari (2015). The main factors that are the most relevant to this research context were selected to support the selection of commonly-referenced and pertinent issues when dealing with participation in rural communities. For example, the factors that come under the heading of ‘social’ in the research by Sharma et al. (2015) are: health, population, age-distribution, safety and security, customer behaviour. Customer behaviour is not relevant in this context, thus just ‘behaviour’ was used.

Secondly, a review of key literature relating to participation in resource management with key words ‘marginalised’ and ‘rural/local communities’ was used to identify major issues to base the examination of participation in the Jordan context on. This framework was then used to guide the interpretation of the interviews, as well as organise the key themes into categories.

5.2 Analytical framework with STEEP

This section presents the analytical framework that illustrates key issues in participatory management according to the literature that was reviewed. An overview is provided in *Table 5* and the following text provides insight into each theme and the findings of the key authors.

The category relates to the STEEP framework chosen. The themes relate to key areas of interest that provide a base for the examination of participation. These were extracted from the literature review, some sources related to literature of IWRM and generally to a wide variety of participation literature. Some sources draw on literature from a different field, for example, Tosun (2000) looks at issues to participation in the tourism industry in developing countries which is relevant to the Jordan context. An explanation of each theme is provided below the table.

Table 5. Analytical framework - key themes in participation organised according to STEEP categories with overview of references

Category	Theme	Key authors
Social	<i>Trust</i>	Davenport, Leahy, Anderson, & Jakes (2007); Lachapelle, Mccool, & Patterson (2003); Ker Rault & Jeffrey (2008)
	<i>Apathy and motivation/ Priorities/improves people's lives</i>	Tosun (2000); Martin (2005); Ker Rault & Jeffrey (2008); Martin & Sherington (1997)
Technological	<i>Lack of capacity</i>	Tosun (2000); Ribot (2002); Ker Rault & Jeffrey (2008)
	<i>Lack of information</i>	Tosun (2000)
	<i>Use of local knowledge</i>	Altieri (2002); Dungumaro & Madulu (2003)
Economic	<i>High cost of participation</i>	Tosun (2000), Martin (2005)
Environmental	<i>Social learning</i>	Ker Rault & Jeffrey (2008)
Political	<i>Centralised government & Democracy</i>	Tosun (2000); Van der Zagg (2005); Reed (2008), Dungumaro & Madulu (2003); Ker Rault & Jeffrey (2008)

The follow text will elaborate on the main ideas and themes touched on by different authors.

Social

TRUST - Davenport et al (2007) and Lachapelle et al (2003) both cite trust as being a major factor to consider when dealing with participation. They say that trust is especially important in a local community context. Ker Rault & Jeffrey (2008) and Van der Zagg (2005) state that a strength of participation is there are social benefits for society. For example, participation has promoted grass-root social organisations such as WUAs (Water User Associations) and exemplifies a democratic society in general. Participation in natural resource management can

increase not only trust, but also accountability and result in better quality decisions (Ker Rault & Jeffrey, 2008).

APATHY AND MOTIVATION/PRIORITIES – Tosun (2000) states that an outcome of the traditional top-down approaches in development has led to the exclusion of the grass-roots from affairs that relate to their dignity, has rendered them apathetic when it comes to taking matters into their own hands. Additionally, the grass-roots tend to only participate when they are motivated to do so, and in many cases, they are not motivated to do so. Martin (2005) states that motivation to participate in matters relating to resource management can be triggered in local communities through payment. However, this may compromise the essence of community ownership and commitment to the project in question (Martin, 2005). Tosun (2000) emphasises that participation at the local level in developing countries is limited because citizens are preoccupied with meeting their basic living needs, restricting their involvement in issues of community concern. According to Ker Rault & Jeffrey (2008), participation can improve people's lives, and people will be motivated if there is the opportunity for personal gain. Martin and Sherington (1997) state that participation in management reduces the likelihood that those of the periphery of decision-making processes are marginalised.

Technological

LACK OF CAPACITY – Tosun (2000) states that local grass-roots organisations can be instrumental in improving participation mechanisms. However, the lack of capacity, in terms of how to communicate, who to communicate to is a major inhibitor of their engagement in matters relating to management of resources. Thus, the satisfaction of local people's needs "is at the mercy of government administrators". Tosun (2000) also insists that the idea that technocrats 'know the right answer' and local people are not capable of suggesting better alternatives as they are amateurs is an obstacle to participation of local communities. Ribot (2002) confirms this, stating that local populations lack the capacity to use and manage natural resources. According to Ker Rault & Jeffrey (2008), a negative perceived aspect of participation is the lack of education of the local communities as well as resistance to change in local communities. Tosun (2000) also states that lack of experts to implement participation is a problem.

Ker Rault & Jeffrey (2008) claim that benefits of participation on the ground in local communities result in more sustainable management as a result of user's involvement in project management, maintenance and monitoring, project ownership and shared responsibility of water rights and resource allocation.

USE OF LOCAL KNOWLEDGE - According to Dungumaro & Madulu (2003), local knowledge is a strong weapon in solving local problems and has been used in instances of developing environmentally sustainable irrigation projects and can assist in resolving anticipated conflict. The use of local knowledge is heavily cited as being important especially when it comes to water use in agricultural activities (Altieri, 2002).

Economic

HIGH COST OF PARTICIPATION – Tosun (2000) emphasises that community participation is a resource-consuming measure in terms of time, money and skills. These are needed to organise and sustain participation. Also, a participatory project may raise the expectations of the community which might not be viable to reach. Public bodies are hesitant to invest in organising community participation (Tosun, 2000). Martin (2005) refers to the participation of refugees in the management of natural resources. As refugees fall under the

auspices of emergency relief, long-term relationships between emergency relief organisations and host populations/refugees are not likely to develop. Organisations dealing with emergencies find it challenging to enlarge their remit to include long-term development strategies.

Environmental

SOCIAL LEARNING – according to Özerol & Newig (2008), a major motivator to adopt participatory management is the opportunity for community members to learn about a problem. This is based on the assumption that if their awareness of the issue at hand is improved, then they are more likely to change their behaviour towards the use of this natural resource. Social learning is increasingly referred to as an essential component of sustainable natural resource management and the promotion of appropriate behavioural change (Muro & Jeffrey, 2008). Additionally, Kirschke et al (2016) claim that participation can promote information exchange and learning.

Political

CENTRALISED GOVERNMENT – According to Tosun (2000), in developing countries, planning is a highly centralised activity and bureaucracy is a major inhibitor to a response that caters to public needs in an efficient and effective way. Decentralisation of government systems is required to enable the formulation and implementation of a project to be developed at the grass-roots level. Yet, in many developing countries, governments are highly centralised.

Successful cases of participation have been cited as laying a foundation for democracy. As highlighted by Van der Zagg (2005), participation in water management played a big role for democracy in the Netherlands. According to Dungumaro & Madulu (2003) local involvement in water projects not only ensures democracy, but also ticks boxes in terms of acceptability, support and sustainability of projects.

6 Findings

The following section presents the main findings from both the desk-top and field research that relate to the themes identified in the previous section in the analytical framework. The purpose of this section is to provide an overview of content for the following section – Analysis & Discussion, which expands on this summary (*Table 6*) of the links between the desktop research and findings on the field. These findings were derived from a coding process (see *Chapter 3 Method*). The framework was inspired by the STEEP tool used to simplify information from complex external environments (Vining, 2011) (see *5.1 STEEP as a framework*). STEEP is an abbreviation of Social, Technological, Economic, Environmental and Political. Interview data was coded according to these five categories and the main findings are presented in the table with key themes

These findings are presented with a close relevance to the research aim and objectives. The aim of this research is to examine the role of participation as a facilitator for improved water resource management. This aim is divided into two research objectives: to examine the role of participation of rural Jordanians in water management and secondly, to examine the relevance of the participation of Syrian refugees in these communities. The two following sections have been divided accordingly and provide insights that draw from the primary and secondary data collection. There is also an additional third section. This is for the issues that are relevant to both research objectives. The colour theme corresponds to each section – blue for the first objective; and pink for the second, and green for the third section. The numbers in the left-hand column related to the structure of the Analysis and Discussion.

Table 6. Key issues identified from secondary data literature analysis with key issues from primary data collection – this table identifies key links between literature and primary data collection

#	Key issues from primary data	From literature	Category
1	Trust (aid community, government, data)	Trust	S – social
2	Lack of capacity at grass-roots level	Lack of capacity	T – technological
3	Preference for external consultants	Use of local knowledge	
4	Government	Centralised government	P – political
5	Tension toward refugees	Tension	S – social
6	Priorities	Apathy and motivation/improves people's lives	
7	Economic hardship	-	E – economic
8	Financial capacity and priorities of aid agencies	High cost of participation	
9	Water consumption behaviour	-	S – social
10	Information and awareness	Social learning	E - environmental
11	Short-termism	-	P – political

7 Analysis & Discussion

This section will provide a contextualisation of the findings that are outlined in the previous section. This chapter presents an interpretation and description of the significance of the issues identified in light of what is already known about the role of participation in rural communities in the management of water. The format follows the STEEP structure (social, technological, environmental, economic, and political) introduced in chapter 5 (see 5.1 STEEP as a framework).

In these three principle sections, the STEEP framework is used to structure the analysis and discussion of this thesis. However, each factor does not necessarily correspond to each STEEP category; for example, the first section only refers to S, T and P. The number found at the beginning of each paragraph is associated with the numbers found in *Table 6 (previous chapter)*. This section makes linkages to the key factors that are summarised in *Table 6* that relate to the analytical framework.

Each of the 20 informants corresponds to a letter of the alphabet (A-S), in some cases the organisation or role is identified when deemed necessary (refer to *Table 10, Appendix* for list of informants and corresponding letter). When deemed appropriate there are specific references to field notes.

Table 7. Summary of key factors that will be addressed in the analysis and discussion

#	Key issues	Category	Broad category
1	Trust	S – social	Factors influencing participation at the community level (<i>Chapter 7.1</i>)
2	Lack of capacity at grass-roots level	T – technological	
3	Preference for external consultants		
4	Centralised government	P – political	
5	Tension	S – social	Examination of the applicability of participation of Syrian refugees (<i>Chapter 7.2</i>)
6	Priorities/apathy and motivation		
7	Economic hardship	E – economic	
8	Financial capacity and priorities of aid agencies		
9	Water consumption behaviour	S – social	Factors relevant to both groups (<i>Chapter 7.3</i>)
10	Information and awareness	E – environmental	
11	Short-termism	P – political	

7.1 Factors influencing participation at the community level

S - Social

A common thread in the interviews was the citing of the lack of trust being a difficulty when it comes to participation in the management of water in rural communities in Jordan. This was cited in three cases: lack of trust in aid agencies, lack of trust in the government and lack of trust in data.

Lack of trust in aid community – interviewee H (water expert and academic) made a statement about the fact that, from a local-community perspective, there is a lack of trust in NGOs and the international community. An anecdote by this interviewee highlights this issue. When working in the field drilling holes for wells in the north of Jordan, members of the host community turned up armed to confront the team drilling and expressed discontent about the number of wells being dug for refugees, where, in fact this was for the community. This could be interpreted as a representation of a lack of communication between authorities and local communities. Another informant (A) made a specific reference to the participatory approach one organisation assumed. This informant explained that, to prove to donors that an aspect of the project included a participatory approach was adopted, the aid organisation would pay for someone from the local community to attend a meeting, giving them luxury treatment in return (hotel and fine-dining) for them vouching for the organisation's efforts in participation. This appears to taint the truth of the situation. In the work of (Swatuk, 2005), when it comes to participation, organisations may adopt the language of the norm without giving it any content, and goes along the same line of participation being adopted superficially to meet donor requirements. Another informant from the science community also expressed discontent and scepticism over NGO work. This informant cited the excessive pay that some employees receive (H) in these organisations, as well as money being wasted on administration instead of actually projects on the ground (H, A).

Lack of trust in government – according to previous research lack of trust in the government is a commonly cited concern (Tosun, 2000) and is a hindrance to participation in issues such as water management, especially in developing countries with centralised governments. A number of interviewees agreed that the government is not trusted by the people, some saying that they do listen to the voice of the citizens, while others claimed that the government cannot be trusted as a result of dishonest practices (B, E). Informant B, from the private sector (well owner), claimed that you are able to get what you want if you know the right person. He elaborates that it is not a system of bribery, but rather a system of exchanging favours. Stealing water from the government is considered to be 'normal', however, stealing from your neighbour or other Jordanians is a major violation (B, E). This highlights the extent, from the grass-root perspective, to which the government has a limited legitimate place in the process of dealing with matter related to water. However, one interviewee stated that improvements have been made in terms of trust and water management at the grass-roots level (informant A). This is exemplified through the 'hotline' system implemented that allows Jordanians to report any theft of water or suspicious activity that has been considered as successful. This is important as according to the MWI (Ministry of Water and Irrigation) up to 25% of water is lost due to theft. There is also a belief that the government is supporting the Syrian refugees more than Jordanians, when it is in fact predominantly the international community who provide for the refugees.

