

Communicating Sustainability: A Case Study Exploring Jordan Green Building  
Council's Sustainability Communication Techniques

by

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### **Abstract**

This study used a qualitative approach to explore sustainability communication techniques in Jordan. To ground the research, I used the Jordan Green Building Council (JoGBC) as a case study, conducting semi-structured interviews with JoGBC's planners and decision makers based on the following questions: *how do the proponents and planners of JoGBC, as a (NGO), communicate the nature and importance of sustainable urban development to the residents of Jordan? How do these communication practices compare to other techniques shown to be effective elsewhere?* The findings suggest that overall, JoGBC used a variety of communication techniques in their communication for sustainability, and these communications were also consistent with the communication techniques used in the Middle East and North Africa (MENA) region. Although the techniques used by JoGBC were created elsewhere, financial constraints were a key barrier for choosing and adopting sustainability communication by JoGBC. This study provides recommendations to improve JoGBC sustainability communications techniques, as well as sustainability communication techniques in Jordan in general.

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**Table of Contents**

Creative Commons Statement .....	3
Abstract.....	4
Acknowledgements.....	5
Table of Contents.....	6
List of Tables .....	10
List of Figures.....	11
Chapter One: Introduction .....	12
Sustainability in Jordan.....	14
Key sustainability challenges in Jordan.....	15
Main environmental organizations in Jordan.....	16
Statement of Research and Objectives.....	16
Study Significance .....	17
Chapter Two: Literature Review .....	19
Sustainability.....	19
Sustainable Development.....	20
Sustainable development in Jordan.....	21
Sustainability or Environmental Communication?.....	25
Misconceptions about sustainability communication.....	28
How to Plan an Effective Sustainability Communication Program.....	29
Defining a target audience and developing messages appropriate to the audience. .	29
Planning communication technique(s) and activities. ....	30

Evaluating the effectiveness of sustainability communication programs.....	48
Conclusion .....	49
Chapter Three: Research Methods.....	51
Research Design and Rationale .....	51
Data Collection .....	51
Review of organizations similar to JoGBC. ....	52
Review of JoGBC materials.....	53
Interviews with JoGBC staff.....	53
Data Analysis .....	55
Validity & Reliability .....	56
Achieving the Research Objectives .....	57
Chapter Four: Case Study Background and Findings.....	58
Background.....	58
Introduction to Findings.....	61
Review of Materials Issued by JoGBC.....	63
JoGBC communication approaches based on Internet sources. ....	63
Review of Organizations Similar to JoGBC in the MENA Region.....	65
EDAMA-Jordan.....	65
Emirates Green Building Council (EGBC)-United Arab Emirates. ....	66
Friends of Environment and Development Association (FEDA)-Egypt. ....	67
Palestinian Environmental NGO's Network (PENGON)-Palestine. ....	68
Amwaj of the Environment-Lebanon. ....	69
Qatar Green Building Council (QGBC)-Qatar. ....	69

Interviews.....	70
Communication to the general public.....	71
Communication to neighbourhood communities.....	73
Communication to consultants, business owners and professionals (private sector). .....	75
Communication to consultants and professionals (government sector). ....	79
Communication to university students.....	80
Communication to school students. ....	80
Chapter Five: Data Analysis.....	84
Budget Limits.....	84
Targeting the Right Audience.....	85
Education and Awareness.....	87
Networking Activities.....	89
Networking events.....	89
Networking online. ....	89
Effective Participation .....	90
Incentives .....	91
Chapter Six: Discussion.....	94
Budget Limits.....	94
Targeting the Right Audience.....	95
Education and Awareness Raising.....	96
Networking Activities (Events and Online).....	97
Effective Participation .....	100

Incentives .....	102
Discussion Conclusion.....	103
Chapter Seven: Conclusion and Recommendations .....	106
Conclusion .....	106
Recommendations.....	109
Study Limitations and Delimitations .....	111
Lack of literature.....	111
Participants were unwilling to speak in the beginning. ....	111
Language barriers.....	111
Future Research .....	112
References.....	113
Appendix A: Consent Letter and Form (English & Arabic).....	130
Appendix B: Interview Questions for JoGBC Planners and Decision Makers .....	137
Appendix C: JoGBC's Main Sustainability Projects.....	138
Appendix D: Environmental Communication Scale (ECS) .....	140

**List of Tables**

Table 1 Summary of ‘How to Plan a Sustainability Communication Program’ .....	48
Table 2 Summary of JoGBC’s Target Groups, Communication Techniques Used and Initiatives.....	58
Table 3 Summary of Communication Techniques Used by JoGBC and Other Organizations in the MENA Region.....	60
Table 4 Summary of Adapting Effective Communication Techniques by JoGBC and Other Organizations in the MENA Region and Indicating the Presence or Absence of any Evaluation Process.....	103

**List of Figures**

Figure 1. Ahl Al-balad graffiti, in English “Ahl Al-balad, the country is clean with its people, leave it clean” .....	70
Figure 2. Dawerha graffiti; Rania Al-abdallah public school.....	73
Figure 3. Tafinee sticker; JoGBC’s headquarter-Amman .....	80

## Chapter One: Introduction

I was raised in Jordan, a country located in the Middle East. It is a small country with limited natural resources, water scarcity, high rates of land degradation, and most notably, high levels of population growth that are largely attributed to refugee migration in the region (Jaber & Probert, 2001). Jordan is regarded as a politically stable area in the Middle East and North Africa (MENA) region, making it one of the first choices for refugees coming from conflict zones (Omari, 2015). This has contributed to a dramatic increase in the nation's population over the last five years (Omari, 2015). These factors combined, have created an unprecedented demand for infrastructure and housing development to address the growing needs of the population of which more than half lived in poverty (Jaber & Probert, 2001). As a result, there was a tremendous strain on resources and the environment in the country (Jaber & Probert, 2001).

