

Jordan in the sun

The success of the Solar Panels Project

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Jordan in the Sun

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Abstract

In 2014, the government of Jordan introduced an economic incentive program urging mosques and universities to implement solar panel systems on their buildings. This project is known as the Solar Panels Project. The initiative was driven by the high demand for electricity and hot water in the country. Two years after its introduction around 300 mosques all over Jordan were fully running on solar energy. Jordan as a small country surrounded by political instability and regional powers has gone to great lengths to explore the field of renewable energy and how to tackle climate change. This thesis sets out to investigate how and why the ministry achieved such success. Two factors, economics and religion, are identified and explored. Through fieldwork conducted in Jordan the autumn of 2016, interviewing ministry officials, imams and other parties related to the project this research seeks to answer what motivated the mosques to participate in this project.

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1 Introduction

“The conservation of the environment is not a luxury but a national and human duty because of its direct connection with humanity’s livelihood, progress, and even survival. Therefore, we must accord it the priority it deserves in all state activities and make it one of the components of our national culture”

His Majesty King Hussein (former king of Jordan), letter of designation, 1991.

Climate change is happening now; we live in it and we contribute to it. The evidence is clear as water levels are changing, temperatures are increasing and glaciers and snow are melting at rapid speed (European Environment Agency, 2017). The situation demands our attention and there is an urgent need to move away from energy produced by fossil fuels, which has become evident as countries see changes occur in their local climates.

Climate change is affected by the high emission of greenhouse gases (GHG) worldwide. The main contributor to GHG is the burning of fossil fuels. Fossil fuels are still the main source of energy globally despite the growing usage of renewable energy systems. According to estimates from the U.S Energy Information Administration (2016) non-OECD countries will consume two-thirds of the world’s primary energy by 2040 (U.S. Energy Information Administration, 2016, p. 1). These estimates pose challenges in addition to climate change as governments still look to fossil fuels to cater for the ever-increasing energy demand.

The Middle East is a region often associated with oil and gas, as 47,3 percent of the world’s proven oil reserves is located in the Middle East (BP, 2015, p. 7). However, the oil is not evenly spread out over the countries and one country with scarce natural resources is Jordan. Jordan imports ninety-seven percent of its energy needs from neighbouring countries, which has proven to be a challenging task due to political turmoil in the region (al-Salaymeh, 2016, p. 83). To become less dependent upon other countries, Jordan has started to consider renewable energy systems as an alternative strategy to cover the increasing energy needs in the country.

Although many governments praise renewable energy systems, they still show reluctance towards incorporating and investing in them. Political leaders display unwillingness in promoting sustainable development. One of the reasons for this can be the difficulty of investing in something that has long-term benefits (McNeill & Wilhite, 2015, p. 39). It is difficult to convince electorates about long-term benefits that results in high, short-term costs (McNeill & Wilhite, 2015, p. 39). Another dilemma that appears when discussing this issue is how much consideration emerging economies should take in terms of investing in carbon-intensive industry. It was this industry that led to the success of industrialised countries.

These challenges emphasise the importance of the subject of renewable energy and climate change. Adapting to climate change has climbed on the global agenda and technology is developing at great pace. The growing demand for energy worldwide has resulted in governments looking to alternative sources, and not just fossil fuels. Renewable energy has grown to become a mainstream source of energy, especially within the power sector. In 2014, 19, 2 percent of the global energy consumption was covered by renewable energy and it is expected to rise in the coming years (Renewable Energy Policy Network for the 21st Century, 2016, p.6).

The aim with this thesis is to contribute to the limited research that has been conducted in the field of renewable energy in the Middle East. There is a growing interest in investment and development of renewable energy technology in the region that demands more attention globally. Morocco has branded itself as a pioneer in the region and has a green energy target of 40 percent by 2020 (Prisco, 2016). Jordan, on the other hand, has only recently started to explore this field of energy and is therefore an interesting country to focus on.

Research question

Climate change is already showing its strength in Jordan through irregular rainfall, water scarcity and rising temperatures. Due to its location, Jordan will be hit especially hard by climate change. NASA reports that the eastern Mediterranean Levant countries, i.e., Syria, Cyprus, Jordan, Israel, Palestine, Lebanon and Turkey, are experiencing the worst drought in nine centuries (Gray, 2016). Not only can climate change diminish access to resources inside a country, but it can also cause regional instability as countries disagree over the resources that remain (Brown & Crawford, 2009, p. 2). One of the biggest issues in the region is water

scarcity and the demand for water is already a huge problem in Jordan. It is estimated that the largest waterway, the River Jordan, will shrink by eighty percent by the end of this century (Brown & Crawford, 2009, p. 2).

This thesis focuses on a project that was launched by the government of Jordan in 2014, aiming to put solar panels on mosques all over Jordan (hereafter referred to as the Solar Panels Project). Jordan is heavily reliant on imports of crude oil and natural gas and is importing ninety-seven percent of its energy needs from neighbouring countries. The country is already experiencing climate change and is therefore a good example of a country that is exploring alternative technology. The aim of this thesis will be to investigate why the project was initiated and how it succeeded. The paper will naturally lead onto the question of climate change and environmental protection. The thesis will investigate the discourse on the project, looking into how the government speak about the issue of climate change and how they promoted the project for the mosques.

Even though this thesis will not set out to explore or understand all of the people of Jordan's attitude towards the environment, it does however explore how different parties talk about the environment, both in general and in the context of the Solar Panels Project. By using the pro-environmental behaviour framework I outline the perspectives of different parties that are familiar with the Solar Panels Project and Jordan's situation regarding climate change. I argue that even though economics is an important factor it alone cannot motivate mosques to install the solar panels. The parties in this context are government officials, like King Abdullah II and the people I interviewed during my fieldwork in Amman, and include imams, a professor, ministry officials and an NGO-leader.

Pro-environmental behaviour

As this thesis sets out to explore why the Solar Panels Project was a success, it is necessary to look further at the theme of environmental behaviour. How do people relate to environmental issues? What are the 'triggers', as well as barriers, to pro-environmental behaviour? Pro-environmental behaviour is a framework that grew out of environmental psychology in the US in the 1960s, as green parties and environmentalism was on the rise (Duroy, 2008, p. 421). Within the pro-environmental behaviour framework one looks at the "psychological roots of environmental degradation and the connections between environmental attitudes and pro-

environmental behaviours” (Kollmuss & Agyeman, 2002, p. 240). As a supplement to the pro-environmental behaviour framework, frame analysis will be used. Frame analysis looks at the phenomenon of how something is presented and how it influences choices people make. Using the pro-environmental behaviour framework and frame analysis, people’s perspectives that came about during interviews will be categorised in accordance with Benford and Snow’s (2000) three components of framing: diagnostic, prognostic and motivational framing.

Works on pro-environmental behaviour are extensive and varied. Researchers have developed a variety of theoretical frameworks that aims to understand people’s relationships with the environment. This includes numerous factors that are both triggering and discouraging people to behave in an environmentally friendly manner, e.g. values, economy, society, education, knowledge and feelings. This thesis presents some of the different factors that need to be taken into consideration when using this framework, with the aim of finding an outline that suits the research presented in this thesis.

Kollmuss and Agyeman (2002) define pro-environmental behaviour as behaviour that “seeks to minimize the negative impact of one’s actions on the natural and built world” (Kollmuss & Agyeman, 2002, p. 240). To minimize one’s actions can be the reduction of waste production through, for example, recycling and minimizing energy and resource consumption.

When environmental behaviour became a field of study, the assumption that environmental knowledge led to environmentally conscious behaviour dominated the field. The model assumed that educating people about the environment would automatically lead to pro-environmental behaviour. However, this assumption was soon proven wrong. As researchers studied this hypothesis they found that increased knowledge about the environment did not necessarily result in pro-environmental behaviour. One of the findings was the absence of correlation, e.g., between driving and climate change. Even people who considered themselves to be concerned about the environment drove cars (Kollmuss and Agyeman, 2002, p. 242).

In Kollmuss and Agyeman’s (2002) article they summarise some factors that have influenced the pro-environmental behaviour approach, which include demographic factors, external factors, and internal factors. Demographic factors include age and level of education. It is argued that younger, educated people are more likely to care about the environment in comparison to older, less educated people (Engel & Pötsche, 1998, p.316). Internal factors

illustrate pro-environmental behaviour on a personal level through individual emotions and feelings, where they include motivation, environmental knowledge, values, attitudes, environmental awareness, emotional involvement and responsibility and priorities.

External factors are factors within a society such as institutions, culture and economy. Institutional factors are of high relevance for people to act in a pro-environmental manner. If the necessary infrastructure is provided, people tend to act in a more positive manner towards it (Kollmuss and Agyeman, 2002, p. 248-249). If the government provides a system that is easy for people to access and use, then the tendency is that people are more likely to use it. For example; if there is easy access to a recycling system put in place in a society, then people are more likely to recycle.

There is a need to distinguish between two classes within the pro-environmental behaviour framework: curtailment and efficiency. Curtailment behaviours entail behaviour that requires changes in routine and lead to a reduction in consumption, e.g., recycling, turning lights off, not using heaters or coolers in hours of the day when it is not necessary (Schultz & Kaiser, 2012, p. 559). Efficiency behaviours are often a change you only do once that leads to reduction in consumption, e.g., installing solar panels, extra isolation in your house and buying a more energy-efficient car (Schultz & Kaiser, 2012, p. 559). The Solar Panels Project fits into the efficiency behaviour class.

The most common way to promote pro-environmental behaviour is through campaigns, e.g., awareness campaigns or warning campaigns, in the public arena. The need to inform people about how their actions are affecting the environment, is necessary to achieve a change in people's attitude. However, researchers agree that information and knowledge is not enough and Schultz (2010), among others, shows that research demonstrates that campaigns can have a small effect on behavioural change, but in most cases, there are none (Schultz, 2010, p. 252).