Lack of trust in data – was cited by experts (E, H) as being a problem that hinders participation, as there is little public confidence in the reliability and validity of information about water issues. It was also a problem in terms of information that is disseminated within the public, by the public, through social media channels for example (I). As two interviewees stated, without reliable data and communication, meaning, without a full understanding of the intricate details of magnitude of water scarcity in Jordan, it is difficult to engage people to respond accordingly (H, I). This relates to the common theme that surfaced relating to education and awareness. The interviewees who have experience as engineers, assert that the magnitude of the water scarcity is a problem that is only understood by those who work in the field (H, I). However, one interviewee (A) expressed his content towards the general public's understanding, following with an example of conversations with fellow airline travellers, who were people of the general public, and their knowledge of the water scarcity issue.

Many authors cite trust as being a fundamental component of a participatory approach, especially in local community settings (Davenport et al, 2007; Lachapelle et al, 2003). According to two informants (Q, H), both academics and water experts, from their experience on the ground they emphasised that trust is the key – *“it's all about trust, if you can get trust from the community then you are in the game, they allow you to lead”* (Q, ex-USAID, water expert). Trust and legitimacy have been achieved in past participatory projects by working closely with religious leaders (past GIZ water project, J; local NGO project, O, M) or by working with local leaders of tribes and communities – *“without trust or involving the key players, you won't achieve anything... if you can convince the leader of the tribes it is easy to convince one to two thousand people”* (Q, water expert, academic). Informant M (local NGO) referred to the inclusion of women in water-saving workshops as a means to change behaviour within a community. She claims that women play a very central role in communities, they can propagate knowledge and awareness to their families, and other families and friends, as women have a very social role in the community and they are trusted. Informant I, an engineer with experience in NGOs, also emphasises that when it comes to awareness, contrary to information that comes from advertisements on television - information from someone with close ties renders the message valuable and meaningful. This will have, in turn, a greater impact on the community. There is also the issue of a common language being used by technocrats that is not understood by people living in rural communities, and also a lack of a relationship between centralised organisations and the grass-roots (Q). Without a basic understanding between key groups, trust is hard to establish, and thus will compromise the effectiveness and feasibility of participation initiatives.

It was highlighted that one organisation has already worked alongside local mosques (J) to promote water conservation. Informant H, academic and hydrologist, emphasised that this was a type of initiative that should be seized a further developed. This has potential to be effective because according to Islam, water is holy and to be respected. Moreover, the religious leaders in small rural communities are generally well-trusted. Thus, linking conservation to religion has proven to be effective and could also be further integrated into water saving measures.

Trust is a key factor that influences participation at the community level. It is evident that there are trust issues with key institutions such as aid agencies and the government, and information about water issues that is provided by the government. Trust is highlighted as playing a leading role in participation, and it can be captured through working with women or with religious leaders in the community. However, some of these issues may stand in the way of effective participation and there needs to be work done to remedy this problem.

T – Technological

2. Lack of capacity at grass-roots level

The lack of capacity at the local level was cited as a challenge to participation as a facilitator to improving water management (M, Q, I). CBOs (community-based organisations) play an important role in participation according to a number of interviewees. It was mentioned that CBOs are a vital source of information about issues, prominent problems and real needs in the community: “*they may not know the solution, but they are aware of the problem*” (M, local NGO). Work by Tosun (2000) agrees that local grass-roots organisations can be instrumental in improving participation, but often lack resources and consequently, are rarely delegated responsibilities from the government. CBOs have very limited capacity to make proposals for financing and cannot meet the standards required to receive money from donor organisations such as transparency (I). This has already been observed in the field according to the research by Ribot (2002). According to a few interviewees, international aid agencies should focus on building the capacity of these CBOs which have strong connections with the local population, which is crucial for participation (I, M, C). On a positive note, one interviewee stated that requirement of the JRP is for international organisations to work with a local-level organisation when implementing projects. According to the Swedish donor organisation (C), one of their funding requirements is participation at the local level. However, there is very little follow up on these commitments to include a participation component in projects on the ground, but for organisations like Sida, due to limited resources, they lack the capacity to verify that projects actually do obtain their objectives in terms of participation as planned.

“CBOs should be involved, but they are used to doing charity work, not used to being held accountable for every cent” (I, Engineer, NRC).

A fundamental component of participation is collaboration of individuals with differing world views and education; this is particularly relevant to rural community settings. One interviewee (Q, engineer, water expert) emphasised the need of a reciprocal understanding of the issues and situation and this is often a gap that is difficult to bridge. The informant (Q) went on to mention that their approach in one participatory project in water efficiency for farming was to send engineers out into the field to live with farmers for a long period of time, so that they were able to ‘understand each other’s language’. The same aid organisation would provide training for some local youth to become engineers and work alongside them. This is evidence of a push from international agencies for an adoption of more of a bottom-up approach to management, but from the side of the government the transitions from the technocrats ‘knowing best’ (Tosun, 2000) appears to be a slow one (Q).

Overall, participation has been acknowledged as an important aspect of efficient and effective management of water in Jordan. However, there are challenges to implementing participation on the ground, including the lack of capacity of local grass-root organisations and of the local people.

3. Preference for consultants, neglect of local knowledge

According to interviewees, development agencies have the tendency to hire consultants to conduct work in the field, which is common when it comes to water management (A, E). An interviewee (A) claimed that a large portion of the money for a project is used to pay for flights and wages of the consultants as well as administration costs, where it would be better used on the project itself. One interviewee was appalled to find out how much an international consultant was being paid, which leads to the questioning of the work done by the international community and why Jordanians, with the same level of skills, are being overlooked, or if employed, are not paid as much as expatriates (H). This issue was cited by a number of interviewees. It was also mentioned, as heavily cited in literature, that international

consultants lack local knowledge, which has had ramifications such as failure of projects (Hickey & Mohan, 2005). One big movement in Jordan is the development of decent waste-water treatment facilities. However, as water is considered as being holy, there is a lot of resistance – this is a factor that has not been properly acknowledged by the external organisations proposing these solutions (A). Without the local people on board to understand the necessity of proposed solutions, such developments are less likely to meet resistance and consequently hinder the success (A).

In the field of participatory management there is a strong push for the use of local knowledge and the inclusion of marginalised people (Altieri, 2002). This is particularly true when it comes to the use of water in agriculture and this appears to be the field where the role of participation is predominantly documented. However, in terms of the management of water to meet basic needs in rural communities, it is questionable if and how participation can be used to improve the management of scarce water resources, and to what extent participation would be a facilitator to more effective and efficient water management. For example, in Jordan, with the aquifers being depleted and facing a continual decrease in rainfall, few measures can be taken at the local level to improve the *supply* of water (Field Notes, 2016). Rather, the government is, by default, responsible for large-scale and costly interventions to meet the growing demand with improved supply of water. Addressing this issue is beyond the capacity of local citizens. Examples of major projects in Jordan are the Disi Water Conveyance project, completed in 2013 that was designed to pump 100 million cubic metres of water from the Disi aquifer from the south of Jordan to the north (Field Notes, 2016; Ministry of Water and Irrigation, 2016). Other examples of the government's response to the water crisis is the multi-million dollar and transnational Red-Dead Sea conduit project as well as waste-water treatment facilities. Nevertheless, participation in *demand* management is more viable at the local level. This includes training, workshops, and general education and awareness for local people to reduce their use. One local NGO (M) stated that they ran workshops for local people in rural communities and there were able to cut down on their water and electricity bills by 30% as a result of efficiency measures. Demand management involves changing consumption behaviour, which is imperative for populations living in water scarce regions. This is particularly pertinent in Jordan where the source of water is underground, which seems to result in a 'out of sight, out of mind' mentality – there is a perception that there is a lot of water in the aquifers, but this is not the case. Unfortunately, this is hard for people to grasp as aquifers are underground and out of sight. Thus, improving supply requires costly operations, and there lies untapped potential in harnessing low-hanging fruits through investing in efficiency measures such as education and awareness.

In summary, the fact that there seems to be a preference for external consultants and little inclusion of local knowledge is an influencing factor for participation. This is not necessarily a negative point. This discussion has led to the identification of a key issue – to what extent local knowledge is applicable in large-scale water-supply management? It appears that in large scale projects aimed at improving supply, there is in-fact little room for community-level participation, and thus is naturally in the hands of external consultants or government. Moreover, it is questionable the extent to which drawing on local knowledge from advancements in agriculture will benefit the management of water to meet basic needs.

P – Political

4. Centralised government

It is difficult for participation to be a facilitator of improved water management when the country in question is that of a centralised government structure. A large portion of the interviewees demonstrated scepticism pertaining to the feasibility of participation in the management of water in Jordan due the fact that the government is centralised, and although

there are signs of improvement, change takes a long time (A, C, E & L). One interviewee associated the fact that majority of water sources are from underground aquifers, which naturally results in a centralised management, since the physical source is centralised. This informant (E), from a water consulting company and water expert compared the management of water in Jordan to that of England – where water is visible, for example in rivers, which makes it easier to manage collectively. The researcher was under the general impression that there is dissatisfaction with the government, stating that they function independently of the needs of the population and ‘do what they want’ (E, Field Notes, 2016). According to Tosun (2000), in many developing countries, the response to public needs is often hindered by bureaucracy, planning is often a highly centralised activity and the formulation and implementation of participation requires decentralisation. According to Martin (2005) “*local participatory management efforts are too often frustrated by the limits set by external institutions: law and constitutions that prevent the devolution of power, tensions between local and national conceptions of tenure, and so on*” (pp.343). On the other hand, certain literature specifies that participation in natural resource management can also have benefits for building democratic society, citizenship and equity (Reed, 2008). Participatory approaches in water management can have benefits for democracy (Van der Zagg, 2005). This author claims that democracy in the Netherlands was a by-product of water management institutions, the *Waterschappen* and taught society the importance of inclusive and democratic decision-processes. Thus the benefits for society such as building democracy (Reed, 2008; Dungumaro & Madulu, 2003; Ker Rault & Jeffrey, 2008) that have been cited by many authors are not to be underestimated. Informant E from Oxfam explained that this organisation is currently implementing a project in water management in host communities through the establishment of WUAs. Their approach is to first develop a participatory approach on the ground and then the second phase of the project will address a change in policy that instils participation in water management. This is an example of a bottom-up approach to policy change in favour of the people at the grass-roots. According to literature, participation in natural resource management is completely viable even when there are weak democratic institutions (Reed, 2008).

In summary, a centralised government impacts participation through being a hindrance. However, examples from the ground demonstrate that even with a centralised government, participatory approach can still flourish and even eventually influence changes in centralised structures with the help of international aid agencies. The willingness of the government to collaborate with external organisations such as aid agencies, and, with initiatives such as that mentioned from Oxfam that plan on changing policy from the bottom up, there are some steps being made in the right direction.

7.2 Examination of applicability of the participation of Syrian refugees

This section provides an elaboration of the findings that relate to the second aim of this research: examine the applicability of participation of Syrian refugees in rural communities. This has been accomplished through the examination of factors influencing the participation of Syrian refugees.

S- Social

5. Tension

Tension is an issue that was heavily referenced as posing a challenge to the participation of refugees in dealing with community issues such as the management of water. Two interviewees stated that in rural host communities there is a lack of familiarity of the concept of foreign aid. One interviewee stated that there is a misconception that the support that refugees are receiving is from the government (informant C). This also reinforces the issue of disintegration of trust that is mentioned in the above paragraph. This leads people in host

communities to question why the refugees are being favoured over them. Moreover, one interviewee stated that support Syrians are receiving is substantially greater than what Jordanians in the social welfare system are receiving (Q, M). Informant Q explained his reaction to a scheme to provide refugees with 50 JD (63 Euro) per month – “...many Jordanian families do not even earn 50JD... they get 30 JD (38 Euro) and have to pay for everything else, when refugees who live in camps have free water, electricity... and yet they are using the resources that local communities need”. This is an example of a source of animosity toward the Syrians. Another anecdote from an interviewee (M), a local NGO described a situation in a rural host community; there was an incident where a Syrian who received food vouchers had to avoid certain streets when returning home due to threats of verbal and physical violence.

“Syrians are getting a lot of support; Jordanians are bearing the brunt... I’m a middle-class city boy; I’m feeling the pressure, even though I’m not directly affected.... the cost of rent, cost of food, [the crisis] is affecting all of us” (Q, Ex-USAID, engineer, water expert).

On the contrary, an informant from Oxfam (K) stated that the word ‘tension’ is a buzzword, and water is not a real source of tension, according to assessment reports (REACH), the main source of tension in host communities is related to employment and housing. A local professor stated that another source of tension arises from the change in cultural dynamics. For example, with the economic struggles in these hosting communities, some Jordanian men prefer to marry Syrian women as the price of the dowry³ is significantly cheaper (Field Notes, 2016).