Endemic social development issues and the absence of effective environmental regulations in Jordan have led to a marked increase in the number and variety of environmental problems. As Jaber and Probert (2001) stated, "increased industrialization and urban developments, in the absence of comprehensive planning and regulation to protect the local environment, have caused several adverse impacts on the environment during the last 25 years" (p. 126). However, Jaber and Probert (2001) spoke confidently that "Jordan, unlike any other developing countries, can address and overcome these environmental and social obstacles" (p. 126). Despite all the challenges facing Jordan nowadays, citizens have witnessed serious endeavors to address these challenges, especially when organizations, which solely work to protect the environment, have been established in the country (Al-Zu'bi, 2015).

Statistics show that approximately 3,800 non-government organizations (NGOs) were established in Jordan in 2014 and 92 of these organizations registered as environmental societies

(Al-Zu'bi, 2015). When Jordan began to experience very harsh winters with snow, a phenomenon not previously experienced by the region, questions about the change in climate arose and residents became aware of the environmental impacts of climate change (Omari, 2015). In November 2015, heavy rainfall in Jordan caused three deaths in Amman ("3 killed," 2015). The Government considered this a natural disaster due to its intensity and the extent of the damage caused (Omari, 2015).

As Omari (2015) discussed, the changing climate, surprises inherent in nature, the challenging and varied geography of Jordan, and the impacts of increased urbanization and migration are all factors that have made the outcomes of recent natural disasters more devastating. As a result of many environmental challenges, the Jordanian Federation for Environmental NGOs was created (Omari, 2015). It consists of eight NGOs partnered to create a more powerful impact to best mitigate environmental challenges. The relationship between these NGOs, the government and civil society has grown in the past few years as prompted by the need for stronger positions relating to the challenges posed by environmental change in Jordan and the realization of the important role that each party can play in achieving sustainable development goals (Al-Zu'bi, 2015).

United Nations Environment Program (UNEP) noted that "communications will make sustainable development a reality" (2005, p. 7). As a result, understanding communication sustainability is valuable and worthy of study. Godemann and Michelson (2011) indicated that sustainability communication plays a key role in understanding the relationship amongst individuals and their surroundings, helping to provide a successful framework to manage any sustainability-related challenge. Communication has a crucial impact on any sustainability strategy; if communicators do not communicate that strategy effectively, they will not have the

capacity to implement it successfully. As a result, any behaviour change needed will not be achieved (“Why Sustainability”, 2010).

Dagron (2006) explained that collected data alone can help individuals improve their general knowledge about an issue. However, this collected data does not give these individuals appropriate knowledge to act for social change. This knowledge only comes through effective communication. As Dagron (2006) further states “access to information is good, but the right to communicate is better” (para, 12).

### **Sustainability in Jordan**

In Jordan, sustainability is an important step that needs to be taken (Al-Zu’bi, 2014). For a nation with extremely limited natural resources and increasing demand, interest about sustainable development should not only be a governmental concern, but also an urgent requirement for the public and civil society organizations (Al-Zu’bi, 2014). Although the need for creating sustainable development is essential, Jordan still has long journey to effectively develop regulations to embrace it widely (Zureiqat, 2012).

Hamdan (2016) asked: “Is Amman (as capital of Jordan) a sustainable city? The answer was No” (para, 3). She built her perspective upon explaining few factors contributing to the unsustainability of Amman. Hamdan (2016) explained that in addition to the factors created by high-level policy making by the Greater Amman Municipality (GAM), which is the only entity responsible for any environmental regulations for the city of Amman, there are also some challenges that directly affect sustainability in Jordan.

**Key sustainability challenges in Jordan.*****Transportation.***

Any governmental interest in Amman's transportation system is focused on enhancing the quality of the streets, bridges and tunnels, without any thought given to investing in public transportation (Zureiqat, 2012). Amman is also not a pedestrian-friendly place with very few sidewalks for pedestrian use, though at least one sidewalk was built to plant trees (Zureiqat, 2012). Zureiqat stated "sidewalks are for the most part, ineffective, and pedestrian crossings are virtually non-existent. Public transport is in disarray" (p. 40). Hamdan (2016) also stated "Amman is a city built for the convenience of car's owners, with almost a 10% increase in car ownership annually in the city, even in low income families" (para, 7).

***Waste management.***

As explained by Hamdan (2016), GAM is involved in pick-ups of the municipal waste from all Amman's neighbourhoods once or twice a week. However, the problem revolves around how that collected, non-recycled garbage is being treated (Aljaradin & Persson, 2010). Throughout the country, Aljaradin and Persson (2010) stated that "there are 24 landfills, one of them was designed for sanitary landfilling but the others don't have even the simplest needed requirements at present" (p. 1). This means that when the municipal waste is transferred to any of these landfills, burning it is the only way to deal with that much waste (Hamdan, 2016). Numerous environmental issues are associated with such activity including its impact on ground and surface water, reduced air quality resulting from the decomposition of the waste and its burning, as well as the danger of soil contamination (Aljaradin & Persson, 2010).