Framing pro-environmental behaviour

Framing was introduced to explain "how individuals exchange signals that allow them to agree upon the level of abstraction at which any message is intended (Tannen, 1993, p. 18). There are several ways to perceive a situation and framing chooses and emphasises specific aspects of a situation or phenomenon so that one meaning or attitude is accepted (Shamir,

1998, p. 123). Numerous types of framing exist and how it is framed is dependent upon who is writing it and who is the recipient. One person's terrorist could be another person's martyr (Kennedy, 1999, p. 2). President Bush's "Axis of Evil", referring to governments his administration accused of seeking weapons of mass destruction or President Reagan's reference to the Soviet Union as the "Evil Empire" are examples of framing with a clear political purpose (Mintz & Redd, 2003, p. 193).

Craig and Porter (1997) argue that "projects are typically evaluated in terms of how well they initially framed the local situation and brought about stable outcomes in accordance with the early frame of the project" (Craig & Porter, 1997, p. 232). Projects consist of various processes needed to bring a project to life. Framing theory can explain these processes. Benford and Snow (2000) propose three components of framing processes: diagnostic framing, prognostic framing and motivational framing. Diagnostic framing identifies the problem, prognostic framing proposes a solution to the problem and motivational framing is bringing the solution to life.

How to communicate the need to change our behaviour to mitigate climate change is widely debated. Gifford and Comeau (2011) argue that the message of climate change should "portray the possible benefits to the individual of climate action, such as positive changes in lifestyle and subsequent improvements in quality of life, rather than sacrifice and fear appeal (Gifford & Comeau, 2011, p. 1302). Through a study, they tested the effect of motivational versus sacrifice message framing in relation to climate change and their findings support the argument that there is a need to focus on a motivational-oriented message, instead of sacrifice framing.

Steg, Bolderdijk, Keizer and Perlaviciute's (2014) argue that there are three types of motivation (they use the word 'goals') to promote pro-environmental behaviour: hedonic, gain and normative motivation (Steg, Bolderdijk, Keizer and Perlaviciute 2014, p. 104). These motivations are closely linked to what Kollmuss and Agyeman (2002) call internal factors, that is linked to people's motivation to behave in a pro-environmental fashion. What Steg et al (2014) contribute to the pro-environmental framework is how to encourage pro-environmental behaviour. They argue that gain motivation "prompt people particularly to be sensitive to changes in their personal resources, such as money and status" (Steg, et al., 2014, p. 104).

Gain motivation is often brought up when talking about renewable energy systems, as economics is an important factor. Some economic research has shown that people often choose the cheaper option, not considering other benefits, such as energy efficiency. However, Kollmuss and Agyeman (2002) argues, that this is not entirely the case. This factor is a highly complex one, as it must be considered alongside other influences such as values and education. Economics is an important factor, but it is rarely enough on its own. Steg et al (2014) argue that gain motivation needs to be combined with normative motivation to successfully frame pro-environmental behaviour.

Normative motivation “lead people to focus on the appropriateness of actions and make them especially sensitive to what they think they ought to do” (Steg et al, 2014, p. 104). Ninety-seven percent of the Jordanian population is considered to be Muslim (Bureau of Democracy, Human Rights and Labor, 2015). Therefore, there is reason to believe that the mosques play an important role in the society. Mosques can play a dual role as an institution and as a cultural or religious part of the Jordanian society. It can set examples through physically installing solar panels, but it can also raise awareness around climate change and renewable energy through sermons.

Therefore, what motivated mosques in Jordan to participate in the Solar Panels Project? How did the government of Jordan manage to encourage mosques to install solar panels? These are questions this research is seeking to answer.

Note on language

This thesis follows a simplified version of the international Journal of Middle East Studies’ transliteration system. Names and titles are not written with vowel markers. Interviews that were conducted in English have been transcribed and directly quoted in the thesis. Therefore, there may be some quotes that do not have a correct grammatical construction, but these are direct quotes. Interviews translated from Arabic have been adapted to the English language, so they are easy to understand. Quotes with [] are sentences where words have been inserted by author to make them complete and comprehensible.

Outline of the thesis

The next chapter outlines my methodological approach when I conducted fieldwork in Amman in the autumn of 2016. Additionally, the chapter reflects on the experience of being

in the field as well as challenges and considerations when approaching the subject. This is followed by a historical background chapter on Jordan, to provide an understanding of Jordan's position in the region, their need for renewable energy and how climate change affects the country. In chapter four the Solar Panels Project is described to provide information about the project, the parties involved and the process. Thereafter, chapter five presents and analyses my findings on the government's and the interviewees' perspective on climate change and the Solar Panels Project. This is done along the lines of the pro-environmental behaviour framework. Lastly, a conclusion sums up the thesis and offer suggestions to further research on the topic.

2 Being in the field: Methodological approach

In the autumn of 2016 I conducted four months of fieldwork in Amman where I investigated the Solar Panels Project that was initiated by the government of Jordan in 2014. This chapter provides a description of the process of conducting interviews in Jordan as well as discussing the challenges regarding this project. I also look at the general challenges I experienced conducting the fieldwork as well as my own reflections on the project.

The reason for going to Amman

The Solar Panels Project sparked my interest as mosques play a vital cultural and institutional role in Jordan. They are an important centre for information and the spread of not only religious but also cultural and social ideas.

When arriving in Amman my aim was to investigate how people talked about climate change and if the Solar Panels Project had prompted people to install or take interest in renewable energy systems. However, due to a lack of time and limits of space within this thesis, this had to be discarded and perhaps saved for another research project.

Early on I discovered that many people knew about the Solar Panels Project, which made me curious about how the Ministry of Awqaf and Islamic Affairs had communicated the project to the mosques. This also led me to wonder how the imams talked about the project to their members and if it increased awareness of climate change among the people of Jordan.

Therefore I decided to focus on how different parties talked about the Project, both people working with it and people on the street.

Interviews

The thesis is based on a qualitative approach through interviews retrieved from fieldwork done in Amman in the autumn of 2016. The interviewing method followed Rowley's definition of "face-to-face verbal exchanges in which one person, the interviewer, attempts to

acquire information from and gain an understanding of another person, the interviewee” (Rowley, 2012, p. 260).

Interviewing can reveal information about an event, people’s interior experiences, or an unfamiliar place. As Weiss (1994) writes “most of the significant events of people’s lives can become known to others only through interview” (Weiss, 1994, p. 2). Unlike quantitative methods, which rely on large volumes of information that can be transformed into and presented in numbers, qualitative methods rely on a much smaller sample of informants. Qualitative methods make it possible to reach an understanding and insight about a subject, which allow one to explore the field of interest with depth. The information we achieve from a qualitative interview can be equally informative as a quantitative interview, depending upon the research focus. Also, people are more likely to take the time to be part of an interview rather than to answer a questionnaire (Rowley, 2012, p. 262).

Within my research I chose to ask open questions rather than closed ones, which are often found in quantitative interviews (Lotherington, 1990, p. 1). I decided to use semi-structured interviews as I believed this would lead to reflection through discussing different aspects of the subject.

In addition to interviews, documents like policies and scripts of speeches are used to compare different perspectives on climate change and the Solar Panels Project. They include Jordan’s Third National Communication on Climate Change and the National Climate Change Policy for Jordan found online. Articles published in Jordanian newspapers have contributed to my understanding of how media outlets in the country talk about climate change and renewable energy. These documents gave me insight into Jordan’s position in terms of climate change and renewable energy. Although not every source is cited in this paper, every encounter has contributed to my understanding of this subject.

The interviews

This thesis is based on information retrieved from the interviews I conducted with different people who were relevant to my research over the past four months:

- 1) A professor of mechanical engineering at the Jordan University of Science and Technology (J.U.S.T) in Irbid (hereafter known as professor X)

- 2) Two officials who worked in the Solar Panels Council in the Ministry of Awqaf and Islamic Affairs (referred to as the ministry officials)
- 3) Imams from different mosques in Amman – I have formally interviewed one, but had informal talks with several others
- 4) The head of a Climate and Environment Campaign in one of the biggest environmental organisations in Jordan and Lebanon (referred to as the NGO-leader)

The reason for choosing this selection of interviewees is that they could provide valuable information on different levels of the topic: Professor X could provide information about investment in renewable energy and the development on the technology; the ministry officials could tell me about how the mosques take part in the Solar Panels Project and how and why they started it; the NGO-leader could help me understand the difficult and easy parts of environmental work in Jordan; and the imams could provide valuable information about how they communicate the Solar Panels Project to their congregants and how they gather funds for it.

Before conducting the interviews, I decided to prepare an interview guide. An interview guide is a list of topics likely to be covered in the interview (Weiss, 1994, p. 48). It is primarily used by the interviewer to keep the interview on topic, but it can also serve as an overview for the interviewee if they wish to see the questions beforehand. The guide can contain broad information, like the topics to be covered or specific questions, depending upon the needs of the interviewer and the interviewee. I created different interview guides for each interview I conducted. The reason for this was that the interviewees were knowledgeable about different types of information. Some questions would be highly relevant to ask an imam, but less relevant to ask a professor and vice versa. For example, I would ask the imam how he talks about solar panels to his congregants. I could ask professor X this question as well, but he would probably respond as a congregant of a mosque, not as a professor of a university. On the other hand, I asked the professor about the development of renewable energy in Jordan, an area that the imam might not have much knowledge about. Due to the professor's technical and theoretical knowledge about renewable energy, I found it useful to ask him questions different from those I asked the imam, and vice versa.

Before I conducted the interview with professor X he asked to see the questions. In the guide I sent to him I wrote a series of very general open questions. For example: "how is climate change dealt with in Jordan?". In the interview guide I wrote for myself I used this question as

a topic and then filled in more specific questions underneath. For example: “how does the government talk about it?” and “how does the media talk about it?”. These questions were often answered without me having to ask them, but they were guidelines for me while I was conducting the interview. In addition to giving him an interview guide I sent a request by e-mail regarding recording the interview and the issue of anonymity. He replied that it would be of no issue to both questions. I could record the interview and use his name in my assignment if necessary.