Observations from being on the field and engaging in conversations with Jordanians, it is apparent that there is a significant degree of frustration towards the Syrian refugee crisis and how it is being dealt with. Two interviewees stated that even for them, as middle-income earners, are now struggling economically (Q, C). There is also frustration from organisations and government toward the international community as the JRP remains significantly underfunded (JRP, 2016). The JRP represents Jordan’s pledge for assistance in dealing with this major influx. According to Francis (2015) the public perception of the negative impacts of the Syrian refugee inflow is largely overstated and Syrian refugees have become a scapegoat for national challenges that existed prior to the crisis in Syria. Martin (2005) states that there is the tendency to perceive refugees as having an impact beyond their numbers and are often labelled as ‘exceptional resource users’, which is in line with the perception of Syrian refugees. This is due to the fact that the typical decision-making process for refugees is characterised by a high preference for current consumption over future consumption (Martin, 2005). In Jordan, response to the negative public backlash to the increasing refugee numbers, the government continues to strip back the response and support to Syrians in terms of the provision of basic assistance for Syrians (Francis, 2015). This animosity surfacing towards the refugees is an obstacle to their inclusion in the management of water, as it further isolates them from partaking in issues concerning the community.

“...the situation is like this – imagine if your aeroplane goes down, about to crash – you make sure you put the oxygen mask on yourself before helping others – you need to help yourself first so that you can then be in a better position to help others” (Taxi driver, Field Notes, 2016).

From the perspective of aid agencies, it is inherent that refugees receive disproportional support over host communities. As refugees fall under the auspices of emergency relief (Martin, 2005), few organisations go beyond catering to the needs of the people in host

³ Dowry – also known as ‘*mahr*’ is something that is paid by the man to the wife as a sign of respect and honour, symbolising the man’s respect and serious desire to marry the woman – indicates the sincerity of the husband’s desire for the wife.

communities and find it difficult to broaden their remit to include long-term development strategies such as water infrastructure. Two organisations (T, G) active in WASH programmes for refugees, mentioned their progress towards long-term development solutions.

Refugees are socially isolated from communities because of the perceived negative impact they have instigated in the county. This has led to discrimination of Syrians and they have been cited as being a scapegoat for the poor economic environment in Jordan, where in fact the situation was already dire before they begun fleeing from Syria (Francis, 2015). Another source of tension is the perception that Syrians are high water consumers which were already elaborated on in a section above. One interviewee (C) said that it is understandable that refugees are not included in community projects since they do not pay taxes.

There is very little recognition of the positive benefits that Syrian refugees have brought into the country. Research conducted by (Codjoe, Quartey, Tagoe, & Reed, 2012) demonstrated that although refugees from Liberia to Ghana were viewed by the host population as having negative impacts – such as increase in cost of goods and services, pressure on facilities, increased social services and deteriorated environmental resources, they also were viewed as having positive impacts such as a source of income and market, trade partners, and bringing infrastructural developments. More awareness of the positive impact of refugees could appease tensions and increase the likelihood of Syrian refugees participating in water management. Their involvement would be beneficial for improving management in terms of basic needs being met and better dealing with scarcity in rural host communities.

In summary, tension is an important factor when examining the relevance of the participation of refugees in water management. This tension appears to be a product of misconceptions towards Syrians refugees, as well as the perceived negative impacts due to the increased population and consequent stress imposed on already stretched resources. This is a major hindrance to participation in water management improvements.

6. Priorities

A number of interviewees stated that it is not feasible to include refugees in the management of natural resources because they are not integrated in the Jordanian society. This was explained to be the result of two main reasons for this lack of inclusion: firstly, the perception that their stay is temporary and the anticipation of returning to their home country, and secondly, they are not integrated into communities because many appear to live a nomadic lifestyle – moving from village to village in search of employment, housing and support (informants M, P; Field Notes, 2016). A number of interviewees expressed the same opinion that is summarised by one of them: “*refugees are in the short-term mind-set – looking for solutions to their most pressing problems*” (informant N, academic, water expert).

Further, informant N states that, “*... refugees represent a unique case since they are in transition and hence have limited incentives to participate in decision-making*”. This has repercussions for the prospect of participation in water management in rural communities. For example, aid agencies may be less likely to include Syrians in participatory projects. It was cited by one interviewee (M) that their local NGO is hesitant to focus on participation efforts on refugees because they are in transition and have a tendency to leave the community – which renders the investment of time and money questionable. This informant was advised on a number of occasions to not include refugees in projects due to this reason. Informant (N) elaborate: “*...people participate when they care about space and time – refugees come from relatively water-rich countries and the meaning of water conservation and participation are new concepts*”. This hinders the likelihood of refugees not participating in community issues. On the note of participation being a new concept for refugees, and not entirely relevant to this section ‘priorities’; this is important to consider as it

influences the relevance of participation for Syrian refugees – according to an informal conversation with a NGO worker at Za’atari refugee camp, when the refugees first arrived in Jordan in 2011 they would not accept support from NGOs and even demonstrated hostility towards them (Field Notes, 2016). This stems from the fact that the NGO culture in Syria is apparently very feeble, due to a highly centralised government regime.

According to one interviewee, an academic expert (informant N), the foreign aid paradigm is donor driven which enhances a model of dependency. By consequence, human and social capital risk to be eroded and hence directly impacts the feasibility of participation. This finding supports an argument highlighted by Tosun (2000), who claims that a consequence of a top down approach from institutions results in the grass-roots becoming accustomed to being excluded from matters that affect their lives and dignity. This has rendered them apathetic in terms of being engaged and involved in such matters that go beyond their own personal matters (Tosun, 2000).

One success story mentioned by the UNICEF (information G) is the ‘wages for work’ scheme that functions in the refugee camps. Refugees are paid to assist in the management of water issues, and this has proven as being successful as the inhabitants took pride in being involved in matters that affect their daily life. This is an example of participation through monetary compensation that was effective. A negative consequence of this approach in the refugee camp is that Jordanians living near the camp were upset that they are left out of employment opportunities that refugees can bring to a community (Field Notes, 2016). However, the findings of Martin (2005) specify that payment in exchange for engagement has limitations as it puts in question the essence of true community ownership and commitment. Tosun (2000) adds that citizens will participate in the management of natural resources when it directly concerns them, and only when they are motivated to do so.

Another point that illustrates that personal gain is an important factor for participation is based on an anecdote about participation in a rural Jordanian community. According to this informant (Q), money is a major motivator, because money provides the opportunity to improve participant’s lives, which is especially important for the marginalised poor (Ker Rault & Jeffrey, 2008, Martin & Sherington, 1997). A seed-selling project was set up in the community, by community members with the support of the aid organisation. This was an income-generating activity which was the main driver for motivation to participate. According to informant Q, the money was put into savings and used to fund two students to attend university to study agriculture and management. The condition was that they return to use their knowledge to improve the situation for the community. This anecdote highlights the importance of mutual benefits for participants – they will only participate if they see personal gain, in this case, money for education.

Thus, participation of Syrian refugees is relevant and can be viable if a monetary compensation was offered. But questions linger around the equality issues around the matter – it would be imperative to offer monetary compensation to both Jordanians citizens and Syrian refugees. However, considering the already stretched budget of aid agencies and the government, this option may not be possible to implement. Experience from a pilot project by Martin (2005) illustrated that their refusal to pay participants to manage a natural resource resulted in fractious debates and walkouts by community members. This was because the common practice of aid agencies was to pay the participants. Therefore, it is important to consider the longer-term repercussions of payment-for-participation schemes.

E – Economic

7. Economic hardship of refugees

As a result of the situation the Syrians are faced with, there are many factors that inhibit their participation and one of the major ones cited is the nature of the economic situation they are faced with, a lack of economic stability. A number of refugees have been forced to flee their homes- some arrived with finances, others have lost everything. Those that arrive with finances are able to cope but with the lack of job opportunities their economic situation is not secure. One interviewee stated that the main means of local people in local communities to participate in community projects is through CBOs (community-based organisations), this provides a channel for Syrians to participate. However, there is usually a fee required to participate, and considering the refugee's economic situation, they are not willing to pay this fee. Another interviewee stated that Syrians are typically skilled in running small businesses such as selling traditional pastries. Hence, a number of Syrians are engaged in seeking such business opportunities as opposed to being engaged in community issues such as the management of water.

A connection can be made with the issues that render the participation of Syrian refugees difficult in water management (highlighted in the above sections) with Maslow's hierarchy of needs. Maslow (1943) explains the theory behind human motivation. This model specifies that if the most basic needs are not met – which is 'physiological' and 'safety' needs, then the person will feel anxious and tense (Maslow, 1943). Physiological needs are those physical requirements necessary for survival. This includes air, water, food, clothing and shelter. Tosun (2000) also stated that marginalised people will not be motivated to participate in activities related to natural resource management as creating an income has a much greater importance. Many of the marginalised refugees, which were the focus on this research, are dealing with trauma and loss of social and financial stability (Hamai, McCormack, Niederberger, & Lasap, 2013). Many of them have been forced to leave their homes. Consequently, it can be assumed through the views of these informants that participation of Syrians as a means to improve water management is not, at this stage of the crisis, appropriate.

Thus, it would appear that the conditions and challenges that Syrian refugees are facing reduce the relevance of participation in water management. These conditions are highlighted in both this section and the precedent section (priorities and economic hardship). This is not to say that they should be excluded, but highlights the barriers that may explain their lack of willingness to participate. As the crisis reaches maturity, and Syrians find more stability, their participation in the management of water will become more relevant. Until this eventuates, it is important to keep the door open to refugees for when they are willing to partake in greater issues concerning the community.

8. Financial capacity and priorities of aid agencies

Since the debut of the Syrian war, the number of aid development agencies has surged. The priority of the international community is to provide assistance to the most vulnerable Syrians - those living in refugee camps, where 20% of registered refugees reside (JRP, 2016). The refugees in the camps are generally those with few resources who are unable to sustain themselves in Jordanian communities and meet their own basic needs. Thus, as mentioned by one interviewee, international aid efforts have been invested heavily in these camps (G). Now that the situation is becoming more stable, aid agencies have started to broaden their scope to host communities – which was confirmed by informant G (UNICEF). Oxfam and ACTED are also commencing projects in host communities (K, T).

Projects based purely on the participatory approach are rare. As stated by two interviewees (J, K), there is little interest and funding in stand-alone small-scale participation projects and is

usually only supported if it is accompanied by a physical intervention such as water infrastructure rehabilitation. In water management, a physical intervention can be costly, and with already tight budgets, there are consequently few occasions to initiate participatory approaches in this domain (K). However, as stated by two interviewees (J, K), physical interventions are an important part of a participatory process crucial for building trust with the community. Trust has already been discussed at the beginning of this chapter.

Another issue that was brought up by two interviewees relates to this topic is the structure of organisations – a profit-driven nature that is detrimental to the longevity of projects (A). Due to the fact that international development organisations function like a business, money that is not spent in the budget in one year will mean that the budget for the following year is likely to be reduced. Funding usually only last for a couple of years, meaning long term projects are difficult to implement (Field Notes, 2016). Participatory projects fall under long-term interventions. Moreover, funding is more likely to be secured for tangible projects such as infrastructure for water as opposed to purely participatory projects.

“Profit-driven motives distracts from achieving sound results” (H - Ground-water hydrologist, academic and water expert).

On top of this, Martin (2005) highlights four institutional factors that hinder participation in development organisations. There is lack of support for environmental management as well as disagreement pertaining to who holds the responsibility between key institutions such as the government and aid organisations. Furthermore, problems are addressed according to the organisation’s existing capabilities, as opposed to addressing newly emerging needs for both refugees and host. Also, the failure to integrate emergency relief and development assistance poses issues for participation as being a key aspect in the management of natural resources.

Due to the limited financial capacity of aid organisations, there is a prioritisation of addressing the basic needs of refugees. The management of water is a part of a long-term strategy (resilience response), and thus, very few resources, such as finances are allocated to such initiatives. It is understandable that the international community and aid organisations are working with a scarcity of resources such as time and money. Thus, the most fundamental service they can provide in this crisis context is to meet the basic needs of refugees by providing housing, shelter, and concentrating on the needs of those most vulnerable, located in refugee camps. This is in line with the work of Martin (2005) who emphasises the fact that long-term development and environmental management problems fall out of the auspices of emergency relief. Yet, observations from this research demonstrate the immense pressure that Jordan is dealing with, and the consequences of failing to support host countries renders a tense situation that has the potential to implode. Bridging the gap between development goals and humanitarian relief is a much discussed topic (e.g. Crisp, 2001) and these findings exemplify the need to make the connection between the two responses. The JRP is an example of a report that attempts to make this connection, however, as aforementioned, remains severely underfunded.

“Once basic survival needs are met – only then can organisations start thinking about long-term solutions” (Informant I, engineer, NRC).