***Urban sprawl.***

One of the greatest environmental problems facing sustainable development in Amman is urban sprawl (Hamdan, 2016). *Urban sprawl* is defined as “haphazard growth resulting from real-estate development at the outskirts of the city” (Al-asad, 2004, para, 2). The only solution was to assign areas between various urban cities as green belts that fill in as agricultural lands or recreational parks (Al-asad, 2004). This suggestion was totally ignored by GAM and resulted in licenses being given away for construction projects on agricultural land around Amman (Hamdan, 2016).

**Main environmental organizations in Jordan.**

According to the *Guide to Civil Society Organizations in Jordan (n.d.)*, Jordan has many registered environmental organizations. These organizations include: EDAMA; Green Leaves Society; The Jordan Society for Sustainable Development; Arab Forum for Environment and Development (AFED), Environmental Society and the Jordan Green Building Council.

**Statement of Research and Objectives**

This study examined methods used to communicate sustainability issues in Jordan using the Jordan Green Building Council (JoGBC), a leading environmental not-for-profit, non-governmental organization based in Amman, as a case study to determine how sustainability issues are communicated to the residents of Jordan. JoGBC, formed in 2012, is one of the NGOs in the environmental federation. Its main vision is to evolve and expand into a recognized regional leader in developing and implementing innovative green building practices. This mandate includes launching and supervising several environment-related programs, such as solid waste management, eco-cities forums, environmental youth competitions, green jobs hubs, community-based movements and environmental campaigns to raise awareness of environmental

challenges in Jordan (Jordan Green Building Council, n.d.). This thesis explored the following questions:

1. How do the proponents and planners of JoGBC, as a (NGO), communicate the nature and importance of sustainable urban development to the residents of Jordan?
2. How do these communication practices compare to other techniques shown to be effective elsewhere?

The main objectives of this study were:

1. To ascertain what techniques have been shown to be effective elsewhere in the field of sustainability and environmental communication that leads to action and behaviour change.
2. To understand what communication techniques JoGBC used; and
3. To provide recommendations on how JoGBC could improve its communications.

### **Study Significance**

Although sustainability communication is fairly widespread worldwide and existing research has provided a valuable foundation to understand it (e.g., Cox, 2007, 2013; Godemann & Michelsen, 2011; Parker, 2003), it is still new to the Middle East and more specifically to Jordan. There has been little research conducted on sustainability communication in the Middle East: I addressed this knowledge gap through the lens of one of the environmental leaders in the region, the JoGBC, and made use of literature that examines sustainability communication approaches to move forward an exploration of sustainability communication techniques in Jordan. I analyzed data gathered through a literature review and interviews with JoGBC staff to

explore how nonprofit organizations are involved in the delivery of sustainability practices in Jordan.

## Chapter Two: Literature Review

In this section, I will discuss the context of my research, demonstrate the importance of sustainability communication in embracing sustainable development by exploring the history of sustainability and embed this research into the sustainability communication context. This chapter explores how sustainability communication can influence human behaviours and attitudes in order for people to become more open to accepting changes. This chapter also includes the meaning of key terms that are crucial to this study, such as: sustainability, sustainable development and sustainability communication.

### Sustainability

In 2010, the US Federal Trade Commission (FTC) proposed significant revisions to its *Guides for the Use of Environmental Marketing Claims*, also known as *Green Guides*, which exist to help marketers avoid making misleading claims (Morelli, 2011). The FTC's proposal lists five terms that are not handled by the guide. Number one on that list is the term "sustainable" (Morelli, 2011). The reason behind this unusual decision is that there are many definitions of the term. As Morelli (2011) claims, "sustainable" or "sustainability" became often-abused words, simply meaning "good" and sometimes used even without a connection to the natural environment or ecological health and provides this definition of sustainability:

[a] condition of balance, resilience and interconnectedness that allows human society to satisfy its need while neither exceeding the capacity of its supporting ecosystems to continue to regenerate the service necessary to meet those needs nor by our actions diminishing biological diversity. (p. 5)

Hassan and Lee (2015) indicated that most people relate the term sustainability to the environment and stated, "sustainability means the conception and realization of ecologically,

economically and ethically sensitive and responsible expression as a part of the evolving matrix of nature” (p. 1269). This definition shows that sustainability has many dimensions, which form three pillars of sustainability: ecological, economic and social attributes (Goodland, 1995; Hassan & Lee 20015; Sheehan, 2009; York 2009). The pillars provide flexible meaning that can be used by different societies to suit their own criteria for achieving sustainable behaviour (Goodland, 1995; Hassan & Lee 20015; York 2009). According to Williams and Dair (2007), these sustainable behaviours are defined as “behaviours by individuals or groups that contribute to environment, economy and society” (p. 162).

As countries and institutions started to grapple with the precise meaning of sustainability for particular sectors, nations and regions, Goodland (1995) addressed a global definition of sustainability, defining global sustainability using the previously mentioned pillars within the context of development. He noted that combining all three types of sustainability (social, environmental and economic) defines sustainable development, and using them is crucial to start to make development sustainable. Sheehan (2009), on the other hand, described sustainability as “more than merely protecting the environment and being more energy efficient” (p. 12), while at the same time, stressed the importance of the integration of environment, economic and social attributes to sustainability.