Ethical aspects

As I came in contact with the sources, I always communicated the aim of my project so as to not create any misunderstandings around the usage of interviews. Even though I changed my research question when I returned to Norway, their information has not been used or interpreted in any other way than with a focus on the Solar Panels Project. They all agreed to be recorded and did not have any issues with me using their names. However, as their names are not crucial for this thesis, I have decided to keep all interviewees anonymous.

Reflections on conducting interviews

When conducting a semi-structured interview with an interview guide the challenge is to know enough about the topic beforehand so you can ask the right follow-up questions (Lotherington, 1990, p. 5). When I conducted the interview with the professor I was prepared for an interview involving issues on a political and societal level. As he is a mechanical engineer he often started to talk on a more technical level. For example, I asked “in your opinion, does the government invest enough in renewable energy?”, where he responded with technical references. For example, he started to explain how the mechanism of concentrated solar power (CSP) worked and the number of megawatts it produced in comparison to photovoltaic (PV) technology. As I was not very familiar with the technical aspects of renewable energy, I was unable to ask follow-up questions where it might have been necessary. After I finished the interview, I asked an engineer about the technicalities the professor discussed and therefore ensuring I could understand what he was talking about more clearly. As I was allowed to record the interview, I listened to it afterwards and found points at which I could have asked follow-up questions had I known what I learned after speaking with the engineer.

The language barrier was another obstacle I faced during interviews. Conducting an interview in Arabic is not an easy task for a non-native speaker. The interview I conducted with the professor and the NGO-leader was done in English, as they both are fluent in the language. In regards to professor X I considered this to be necessary as I am not familiar with the technical vocabulary within engineering.

The interview with the ministry officials and the imams were conducted in Arabic. When I interviewed the ministry officials, I was accompanied by a person who speaks Arabic on a much higher level than me, but not a native speaker. The same challenge posed itself here as in the interview with the professor: it was challenging to ask follow-up questions. The ministry officials were quite patient with us and talked slowly and repeated themselves often. It was my friend who became the main interviewer as she sat closest to the main official we interviewed and he talked to her during most of the interview. By listening to the recording afterwards I realised that being alongside a person who was not as familiar as me with the subject, posed an unnecessary challenge. When translating the interview, I discovered that he explained many parts of the Solar Panels Project that I was already familiar with. For example, he explained carefully how the solar panels work. Had I done the interview alone I might have been able to avoid these questions. When I interviewed the imam I was accompanied by a Jordanian who conducted the interview. The reason for being accompanied by a man, is explained in the next section.

As I was able to record all the interviews I could review and listen to them afterwards. I transcribed all of them in addition to translating the interviews done in Arabic. By working with the interviews I gained a broadened perspective on the topic and was able to discuss answers with fellow academics who were interested in the topic. These conversations were helpful as they provided me with further insight into this subject.

Being in the field

Before my departure to Amman, I had considered the challenges of accessing mosques as I am not religious. However, I had not considered the challenges regarding my gender and age. I assumed that as long as I explained my reason for asking for an interview, imams would be willing to participate since my topic is not a sensitive matter. However, it is a known fact that the relationship between a researcher and their interviewees will be influenced by several

factors (El-Solh, 1988, p. 91). I experienced this when I met an imam in his office in one of the first mosques I visited. Madden (2014) writes “ethnographers use their eyes and ears in systematic, targeted observations” (Madden, 2014, p. 282), which contribute to their reading of a situation. When I spoke with the imam, I observed that he was not sitting still, instead moving his legs and changing position often. I interpreted this as him being uncomfortable, and therefore cut the conversation short after he repeatedly said that the topic of solar panels needed to be discussed with engineers rather than with him. This made me wonder whether this research would have been easier to conduct if I was religious, a man, or both. The same question applies to the difficulty I have experienced with gaining access to imams and planning interviews. In comparison, I had no difficulty making contact with the professor or scheduling an interview with him. In this case, I felt as though our interaction was between a student and a teacher, rather than a man and a woman or a religious person and a non-religious person. I felt as though my age, sex and religion did not affect my ability to approach the professor or gather the necessary information from him.

I assume that the reason for the imam’s behaviour was because I am a woman. The reason for this assumption is that I believe it is not common for imams to be approached by women without male company. Because of this experience I decided to conduct the other interviews alongside a male companion. I met a man who was very interested in the project, and was eager to help. Even though he told me that he thought it would be okay to conduct the interviews alone, he agreed with me in that it was preferable to do it with someone. I therefore talked with him first about my project, about what I wanted to know and what I already knew, so that the interviews would not needlessly explain certain areas with the ministry officials. This proved to be successful. I got both interviews and conversations with imams, and other congregants, and I was able to retrieve valuable information about the project.

Finding interviewees

The most important and challenging part of being in the field is finding informants or interviewees. I assumed beforehand that the difficult task would be to get interviews with professors and ministry officials. I was wrong. The professors I contacted responded positively within a couple of days and the ministry officials I talked to were able to take part in an interview the following day. I was put in contact with the leader of the NGO, who could meet with me the following week. Getting a hold of imams proved more difficult. I tried two

different approaches. First, I found people who were already involved in a religious community that could help me set up meetings with imams. Second, I visited mosques myself, both alone and accompanied by a fellow student.

The first approach I took to meet imams is a method of sampling that is commonly referred to “snowball” or “chain” sampling. As Noy (2008) writes, “snowball sampling relies on and partakes in the *dynamics of natural and organic social networks*” (Noy, 2008, p. 329). The snowball sampling tactic uses the information provided by someone to find your informants. It is the most broadly employed method in qualitative research and is a way to both access informants and meet new participants (Noy, 2008, p. 330). This method proved useful to me as I had difficulty accessing the imams by approaching them in the mosque. Alongside a friend, we approached the imam at his local mosque and asked for an interview. He agreed to meet at his office. We conducted the interview the following day. He also provided us with information on other imams that could be interested in talking with me. Another person I met, who was very eager to help, tried several times to make appointments with an imam who is very prominent in the radio scene in Amman. However, he failed to show up to three of our appointments leading me to give up this lead. Another friend, who was very active in his local mosque community provided me with information about friends he knew who worked within the field of renewable energy and spoke to his local imam on my behalf as he did not want to be interviewed by me.

The second approach I took to meet imams was to visit mosques myself and approach the imams personally to ask for an interview. This approach was tedious and not very useful. I visited three mosques after midday prayer on a Saturday, accompanied by another student. We entered the first mosque we visited through the women’s entrance and were led by a female employee to a group of men who were sitting in the men’s area eating lunch. One of them escorted us upstairs to the imam’s office. The imam began to listen to us, but cut us off and quickly said that we needed to talk to one of the engineers working in the council of the mosque. He moved often in his chair, and rushed through the conversation. We perceived this as him feeling uncomfortable, and wanting the conversation to end. We decided to stop asking questions and we did not want to push it too far. However, before we were able to ask if we could come back for a proper interview, he started to pray. Visits to the other mosques were equally difficult, with the exception of the last mosque we visited, which put us in contact with the ministry official.

Indirect communication

“Yes, yes, I will help, don’t worry. I will help. Sit down, sit down”. My friend and I enter a tourist shop that is connected to one of the biggest mosques in Amman. We have asked if it would be possible to speak with either the imam or someone on the council. “Yes, yes. No worries. We can arrange this”. We are met by the shop keeper who is eager to help us. He invites us to sit down with him and his employees for lunch. We have just eaten lunch, but when we try to decline his invitation, he disregards us and tells us to sit. Bread, water, tomatoes, a bowl of cucumber, and a jar of tahini are carried out and placed on the table. “This is how we eat lunch here in Jordan. Let me show you”. He picks up the vegetables and mix them in the bowl with the tahini. We try again to tell him that we just ate and that we can come back another day, but our words fall on deaf ears. He gives us plates and gestures that we should start to eat. Although we are full from our lunch, we eat again out of politeness. During the meal, we try to tell more about my project, but are cut off in the middle of sentences. “We will talk about it later. Now where are you from? For how long you been in Amman? Have you been to Petra? I can help you to go to Petra. Are you married?”. We answer his questions politely, and watch as the food is taken away and tea is served. Again, we try to ask him if the imam or any council members are present at the mosque. He ignores the question and starts talking about his shop and how he fixes whatever needs to be fixed and if people need something they come to him. Two hours pass and we are still in the shop talking about our Arabic studies, what we think of Jordan and his position in the shop. We are again offered tea, but we politely decline and tell him that we have to leave because of other appointments. He then invites us to come back the next morning to meet with someone who works in the mosque.

One of the key features and facets of Middle Eastern and Arab culture and customs is the subtlety with which you approach and discuss matters. Communication in this culture is indirect. It is important that subjects are not broached immediately or directly, but are preceded by long interactions that creates a relationship between the two parties. Hendry and Watson (2001) write that “indirection is not limited to oral or written discourse, and can occur in action, performance and display” (Hendry & Watson, 2001, p. 3). By indirect communication in this context I refer to the circular way of approaching or avoiding a topic. In all the mosque’s we visited, we quickly stated our business and requested to meet either the imam or the council. The response was usually positive and helpful, but packed in a series of

cultural rituals. I experienced this on several occasions and it took some time for me to understand that this was a necessary step to establishing contacts.

This indirect communication was a learning process. It is not necessary in this context to know the meaning of the term “circular ritual”, but rather learn how to participate without being impolite. The balance between wanting to get straight to the point and talking about your personal life is a tough balance. Being asked about my personal status, where I live, how long am I in Jordan for, my telephone number and so on, are things personal to me. To be able to reject those questions while keeping a good tone with the interviewee has been challenging.