The inclusion of refugees in water management is determined by projects and processes advocated by aid agencies. It would appear that the capacity and priorities of aid agencies imposes limits on adopting a participatory approach to improve water management in rural host communities. This is due to the fact that the priority is to meet the basic needs of refugees, and long-term water projects fall out of the scope of this research. However, there is

evidence of a gradual shift to more development-orientated interventions which implies more of a consideration to including the grass-roots in water management.

7.3 Factors influencing participation - relevant to both groups

S – Social

9. Water consumption behaviour

It was cited by the majority of informants that there is a difference between the consumption behaviour of Syrian refugees and Jordanians, with Syrian refugees having higher water consumption habits than Jordanians (informants A, H, K, N). Syrians lack the water saving habits that Jordanians have ingrained due to living in scarcity (R). Syria is comparatively a lot richer in water resources, and they are accustomed to having flowing rivers and living with sufficient water supply that is used in the agriculture industry for producing food (P, M). It was also mentioned that the Syrians have different mentalities and they are not aware of the water situation in Jordan. One interviewee mentioned that Jordan had the same problem with Iraqi refugees who would ‘wash their car and take long showers’ and it took them time to adapt (informant H). However the issue of negative water consumption behaviour is not limited to the refugee population. According to Mercy Corps report (2014), some Jordanians increase their use because of the fear that if they do not use the water, it will be allocated to the refugees. This was supported by some informants. This represents a typical case of tragedy of the commons over a common-good resource (Hardin, 1968). However, according to two informants, even Jordanians have not grasped the severity of the water scarcity situation (H, M). This will be further discussed in the following paragraph.

E – Environmental

10. Information and awareness

As referred to in previous sections, according to informants, Syrian refugees have the tendency to consume greater quantities of water for personal use compared to Jordanians because they are not aware of the scarcity issues in Jordan (J, A, L, I). However, it was also cited by three interviewees that many Jordanians are also unaware of the magnitude of water scarcity in Jordan (informant I, E & C) and thus also consume high quantities of water. Informant H (water expert and academic) added that even educated people lack the awareness, and it was not until engaging in formal education in the water sector that one interviewee really understood the extent of the water scarcity present in Jordan. This implies that a full understanding of the extent of the water problem in Jordan is may be limited to the few specialists in the field of water (H). This was reinforced by an informant from the private sector, a well-owner who sells water, who referred to the aquifers as being a renewable source of water that will never be depleted (B). Informant G (UNICEF) stated that there is a need for awareness of how much it costs to supply households with water, and to improve water practices for all inhabitants of Jordan – regardless of if they are refugees or Jordanians. This informant believes that there is a significant lack of understanding.

One of the problems that were mentioned, lie in the fact that the price of water is relatively low due to high subsidies on water. One interviewee (Q, engineer, water expert) stated that the government subsidises up to 60% of the cost of water. This means that the price is artificially low as it does not represent the true cost– sending out false signals to the market. As prices do not reflect the scarcity of water supply, water demand has risen to an unsustainable level. However, removing subsidies from water is not an option, as it would become unaffordable for those who have little income/marginalised people. It would also be a controversial contradiction to the fundamental human right of water supply and access. This reinforces the lack of appreciation and notion of the water scarcity issues in Jordan, and hence, has implications for the development of efficient and effective management strategies. According

to Allan (2002) water scarcity is not on the foreground of pressing issue in Jordan, has not had a destabilising effect on the country, nor threatened water security due to the virtual importation of water. This is claimed to be a political strategy to avert tension and political instability.

As demonstrated in the quote below, a solid public understanding of the water issues is a fundamental prerequisite for the proper management of such a vital resource – how can people be engaged in finding solutions if they do not have a basic grasp of the problem? “...before we start asking people to participate, we need public awareness” (H, Ground-water hydrologist, academic). This presents a barrier to participation, but however, also provides an opportunity for participation on the level of ‘informing’ the public (Prager, 2010). Other levels of participation are also consulting, partnering and empowering.

According to an interviewee, (I – engineer), the government has in the past aired advertisements on national television to inform people of the water scarcity issues and promote water-saving. However, these are outdated and ineffective and there is a call for more modern approaches to communicate to the public such as through social media (informant I) (Field Notes, 2016). According to Muro & Jeffrey (2008), genuine behaviour change cannot be addressed only through communication. One positive outcome of participation is natural resource management is social learning and developing a shared understanding of the problem dimension (Özerol & Newig, 2008). Participation in natural resource management can promote information exchange and learning (Kirschke et al., 2016) and educate the public about the environment (Ker Rault & Jeffrey, 2008).

To conclude, this section as well as the previous, ‘water consumption’, provide similar reflections. These findings imply that there is disconnect between the magnitude of the water scarcity and concern in the general public, including the Syrian population. This influences participation because it would be assumed that participative approach to water management would be hard to initiate if there is a lack of an adequate understanding and appreciation of the problem. It would appear that participation approaches to water management has the potential to reinforce information about water issues to the community-level.

P – Political

11. Short-termism

There was a strong opinion expressed by many people interviewed that the response from the government to the refugee crisis is lacking. This was attributed to the perception of the refugee crisis in Jordan as being a short-term problem and a general lack of willingness to accept that it may be a long-standing issue. In consequence, there is little investment in necessary resources to secure basic necessities for the refugees. This also relates to the fact that Jordan does not have any binding obligations to assist refugees as it is not a signatory to the 1951 refugee convention. One interviewee (I) cited that it is left up to the international community to deal with issues related to refugees due to the fact that Jordan does not have the capacity to deal with the influx. According to Francis (2015), the government response to the refugee crisis is increasingly limited due to the public backlash against the refugees. The JRP, one of the leading responses to the Syrian crisis out of all the neighbouring countries, is a call to the international community to support Jordan in their plight but, as aforementioned, is severely underfunded. Figure 4 (in *Appendix*) depicts a photo of the headlines of *The Jordan Times*, headlining “*Jordan: World must share responsibility for Syrians*” (3 July 2016) which reinforces this position.

Thus, it is evident that the Syrian crisis is a protracted dilemma that seems to be being tackled with predominantly short-term solutions, provided for principally by the international

community. This is problematic because water management that includes participation as a fundamental component is not fitted to a short-term solution approach. Time is mandatory to build trust and confidence between key stakeholders and an ad-hoc method to participatory management can have irreversible damage to relations within a small community (informant J; Hickey & Mohan, 2005). In the context of Jordan within rural host communities, this could ignite tensions in an already volatile situation. According to the Internally Displaced Monitoring Centre (IDMC) Annual Report (2015) the average time spent as a refugee is 17 years. This highlights the importance for all actors, government and the international community to begin to treat the issue as one that is prolonged. This needs to be considered when it comes to the management of natural resources such as water, and participation in the context of refugees holds potential to appease tensions between two key marginalised groups.

In summary this section highlights factors that have also been touched on in the paragraph above labelled ‘financial capacity and priorities of aid agencies’. It would appear that participatory management in the water sector is not a priority for the government, as issues such as improving supply appears to be a major priority. For aid agencies, meeting basic needs of vulnerable refugees is a priority, although many are starting the transition to more long-term development projects in host communities (G, T) while others have already started participatory water management projects (J, K).

7.4 IWRM and participation

The examination of participation, as delineated in the introduction, was executed from an IWRM perspective (Integrated Water Resource Management). The reasoning was that many terms exist that fall under the umbrella of participation, as well as a number of terms and concepts that relate to the management of different resources. IWRM is the most prevalent in terms of water management and has been cited as a ‘new global norm’ by many authors.

It appeared that the majority of those interviewed from the NGO sector were not familiar with the IWRM model. This is because a majority of the NGOs interviewed are involved in the response to the refugee crisis; subsequently the majority of the interventions are based in the refugee camps. According to the UNICEF informant in charge of the WASH programme, once the situation for refugees is more stable, then there will be more of a focus on host communities “*around 60-70% of our resources and planning is for refugees in camps, the rest is to host communities*”. This is gradually being scaled up as the necessary interventions have been implemented and are being sustained, thus the money not being spent in camps is starting to spill over to host community water projects (informant G).

Informants familiar with IWRM said that little progress and has been made in Jordan when it comes down to participation, even though IWRM has become an integral part of the national strategy (informants F, H, E, Q). This fits with previous findings from the literature review that participation in IWRM is an ‘empty word’ that rarely goes beyond policy (Van der Zaag, 2005).

“In terms of participation and IWRM... engineering is very hard-core technical stuff, we don’t deal much with PA [participatory approach] or engagement... it is purely engineering” (informant Q, engineer, master degree in IWRM).

It is evident that the realisation of the participation principle in IWRM requires more attention in terms of developing the method for implementation on the ground. The findings of this examination of participation provide a basis that can be fed into the development of the participatory principle. Thus, with a high number of aid organisations with world-wide experience in participation working in Jordan to assist refugees, is a resource that is worthy of

exploiting. Development agencies have typically been on the forefront when it comes to advocating the participatory approach, and this research highlights that this is indeed the case in Jordan. Government officials should capitalise on this opportunity, especially considering that the lack of capacity is a major obstacle to exploring alternative management options. Working along-side experts from aid agencies would be resource-saver. Jordan seems to have a positive reputation when it comes to collaborating with international organisations, and it is important to continue down this line.

On the other hand, some informants representing NGOs indicated that there is a desire to transition from a humanitarian response to more long-term development response (UNICEF, ACTED, informants G, T). There is an opportunity for synergy here – between the government and aid agencies to collaborate towards establishing sound practices for participatory management of water resources in rural host communities.

8 Reflection and Conclusions

This section is divided into three sections. The first presents an overview of the main findings and key conclusions of this research. The second highlights key recommendations to practitioners and academia. The penultimate section discusses areas for future research. The final section then provides reflections on the scope and generalisability of the findings.

8.1 Research summary

This section provides an overview of the key findings of the research – the main findings, conclusion and references to literature. They are presented according to the two objectives. It is important to acknowledge the limitations of these findings in terms of the primary data being sourced from only one sector – aid agencies. The world views of the informants heavily influence their perception and beliefs that were expressed during the interview. Thus, these findings do not claim to represent an objective reality.

Table 8. Overview of research aim and objectives

Aim	To delineate the role of participation as a facilitator for improved water resource management
Objective (1)	Examine the factors that influence participation in water management at the community level in rural host communities
Objective (2)	Examine the applicability of participation of Syrian refugees in water management in rural host communities

Research objective 1: *Examine the factors that influence participation in water management at the community level in rural host communities.*

To conclude, this research has delineated four major factors that influence participation at the community level. These are **trust**, **capacity at the grass-roots level**, **preference for consultants**, and finally **centralised government**.

TRUST

Trust has been well-cited in literature as an important component of participation in the management of natural resources. Trust is needed for participation, and trust can be an outcome of participation. In the context of Jordan, trust influences participation at the community level. There is a perceived lack of trust between citizens at the community-level, and the government and aid agencies. Lack of trust in aid agencies stem from lack of communication between agencies and people of the community about water projects. Lack of trust in the government appears to stem from both the systems of favour-exchanging, and also from a perception of lack of fair distribution of water leading to theft of water being a common practice. Informants indicated their lack of trust in government data also. It appears that this is due to the fact there is not much confidence in the government’s sources of information. This lack of trust can be categorised as a barrier that needs to be addressed in order for participation to actually take place improved water resource management. Examples of establishing trust in the past were identified – through implementing agencies working with community organisations, tribe leaders, religious leaders and women.

CAPACITY AT THE GRASS-ROOTS LEVEL

The importance of incorporating the grass-roots into water management processes is proclaimed to have a number of benefits – such as tapping into vital local knowledge. In Jordan, CBOs (community-based organisations) were seen as being key representatives of the grass-root level. Incorporating the local-level and marginalised has been acknowledged in the main document driving the response to the refugee crisis, the Jordan Response Plan (JRP). One condition is that international organisations work with a local organisation or NGOs when undertaking interventions on the ground. This is a positive step in the direction of participatory management of water. However, it was highlighted that CBOs lack the capacity and there is a need for support to develop their efficiency and effectiveness. A certain capacity is also required for community stakeholders to understand terms, concepts and information that they are presented with. This is linked with trust. It appears that another problem encountered at the grass-root level is the understanding and collaboration between technocrats and people of the local community. This has been dealt with in the past by sending engineers to live with farmers for a prolonged period of time, so that there is a mutual understanding and respect for different perspectives and approach to management. This is considered a best practice that was used in water management in agriculture in Jordan. There are some good examples to draw from, particularly from water management in agriculture sector which has received a lot more attention due to the fact that it is the largest consumer of water in Jordan.