### **Sustainable Development**

Sustainable development has a generally more accepted meaning and it is a common topic of discussion in businesses and organizations. *The World Commission on Environment and Development* issued a report entitled *Our Common Future*, also known as the *Brundtland Report*, which defines sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (The World

Commission on Environment and Development (WCED), 1987, Towards sustainable development section, para. 1).

The Brundtland Report has been criticized by some for being vague and not specifying the categories of human needs or giving definite timeframes for “future generations” (Bartelmus, 2008, p. 49). Bartelmus (2008) suggested an operational definition of sustainable development that focuses on the fundamental objective of human needs satisfaction and its environmental and social implications: “the set of development programs that meets the targets of human needs satisfaction without violating long-term natural resources capacities and standards of environmental quality and social equity” (p. 52). This position is compatible with the perspectives of Godemann and Michelsen (2011), York (2009) and Goodland (1995) who understand sustainable development as an ethically motivated concept, which shapes the relationship between humans and the environment.

Ott, Muraca and Baatz (2011) defined sustainable development simply as “a development that leads to sustainability as the ultimate regulative ideal” (p, 23). The *World Wide Fund for Nature (WWF)* defined sustainability development as “improvement in the quality of human life within the carrying capacity of supporting ecosystem” (World Wide Fund, 1993, p. 32).

For the use of my study, I will use the terms *sustainability* and *sustainable development* interchangeably, and define them in accordance with Goodland (1995) as “global sustainability that should integrate social, environmental and economic sustainability, and use these three to start to make development sustainable” (p. 4).

### **Sustainable development in Jordan.**

Sustainable development in Jordan is not well-studied. After spending a considerable amount of time researching and reaching out to some well-known Jordanian environmentalists, I

found few studies. One study was carried out in 2001 by Ahmad Al-Zoabi. According to Al-Zoabi (2001), interest in the environment and environment-related issues in Jordan started in the early 1970s through institutional and research activities. Unfortunately, according to the Ministry of Municipal, Rural Affairs and Environment (MMRAE) at that time, now known as the Ministry of Environment (MOE), sustainable development procedures from the 70s to 2001, did not meet the acceptable standards (Al-Zoabi, 2001). Therefore, within the context of sustainability, many of the practices and procedures in Jordan should be changed (Al-Zoabi, 2001). That being said, these practices and procedures are very similar to the ones in other developing countries. Moreover, “these issues are especially significant in countries where there are weak or undeveloped institutional structures that deal with sustainable development” (Al-Zoabi, 2001, p. 170).

Trying to make changes to prompt the adoption of sustainable development, Jordan adopted a national environment strategy in 1992, which took into consideration long-term action plans. These plans aimed to protect the environment and address management and legal issues. These plans additionally attempted to update existing laws to make them more environmentally oriented (Al-Zoabi, 2001).

In 2003, legislation assigned some duties and responsibilities for environmental-related matters under the environmental protection law to the MOE, which has been established and authorized to create policy and coordinate the nation’s environmental agenda (Cervigni & Naber, 2010). However, smaller institutions with similar or related environmental duties remained working, which contributed to reducing the effectiveness of Jordan’s environmental management because of “overlaps in roles and responsibilities, especially in terms of monitoring, regulating and enforcement” (Cervigni & Naber, 2010, p. 16). In recent years, Jordan has been determined

to commit to the environment. By partnering with United Nations Environment Program (UNEP) on the green economy, Jordan has developed a framework designed to work collaboratively with the national development priorities of Jordan to implement environmental standards and to help it to become a regional centre for green services and industries (Wardam, 2012). The priorities include water, energy, transport infrastructure and the sustainable management of natural resources and the environment (Wardam, 2012).

One other study that focused on sustainable development was completed in Jordan in 2010 when the Ministry of Environment partnered with the World Bank to create a *Country Environmental Analysis* instrument (Cervigni & Naber, 2010). This instrument was intended to design Jordan's future environmental policies as a base for sustainable growth and development. Achieving sustainable growth would not only improve the welfare of Jordanians, but also open doors for Jordan to compete in the future green market.

Over the last decade, the Government of Jordan has made an impressive effort to decrease the environmental degradation in the country. This effort happened through enhancing the environmental legislations, strengthen the institutions and building many publicly funded projects (Cervigni & Naber, 2010). As a result, the MOE has achieved several goals including:

- Leading efforts to improve water quality, including wastewater, by partnering with the private sector to establish new treatment plants;
- Improving the environmental inspection system in the country;
- Improving the environmental Ranger department; and
- Partnering with local NGOs to promote environmental public consultations.

Economically speaking, the cost of environmental degradation (COED) in Jordan was approximately 237 million Jordan Dinar for the year of 2006 (Cervigni & Naber, 2010). COED

being understood as “a measure of lost welfare of nation due to environmental degradation. Such a loss could include, loss of healthy life and well-being of population, economic loss and loss of environmental opportunities” (Hussein, 2008, p. 306).

Country Environmental Analysis measured the environmental performance of Jordan, aiming to implement sustainable development, through several indicators, which was considered fairly good when compared with other countries in MENA region (Cervigni & Naber, 2010). The conditions were great for centering the nation’s exertion around present and future environmental challenges. As a result, it was recommended (for long and short-term) to “collect adequate data on relative priorities across environmental themes and good insight on how to best address priority issues through cost-effective policy interventions across relevant sectors” (Cervigni & Naber, 2010, p. 49). The Country Environmental Analysis also recommended enhancing environmental supervision, public participation and public access to environmental information and mainstreaming the environment in the development process (Cervigni & Naber, 2010).