3 History and context

This chapter covers the background information on Jordan necessary to better understand the process of how the Solar Panels Project came to life. In addition to Jordan's history and politics, this chapter provides a definition of two concepts that is much used in this paper: climate change and renewable energy. To end this chapter, Jordan's situation in regard to climate change and renewable energy is clarified.

The Hashemite Kingdom of Jordan

The Hashemite Kingdom of Jordan is a constitutional monarchy ruled by King Abdullah II. Throughout history the location of the country has meant it has served as a connector and played an important role within the trade and communication between Asia, Europa and Africa. After the dissolution of the Ottoman Empire in 1920, Jordan, formally known as Transjordan, became a part of the British Empire. In 1923 Britain formally recognised Transjordan as a self-governing state and Emir Abdullah (later King Abdullah) became king. Transjordan was controlled by Britain until 1946, when it gained independence.

This section focuses on Jordan's history after it gained its independence in 1946. In 1949 King Abdullah officially changed the country's name to The Hashemite Kingdom of Jordan. Although Jordan gained independence from Britain, the country still relied on its support. In the period after Jordan's independence, the area was largely dominated by the Palestinian conflict. After Israel declared independence in 1947, Jordan's army occupied areas of Palestine that had been given to the Arabs in the UN Partition Plan of 1947 (Ryan, 2014, p. 283). Unlike other Arab states, King Abdullah decided to extend Jordanian citizenship to the Palestinians. The Jordanian annexation of Palestinian territory was not well received by the Palestinians nor most Arab nations, and Jordan only had Iraq as its ally at that point (Ryan, 2014, p. 284). When King Abdullah was assassinated in 1951 in Jerusalem, his grandson, Hussein, succeeded him. King Hussein lived to be one of the longest-ruling monarchs of the twentieth century (Ryan, 2014, p. 285).

When the Arab-Israeli war started in 1967, Jordan lost its control over the West Bank. The war took its toll on the Jordanian economy, in addition to the social and political environment. Thousands of Palestinians had to flee their homes and settle in Jordan. The Palestinian

conflict dominated Jordanian politics for years, until 1994 when Jordan and Israel officially declared peace (Ryan, 2014, p. 286). Due to its previous losses, both civilian and financial, Jordan largely managed to avoid getting involved in the second Arab-Israeli war of 1973. However, they supported the war by sending forces to Syria.

Since Iraq had been the sole supporter of Jordan when the annexation of the West Bank took place, Jordan returned the favour when the Iran-Iraq war broke out in 1980 and later during the Iraqi invasion and occupation of Kuwait in 1990. The world community, on the other hand, did not support the Iraqi invasion. This led to a dilemma for Jordan. King Hussein tried to maintain positive relationship with his Western and Gulf allies, but to no avail. Jordan received harsh critique from its allies and the Gulf states responded by expelling 300 000 Jordanian workers who were working in their countries (Ryan, 2014, p. 286).

After the peace-treaty with Palestine and Israel, Jordan was able to rebuild a relationship with its Western allies. Later in the same decade, they were able to re-establish most of their previous relationships with the Gulf states. Jordan are a well-educated people, for which there was a high demand for in the Gulf countries. In 1999, King Hussein passed away, leaving the throne to the current king, his son: King Abdullah II.

In 2011, the so-called “Arab Spring” broke out all over the Middle East and it was expected to spread to Jordan as well. However, in contrast to their neighbours Jordanians never called for the King to leave (Tobin, 2012, p. 96). There were no massive demonstrations in the cities either, but rather smaller but more frequent ones (Ryan, 2014, p. 296). The demonstrations that occurred called for governmental reform, an end to corruption and the resignation of Prime Minister Samir al-Rifa’i, and later the same year, of Marouf Bakhit and his government (Tobin, 2012, p. 101). King Abdullah II dismissed the two Prime Ministers and some reforms were made. Today’s Prime Minister is Hani Mulki, who took office in June 2016.

Due to Jordan’s geographical location, the country is host to a large number of refugees from Syria, Iraq and Palestine. This issue has affected Jordanian politics and put heavier demand on the country’s natural resources and increased the energy demand.

Climate change

In the Fifth Assessment Report, the Intergovernmental Panel on Climate Change (IPCC) reports that changes in climate “have caused impacts on natural and human systems on all

continents and across the oceans” (Field, 2014, p. 4). Climate change is a well-known term for most people, however it can be somewhat vague at the same time. The term is often used interchangeably with the term global warming. In actuality, they explain different physical phenomena (Lineman, Do, Kim and Joo, 2015). Before moving on to Jordan’s situation in terms of climate change and global warming, it is necessary to clarify the two terms.

The United Nations Framework Convention on Climate Change (UNFCCC) distinguishes between climate change and climate variability. In article 1 of the framework, they state that climate change “means a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere” (United Nations, 1992, p. 7). Climate variability, however, is natural and has been “observed over comparable time periods” (United Nations, 1992, p. 7). Climate change refers to the changes in weather and climate conditions. Countries all around the world have experienced changes in the climate, such as irregularity in rainfall, sudden falling or absence of snow, melting glaciers, rising temperatures and increased occurrences of hurricanes and storms.

NASA has published evidence of climate change on their website, stating: “the earth’s climate has changed throughout history. [...] The current warming trend is of particular significance because most of it is very likely human-induced and proceeding at a rate that is unprecedented in the past 1,300 years” (NASA, 2017). This “warming trend” is often referred to as global warming. Global warming is the rise of the global average temperatures and is highly contributing to climate change. Philander (2012) writes “the term global warming expresses the belief of a great many scientists that the climate is warming, not just from natural causes, but also from anthropogenic (human) causes” (Philander, 2012, p. 641). NASA also reports, among other things, that the Arctic and Antarctic sea levels have reached the lowest points since they started recording them in 1979 (Viñas, 2017). It is too early to tell if climate change is causing this change in sea level, as additional years of data are needed. However, the changes in sea level has happened at such a rapid pace that it has become a point of worry for scientists.

The evidence of the human impact on climate change is apparent in numerous ways. The reverse is also true: climate change can have various impacts on natural and human systems. By looking at the record of the Earth’s past climates, one can see the development in climate change. However, the climate change we experience today is different from before. Over the

last 5000 years, the global temperature rose a total of four to seven degrees Celsius, whereas in the past century alone the global temperature has risen to 0.7 degrees Celsius (NASA¹).

Of all signs of climate change, the rise in global temperatures has gotten the most attention. The need to reduce the emission of greenhouse gases (GHG) has become an issue that has reached the agendas of politicians worldwide. A recent outbreak of anthrax in north Russia is an example of the effects of increased temperatures. A twelve-year-old boy from a nomadic herder community died from an outbreak of anthrax (Luhn, 2016). The outbreak of this disease is rare in such cold areas, because although the virus can survive in very low temperatures, it needs warmer temperatures to be released from the ground. This outbreak has been linked to climate change as Russia has experienced an increase of 0.43 degrees Celsius in their average temperature over the past ten years.

It is expected that poorer countries and indigenous people will bear the largest burden of climate change. Changes in the climate result in an increased intensity of storms and the frequency of their occurrences as well as an increase in temperatures (Global Facility for Disaster Reduction and Recovery, 2016, p. xiv). These changes to the climate will be accompanied by huge economic and social challenges.

Renewable energy

The increasing demand for energy has grown to become a pressing matter for governments all over the world. This is especially true in developing countries in need of cheap and simple energy supplies (Boutammachte and Knorr, 2012, p. 1849). Many countries have the geographical advantage of being located in areas with intensive solar irradiation, which needs to be exploited properly. In addition to enhancing exploitation of solar, a reduction of GHG emissions is necessary to mitigate climate change. As the world's population is growing, so does the demand for energy. The ability to become less dependent upon fossil fuels and to increase the usage of renewable sources is an important issue on the international agenda.

Renewable energy is “energy sources that are continually replenished by nature and derived directly from the sun [...], indirectly from the sun [...], or from other natural movements and mechanisms of the environment” (Ellabban, Abu-Rub and Bjaabjerg, 2014, p. 749). Examples

¹ Webpage had no publication date: <https://earthobservatory.nasa.gov/Features/GlobalWarming/page3.php>

of renewable energy sources are sun power, geothermal power, hydropower and wind power. Today around 20 percent of the global energy consumption is covered by renewable energy sources (REN21, 2016, p. 17). Within the energy sector, the number has reached 23,7 percent (REN21, 2016, p. 18).

Unlike fossil fuels such as gas and oil, the sun is an abundant energy source. Researchers have explored the sun's ability to provide energy at the same level as fossil fuels with positive results. Not only is the sun an abundant and reliable resource, it is also quite evenly spread out all over the earth (Stauffer, 2015), giving everyone the opportunity to exploit it. The most expanded, and perhaps most well-known, form of renewable energy technologies are solar panels which use photovoltaic (PV) technology. PV-technology can be used in small or large projects. In 2016, Morocco opened the largest PV power plant project in the world; the Noor 1 solar power plant. This power plant can provide energy to up to one million people (Neslen, 2016).

Renewable energy technologies are moving in the opposite direction as fossil fuels in terms of prices. As fossil fuel-prices are on a rise, are renewable energy technology-prices declining. However, fossil fuels are still the cheapest choice, making government and people reluctant to invest in renewable energy projects.

Jordan, climate change and renewable energy

Jordan submitted its third National Communication on Climate Change report to the UNFCCC in December 2014. This report details how Jordan is suffering, and will continue to suffer severely in the future, due to climate change. Jordan is a country with scarce natural resources and imports ninety-seven percent of its energy (al-Salaymeh, 2016, p. 83) through oil and gas from the neighbouring countries Egypt, Iraq, Saudi Arabia and now Israel. Jordan's few domestic resources are natural gas from the Risha gas field, oil shale reserves and renewable energy projects, which include PV-technologies, wind and biomass (Hrayshat, 2007, p. 90).