In summary, although there is an identified lack of capacity among the grass roots stakeholders, JRP imposes a measure that improves the likelihood of participation occurring. Drawing on best practices for participation that already exist in Jordan would provide an excellent base for interventions in host communities

PREFERENCES FOR CONSULTANTS, LACK OF LOCAL KNOWLEDGE

The findings suggest that a challenge to participation in general is the tendency for organisations working for aid agencies to favour external consultants. This is a commonly cited problem in development and a complex problem – on one hand, there may be an identified need for specialist that cannot be found in a given location or country, on the other hand, there is a push to utilise and harness local knowledge to solving problems (Hickey & Mohan, 2005). According to the findings, there appears to be frustration towards the use of external consultants for example. This frustration appears to stem from the fact that they override the use of locals who have the skills and knowledge to do the job. One of the mentioned frustrations involved the money used to cover administrative costs, flights, and wages of international workers. According to interviewees this money could be used for better interventions on the ground. From another perspective, it is questionable to what extent local-knowledge can be drawn upon for water management issues at the small-community level. For large-scale supply projects, community-level participation is unlikely to extend beyond informing and consulting as opposed to partnering and empowering (Prager, 2010). However, there appears to be room for informing and consulting when it comes to demand management of water – in terms of reducing waste and improving water efficiency at the household level.

In summary, preference for external consultants that are perceived as being better qualified than Jordanians is a hindrance to participation at the local-community level as it reduces the likelihood of using local knowledge, or maximising the benefit for the end users. It may also mean that solutions are not fit to the real needs of the community. Yet, in some cases it may be necessary when the capacity is lacking, especially when dealing with large-scale supply-improvement interventions. To improve water in terms of meeting basic needs of both

Jordanians and Syrian refugees, and improving the ability of end-users to deal with scarcity, participation in terms of informing, consulting and empowering are viable options.

CENTRALISED GOVERNMENT

The government of Jordan has made a lot of progress in terms of decentralising and has undergone major reforms. However, in terms of including the local level and promoting participation in water management, there appears to be significant room for advancement. This study has found evidence that participation in water management can be a means of improving democracy and provide momentum for decentralising power. Participation initiated from aid sectors can provide an important impetus to instigate the change towards a more democratic management system and a trickle-up effect is possible. Reflecting awareness of this, and desire to pursue such strategies, one organisation implementing a water management project at host community level aims to work on modification of law and policy once participatory projects are up and running. Overall, centralised government is a significant influencing factor in participation at the community level, but is not essential in promoting participation, especially in this context where there is a high presence of aid organisations who advocate participation and a core policy.

Research objective 2: *Examine the applicability of participation of Syrian refugees in water management in rural host communities.*

In response to this research objective, this thesis has delineated three major factors that highlight the relevance of participation of Syrian refugees at the community level. These are ***tension, priorities and hardship***, and ***financial capacity and priorities of aid agencies***.

TENSION

Evidence was found in this study that indicates that tension could be a constraint to participation in water management at the community level. The tensions appear to stem from perception about the negative impacts of Syrians on the Jordanian society as a whole. Syrians are perceived as having higher water consumption than Jordanians as a result of having higher consumption habits in Syria, where water is comparatively abundant. There is also tension stemming from the support that the refugees are receiving from aid agencies, while Jordanians perceive that they deal with the same level of poverty but with fewer resources. In order to manage water so that basic needs are met, equally for both Jordanians and Syrians, it is important to have Syrian representation to voice the needs of this group. However, it appears that the social stigma toward Syrian refugees further isolates them and decreases the likelihood that they will participate in dealing with community issues such as water management. This situation, characterised by tension towards refugees poses a challenge to including Syrians – for example, it was cited that Syrians try to keep a low profile and do not interact with Jordanian due to hostility. Improving the relationship and understanding between the two groups may be necessary in order to achieve participation in issues relating to water management. Participation may even provide the means to build relationships, which was cited the case in one approach by a local NGO.

PRIORITIES AND HARDSHIP

It seems that the conditions and challenges that Syrian refugees are facing reduce the applicability of participation in water management. According to these findings, many are not settled and move from village to village, many are preoccupied with establishing themselves in a new country, with very little resources and priorities such as securing shelter and employment. From the aid agencies perspective, they are often excluded from projects as a result of their nomadic lifestyle – it is hard to determine if the refugees will become a part of the community or not. Hence, Syrian refugees appear to be disconnected from community

issues as a result of their priorities and conditions that are facing, which renders participation more difficult to implement for this group. This is not to imply that the refugees should be excluded, but highlights the barriers that may explain their lack of willingness to participate. As the crisis reaches maturity, and Syrians find more stability, participation in the management of water will become more relevant. Until this eventuates, it is important to keep the door open to refugees for when they are willing to partake in greater issues concerning the community. It is also important to consider that some refugees are already fairly well integrated into the Jordanian society, thus some may be interested in partaking in such activities. Participation methods entail different methods depending on the circumstances – varying from informing, consulting, partnering and empowering. At this stage, informing is a viable strategy of participation considering the circumstances that refugees are facing. To validate these claims it would be necessary to conduct research from other perspectives such as from the refugees themselves.

FINANCIAL CAPACITY AND PRIORITIES OF AID AGENCIES

Aid agencies are predominantly responsible for the provision of basic services and meeting basic needs of refugees. However, with limited resources, the key areas of concern have been the securing basic services in refugee camps and not host communities, nor addressing environmental issues. Participation is a key policy of many of the organisations working in Jordan, however they are yet to branch out to host communities, and many claim that this is a transition that is currently happening as the refugee situation is showing signs of stability. Nevertheless, these findings point to the capacity and priorities of aid agencies as factors that reduce the applicability of the participation of Syrian refugees in improving water management processes.

Overall summary: *the involvement of Syrian refugees in the management of water resources is not overly relevant at the stage of the crisis.*

Through the examination carried out for this research, it would appear that discussions or efforts to secure the involvement of Syrian refugees in community issues such as water management, is premature. This conclusive statement is based on the findings that surfaced from this research – reasons for their disinterest in community issues range from the fact that they are not settled in one community, meaning they do not feel they belong, animosity and lack of legitimacy in decision-making processes, and social isolation due to the conditions and challenges they are faced with. This is also a deterrent for aid agencies as they are not willing to invest in including refugees if it is not certain that the refugee will stay in that particular location. Moreover, refugees are vulnerable as they may be dealing with issues relating to past trauma they may have experienced, or preoccupied with the future and seeking options to build a stable and safe life in Jordan. Thus, community issues are not of high importance. This is not to imply that they should be neglected from participatory processes. It is important to keep open the communication channel with a flow of information about what is happening in the community and open doors in case Syrians wish to voice their opinion or be involved.

8.2 Practical recommendations

This section provides key recommendations that have been drawn from the findings of this research. These propositions are based on how participation can be a facilitator for improvement of water management in a rural host community context. The posing of these recommendations presupposes interest from actors – practitioners and government officials alike.

The two main recommendations are: ***prioritising awareness and education of the water scarcity*** issues in Jordan for both Jordanians and Syrians and ***enhancing the collaboration***

between the government and aid agencies allowing the government to harness knowledge about participation from aid agencies to build into and strengthen the IWRM model.

A need for awareness about the water scarcity problem – informant’s opinions point towards a concern about the lack of a general understanding of the magnitude of the water issues in Jordan – a lack of understanding demonstrated by refugees as well as Jordanians about the science of water shortage.

In terms of participation at the community level to improve water management, providing better access to reliable, trust and pertinent scientific information that is easy for people to understand is, based on these findings, an appropriate and timely form of participation for both Jordanians and Syrian refugees in rural host communities. Other means of participation besides ‘informing’ outlined by Prager (2010) are consulting, partnering and empowering. To improve management of water resources in terms of better meeting the needs of Jordanians and Syrians, and dealing better with scarcity, this research concludes that disseminating information is indeed the most viable option. The outcome would be change in behaviour which is essential to dealing with many issues relating to scarcity of natural resources. Jackson (2005) argues that “the realisation that people’s choices, behaviours and lifestyles will play a vital role in achieving sustainable development is one of the (relatively few) points of agreement to have emerged from international environmental policy debates over the last decade or so” (pp.2).

As expressed by one informant – before participation, people need to understand the problem. There needs to be a driving factor that motivates people to participate in improving water management at the local community level. Although better information about the problem may not be a motivator for all members of a community, cognizance about scarcity and the threat and consequences that the current consumption patterns could impose on future generations is vital, and an important first step.

Improving the public’s awareness about the water scarcity problem, including non-citizens, could be achieved through a few means. It would require breaking down the communication barriers that were highlighted between science and people living in rural community areas. This could be achieved through working with schools, religious groups and leaders, CBOs and women. A good example is an initiative that has taken place through UNICEF aims to teach children in schools about basic WASH practices. There is indeed evidence of organisations as well as government working towards improved awareness and education around water issues which deserves merit. Example range from workshops with end-users about reducing water and energy use and plumbing skills training that were provided by NGOs in Jordan. Involving women in workshops that provide information about water efficiency and highlighting the potential to save costs is an excellent initiative discussed in this thesis. Women play a central role in a family in terms of managing resources in the home and are also a key source to disseminate knowledge between other women in a community.

Such work would also require improving communication methods and ‘marketing’ of scarcity, a task that can be taken on by the government. In Jordan, for many years there have been advertisements communicated through key television channels in Jordan, but apparently these are outdated and ineffective. There was a call from a number of aid agencies interviewed to tap into more effective and modern means of communication such as through social media. Research exploring effective means of communicating environmental issues can be drawn upon to address this issue, particularly research that explores communication and awareness with marginalised people in rural communities and refugees.

‘Being informed’ is not only limited to understanding of the magnitude of the problem but also information about water issues, interventions, how to get involved or even how to utilise complaint mechanism. Information about how water is distributed and by whom – better informed about water and infrastructure in general could provide end-users with more confidence and feeling of empowerment on how to take care of their own welfare.

Participation in management of natural resources is a part of sustainable development which is considered to be a ‘wicked problem’ (Rittel & Webber, cited in Muro & Jeffery, 2008) “whose realisation depends on the capacity of different actors and groups to communicate, negotiate, and reach collective decisions” (pp. 329). This emphasises the importance of participation to find solutions to pressing problems such as better dealing with water scarcity.

Participatory approach at the institutional level – the second recommendation advocates the adoption of a participatory approach at the ‘higher level’ – meaning the organisations directly involved in implementing water management participatory project. This would be, for example, government and aid agencies. This research has examined the participatory approach at the grass-roots level. According to a number of interviewees, compared to the ‘refugee response’ of the JRP, the ‘resilience response’ which long-term host-community water management falls under, has very little inter-organisational cohesion and collaboration. Contrary to the resilience response of the JRP, the Syrian response is significantly more organised. For example, the *Inter-agency sharing portal*⁴ is a data and information portal about each organisation involved in the Syrian response provides information about what projects are being implemented, by whom, when and the location. It is also provides information about the organisations involved and reports published by these organisations are available. A suggestion is that data relevant to the resilience response could be incorporated into this pre-existing Syrian-response platform. This would be timely as organisations such as UNICEF focus progressively on assisting host communities as a result of a perceived stabilisation of the refugee needs. Alternatively, another portal could be established uniquely for the resilience response. However, it is acknowledged that this type of initiative would be difficult due to limited resources.

Harnessing knowledge about participation from aid agencies, aid agencies working with government in host communities - according to the literature reviewed in this research, participation under IWRM is sometimes an ‘empty word’ and, when it comes to executing participation on the ground, states follow the line of the least resistance. Although Jordan has made a lot of progress in terms of restructuring and decentralising their water management systems, there appears to be sentiments of dissatisfaction from the people interviewed in this research when it comes to participation in the management of water at the local level. Jordan already has a long history of collaborating with aid agencies such as GIZ and USAID in dealing with water issues. The IWRM approach in Jordan is already well-integrated into national policy. However, resources in Jordan are already stretched in most domains as a result of the influx of population thus, participation, which requires resources, may not be the most viable option at the present time for the government. This problem is common according to Swatuk (2005) - governments often lack capacity to properly integrate participation. However, with the high number of aid organisations currently working in Jordan as a response to the Syrian crisis, this may be an opportunity to harness knowledge and savoir-faire, from these development agencies who are at the frontline when comes to advocating participation. It is important to continue along this line, and instead of approaching the crisis

⁴ The interagency sharing portal can be found at http://data.unhcr.org/syrianrefugees/working_group.php?Page=Country&LocationId=107&Id=18. It was set up as a part of the 3RP – regional refugee and resilience plan.

as a burden, attempt to approach it as an opportunity by seizing each opportunity to capitalise from this unfortunate situation.