Wardam (2011) explained the MENA region’s battle with environmental degradation and shortage of natural resources, which puts an enormous pressure on governments, organizations and businesses to create and embrace green innovations and sustainable ways of leading businesses. Jordan was interested in transitioning to a green economy since 2010, as Wardam (2012) mentioned. Since then, a national energy strategy increased the renewable energy production from 1% in 2011 to 10% in 2020 (Wardam, 2011, 2012). This new energy initiative will provide the investors with incentives of 100% tax exemption in the first 10 years which, as a result, should encourage small businesses to adopt green energy technologies and feed the national grid. On the other hand, the MOE signed a partnership agreement with the private sector to establish medical and hazardous waste management, an industrial water treatment plant and a

clean development mechanism strategy. The clean development mechanism strategy will support the Environmental Protection Fund's aims to financially support businesses seeking to adopt sustainable solutions in their work (Wardam, 2011, 2012).

Wardam (2011) also suggested that in an effort to prompt sustainable development in the MENA region, sustainable innovations should be developed which can encourage sustainable technology investments. Additionally, MENA countries should create legislations to support and facilitate the adaptation of green technologies and create a helpful domain to enterprise sustainable business.

### **Sustainability or Environmental Communication?**

Communication, according to Godemann and Michelsen (2011) and Meisner (2015), can be considered as mediated action that gives an opportunity to humans to shape how they define and value the world around them. As Godemann and Michelsen (2011) stated, "it can be said that human behavior, social values and attitudes towards the world and environment are mediated by communication" (p. 4). However, if organizational communication techniques are not targeted at appropriate groups, or are not applied in ways that reflect the characteristics of the groups being targeted they will not be effective in achieving the goals of the organization.

It is important to the context of my study to define environmental communication and sustainability communication as these terms are often used interchangeably when referring to the communication that leads to sustainability. Godemann and Michelsen (2011) use both terms when addressing environment-related communication, while Adombent and Godemann (2011) stated that "Sustainability communication roots can be found in number of different discourses, such as environmental, risk and science communication" (p. 27).

Environmental communication, as defined by Meisner (2015), "... is communication about environmental affairs. This includes all forms of interpersonal, group, public organizational and mediated communication, that make up the social debate about environmental issues and problems, and humans relationship to the rest of nature" (p, 1). It involves any communication delivered directly or by media such as; mass media, public participation, policy-making meetings, advocacy campaigns, advertising and social media (Adombent & Godemann, 2011; Hansen & Cox, 2015; Meisner, 2015). These different delivery methods make it hard for Adombent and Godemann (2011) to define the term 'environmental communication'. As a result, they defined it based on its connection with different discourses and their main objectives, such as ecological communication when it is in ecological context, scientific communication when it is connected to any scientific discourse and sustainability communication when the main discourse and objectives serve sustainability issues. However, they summed up and noted that sustainability communication could include all endeavors that are embraced to create sustainable and ecological society (p. 33). Meisner (2015), and Hansen and Cox (2015) indicated that environmental communication provides information, persuasion, education and alertness, which could be mainly achieved by advocacy, raising awareness, changing behaviour and influencing public opinion.

Cox (2007) stated that "environmental communication seeks to enhance the ability of society to respond appropriately to environmental signals relevant to the well-being of both human civilization and natural biological system" (p. 15). Cox believes that environmental communication involves attempts to educate, motivate, persuade and help mitigate environmental problems. Environmental communication also involves constructing environmental understanding of the problems facing us, thus helping people better-perceive

nature and take responsible actions related to the natural world (Cox, 2013). Additionally, Johnson (2012) described environmental communication as being inclusive, entailing persuasion and motivation of individuals to change their thoughts and behaviours as well as collective efforts to identify environmental problems and solutions.

Given that sustainability communication is a process of passing on related information between individuals and/or organizations, it helps in understanding the unique relationship between humans and their environment. Godemann and Michelsen (2011) stated that “sustainability communication offers a framework for understanding a broad range of social systems and actors (science, business, education, media)” (p. 6). As a result, implementing effective environmental communication could provide a base to solve sustainability-related problems. Ott, Muraca and Baatz, (2011) considered sustainability communication as an essential instrument for achieving sustainability through implementing persuasion, which could be accomplished if communicators speak to an individual’s intuition by using logical and reasonable argument.

Mefalopulos (1992) explained that communication could be similar everywhere; however, it entirely depends on the purpose for which communicators are communicating. Thus, sustainability communication or communication for sustainable development terms are directly derived from their names, which represent using traditional and/or non-traditional communication channels to deal with current challenges associated with global environmental issues. This can’t be achieved by sending messages or informing and persuading people to create a shift in behavior, but also necessitates educating decision makers and planners about the importance of that behavior shift in an effort to effectively encourage the adoption of sustainability communication.

**Misconceptions about sustainability communication.**

Public communication has a critical role to play in making sustainable development approachable and understandable. Informed, motivated and committed individuals are more likely to achieve sustainable lifestyles. However, communicating effectively about different sustainable lifestyles is challenging yet substantial. As Godemann & Michelsen (2011) stated “lifestyles unite the use of resources, behaviours and value orientations to a pattern of life conduct” (p. 8). Therefore, as sustainability is associated with changes in humans’ mindsets and behaviour, then lifestyle differences should be taken in to consideration whenever the need of sustainability communication arises, in an effort to use suitable and acceptable communication approaches to accommodate these lifestyle differences.