Jordan is geographically located with only a small coastal line in the southwest, of 26 kilometres, while the rest of the country is surrounded by borders to its neighbouring countries Syria in the north; Iraq in the east; Saudi Arabia in the southeast; and the West Bank and Israel in the west (Verity, Bickerton and Jaber, 2017). The majority of the country

consists of desert and the urbanisation level is high in Jordan, with 84,4 percent of the population living in urban areas that are located in the western parts of Jordan, along the River Jordan (Knoema, 2015).

NASA reports that the eastern Mediterranean Levant countries Syria, Cyprus, Jordan, Israel, Palestine, Lebanon, and Turkey, are experiencing the worst drought of the past nine centuries (Gray, 2016). Not only can climate change diminish access to available resources, but it can also cause regional instability as countries quarrel over the resources which remain (Brown & Crawford, 2009, p. 2).

Due to Jordan's geopolitical environment the country is vulnerable to climate change. The country has experienced increasingly extreme weather conditions, like heat waves in the summer, floods during winter, and irregularity of rainfall causing streams to dry out, as well as migration flows that have steadily affected the country (Hamdi et al, 2009, p. 58).

One of the largest challenges Jordan is facing is water scarcity. The World Health Organisation (WHO) reports that Jordan has one of the lowest levels of water resource availability per capita in the world (World Health Organisation, 2017). A rationing system has been implemented, for example giving citizens water two times per week. However, the increase in population does not correlate with the increase in water supply. Jordan has also experienced a rise in cases of drought periods and irregular rainfall in the last decade, which has affected various aspects of Jordanian life.

The electricity in Jordan is mainly generated by burning imported oil and natural gas. The energy demand in Jordan doubled in the years 1984 to 2004 (Jaber, Badran and Abu-Shikhah, 2004, p.175) and the current annual increase in primary energy demand is five percent (al-Salaymeh, 2016, p. 83). One of the reasons for the high demand in energy is a result of the migration movements in the country. Migration to Jordan has continuously played a key role in shaping the country's demographic situation, in addition to economic and political structure (United Nations Framework Convention on Climate Change, 2014, p. 15). Around 2.8 million refugees are currently in Jordan (Norwegian Refugee Council²), mainly from Syria, Egypt, Palestine and Iraq. The number of refugees has increased rapidly since the outbreak of the

² Webpage had no publication date: <https://www.nrc.no/countries/middle-east/jordan/>

Syrian civil war and given Jordan an additional challenge to the already high demand of energy.

In 2004, the Cabinet in Jordan endorsed the Master Strategy of the Energy Sector for the period 2007-2020, with the aim to “confront the challenges that impede implementation of several projects, which meet the Kingdom’s energy needs during the next stage in a way that would contribute to improving the level of availability and openness of energy market before investments and achieving the energy supply security” (Royal Commission, 2007, p. 2).

When the strategy was implemented the main intention was to expand the electricity grid to reach local communities, develop ties with neighbouring countries and diverse energy sources (Shahin, 2015, p. 41). The strategy suggests a combination of energy sources consisting of oil imports, oil shale production, natural gas and renewable energy. Renewable energy sources contributed only to one percent of the total energy mix in Jordan in 2007. In the strategy, the target has been set for seven percent in 2010 and ten percent by 2020. In 2012 the government ratified a renewable energy and efficiency law, called Law number 13. The aim of the law is to provide the government “with suitable tools to reach the National Energy Efficiency Strategy targets” (International Energy Agency, 2013) and to “increase the RE share in the primary mix, prompting investment, mitigating environmental pollution, and rationalizing energy consumption” which ultimately lead to a sustainable development (Abu-Dayyeh, 2015, p. 8).

Alongside the amendment of the law, the establishment of Jordan Renewable Energy and Energy Efficiency Fund (JREEEF) was conducted. The fund is financed by foreign and national institutions, and provides support to renewable energy projects, both in the private and public sector. JREEEF is an important participant in the renewable energy sector as they were established to help reach the goals set out by the renewable energy and efficiency law.

Prime Minister Hani Mulki recently signed a contract with Attarat Power Company (APCO) about a project that will build an oil shale power station that will reduce the country’s reliance on importing oil and gas (Ghazal, 2017). Although the project will decrease Jordan’s imports of fossil fuel, it will still have a huge effect on the environment.

Jordan is especially well suited for renewable energy because of its geographical location. Even though Jordan is one of the driest countries on the planet, it is situated in the so-called solar belt of the earth. This means that Jordan receives some of the best sun quality in the

world and is amongst the countries that have the highest number of sun days on earth (al-Salaymeh, 2016, p. 86). Jordan's investment and interest in renewable energy has increased and at the COP21 summit in 2015, Jordan submitted its intended nationally determined contributions (INDC) targets. Jordan intends to reduce its greenhouse gas emission by 14 percent by 2030, but is unconditionally committed to reduce it by at least 1,5 percent.

4 The Solar Panels Project

In 2014 the government of Jordan launched The Solar Panels Project, a project that involved installing solar panels on mosques and universities across the country. This became very popular within a short space of time. This chapter looks at the presentation and the process of the Solar Panels Project including the response of the mosques. Prior to this it is important to understand Jordan's position related to renewable energy technology and how the country as a whole can best benefit from it in both short and long term.

Renewable energy systems

As mentioned in the previous chapter, investing in renewable energy technology is an important way to have an alternative energy source to the fossil fuel-driven society Jordan currently has. To change this the country aims to diversify their energy sources and make renewable energy sources contribute ten percent of the total energy mix by 2020 (al-Salaymeh, 2016, p. 102).

The renewable energy technology Jordan has invested the most in is photovoltaic systems, better known as solar panels. Photovoltaic systems convert light directly into electricity, which is a direct transformation so that it is possible to use a power-run device during the sunny period of the day. The key challenge with the photovoltaic system is storage for usage after sunset.

There are various ways to store this electricity and one of them is through batteries. This is however a short-term solution and has proven very challenging in the long run. In large venues, such as mosques and universities, a battery would have to be of a very large size and could be quite impractical as well as require a high level of maintenance. Batteries are better used for instant purposes such as in a car or everyday household tasks.

An alternative to batteries is to connect the solar panels to a grid. By connecting the solar panels to a power grid the excess electricity is sent to an electricity provider who registers the amount of electricity your household uses and supplies you with extra energy if needed (Maehlum, 2013). It operates the same way as today's grid, with the exception that it runs on

renewable energy. This means the ability to keep the same power grid system, just with another energy source.

One of the hesitations for Jordan of investing in renewable energy systems like solar panels has been the price. Building a solar power park is costly and time consuming. However, recent years have shown a rapid decline in prices. In the past 40 years the price has dropped by more than 90 percent (Trinity Solar Team, 2016). Production prices dropped worldwide in 2008, which resulted in photovoltaic systems becoming not only available but also highly desirable for investors. On average the price dropped between six to seven percent each year between 2012 and 2013, making it desirable to invest in and buy (Osman, 2015).

The Solar Panels Project

The government of Jordan introduced in 2014 an economic incentive program urging mosques and universities to start using solar panels. The initiative brought on by the growing population resulting in an annual five percent increase in demand for electricity in the country (al-Salaymeh, 2016, p. 83).

To oversee the Solar Panels Project a collaboration between the Ministry of Energy and Mineral Resources and the Ministry of Awqaf and Islamic Affairs led to the establishing of the Council of Solar Energy (Lajnat al-Taqa al-Shamsiyya) in 2013. The council consists of seven members from different disciplines, e.g., electrical engineering, civil engineering, sharia-studies, and mathematics. Some of the engineers are specialists in solar energy and photovoltaic systems. This council oversee every application received from mosques.

To inform the mosques about the project the Ministry arranges seminars for the council members of the mosque and the imam. At these seminars they provide basic information about the application process, what is required and how to go about it. In addition to the practical aspect of the project they also inform about the necessity of moving towards a sustainable future and how this project fits into Jordan's aim of becoming less reliant on imported fossil fuels.

In every mosque, there is a council made up by local congregants. This council is responsible for the maintenance of the mosque and the communication between the imam and other

congregants. They are the ones who decide if the mosque will invest in solar panels. Together with the imam they attend (or have attended) a seminar and can thereafter start the process of applying to the project. To apply they have to have a project proposal, where they present how they will do it and how to fund it. The Ministry of Awqaf and Islamic Affairs will cover 20 percent of the total, whilst the remaining 80 percent the mosques must cover themselves. In the proposal, the mosques must have contacted a company that provides solar panels and can install it on their mosque. If their application is approved by the Council of Solar Energy, then the council make a smaller committee, consisting of several engineers, that follow up the mosque and overview the whole project.

The average mosque in Jordan spends between 770 and 1500 EUR in electricity bills each month, depending on the season. Since the launch of the Solar Panels Project, approximately 300³ mosques around Jordan have started to use solar panels as their main source of energy. This transition reduced their electricity bills to essentially zero⁴, a massive decrease in their electricity bills that has made it possible to use these amounts on other areas. As the project is rather new, it is unknown what areas the mosques might focus on, but the ministry official I interviewed told me that this relief in the budget allows the congregants to spend more money in the local community through helping families and their local communities with economic support for e.g. education.

³ This approximate number was given to me during the interview I conducted with a ministry official at the Ministry of Awqaf and Islamic Affairs

⁴ The mosques which transitioned to solar panels pay an electricity bill between one and six EUR each month (Obeidat, 2015).

5 Jordan in the sun

The Solar Panels Project can undoubtedly be considered a success, as in two years after its introduction in 2014 around 300 mosques were fully running on solar energy. The Ministry of Awqaf and Islamic Affairs has succeeded in encouraging mosques all over Jordan to apply to the project. How? This chapter sets out to find this out. Benford and Snow's (2000) three components of framing; diagnostic, prognostic and motivational, is used to outline the government's perspectives the project. By looking at speeches, documents and interviews, an analysis shows how the government talk of the challenge of climate change and the necessity to move towards a sustainable future with renewable energy as the main energy source. Then, a deeper analysis into how they succeeded in motivating mosques to adapt to the project is done, through the interviews conducted in Jordan with different people who knew about the project, namely: Professor X, the NGO-leader, different imams and two ministry officials who work in the Solar Panels Council in the Ministry of Awqaf and Islamic Affairs.