As aid agencies venture into more development-based interventions in host communities, as was mentioned, there is also key lessons to be learned from initiatives that have already been implemented from the government and other development agencies. An example is the set-up of WUAs (Water User Associations). These are associations and unions have claimed to be a viable option in cleaning up the “messiness of society, promote transparency of local decision making and responsibility over asset management and operation” (Ker Rault & Jeffrey, 2008, pp.3) and is an effective means achieving participation from end-users (Ker Rault & Jeffrey, 2008). It provides structure of end-user contributions and facilitates the distribution of knowledge and provides a channel for grass-root opinions and concerns. WUAs are not a new concept in Jordan and has been promoted and implemented as a strategy to improve water management in Jordan Valley by an international organisation (GIZ) and the government to improve the efficiency of water used in agriculture (Mustafa, Altz-Stamm, & Scott, 2016). Currently, one organisation (Oxfam) is drawing on this model for their approach to participatory management of water in host communities. This is a governance project that aims to empower and raise the voice of the communities through WUAs. It provides a place for discussions and delivers formal communication channel between the end-users and water utilities. One example is a complaint mechanism that enables end-users to connect with water utilities if a pipe bursts for example. Although the door is not closed to the participation of refugees, the target audience of this approach is Jordanians. WUAs are an excellent example of a structured means to implement participation that has proven to work in the context of Jordan, but in a different context – farmers and irrigation. The results of the project run by Oxfam in rural host communities is an important one that could provide vital information for future endeavours in participation in the management of water in rural host communities

8.3 Future Research

This section provides recommendations for future research in academia. The suggestions are as follows: **evaluation** of participation in water projects in rural host communities; research into the insight of **Syrians** living in host communities; and finally, **investigation into the scope and strategies** for participation.

Evaluation of participation in projects in Jordan

The first suggestion is developing work on the evaluation of participatory management projects in water that has already been initiated in Jordan. Drawing on past experiences to guide future interventions, there is an abundance of wealth that can be used, key lessons that build on knowledge of barriers allow them to be taken into consideration, and derive key lessons from success stories. This information can be shared with others undertaking initiatives in participatory management, that can be used in Jordan as well as being relevant in other contexts.

Some suggestions on how to evaluate have been drawn from literature. Conley & Moote (2003) highlight some key guiding questions to base an evaluation of participation on: Are these new approaches all that they are held up to be? Do they really lead to improved resource management? What can and cannot be reasonably expected of them and what variables influence their effectiveness? (pp. 371). These questions provide a basic starting point for future research into evaluation in both the Jordan and a general context. Additionally, Conley & Moote (2003) provides an overview of existing evaluation approaches and methods and outline the key concerns that should be taken into consideration when conducting evaluations.

There is an abundance of literature on evaluation strategies. It is recommended to undertake a review of key evaluation techniques that have been used past research in assessing participation at the community level. Kellert, Jai, & Mehta (2000) sought empirical evidence regarding the implementation of community natural resource management in Nepal, the USA, and Kenya. The motivation behind their research is although as the rationale for CNRM (community natural resource management) is compelling, little empirical data exists. The evaluation was based on six social and environmental indicators – equity, empowerment, conflict resolution, knowledge, awareness, biodiversity protection, and sustainable resource utilisation. Alternatively, Özerol & Newig (2008), based evaluation on five give key constituents which are: the scope of the participants, communication with the public, capacity building, timing, financing of participation. These are a few examples; many more exist in the literature, and those that address the participation of marginalised groups and refugees should be the central focus.

Research into the insight of Syrian refugees living in host communities

One of the major findings of this research is that Syrians are not ‘ready’ to participate – it is too early in the crisis – thus this discussion is premature. Once they are more settled, and an acceptance that the move to Jordan may be a long term situation. As aforementioned, statistics depicting the average time spent as a refugee does not paint a promising picture. However, this finding is derived from uniquely a Jordanian and INGO perspective. One interviewee working for an international NGO mentioned the need and usefulness to have the story told from the perspective of refugees. However, at the same time it was also mentioned that refugees are suffering from ‘research fatigue’ as a result of being investigated by researchers and other institutions, with, very often, a perceived lack of tangible benefits. This is something that needs to be taken into consideration when research is being conducted with Syrian refugees. This population has suffered, some are facing trauma, major losses and the refugee crisis and Syrian war has drawn copious amounts of attention from all over the world. There is also an abundance of research that has already been done, thus, it is important to draw on previous research and the knowledge pool that exists already.

Investigation into the scope and strategies for participation

Finally, this research opens up the doors to future research to investigate more specific implementation strategies that would be suitable for the context delineated in this research. An abundance of literature exists on stakeholder analysis – who should be involved and who should not, as well as literature on typologies for participation which refer to *how* stakeholders should be involved (*Table 11, Appendix*) provides an overview of different typologies that have developed over time according to literature, starting with Arnstien’s ladder of participation (cited in Reed, 2008). Arnstien’s work is widely cited and classifies participation into three groups – citizen power, tokenism, and non-participation (Reed, 2008). One organisation in Jordan has already conducted a very precise stakeholder analysis and this information should be shared to a common pool of knowledge for future references and to guide future endeavours in participation in water management. This research does not focus on these more-specific points, rather broadly examines the influencing factors to participation of marginalised Jordanians and Syrians in rural host communities. These influencing factors could have been more clearly reduced to ‘driving and constraining’ factors. Hurlbert & Gupta (2016) highlights that while literature in participation views participation as a fundamental component of “deepening democracy and solving complex environmental problems”, few work in done in the area of which conditions participation is likely to work and what can be achieved in different circumstances. This opens the discussion about participation up to some very important questions, especially considering that there was acknowledgement from the field that participation can also mean “*more delays, more expenses, more complications, less focused, more objectives and less possibilities of sustainability*” (interviewee Q, IWRM expert).

8.4 Reflection on methodology

This chapter provides a reflection on the methodology. This chapter discusses improvements that could have been considered for the *scope*, as well as discussing the *generalisability* of the results.

SCOPE

The scope of this research could have been more refined. The overarching objective of this research was to examine the role of participation as a facilitator for improved water resource management. The approach was broad, which proved beneficial in terms of obtaining a basic perspective and understanding of participation in water management in the context of Jordan. While the aims of the research could remain focused on the same subsets, those being - participation of the marginalised in rural host communities - it could have been advantageous to scope the research to more precise settings. Examples of scoping possibilities:

- Small scale or large-scale projects: the examination of barriers at more small-scale, community projects, or state-run large scale projects could be more appropriate. Although, as highlighted by Reed (2008) in the literature review, participation is not deemed appropriate at the state-level. However, an interviewee stated that even in large-scale projects, participation is important but is more related to consent and information as opposed to involvement in the decision making process.
- Macro or micro level water management projects: the examination of factors could have been narrowed down to micro or macro level of analysis. The macro would investigate more policy-level drivers and constraints to participation, whereas micro-level would investigate influencing factors that exist on the ground.
- Management process: the research could have also been based on one aspect of the management process – for example the design and development phase, the implementation of the monitoring and evaluation (M&E) phase (see *Figure 3, Appendix*). For example Lachapelle et al (2003) looked into four contemporary planning processes in America for their research on barriers to effective natural resource planning. These authors investigated a specific phase of the planning process – the planning.
- More precise definition: it could have been more beneficial to focus on a term more precise and specific than ‘participation’ in general. This would have resulted in more concrete and practical insight into the problematic of participatory management of water. In research by Ker Rault & Jeffrey (2008), the term stakeholder participation is used over the broader term public participation. This is justified because most conservationists “focus on engaging those who hold a stake in the cope of their initiative” (pp. 2418) as opposed to attempting to engage with the wider public. However, having a broad approach when collecting data during the qualitative interviews was beneficial to obtain as much information as possible about any initiative relating to participation. If a more precise term was used, such as ‘stakeholder participation’ there may not have been as many interviewees who could relate to it.

New research questions could be developed based on these critiques. This summary can also be used as input for future research (see *Future Research – section 8.3*).

GENERALISABILITY

The results of this research are generalisable in terms of being useful in other refugee contexts where there is an increase in competition for scarce resources in rural communities.

Climate change and war are key instigators of migration and are issues that are becoming increasingly prevalent in the global community (Martin, 2005). This is not the first time Jordan has been home to a major influx of refugees, and is also a situation that is common in many developing countries neighbouring countries experiencing political instability (Martin, 2005). A key message that arises is that there are many countries in the same situation as Jordan who are hosting refugees which demonstrates a need for education and awareness of refugee populations to adapt to the local situation and circumstances. As mentioned by one interviewee – awareness needs to happen before any step is taken in participation in management.

These findings are not only limited to water resources but also to participation in the management of other natural resources. The literature review makes reference of the number of definitions that fall under the umbrella of the term participation – thus, these finding can be useful for participation in, for example, CBNRM (community-based natural resource management) (Dyer et al, 2014), or by Reed (2008) under the term ‘public participation’. Examples could include forest and land under similar circumstances where there is a sudden influx of inhabitants.

As stated by Özerol & Newig (2008), water policy and governance has been forerunners in designing public participation and incorporating it into the environmental decision-making process. Thus, there are many lessons to be learnt from the abundance of work done in the field of water management and participation. This research adds to this knowledge pool.

In the face of global climate change, the emergence of climate refugees may be a common issue to be dealt with by neighbouring countries and the global community. Additionally, war is a part of today’s global reality that has been around for a long time, and will continue to be present. According to the IDMC, in 2015, new conflict was recorded in every region of the world, with exceptionally high numbers of people displaced in Yemen, Syria, Iraq, India, China and the Philippines. Many of the neighbouring countries have resource scarcity problems that are exacerbated due to an influx of populations fleeing to safer conditions. Measures need to be put in place to deal with the influx of population fleeing from war or the effects of climate change that can lead to an increase competition for scarce resources. The inclusion of these populations in the management of vital resources, such as water is a viable option. The mere invitation to participate in managing water, for example, is symbolic and can be a source of greater collaboration, understanding and acceptance of people fleeing their war-torn homes. This is highlighted by Van der Zagg (2005) who claims that democracy was like a by-product of our water management institution. The ramifications of neglect, social isolation, stigmatisation and discrimination have proven to be costly on numerous levels and needs to be avoided at all costs.

Bibliography

- Adisa, J. (1996). Rwandan Refugees and Environmental Strategy in the Great Lakes Region-A Report on the Habitat/UNEP Plan of Action. *J. Refugee Stud.*, 9, 326.
- Allan, J. A. (2002). Hydro-peace in the Middle East: why no water wars? A case study of the Jordan River Basin. *SAIS Review*, 22(2), 255–272.
- Altieri, M. A. (2002). Agroecology: the science of natural resource management for poor farmers in marginal environments. *Agriculture, Ecosystems & Environment*, 93(1), 1–24.
- Baechler, G. (1999). Environmental Degradation and Violent Conflict: Hypotheses, Research Agendas and Theory Building. In M. Suliman, *Ecology, Politics and Violent Conflict* (pp. 76–112). London: Zed.
- Bakker, K., Kooy, M., Shofiani, N. E., & Martijn, E. J. (2008). Governance Failure: Rethinking the Institutional Dimensions of Urban Water Supply to Poor Households. *World Development*, 36(10), 1891–1915. <http://doi.org/10.1016/j.worlddev.2007.09.015>
- Barnett, J. (2001). *The meaning of environmental security: ecological politics and policy in the new security era*. London: Zed.
- Beierle, T. (2002). The quality of stakeholder-based decisions. *Risk Analysis*, 22, 739–749.
- Biswas, A. K. (2008). Integrated Water Resources Management: Is It Working? *International Journal of Water Resources Development*, 24(1), 5–22. <http://doi.org/10.1080/07900620701871718>
- Brooks, J., Waylen, K., & Borgerhoff Mulder, M. (2012). How national context, project design, and local community characteristics influence success in community-based conservation projects. Retrieved from <http://dx.doi.org/10.1073/pnas.120714111>
- Bush, I. G., Gillson, A., Hamilton, M., & Perrin, M. (2005). Public Participation - Drawing the Boundaries. *Water and Environment Journal*, 19(3), 181–188. <http://doi.org/10.1111/j.1747-6593.2005.tb01585.x>
- Butler, C., & Adamowski, J. (2015). Empowering marginalized communities in water resources management: Addressing inequitable practices in Participatory Model Building. *Journal of Environmental Management*, 153, 153–162. <http://doi.org/10.1016/j.jenvman.2015.02.010>

- Chikozho, C. (2008). Globalizing Integrated Water Resources Management: A Complicated Option in Southern Africa. *Water Resources Management*, 22(9), 1241–1257. <http://doi.org/10.1007/s11269-007-9223-7>
- Codjoe, S. N. A., Quartey, P., Tagoe, C. A., & Reed, H. E. (2012). Perceptions of the Impact of Refugees on Host Communities: The Case of Liberian Refugees in Ghana. *Journal of International Migration and Integration*. <http://doi.org/10.1007/s12134-012-0249-1>
- Crisp, J. (2001). Mind the Gap! UNHCR, Humanitarian Assistance and the Development Process. *International Migration Review*, 35, 168–191.
- Cronje, J. C. (2016). The Future of Our Field – A STEEP Perspective. *TechTrends*, 60(1), 5–10. <http://doi.org/10.1007/s11528-015-0009-0>
- Cundill, G., & Rodela, R. (2012). A review of assertions about the processes and outcomes of social learning in natural resource management. *Journal of Environmental Management*, 113, 7–14. <http://doi.org/10.1016/j.jenvman.2012.08.021>
- Davenport, M. A., Leahy, J. E., Anderson, D. H., & Jakes, P. J. (2007). Building Trust in Natural Resource Management Within Local Communities: A Case Study of the Midewin National Tallgrass Prairie. *Environmental Management*, 39(3), 353–368. <http://doi.org/10.1007/s00267-006-0016-1>
- De Châtel, F. (2014). The Role of Drought and Climate Change in the Syrian Uprising: Untangling the Triggers of the Revolution. *Middle Eastern Studies*, 50(4), 512–35.
- De Marchi, B. (2003). Public participation and risk governance. *Science & Public Policy (SPP)*, 30(3), 171–176.
- Dietz, T., Ostrom, E., & Stern, P. C. (2003). The struggle to govern the commons. *Science*, 302(5652), 1907–1912.
- Dombrowsky, I. (2008). Integration in the management of international waters: economic perspectives on a global policy discourse. *Global Governance: A Review of Multilateralism and International Organizations*, 14(4), 455–477.
- Dougill, A. J., Fraser, E. D., Holden, J., Hubacek, K., Prell, C., Reed, M. S., & Stringer, L. C. (2006). Learning from doing participatory rural research: Lessons from the Peak District National Park. *Journal of Agricultural Economics*, (57).