UNEP (2005) identified three communication misconceptions and urged communicators and their organizations to consider them when communicating for sustainability. The first is considering any communication as good communication. Weak and misplaced communication plans will waste time and money as well have possible negative consequences (United Nations Environment Program, 2005). The second pitfall is assuming that communication costs money (United Nations Environment Program, 2005). The reality is that a big budget is not essential for a successful communications campaign. Planning correctly and partnering with other organizations is the key to effective communication. For instance, UNEP (2005) claimed that “targeting a specific audience with a defined message is often more effective – and cheaper – than raising awareness on a grand scale through advertising” (p. 12). The third and final pitfall identified by UNEP (2005), is accepting the fact the human beings are rational and providing them with information can raise awareness but is unlikely to lead to attitude or behaviour change.

Recent research finds that human instincts do not respond to vague, unclear threats such as climate change (United Nations Environment Program, 2005).

Communicating misconceptions about sustainability is important for individuals and organizations to convey the sustainability message, as well as know how to confer it effectively (United Nations Environment Program, 2005). To achieve this, avoiding any communication misconceptions is crucial to correctly and efficiently understand these messages. The problem with communicating misconceptions is that communicators may back some of these misconceptions to the point that they no longer question them and start to give these misconceptions a chance to compel the decisions as opposed to help recall and see reality (Hart, 2000). Some other communicators, on the other hand, overgeneralize misconceptions to the point where they themselves lose their legitimacy and turn to be dangerously deceptive (Hart, 2000).

### **How to Plan an Effective Sustainability Communication Program**

For a summary of effective communication planning, please see Table 1. Acknowledging the previously mentioned communication misconceptions from the outset could help communicators build a deliberate, stable and more efficient and effective communication plan. Oepen and Willner (2006) and UNEP (2005) suggest some effective measures to implement sustainable development through engaging the public by:

#### **Defining a target audience and developing messages appropriate to the audience.**

Given the wide range of audience perceptions, it is important to find messages that capture a particular audience's attention and suit the different characteristics of these targeted groups. It is not necessary to communicate the entire concept of sustainable development; instead, it can be more effective to focus on a single issue that needs to be worked on, such as energy efficiency or buying ethically-produced products. This means breaking down the concept

of sustainable development into manageable pieces that make sense to people in their context (Oepen & Willner, 2006; Sobnosky, 2001; United Nations Environment Program, 2005).

Sustainable development can also be linked to other personal issues, as most of the time the ‘what’s in it for me?’ question will always be in the audience’s mind. People always need to know how adopting any new behaviour may affect or benefit them personally, and communicators need to be able to explain how health, wealth, jobs or aspirations (home or self-improvement) may be affected by embracing environmentally-friendly behaviour (Oepen & Willner, 2006; United Nations Environment Program, 2005).

Understanding what motivates an audience allows us to understand how to talk to them as well as how to tailor the messages and identify relevant benefits that encourage them to change or act (Johnson, 2012). People are motivated to understand what is going on around them because people hate being confused. People are also motivated to learn, discover and explore because they prefer obtaining information at their own pace and having their questions answered. Lastly, people are motivated to play a role in what is going on around them because people hate feeling incompetent or helpless (United Nations Environment Program, 2005). Recognizing these motivations is the first necessary step before translating a big idea into several messages that are both personal and practical for the audience and that create an inspiring message to adopt sustainable behaviour.

### **Planning communication technique(s) and activities.**

Planning, as Oepen & Willner (2006) suggested, has to include questions focused on what to do and how to make it happen. Using good communication practices may help also in identifying good communication techniques which may involve asking people questions about what concerns them and what they can do, not just offering recommendations and telling them

what they have to do (Kloet & Morgan, 2007; Oepen & Willner, 2006). These techniques, which could include workshops, conferences, community events, personal meetings, awards ceremonies, presentations, open school days, news conferences, related competitions, awareness sessions, TV-campaigns, social marketing and participatory communication (“FAO Communication”, 2006; Kloet & Morgan, 2007; Mefalopulos, 1992; Oepen & Willner, 2006, Parker, 2003), should be culturally appropriate and aligned with the planned budget, and they differ depending on the targeted group’s characteristics and their concerns, and the type of sustainability messages in need of communication (Oepen & Willner, 2006; Parker, 2003).

Before implementing any communication program, communicators ought to consider pre-testing not only the techniques and activities utilized, but also sustainability messages used. This is especially helpful in the case that communicators do not have any prior involvement with the target group or if they are not sure that the messages, activities and/or techniques will be understood or compelling for accomplishing the sustainability program goals (Kloet & Morgan, 2007). For planning any communication program, communicators also need to look at what degree the messages and techniques used have had the expected effect through some sort of summative evaluation (Kloet & Morgan, 2007; Oepen & Willner, 2006).