Framing

To understand how the government and other parties talk about the issues of climate change and the Solar Panels Project, the following section is divided into the three components of framing by Benford and Snow (2000). Closer study of these components will enhance understanding of how they succeeded with the Solar Panels Project.

Diagnostic framing refers to the process of the identification of a problem and its attributes. Within environmental studies climate change is the issue that needs to be identified. However, as this can be very vague it is necessary to narrow it down so that it can be relevant for one's situation. For example, among environmental organisations in St. Petersburg, there was a consensus that the main problem was the lack of satisfactory environmental policies in Russia (Tynkkynen, 2006, p. 640).

Prognostic framing addresses the problem and attempts to find a solution or a strategy to solve the problem. For example, if a city struggles with heavy pollution and dust, the local government can come up with a strategy to encourage public transportation or investment in systems which will ease the problem.

The final component, motivational framing, provides a rationale to legitimise the issue at hand and mobilise people or parties in support. For example, Tynkkynen (2006) found in her research on an environmental organisation in Russia that the main motivation among the members of the organisation was making a living (Tynkkynen, 2006, p. 647). Being a part of this organisation was their main source of income. However, this was not the only reason, as relevant education and moral obligation also played a part.

Diagnostic framing: what is wrong with Jordan?

In 2015, Paris hosted the 21st Conference of the Parties (COP21), where world leaders gathered to discuss climate change. King Abdullah II addressed the delegation on climate change as he made a statement during the Leaders event, where he said:

The entire planet is endangered by climate change. Responding to individual crises as they arise is not enough. It is simply impossible. We must act collectively, with foresight, responsibility and determination. [...] If global climate change continues on today's trajectory, the challenges will increase exponentially. These harsh realities are why Jordan has been integrating energy and environmental approaches into a sustainable, long-term national development strategy. In 2013, we were the first in our region to produce a comprehensive, forward-looking National Climate Change Policy. [...] Climate change cannot be addressed in isolation. No geographical region, no economic sector can protect itself from the impact of global threats. [...] Jordan pledges our continuing cooperation, for our own people's future, and the future of our shared world (United Nations Framework Convention on Climate Change [UNFCCC] (B), 2015).

This speech has been retold and published in many media arenas in Jordan. It has elements that fit into all three categories of framing. He identifies the challenge Jordan is facing as he refers to 'the entire' world being 'endangered by climate change'. He further goes on to say that if today's global climate change continues the challenge will be increasingly difficult to tackle. How are we to understand his choice of words? The quote, 'cannot be addressed in isolation' and the words 'collectively' and 'cooperation' give a sense of community. This could be interpreted to mean that the global community could be led by Jordan.

The diagnosis for Jordan is also addressed in Jordan's Third National Communication report on climate change, which was submitted to the United Nations Framework Convention on Climate Change (UNFCCC) in 2014. The report detailed how Jordan will suffer from climate change in the future. The major challenges are water scarcity and drought and that the amount of rainfall will not be enough for the agricultural sector (UNFCCC, 2014, p. 15).

The National Climate Change Policy of the Hashemite Kingdom of Jordan 2013 – 2020, states that “Jordan recognizes that climate change is a serious and pervasive threat to humanity” (The Ministry of Environment, 2013, p. 12). Climate change is largely due to emissions of greenhouse gas, which Jordan is not a large contributor to. However, the kingdom “maintains strong commitment to the objectives developed by the international community for the integrated environmental and economic response to the threat of climate change” (The Ministry of Environment, 2013, p. 12). The policy elaborates further on the specific impacts climate change can have both on Jordan and the Middle East.

King Abdullah II's speech and the National Climate Change Policy for 2013 – 2020 have a similar message. The King addresses the problem on a global level, stating that the ‘entire planet’ will be severely affected by climate change. He does not talk about Jordan specifically here, but it needs to be taken into account that he was speaking to an audience of United Nations (UN) members. To me it seems that the King uses these types of ‘big’ words to demonstrate how serious his country is taking the issue of climate change. He is trying to enhance the role Jordan can play within the issue of climate change.

Prognostic framing: how can Jordan approach the problem?

As mentioned in the previous section, King Abdullah II's speech fits within all three parts of framing. He appeals to the prognostic side of climate change when he says,

We must act collectively, with foresight, responsibility and determination. [...] These harsh realities are why Jordan has been integrating energy and environmental approaches into a sustainable, long-term national development strategy. In 2013, we were the first in our region to produce a comprehensive, forward-looking National Climate Change Policy. [...] Jordan pledges our continuing cooperation, for our own people's future, and the future of our shared world (UNFCCC (B), 2015).

The King calling on the ‘collective’ to act with ‘foresight’, ‘responsibility’, and ‘determination’, is an interesting choice of words. What “collective” is he talking about? Globally or Jordan? As he is speaking at a conference at the COP21-summit in Paris, there is reason to believe that he means globally. However, in what way? Is he pointing out that Jordan can be a global frontrunner? The usage of these words is to underline how the King is emphasising Jordan’s role and position globally, or perhaps the role he wants Jordan to have. The same can be said for further notable words choice, namely: “foresight, responsibility and determination”. For whom? Through using these types of words, he is emphasising the necessity to cooperate, the need for everyone to share the load. Additionally, he identifies Jordan as an example of a country that has taken steps towards a cleaner future through creating innovative policies. Also, here it can be interpreted as a way of emphasising Jordan’s position. The King says that Jordan “pledges” to continue the “cooperation” for the people of Jordan and the world, painting a picture of Jordan seeing a world standing together in this matter and the wish to be a force for promoting unity.

The King says that Jordan was the first in the region to create a national climate change policy expressing how Jordan is ahead of the other countries in the region. Not only the King has expressed how Jordan can be an example for the region. In an interview with the Jordan Times a representative for the renewable energy department said that the Solar Panels Project “is a pioneering venture in the Middle East” (Ghazal, 2014). In the interview I had with professor X the notion of being “first” was also brought up as he said,

We have a chance in Jordan to put our fingerprints on this technology, CSP-technology. From technical point of view, from industrial point of view, from many points of views, engineering, etc. So, eh, if we can do that at this early stage, we will have other benefits. Which are like, building local industries, train people to do this kind of technology. Then we will export experts to the local, because at the end, ultimately, everyone should go with this kind of technology and we can... Well, well, I call it “the smart specialisation strategy”. Ok? Which is: I can invest a little bit now, but off course I will solve many problems like poverty problem, like unemployment problem. Having local industries, building capacity for, you know, Jordan local people and you know we are in the middle of, Middle East where everyone ultimately should

go for this technology. So, this is the strategy of what we should follow. Not going back towards oil shale technology (interview in Irbid, November 2016)⁵.

Jordan could be a pioneer within the technology and within the adaption of sustainable development. This investment would not only relieve many challenges Jordan is facing, but would also establish its position in the Middle East and globally. As I interpret it, both the government and professor X want Jordan to have a special position in the global fight against climate change. Through the manner of how the King speaks about climate change and how to face it, he enhances Jordan's position as a forerunner in the region when it comes to approaching this issue. Jordan, as a small country surrounded by regional powers, such as Egypt and Saudi Arabia, has potential to stand out as a country and take the lead in this matter.

In addition to the National Climate Change Policy, the government of Jordan added a new law regarding renewable energy in 2012. This law established the Jordan Renewable Energy and Energy Efficiency Fund (JREEEF) (Renewable energy and Energy Efficiency Law No (13), 2012, §12). This fund turned out to be a success, according to the NGO-leader, I interviewed:

Jordan Renewable Energy and Energy Efficiency fund – they are doing a very good job. So, last week they launched this initiative where any resident can actually go there say that “I want to have my house fully, like RE [renewable energy], and the government they can give him somehow a loan to cover at least 50% of their project of the installation (interview in Amman, December 2016).

The NGO-leader explained to me that the initiative had difficulty reaching out to people, as people did not even know about JREEEF. According to the NGO-leader there is a lack of communication expertise in the Ministry and the initiative spreads like *viva voce*, where information passes from one person to another and not through official channels. Even though the government encouraged people to invest in renewable energy by offering them a loan, people did not turn up. The NGO-leader pointed out why she believed people did not follow up:

Because of the lack of communication expertise. Like I know about this, I tell everyone. It's basically word-of-mouth, because... because people don't like have

⁵ The interview was done in English, where this is a direct transcription of what the professor said.

them on Facebook, they don't follow the JREEEF on Facebook. It's not like an attractive thing (interview in Amman, December 2016).

This can be an illustration of the government's lack of communication and comprehension about what channels reach people as it did not turn out as the government intended.

The way the King and the policies are talking about climate change reflects the same type of language that is used within the UN discourse. Comparing it to the opening speech from the former Secretary-General of the UN, Ban Ki-moon, reveals a type of verbalising that is common for this setting. For example, he says,

You are here today to write the script of a new future. A future of hope and Promise – of increased prosperity and dignity for all” (UNFCCC (A), 2015).

Ban Ki-moon uses words like 'write the script of a new future' and 'a future of hope and promise'. This way of phrasing is similar to King Abdallah II's speech. What does Ban Ki-moon mean when he says 'write the script of the future'? Neither Ban Ki-moon nor King Abdallah II use concrete words in their speeches. These words carry a heavy meaning, where he states that what governments are doing today lays the foundation for future generations.

However, communication is one of the biggest challenges the government faces. As demonstrated previously regarding the initiative put forward by JREEEF, communication is not the governments strong point. However, the lack of communication is not only limited to the communication with the people, but also between the sectors. The NGO-leader told me,

There is this issue between, like the government sector itself. Like we have a huge number of initiatives working towards renewable energy, climate change, etc., but it's all scattered (interview in Amman, December 2016).