- Du Toit, D., & Pollard, S. (2008). Updating public participation in IWRM: a proposal for a focused and structured engagement with catchment management strategies. *Water SA*, 34(6), 707–713.
- Dungumaro, E. W., & Madulu, N. F. (2003). Public participation in integrated water resources management: the case of Tanzania. *Physics and Chemistry of the Earth, Parts A/B/C*, 28(20–27), 1009–1014. <http://doi.org/10.1016/j.pce.2003.08.042>
- Dyer, J., Stringer, L. C., Dougill, A. J., Leventon, J., Nshimbi, M., Chama, F., & Syampungani, S. (2014). Assessing participatory practices in community-based natural resource management: Experiences in community engagement from southern Africa. *Journal of Environmental Management*, 137, 137–145. <http://doi.org/10.1016/j.jenvman.2013.11.057>
- Ebbesson, J. (2011). Public Participation and Privatisation in Environmental Matters: An Assessment of the Aarhus Convention. *Erasmus Law Review*, 4(71).
- Fischer, F. (2000). *Citizens, experts and the environment. The Politics of Local Knowledge*. London: Duke University Press.
- Flick, U. (2015). *Introducing Research Methodology* (Second). London: SAGE.
- Francis, A. (2015). *Jordan's refugee crisis*. Washington, DC: Carnegie Endowment for International Peace. Retrieved from http://carnegieendowment.org/files/CP_247_Francis_Jordan_final.pdf
- Gleditsch, N. P. (1998). Armed Conflict and The Environment: A Critique of the Literature. *Journal of Peace Research*, 35(3), 381–400. <http://doi.org/10.1177/0022343398035003007>
- Gleick, P. (2003). Global freshwater resources: soft-path solutions for the 21st century. *Science* 302, 1524–1528.
- GWP. (2016). Participatory Approach. Retrieved 22 August 2016, from <http://www.gwp.org/en/The-Challenge/What-is-IWRM/IWRM-Principles/Participatory-approach/>
- GWP. (n.d.). 2. Participatory approach - IWRM Principles - What is IWRM? - THE CHALLENGE - Global Water Partnership. Retrieved 19 August 2016, from

- <http://www.gwp.org/en/The-Challenge/What-is-IWRM/IWRM-Principles/Participatory-approach/>
- Hamai, L., McCormack, R., Niederberger, E., & Lasap, L. (2013). *Integrated Assessment of Syrian Refugees in Host Communities in Jordan - Emergency Food Security and Livelihoods; Water, Sanitation and Hygiene; Protection*. Oxfam.
- Hardin, G. (1968). Tragedy of the Commons. *Science*, 162(3859), 1243–1248.
- Hassing, J., Ipsen, N., Clausen, T. J., Larsen, H., & Lindgaard-Jorgensen, P. (2009). *Integrated Water Resources Management in Action: Dialogue Paper*. Unesco. Retrieved from [http://books.google.com/books?hl=en&lr=&id=1UEqA80aKhcC&oi=fnd&pg=PA1&dq=%22Brazil,+China+and+India\)+has+itself+contributed+to%22+%22floods+and%22+%22to+water%22+%22the+Associate+Programme+on+Flood+Management+\(APFM\)%22+%22associated+with+increased+wealth+is+an%22+%22&ots=Ptc40TpkEt&sig=kCTaCW9YnovIN935BjUWu0ICTeg](http://books.google.com/books?hl=en&lr=&id=1UEqA80aKhcC&oi=fnd&pg=PA1&dq=%22Brazil,+China+and+India)+has+itself+contributed+to%22+%22floods+and%22+%22to+water%22+%22the+Associate+Programme+on+Flood+Management+(APFM)%22+%22associated+with+increased+wealth+is+an%22+%22&ots=Ptc40TpkEt&sig=kCTaCW9YnovIN935BjUWu0ICTeg)
- Hickey, S., & Mohan, G. (2005). *Participation: From Tyranny to Transformation? Exploring New Approaches to Participation in Development*. London: ZedBooks.
- Holling, C. S., & Meffe, G. K. (1996). Command and control and the pathology of natural resource management. *Conservation Biology*, 10, 328–337.
- Homer-Dixon, T. (1994). Environmental Scarcities and Violent Conflict: Evidence from Cases. *International Security*, 19(1), 5–40.
- Humpal, D., El-Naser, H., Irani, K., Sitton, J., Renshaw, K., & Gleitsmann, B. (2012). *Review of water policies in Jordan and recommendations for strategic priorities*. USAID.
- Iagaru, R., Anttilaa, C., & Iagarui, P. (2014). Development and Adoption of Strategic Options for Rural Development. *DEVELOPMENT*, 14(1). Retrieved from http://managementjournal.usamv.ro/pdf/vol4_1/Art25.pdf
- IDMC. (2015). *Annual Report 2015* (Annual Report). Retrieved from <http://www.internal-displacement.org/assets/publications/2016/201607-annual-report-2015-en.pdf>
- Jackson, T. (2005). Motivating sustainable consumption. *Sustainable Development Research Network*, 29, 30.

- JRPSC. (2016). Jordan Response Plan for the Syria Crisis (2016-2018). Retrieved from <http://static1.squarespace.com/static/522c2552e4b0d3c39ccd1e00/t/56b9abe107ea0afdc35f02/1455008783181/JRP%2B2016-2018%2BFull%2B160209.pdf>
- Kastens, B., & Newig, J. (2008). Will participation foster the successful implementation of the WFD? The case of agricultural groundwater protection in North-west Germany. *Local Environment*, 13(1). Retrieved from http://www.academia.edu/download/3739766/path_abstract_2.1.1.pdf
- Kellert, S., Jai, N., & Mehta, S. (2000). Community Natural Resource Management: Promise, Rhetoric, and Reality. *Society & Natural Resources*, 13(8), 705–715. <http://doi.org/10.1080/089419200750035575>
- Ker Rault, P. A., & Jeffrey, P. J. (2008). On the appropriateness of public participation in Integrated Water Resources Management: some grounded insights from the Levant. *Integrated Assessment*, 8(2). Retrieved from http://journals.sfu.ca/int_assess/index.php/iaj/article/viewArticle/262
- Kirschke, S., Horlemann, L., Brenda, M., Deffner, J., Jokisch, A., Mohajeri, S., & Onigkeit, J. (Eds.). (2016). Benefits and Barriers of Participation: Experiences of Applied Research Projects in Integrated Water Resources Management. In *Integrated Water Resources Management: Concept, Research and Implementation* (pp. 303–331). Cham: Springer International Publishing. Retrieved from <http://link.springer.com/10.1007/978-3-319-25071-7>
- Koontz, T., & Thomas, C. (n.d.). What Do We Know and Need to Know about the Environmental Outcomes of Collaborative Management? *Public Administration Review*, 66, 111–121.
- Kranz, N., Ridder, D., & Patel, M. (2006). Ecological Briefs on International Relations and Sustainable Development: Public Participation in European River Basin Management. *Ecologic*.
- Lachapelle, P. R., Mccool, S. F., & Patterson, M. E. (2003). Barriers to Effective Natural Resource Planning in a ‘Messy’ World. *Society & Natural Resources*, 16(6), 473–490. <http://doi.org/10.1080/08941920309151>

- Latham, A. (2003). Research, Performance, and Doing Human Geography: Some Reflections on the Diary-Photograph, Diary-Interview Method. *Environment and Planning A*, 35(11), 1993–2017. <http://doi.org/10.1068/a3587>
- Ludwig, D., Walker, B., & Holling, C. (1997). Sustainability, stability, and resilience. *Conservation Ecology*, 1(1).
- Martin, A. (2005). Environmental Conflict Between Refugee and Host Communities. *Journal of Peace Research*, 42(3), 329–346. <http://doi.org/10.1177/0022343305052015>
- Martin, A., & Sherington, J. (1997). Participatory research methods: implementation, effectiveness and institutional context. *Agricultural Systems*, 195–216.
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50(4), 370–396. <http://doi.org/10.1037/h0054346>
- Mauerhofer, V. (2016). Public participation in environmental matters: Compendium, challenges and chances globally. *Land Use Policy*, 52, 481–491. <http://doi.org/10.1016/j.landusepol.2014.12.012>
- Mcdonnell, R. A. (2008). Challenges for Integrated Water Resources Management: How Do We Provide the Knowledge to Support Truly Integrated Thinking? *International Journal of Water Resources Development*, 24(1), 131–143. <http://doi.org/10.1080/07900620701723240>
- Mercy Corps. (2014). *Tapped Out - Water Scarcity and Refugee Pressures in Jordan*.
- Merrey, D. J. (2008). Is normative integrated water resources management implementable? Charting a practical course with lessons from Southern Africa. *Physics and Chemistry of the Earth, Parts A/B/C*, 33(8–13), 899–905. <http://doi.org/10.1016/j.pce.2008.06.026>
- Ministry of Water and Irrigation. (2016). National Water Strategy of Jordan, 2016 - 2025. Retrieved 18 July 2016 from [http://www.mwi.gov.jo/sites/en-us/Hot%20Issues/Strategic%20Documents%20of%20The%20Water%20Sector/National%20Water%20Strategy\(%202016-2025\)-25.2.2016.pdf](http://www.mwi.gov.jo/sites/en-us/Hot%20Issues/Strategic%20Documents%20of%20The%20Water%20Sector/National%20Water%20Strategy(%202016-2025)-25.2.2016.pdf)
- Molle, F. (2008). Nirvana concepts, narratives and policy models: Insight from the water sector. *Water Alternatives*, 1(1), 131–156.

- Mulhall, A. (2003). In the field: notes on observation in qualitative research. *Journal of Advanced Nursing*, 41(3), 306–313.
- Muro, M., & Jeffrey, P. (2008). A critical review of the theory and application of social learning in participatory natural resource management processes. *Journal of Environmental Planning and Management*, 3(51), 325–344.
- Mustafa, D., Altz-Stamm, A., & Scott, L. M. (2016). Water User Associations and the Politics of Water in Jordan. *World Development*, 79, 164–176.
<http://doi.org/10.1016/j.worlddev.2015.11.008>
- Newig, J. (2007). Does public participation in environmental decisions lead to improved environmental quality? Towards an analytical framework. Communication, Cooperation, Participation. *Research and Practice for a Sustainable Future*, 1, 51–71.
- Özerol, G., & Newig, J. (2008). Evaluating the success of public participation in water resources management: five key constituents. *Water Policy*, 10(6), 639–655.
<http://doi.org/10.2166/wp.2008.001>
- Pahl-Wostl, C. (2002). Towards sustainability in the water sector – The importance of human actors and processes of social learning. *Aquatic Sciences*, (64).
- Pateman, C. (1970). *Participation and Democratic Theory*. UK: Cambridge University Press.
- Perri 6, & Bellamy, C. (2012). *Principles of Methodology: Research Design in Social Science*. London: SAGE.
- Prager, K. (2010). Local and Regional Partnerships in Natural Resource Management: The Challenge of Bridging Institutional Levels. *Environmental Management*, 46(5), 711–724.
<http://doi.org/10.1007/s00267-010-9560-9>
- Rahaman, M. M., & Varis, O. (2005). Integrated water resources management: evolution, prospects and future challenges. *Sustainability: Science, Practice, & Policy*, 1(1). Retrieved 6 September 2016 from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2384886
- Ratner, B. D., Meinzen-Dick, R., Hellin, J., Mapedza, E., Unruh, J., Venning, W., & Bruch, C. (2013). *Addressing conflict through collective action in natural resource management*. Washington, DC: International Food Policy Research Institute. Retrieved from <http://ebrary.ifpri.org/cdm/singleitem/collection/p15738coll2/id/127778/rec/2>