#### ***Approaches to sustainability communication.***

Understanding methods of communication is critical when trying to manage or influence the process of communication for sustainability. Parker (2003) used many sustainability communication approaches in her work, such as social media, personal communications and offering incentives, and stressed the importance of communication at all levels when it comes to achieving sustainable development goals. Parker (2003), Oepen and Willner (2006) and Johnson (2012) explained that the best way to engage the public in sustainability issues is to intensively

research the issues and formulate communication campaigns designed for public advocacy and action concerning those issues. According to Parker (2003), Sobnosky (2001), Kloet and Morgan (2007) and Mefalopulos (1992), communication campaigns can use diverse channels of communication depending mostly on past-utilized practices and convenience, such as face-to-face communication, which is a useful technique yet costly and time consuming. Other useful channels of communication include: dialogue in meetings; letter writing to engage people that are mostly not socially active and not available for verbal communications; telephone conversations have proven easier due to the availability of conference calls (video or audio) and can help exchange information and ideas; email, Internet and chatrooms allow people in different places to engage in any concerns at the same time and promote more effective information exchange; and lastly, traditional mass media including newspapers, magazines, radio and television which can provide people with informative and motivational messages that can encourage them to take action and change their behaviour.

Parker (2003) explained that once the goals and objectives of a communication campaign have been determined, the audience is analyzed and the budget is outlined, the next step is to choose the communication techniques that best fit the target audience. She explained two types of sustainability communication channels; interpersonal and mass media channels. Interpersonal channels include personal letters, personal emails, door-to-door and face-to-face interactions, speeches, presentations, pamphlets, flyers, brochures, meetings and workshops. Mass media communication channels include radio, television, videos, newspapers, magazines and the Internet. Godemann and Michelsen (2011), Parker (2003), Few, Brown and Tompkins (2007) and Oepen and Willner (2006) all claimed that methods of sustainability communication may

include education, empowerment, public campaigns, social marketing, social media, identifying champions and offering incentives.

*Education.*

Godemann and Michelsen (2011) discussed the concept of *Education for Sustainable Development (ESD)* as an external or informal education event, which makes use of education to understand sustainability development. Godemann and Michelsen (2011) explained that sustainability communication encompasses examining education processes, that involves communicating knowledge about sustainability between individuals. Oepen and Willner (2006) refer to it as “the out-of-school type of learning common to NGOs” (p, 12). Today, there is an understanding regarding the goals of ESD that focus on an individual’s actions: the short-term goal is to empower individuals to change their activities so that future eras have an opportunity to have a solid existence. The medium and long-term goals of environmental education and ESD are to help students obtain the necessary knowledge and competencies needed to shape a sustainable future and to enable them to partake by engaging them in environmentally-friendly action (Godemann & Michelsen, 2011). Herremans and Reid (2002) stressed the importance of educating students to help influence their decisions and encouraging them to consider the environment and sustainability by providing them with a solid understanding to identify unsustainable practices and determine the causes and ways to change these practices to more sustainable ones.

*The Stockholm Declaration* offered 24 principles to achieve environmental sustainability in which it stressed the need for environmental education from grade school to adulthood (United Nations Environment Program, 1972). The rationale offered was that education would “broaden the basis for enlightened opinions and responsible conduct by individuals, enterprises and

communities in protecting and improving the environment in its full human dimensions” (United Nations Environment Program, 1972, principle 19). Learning processes need to be triggered to create high levels of individual awareness related to ecological, economic and social responsibility and to help students make profound decisions related to behaviour change in both their private and public lives (Godemann & Michelsen, 2011).

Education for sustainable development was a challenge, yet a valid approach to help spread sustainability in the Middle East. Abella (2017) noted that as United Arab Emirates (UAE) have actively worked to lead the MENA region in the sustainable movement, it recently included environmental education in all schools in an effort to raise awareness about climate change and help save the environment. Although education for sustainable development is considered a valid approach for achieving sustainable behaviour, McKenzie-Mohr (2011) suggested that education alone often has little impact on sustainable behaviour, and programs that use intensive information may have little impact when it comes to changing behaviour.

#### *Empowerment.*

Empowerment strategies encourage individuals to effectively develop their life circumstances (Godemann & Michelsen, 2011, p. 10). Mefalopulos (1992) considered the empowerment strategy as a vital pillar for communication for sustainable development. Mefalopulos (1992) used the term ‘empowerment’ in different ways, but mostly referred to it as a concept relating to individuals taking direct control of choices in regards to their own lives by expressing their own perceptions and insights (p. 249); this being a key to real participation, where individuals have an ability to influence the decision-making process (Mefalopulos, 1992), to Adams (2008) referred to ‘empowerment’ as “the capacity of individuals, groups and/or communities to take control of their circumstances, exercise power and achieve their own goals,

and the process by which, individually and collectively, they are able to help themselves and others to maximize the quality of their lives” (p. xvi). However, empowerment needs to be constantly redefined and reconstructed as it “is a multifaceted idea, meaning different things to different people” (Adams, 2008, p. 4). Empowerment has 8 main roots in the English literature. One of its root is that empowerment entails engaging individuals in informal education and neighborhood actions. That face of empowerment should guide the communicators to not only empower the audience by giving information, but also using good empowerment strategies, such as meetings, to encourage and adopt actions (Adams, 2008).

A key way in which empowerment can be facilitated is by expanding participation opportunities for people who wish to adopt sustainable change, this could be achieved by conducting workshops, conferences, round tables, mediation or advocacy planning, and e-participation (Godemann & Michelsen, 2011). Empowering citizens to take an interest in building a sustainable society needs the development of proper communication processes, participation, and education, which intends to reinforce societies, energize individuals’ engagement and foster the education process (Godemann & Michelsen, 2011; Parker, 2003). This education process, in a sustainability contexts, involves individuals developing the ability to recognize non-sustainable activities and applying knowledge about sustainability to reform them (Godemann & Michelsen, 2011).