The NGO-leader says that there are many initiatives working with renewable energy in Jordan, but that lack of communication keeps progress from happening. The plan the government has in becoming a pioneer in the region, or the 'first' as the King says, is not possible when they are not able to communicate with each other. There is a need to have a clearer strategy.

Benford and Snow (2000) argue that prognostic framing “involves the articulation of a proposed solution to the problem or at least a plan of attack” (Benford & Snow, 2000, p. 616).

The King proposes a solution to the problem to an audience outside of Jordan by saying ‘we must act collectively’. In a more specific manner professor X illustrates a plan that would lead to jobs and a boost to the economy and the NGO-leader proposes better communication between the governmental sectors and with the public.

Motivational Framing: Finding the key to encouragement

The government of Jordan has acknowledged that something needs to be done to meet the growing energy demand in the country. A project to install PV-technology on several government-owned buildings all over Jordan has proven to be a success. The Hashemite University was the first university in Jordan to run completely on PV-technology. A solar power plant is being built close to Jordan Hospital in Amman to provide electricity for the hospital. The Solar Panels Project is perhaps the most successful initiative, at least in growth. After three years around 300 mosques all over the country are running on solar power.

The Ministry of Awqaf and Islamic Affairs’ encouragement and information is what lead to the mosques installing solar. One factor stood out in the interviews and conversations I had with people in Amman: economics. One of the ministry officials I interviewed said early on,

It is about the funding [...] the most important thing in the project is the funding. The funding, the money! (interview in Amman, October 2016).

He referred both to funds the mosques have to gather and the funds the Ministry tries to retrieve from outside sources, such as the European Union (EU) and the Gulf states. When I asked why the Ministry of Awqaf and Islamic Affairs had initiated this project he responded,

Mosques in all of Jordan, within the whole kingdom of Jordan, the usage of electricity is huge. So, what does it need? It needs more money. Money wealth! Extra money. Solar energy is very good economically (interview in Amman, October 2016).

He continued to say that they encouraged the mosques through seminars where they explained the economic benefits of the project;

Before the energy project we pay the electricity bill. The bill is 500 dinars, ok? Monthly. 500 multiplied by 12, as there is 12 months of the whole year, that is 6000 dinars a year. Now if you make a project for a mosque, this mosque would cost you 12000 dinars. The energy project, the renewal cells. If it [the mosque] costs you 12000

dinars, so now, after two years, it will be saving you 12000 dinars! The electricity bill does not become an electricity bill! Nothing! (interview in Amman, October 2016).

One of the imams corroborated this, saying,

The Ministry is the one who encouraged the imams (interview in Amman, December 2016).

He continued saying,

There is no doubt that the project has saved enormous amounts of money to the Ministry of Awqaf and Islamic Affairs and to the mosques (interview in Amman, December 2016).

As the interviews continued, both the imam and the ministry officials were eager to demonstrate how much money they had saved by installing the solar panels. The imam said,

I can give an example of the mosque that I am in where the electricity bill used to reach, in [the month of] Ramadan around 2700 Dinar a month, and now, last year it has reached 12 Dinars only. You can see the huge difference between the electricity bills (interview in Amman, December 2016).

Their focus on the economy was also reflected by the NGO-leader who told me,

It's all economy driven. There's like, forget about the climate change! (interview in Amman, December 2016).

According to the NGO-leader, whenever working with either the government or people in general, the focus is always on economics. Despite the government's words about 'fighting' climate change 'collectively', it all comes down to how initiatives will benefit the economy. The NGO-leader said that if you want to encourage people to invest in renewable energy projects, economics is the place to start;

If you want to push for renewable energy, like, I never say anything about climate change or the global movement at all. Because in Jordan, if a person have 200 dinars per month or 300 dinars per month, or let's say a middle class family have 800 dinars per month, two partners working, with three kids. If I wanted to tell them that you

should install renewable energy project at your house, I won't tell them to save the humanity and the polar bears. I will tell them that they will save this amount of money, within three or four years. And this is the only argument I can have (interview in Amman, December 2016).

When I asked people in Amman about the project, everyone seemed to know about it. The reason for this was explained by professor X;

Do you know why people know about it [the project]? Because they pay for it. That's why people know about it, because they donate for the mosques and masjids to do the renewable energy systems (interview in Irbid, November 2016).

He said that the Solar Panels Project was a good initiative from the Ministry, and he said that other sectors were following suit;

Off course all commercial sectors, hospitals, universities etc., they are heavily moving towards this. Because the payback period of such systems is, it is between 3 to 5 years (interview in Irbid, November 2016)

Gain motivation

The economic focus all the informants have is probably influenced by the economic situation of Jordan. As Jordan is a country with minimal natural resources (until the discovery of oil shale) it is therefore dependent on foreign aid and foreign investment. Jordan's national economy relies upon tourism, the private sector and foreign exchange. They have moved closer towards the global economy, e.g., an association agreement with the EU and a free-trade agreement with the United States (United Nations Development Programme, 2013).

The ministry officials told me that they sometimes get funding from the Gulf countries and the EU, which has contributed to the rapid development of this project. Whenever the Ministry of Awqaf and Islamic Affairs receive funding, they increase the minimum of 20 percent coverage that all mosques get to, perhaps, 50 percent.

The lack of mineral resources and the growth in energy demand also forces Jordan to expand their energy mix. Therefore, an initiative like the Solar Panels Project is an easy and

somewhat cheap way to move towards an energy mix with an increased percentage of renewable energy.

Through motivating the mosques with economics, the government is appealing to something that is close to the mosques. As mentioned in the introduction, the challenge with encouraging pro-environmental behaviour is the long-term aspect of climate change. It can be difficult to comprehend something that might not happen until 50 years from now. Even though Jordan is experiencing climate change through drought and increasing temperatures the correlation between these experiences and renewable energy still has a great distance between them. It is therefore strategic to relate the Solar Panels Project to something recognisable. Like an electricity bill. Electricity bills are something that everyone has to pay attention to, and in most cases, it changes from month to month. Many people would find it desirable to be able to reduce it by a large amount of money in a brief period of time.

The Solar Panels Project is an example of what Schultz and Kaiser (2012) refer to as efficiency behaviour. It is a one-time action that will result in reduced consumption (Schultz & Kaiser, 2012, p. 559). The combination of the quick down payment period and the effect the mosques are experiencing in this project makes the project easier to adapt to.

Normative motivation

However, it is important to note that economics alone cannot contribute to pro-environmental behaviour. Other factors need to be taken into account as well. When I was told that the mosques had to contribute 80 percent of the finances themselves, I instantly thought the imams would link the project to religion. When making the interview guide I tried to only ask open-ended questions so I would not end up leading the interviewees in a specific direction. As the imams talked about the project, I learned that Islam was not the main motivation behind it nor a subject when they conveyed the information to the worshippers. I therefore asked at the end of every interview: is the Solar Panels Project in accordance with Islam? One of the imams simply answered:

Yes. 100 percent (interview in Amman, December 2016).

His answer was supported by another imam who told me that being environmentally friendly was the “Islamic path” and that they often spoke about this at Friday sermons. This was repeated by people who said that imams often spoke about waste-management. A person I

spoke with, who is very active within his mosque-community, told me that waste-management was something that the imam in his mosque often spoke about. One of the ministry officials corroborated on this:

There should be no waste. Do not waste. The Prophet (may the prayer and blessings be upon him) said, do not waste water “even if you are on the bank of a flowing river.” So, if you were on the bank of a flowing river, he tells you to minimise the use of water and to do it right. In the light of this moderation in use and the correct use of things... This is a culture. This is religion. Correct or not? (interview in Amman, October 2016).

He continued explaining to me,

We held some workshops to teach those in the mosque how to deal with alternative energy and the importance of alternative energy as well as the importance of minimising energy consumption. Minimising consumption is from the religion. “Indeed, the wasteful are brothers of the devils.” Therefore, we are working on raising awareness for a culture of minimisation of consumption, a culture of a green environment and [that of] sustainable energy (interview in Amman, October 2016).

The environmentalism is a part of Islam, according to the people I spoke with and interviewed. They said that it is our duty as human beings to take care of everything that is living, which include plants, nature and animals. One of the ministry officials told me,

These things are all related to one another. Now, such as famine, desertification, electricity, etc. They are all needs for the people. If you waste you will harm others. So, let us all minimise consumption so that others do not get harmed. No to receiving harm or causing harm. Our master, the Prophet (may the prayers and blessings of Allah be upon him), we are Muslims. Our noble Prophet in our holy book said “there should be neither harming nor reciprocating harm.” The meaning is that I should not harm you [...] All these meanings must be done in accordance with the religion (interview in Amman, October 2016).

Professor X told me that olive-farmers in Jordan have a special relationship to the environment and they are experiencing first-hand the effects of climate change,

So, many people, if you talk to people in Jordan, yeah... they will talk to you about it, the consequences of the climate changes. Do you feel like the climate is changing? They will say yes. Because in the past we used to have, in this period, we are in autumn actually we should have rain. This culture, we do not harvest olive oil until we have two or three rains, because we need rain to clean the trees. Now, people are not harvesting, because they are waiting for the second round (interview in Irbid, November 2016).

Professor X continued to say that people integrate into environmental behaviour, they are just not aware of it. Farmers use everything on the farm for different purposes, but if you ask them about, for example bio-gas, they will not understand what you mean. They will perceive it as a given, it is natural that you use all that is available to you.

This way of thinking is so anchored into the culture that the need to specify the link between the Solar Panels Project and Islam is perhaps not necessary. Ninety-seven percent of all Jordanians consider themselves to be Muslim and people often describe themselves as Muslims rather than as Jordanians (Bureau of Democracy, Human Rights and Labor, 2015). The Ministry official said that “we are Muslims”, stating that the imams closely link the project to Islam, even though he might not do it at the Friday sermons.