- REACH. (2014). Access to Water and Tensions in Jordanian Communities Hosting Syrian Refugees: Thematic Assessment Report. June 2014.
- Reed, M. S. (2007). Participatory technology development for agroforestry extension: an innovation-decision approach. *African Journal of Agricultural Research*, 2, 334–341.
- Richards, C., Blackstock, K. L., & Carter, C. E. (2004). Practical Approaches to Participation SERG Policy Brief No. 1.
- Rogers, H., & Hall, A. (2003). *Effective water governance* (GWP TAC background papers no. 7). Global Water Partnership Technical Committee.
- Rowe, G., & Frewer, L. J. (2000). Public participation methods: A framework for evaluation. *Science, Technology & Human Values*, 25(1), 3–29.
- Rural Poverty Portal. (n.d.). Rural Poverty in Jordan. Accessed 1 September 2016 at <http://www.ruralpovertyportal.org/country/home/tags/jordan>
- Saravanan, V. S., McDonald, G. T., & Mollinga, P. P. (2009). Critical review of Integrated Water Resources Management: Moving beyond polarised discourse. *Natural Resources Forum*, 33(1), 76–86. <http://doi.org/10.1111/j.1477-8947.2009.01210.x>
- Scherr, S. (2000). A downward spiral? Research evidence on the relationship between poverty and natural resource degradation. 25, 479–498.
- Scott, L. (2015). *Gendered Participation in Community-Level Water Governance in Syrian Refugee Host Communities in Jordan*. Kings College, London.
- Sharma, P., Sharma, S., Kumari, R., & Tiwari, A. (2015). Necessity for Sustainable Environmental Considerations in Corporate Decision Making Processes. *American International Journal of Research in Humanities, Arts, and Social Sciences*, 1(10), 57–60.
- Stewart, F., Holdstock, D., & Jarquin, A. (2002). Root causes of violent conflict in developing countries. *British Medical Journal*, 324(7333), 342.
- Suhardiman, D., Clement, F., & Bharati, L. (2015). Integrated water resources management in Nepal: key stakeholders' perceptions and lessons learned. *International Journal of Water Resources Development*, 31(2), 284–300. <http://doi.org/10.1080/07900627.2015.1020999>
- Suliman, M. (1999). Conflict Resolution Among the Borana and the Fur: Similar Features, Different Outcomes. In *Ecology, Politics and Violent Conflict* (pp. 286–290). London: Zed.

- Swatuk, L. A. (2005). Political challenges to implementing IWRM in Southern Africa. *Physics and Chemistry of the Earth, Parts A/B/C*, 30(11–16), 872–880. <http://doi.org/10.1016/j.pce.2005.08.033>
- Tejada-Guibert, J. A. (2015). Integrated Water Resources Management (IWRM) in a Changing World. In *Sustainability of Integrated Water Resources Management*. Switzerland: Springer International Publishing. Retrieved from <http://link.springer.com/10.1007/978-3-319-12194-9>
- Tosun, C. (2000). Limits to community participation in the tourism development process in developing countries. *Tourism Management*, 21(6), 613–633. [http://doi.org/10.1016/S0261-5177\(00\)00009-1](http://doi.org/10.1016/S0261-5177(00)00009-1)
- UNHCR & UNDP. (2016). *3RP Regional Progress Report (Mid-Year: June 2016)*.
- UNSDG. (2016). Water and Sanitation. Retrieved 19 August 2016, from <http://www.un.org/sustainabledevelopment/water-and-sanitation/>
- USCR. (n.d.). Worldwide Refugee Information - Jordan. Retrieved 2 September 2016, from http://www.mefacts.com/cached.asp?x_id=11006
- Van der Zaag, P. (2005). Integrated Water Resources Management: Relevant concept or irrelevant buzzword? A capacity building and research agenda for Southern Africa. *Physics and Chemistry of the Earth, Parts A/B/C*, 30(11–16), 867–871. <http://doi.org/10.1016/j.pce.2005.08.032>
- Vining, A. R. (2011). Public Agency External Analysis Using a Modified ‘Five Forces’ Framework. *International Public Management Journal*, 14(1), 63–105. <http://doi.org/10.1080/10967494.2011.547819>
- Wandersman, A. (1981). A Framework of Participation in Community Organizations. *The Journal of Applied Behavioural Science*, 17, 27–85.
- Webler, T. (1999). The craft and theory of public participation: a dialectical process. *Journal of Risk Research*, 2(1), 55–71. <http://doi.org/10.1080/136698799376989>
- Webler, T., Tuler, S., & Krueger, R. (2001). What Is a Good Public Participation Process? Five Perspectives from the Public. *Environmental Management*, 27(3), 435–450. <http://doi.org/10.1007/s002670010160>

World Bank Group. (2016). World Development Indicators | World DataBank. Retrieved 27
August 2016, from
<http://databank.worldbank.org/data/reports.aspx?source=2&country=JOR>

Appendix

Table 9. Interview questions to guide semi-structured interviews

PART	KEY WORDS	SEMI-STRUCTURED QUESTIONS
Briefing Presentation of interviewer and the purpose of the project/interview	Introduction of self and project, purpose of interview	<ul style="list-style-type: none"> ▪ IIIIEE, Lund University - MSc. EMP ▪ The purpose of this research is to assess the extent to which participatory management is happening in Jordan ▪ To find out what needs to be taken into consideration in the refugee context – how participatory management can work & barriers to making it work ▪ Based on the assumption that participation is the key to sustainable solutions in development
Briefing Introduction	Expected timeframe	<ul style="list-style-type: none"> ▪ We expect the interview will last 30min to an hour – verify that this is ok with them
	Recording of interview	<ul style="list-style-type: none"> ▪ The interview will be recorded, but only for internal usage – gives me more liberty to engage in the conversation, the interviews will also be transcribed to allow me to find patterns in this data compared to other data
	Anonymization	<ul style="list-style-type: none"> ▪ Identity and answers will be anonymous and treated in confidentiality – can send the parts that will be used in the thesis to be verified by them. ▪ Ensure that participant understands that can pull out at any time
	Check	<ul style="list-style-type: none"> ▪ If there is something that is unclear, please don't hesitate to ask Any questions before we start?
The	Optional: Request interviewee to briefly	<ul style="list-style-type: none"> ▪ Could you please briefly present yourself?

<p>interviewee</p>	<p>presents him/herself – <u>maybe not necessary</u> if short on time, can find this info online</p>	<p><i>Organisation? Role?</i> <i>Informal conversation about the interviewee to create a relaxed and comfortable atmosphere and make the interviewee at ease</i></p>
<p>General questions</p>	<p>Remember:</p> <p>Objective: Investigate the perception of PM in the Jordan context from diverse stakeholders, and potential implications of “refugee environment”</p> <p>Outcome: Understanding of the Jordan context, list of key considerations/barriers in general and also, specific to the refugee environment</p>	<ul style="list-style-type: none"> • Perception of PM in general – how do they view it? Benefits of PM? • Does this org have experience with participatory management in general /or/ with refugees (past)? No: Future plans? Why not? Perception of PM? Yes: What projects were they – brief description? Evaluation: have they been effective, good/intended results? Worked according to plan? • How do/have they support/ed PRM? • Is PM a priority for them? (% resources allocated i.e. investment/funds) • What measures are being taken to make decisions more participative? (example: organising community meetings) • At what level is participation occurring? Who is being left out? • Which organisations are driving participation, which ones are hindering? • Any solid examples of PM in Jordan to their experience (in general & in water)? Do any particular organisations spring to mind – who is leading the way? • What is being done to include vulnerable communities? (i.e. how getting Syrians involved?) (Avoid leading questions if possible, but if going off track have to be a bit more leading) - have vulnerable communities (Syrian refugees and end users) been involved in the development and management of water resources? Yes: How? No: Why not? • Major obstacle/barriers to PM in Jordan? (Administrative burden – the more people involved, the more work required?)
<p>Ending interview</p>	<p>Summing up</p>	<ul style="list-style-type: none"> ▪ Appreciate the time taken out to help me with my research ▪ Repeat/sum up key messages of interviewee to validate ▪ Ask if follow-up contact is accepted/and preferred contact means (email, phone)

ok? *(Time frame)*

- Briefly inform the interviewee of how his/her answers will be handled
 - *what will happen next with this information is that I'll transcribe and code it and try find patterns between interviews with other stakeholders - would you rather your name & organisation not be mentioned?*
 - Any pointers on who to contact? Now that you understand my research better
 - Provide contact information (business card) if the interviewee should have any questions as regards the interview/purpose afterwards
- Round up the interview politely and make sure that the interviewee is not left with a lot of questions as to what happens next*

Table 10. List of interviewees for primary data collection

Informant identification	Date	Organisation	Type of organisation	Role/position	Means of communication
A	16 & 21.06.16	MENA NRC	NGO	Deputy Executive Director	Skype/In person
B	19.06.16	Private business in water	Private sector	Business/well owner	Via telephone
C	20.06.16	Sida – Swedish International Development Cooperation Agency	Donor	Regional Programme Manager	In person
D	21.06.16	ACWUA – Arab Countries Water Utilities Association	NGO	Technical Advisor MDG+	In person
E	22.06.16	Eco-consult	Private	Managing Director	In person
F	23.06.16	Ministry of Water and Irrigation	Ministry	Head of Water Strategies Division	In person
G	26.06.16	UNICEF	INGO	Chief of WASH section	In person
H	27.06.16	University of Jordan	University	Assistant researcher at the Water and Environmental Research and Study Centre (WERSC) & PhD student	In person
I	26.06.16	NRC	INGO	Engineer	In person
J	28.06.16	GIZ	National development agency (Germany)	In charge of stakeholder analysis & Project staff in “Supporting Participative Resource Management to Stabilise the	In person

				Situation in Host Communities”	
K	28.06.16	OXFAM	INGO	WASH coordinator	In person
L	03.07.16	MCA – Millennium Challenge Account	Foreign aid agency (USA)	Environmental and Social Director	In person
M	03.07.16	Future Pioneers	Local NGO	Executive Director	In person
N	04.07.16	Arabian Gulf University	University	Head of Innovation and Technology Management	Via email
O	4.07.16	(Arabic name)	Local NGO	Head of NGO	In person
P	04.07.16	Jerash Municipality	Government	Media and Communications	In person
Q	04.07.16	Ex-USAID/private	Expert	Engineer	In person
R	04.07.16	USAID	INGO	Project Management Specialist - Water Resources and Environment Office (WRE)	Via telephone
S	03.08.16	GWP-Med	NGO	Communications Officer	Via email
T	6.09.16	ACTED	NGO	WASH cluster coordination and WASH programme coordination	Via email



Figure 3. Participation comes in different shapes and sizes and different types of participation depend on different stages of a project, and also the scale of the project – if it is large scale or small scale (Source: author)



Figure 4. The Jordan Times, Sunday 3rd of July 2016 – a timely article that reflects a large number of opinions from interviewees and perceptions from casual conversations. Source: author

Figure 5. Flight from Doha (Qatar) to Amman (Jordan) on 19th of June 2016, water is a rare sight; there is very little surface water. Underground water sources supply 60% of water for Jordan. Source: author.



Figure 6. Water storage units above apartments in Amman. Water is supplied to homes once per week. It is up to homeowners to manage their own resources and have to make do with what they get. Many run out of water well before the next delivery.



Figure 7. Friday 1st of July 2016. Landscape near Madaba. Mujib dam in the distance (top) for agricultural purposes. Source: author.

Table 11. Evolution of typologies in the field of participatory management (adapted from Reed, 2008)

Author	Main idea	Description
Arnstein (1969)	Ladder of participation	Describes a continuum of increasing stakeholder involvement, from passive dissemination of information (called “manipulation”), to active engagement (“citizen control”)
Bigg (1989)	Alternative to rungs of ladder	Described the level of engagement as a relationship that can be “contractual”, “consultative”, “collaborative” and “collegiate”
Farrington (1998)	Simplified the distinction	Between “consultative” and “collegiate”
Lawrence (2006)	Built on previous	Proposed “transformative” participation as an alternative top rung of the ladder, and emphasising that empowerment should lead to the transformation of the communities who are involved
Davidson (2000)	Wheel of participation	Different levels of engagement are likely to be appropriate in different contexts, depending on the objectives of the work and the capacity for stakeholders to influence outcomes (Richards et al, 2004; Tippet et al, 2007).
Rowe & Fewer (2000)	Focus on nature rather than degree of engagement	
Lynam et al (2007)	Focus on operational objectives of participation	Distinguishes between “diagnostic and informing”, “co-learning” or “co-management” methods
Tippet et al (2007)	Considered the differences between methods	Difference between methods to: inform, design active engagement processes; consult, deliver implementation of management plans, monitor and learn from the effectiveness of participatory practice.