Even though the Ministry of Awqaf and Islamic Affairs have not linked the Solar Panels Project to global conditions, they have succeeded in motivating the mosques into adopting the Solar Panels Project. As the imams are involved in everything related to their mosques, it would be natural for the Ministry to focus on something directly linked to the mosques. Here it seems the idea of saving the mosque money and therefore enhancing its ability to do good was a strong motivation. However, as the interviews illustrate religion has also played a part, but in another way. It is evident that the electricity bill can be physical evidence of the benefits of the solar panels whilst the religious part is a duty. Even though the imams I spoke with focused on the financial aspect to me, they regularly talk about the importance of being environmentally friendly at Friday sermons.

Rice (2006) argues that there is a clear link between religion and pro-environmental behaviour and that many of the principles within religion can be found in the environmental debate today, e.g., taking care of the environment, animals, fellow human beings, etc. (Rice, 2006, p. 387-388). This is demonstrated by the ministry official who refers to a verse (verse 17, surah

27) in the Quran, showing the direct link. The key is to reach out to the masses with information about climate change. Hamed (2005) notes that the Friday Prayer sermons “reach a wider audience than any of Egypt’s mass media, which suggests that the mosques could have a more impact on the masses if used for this purpose” (Hamed, 2005, p. 50). As both Egypt and Jordan have a population largely dominated by Muslims it is reason to believe that Friday Prayer sermons are important venues for spreading information.

Saying the right words at the right time

Environmental debates and issues are discussed in all arenas of the public sphere today, scholarly and otherwise. The range of topics differs, from local waste management to strategies for cutting GHG-emissions and the mitigation of global warming (Hoffman & Ventresca, 1999, p.1369). It is therefore important to contextualise the setting, audience and the speaker or writer when discussing the issue. The King verbalises the challenge Jordan is facing is differently than the ministry officials I interviewed. The King’s focus is the environment, whilst with the ministry officials focus on economics. This is where context becomes important. The King was talking to UN-member countries whilst the ministry officials spoke directly to the Jordanian people. The context determines why people talk in different manners, how they say things and who they are talking to, and needs to be considered when discussing this subject.

Context is defined by the Oxford dictionary as “[t]he circumstances that form the setting for an event, statement, or idea, and in terms of which it can be fully understood” (Oxford Dictionaries, 2017⁶). Context-dependency is how to speak and behave in certain circumstances. For example, government officials differ in how they address the international community (the UN) versus how they speak to the Jordanian public.

Steg, et al (2014) argue that combining normative motivation (the appropriateness of acting in a pro-environmental manner and what they should do to contribute to it) with gain motivation (what you receive from acting more environmentally, e.g., economic benefits) is an effective way to encourage people to act more environmentally. For example, people respond more to commercials such as “Do you care about the environment? Take a coupon for a free professional tyre check!” than “do you care about your finances? Take a coupon for a free

⁶ Oxford Dictionary: <https://en.oxforddictionaries.com/definition/context>

professional tyre check!” (Steg, et al, 2014, p. 110). This is a way of framing that can potentially make people perceive things in a specific way. Even though they both convey the message of the possibility of getting a free tyre check, they do it in different ways. Perhaps the latter alternative could be perceived as an egoistic act of someone who only cares about their finances. On the other hand responding to the first one could lead you to being perceived as someone who thinks about the environment. This way of framing appeals to your emotions.

A focus on normative motivation or a focus on gain motivation should not be perceived as competing elements when it comes to renewable energy projects. Hoffman and Ventresca argue that issues can be framed to fit those interests that dominate, like for example, “environmental issues can be reframed to fit within the dominant economic framework of the social and political system. They can be reconstructed as an economic opportunity” (Hoffman & Ventresca, 1999, p. 1324). The Solar Panels Project is without a doubt a relief in energy demand for the government of Jordan. A major institution (the mosques) within the Jordanian society will no longer be dependent on fossil fuel-driven energy and they will be self-sufficient (to a certain extent as they are still connected to the grid). In addition, the initiative will reduce the economic pressure on the government, as the electricity bills will be so low that the mosques can cover them independently.

I would argue that The Solar Panels Project is a result of a combination of normative and gain motivation. When looking at the perspectives of the interviewees and how they address the issue, it is a combination of the two. For example, one of the ministry officials said that the Solar Panels Project is beneficial for two reasons: economically and environmentally. He goes on to almost only talk about economics, but is aware of the environmental aspect of it as well. This could be an example of what Hoffman and Ventresca (1999) refers to, that issues can be framed to fit an interest. However, what would be the interest in telling me about economy? Perhaps because they measure the success of the Solar Panels Project in money. That the figures of how much money they saved on the Project will mirror the success? Or that I measure the success of the Project in money? As I come from a society where the environmental aspect is the main focus when talking about reasons for mitigating climate change it was interesting that they chose to speak about economy. They did mention that it was environmentally friendly, but that was after I asked about it or had talked about it.

The pro-environmental behaviour framework investigates what motivates people to behave in an environmentally friendly manner. By reviewing the interviews and policies I argue that the

people of Jordan are motivated differently from how the UN is motivated. The King's speech at the COP21-summit reflects the discourse on climate action within the UN, which is to some degree transferred into public statements by government officials. For example, Abdul Munem Hiyari, the secretary general of the Ministry of Awqaf and Islamic Affairs, said in a Jordan Times interview about the Solar Panels Project, that the Ministry "is encouraging mosques across the Kingdom to switch to solar power because it is a priority for the government and the country as a whole" (Obeidat, 2015). However, the article's focus is not on the environment, it is rather on economics. Another example is an article in the newspaper *al-Hayat* (2015), where the journalist writes that they are implementing the Solar Panels Project due to the economic benefits. However, in the end of the article it is added that Jordan wants to adopt this type of energy into their energy mix and that the aim is to have 10 percent of Jordan's total energy mix covered by renewable energy by 2020 (al-Qilab, 2015).

Hiyari says that the need to move towards renewable energy is a 'priority' for the government. This is comparable to the King's words of 'Jordan's pledge' of 'continuing cooperation'. They both emphasise Jordan's motive in terms of climate change and how Jordan can play a central part. In my view, the government is using climate change to build Jordan's national identity. The country has taken in millions of refugees from neighbouring countries. As Jordan is a small country surrounded by regimes that have strong positions globally and is geographically located in the middle of political turmoil, climate change could be an opportunity to take the lead. Jordan can enter the global scene as a country that approaches the issue instead of pulling away when it comes to climate change. In my opinion, King Abdullah II is saying that instead of focusing on the problem they can find solutions, which can be beneficial to the region as well as globally. He says that despite the challenges related to the refugees and the political situation in the surrounding countries, Jordan is not going to let it stop them. This is supported as he continued in his speech saying "in the past year alone, we have made greater strides towards energy independence and enhancing energy efficiency than in the entire life of our country" (UNFCCC (B), 2015). He is confirming Jordan's position in the region and its stance on climate change.

The NGO-leader pointed out that the King's speech had an effect on people in Jordan;

When the king went to Paris to speak about it actually like raise the momentum. Like there are few things that raise the momentum about climate change, people actually know (interview in Amman, December 2016).

That the King spoke about Jordan with pride regarding the country's effort to tackle climate change reached the Jordanian people. In my view, he encouraged environmentally conscious behaviour through elements that can be linked to national identity and national pride. This was shown when he emphasised that Jordan made a climate change policy in 2013 and that it was the first of its kind in the region. This was also pointed out by Professor X who believed that Jordan could be first to export knowledge in this field. He links this to the universities in Jordan's extensive knowledge and competence within the field. If Jordan aims at becoming a pioneer in the region it can provide other countries with expertise within the field as well as technology, according to professor X. However, that is not possible without the government's goodwill to invest in it.

6 Conclusion

This thesis has attempted to explain why and how the government of Jordan approached the Solar Panels Project and its success. Initially I posed the question of how did the government succeed in implementing the project and aimed at discovering what encouraged mosques to participate in this project. Through interviews with the different parties I identified two factors that led to its success: gain motivation (economics) and normative motivation (religion).

Over a period of two years, from its launch in 2014 to 2016, around 300 mosques all over Jordan had participated in the Solar Panels Project. The main reason for this achievement was that the Ministry of Awqaf and Islamic Affairs motivated and encouraged mosques to install solar panels in their mosques through seminars and cooperation with other ministries.

It is evident through the interviews I conducted that the Ministry has emphasised the financial aspect of the project. As the government administers the electricity bills in the mosques, this was an easy way to save money. However, it was not economics alone which encouraged the transition. When bringing up the aspect of Islam and its relevance to this research the question was met with platitude. Participating in the Solar Panels Project was in accordance with religion as it is people's responsibility to take care of all living things, which includes the natural environment.

Through the Solar Panels Project Jordan can be used as an example of how sustainable natural resources can be used on a national level. This is especially important as Jordan is a small country surrounded by regional powers, such as Egypt and Saudi Arabia, and is highly affected by the political situations in its neighbouring countries. Jordan is also very vulnerable to climate change as scientists believe that Jordan's geographical position will be in one of the regions to experience the most devastating impact. Therefore, moving towards a sustainable future is crucial for Jordan, something King Abdullah II emphasised when he spoke at the Leader's event at COP21-summit in 2015. He encouraged the global society to act collectively and find solutions together as climate change is something that affects the planet as a whole.

Further research

There are numerous ways to take this research a step further. As the world needs to move towards a sustainable future there is a need to find ways to promote environmentally friendly practices. In the case of Jordan one can research if the Solar Panels Project have had a spill-over effect on other parts of the Jordanian society. What part have the mosques played in raising awareness? Kollmuss and Agyeman (2002) argue that institutions are important contributors to people's change in behaviour. Further research could look into people of Jordan's awareness of climate change and renewable energy systems. Are they aware of the consequences of climate change? Are they aware of the possibilities of renewable energy? If so, it could be interesting to investigate if the Solar Panels Project and the mosques have contributed to raising awareness.

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