Ozer and Bandura (1990) suggested that any personal or social changes are significantly influenced by the methods of empowerment, which could be managed by stimulating a sense of self-efficacy. Bandura and Adams (1977) defined self-efficacy as the belief that individuals have in their own ability to succeed in any specific situation or task. Increasing self-efficacy within individuals will reflect on their capacity to adopt any behavioural change. The impact that self-

efficacy has on individuals could be spread to cover groups and organizations forming a collective-efficacy, which is the core idea of empowerment as Dickinson, Crain, Yalowitz and Cherry (2013) suggested. Thus, in order to achieve collective-efficacy's goals (empowerment), self-efficacy must be strengthened. Bandura and Adams (1977) and Bandura (1997) stressed the importance of self-efficacy as a key orientation in approaching a desired goal and in overcoming associated challenges, by the individual feeling that they have some control over their life and decisions. Ozer & Bandura (1990), Bandura (1997) and Bandura & Adams (1977) all claimed that individuals with high self-efficacy (who believe they can perform well in specific situations) are more likely to change their behaviour in a challenging situation and make significant efforts to adopt these changes than those with low self-efficacy.

Bandura (1997) also added that self-efficacy influences each area of human behaviour by influencing the beliefs that individuals hold with respect to their ability to deal with any circumstances. Self-efficacy impacts both the power individuals' need to face challenges confidently as well as the choices they are likely to make, as those impacts are considered strong evidence regarding practices influencing human behaviours.

*Public communication campaigns.*

Public social campaigns are also effective in communication for sustainability. According to Rice and Atkin (2013), "public communication campaigns are purposive attempts to inform or influence behaviors in large audiences in a specified time period using organized set of communication activities" (p. 3). This means that when communicators plan for public communication campaigns, it is important to identify the behaviour that needs to change and the group of people that most likely needs that change and a specific timeframe. Empowering

communities and individuals to encourage them to embrace new behaviour is among the necessary steps for success in the adopting of change (Rice & Atkin, 2013).

Since individuals are sensitive to how data is introduced, presenting messages in appropriate frames can significantly affect individual's attitudes and their behavioural preferences. That is, individuals who are exposed to an appropriately defined message, that is produced to promote change in behaviour, show more interest and connection to the problem, and they are more likely to embrace behaviour change (Morton, Rabinovich, Marshall & Bretschneider, 2011; Van de Velde, Verbeke, Popp & Van Huylenbroeck, 2010). Framing messages represents the process of defining an issue or a problem. (Viswanath & Emmons, 2006, p. S239). Van de Velde et al. (2010) noted that framing sustainability messages starts with pointing out what is relevant to the issue of interest and focus all the attention on it, doing that will influence how specific audience see the issue and react to it accordingly. They also stated that "paying attention to how to frame the messages is therefore of key importance for communication effectiveness" (p. 5542).

Public communication campaigns need to frame messages to promote positive behaviours (e.g., recycling paper) or prevent unsound ones (e.g., burning forests) (Rice & Atkin, 2013). These messages could be framed one of three ways. First, the messages could be *awareness* (information) messages designed to inform people of what to do, who should do it, when and where it should be done. There could also be *instructional* messages that include how-to-do-it information or *persuasive* (goal) messages that emphasize the reasons why the targeted group should adopt or avoid a specific behaviour (Rice & Atkin, 2013; Tabanico & Wesley, 2007).

Delivering sustainability messages in any previously ways discussed above, could also be achieved through mediated communication tools (Rice & Atkin, 2013), in which relying on

traditional and print media is a valid option. However, campaign planners “have increasingly utilized interactive technology (whether online or via DVDs or mobile devices) in recent years” (Rice & Atkin, 2013, p. 10). For example, in an information campaign called *The UK’s Government’s Act on CO<sub>2</sub>*, which was originally initiated to raise awareness and encourage pro-environmental behaviours by reducing individuals’ footprints, the communicators used a television advertisement called ‘Bedtime Stories’, press, online advertising and a film called ‘Reflection’ in an attempt to communicate climate change impacts (About Act on CO<sub>2</sub>, 2014).

Communication tools can be chosen depending on the most common tools used by the target audiences, the type of the message and the topic of the message itself (Rice & Atkin, 2013). Embedding campaign topic-related material in entertainment programming such as radio, television shows or in traditional media such as local newspapers, is considered helpful in communicating for behaviour change. Mobile phone calling and texting, and using Internet and web text messaging, was found to be effective in changing audience behaviour, as they rely on interactivity in which participation is stimulated during the process (Rice & Atkin, 2013). For instance, Twitter can be used to provide information in various forms such as updates or reminders to specific campaign followers to encourage them to engage in that campaign which may contribute in benefiting them in some way to make a shift in their behaviour (Rice & Atkin, 2013). To include as many people as possible in any targeted campaign, communication planners attempt to gain media access by seeking financial support from government and private sectors to provide some funds for covering website and social media expenses or creating media advertisements (Rice & Atkin, 2013).

In Jordan, the United Nations Educational, Scientific and Cultural Organization Office in Amman (UNESCO, 2012) has launched *Balash Kees* campaign, which means “no need for a

plastic bag”, to encourage citizens to reduce the use of plastic bags and increase awareness about environmentally-friendly packaging. UNESCO (2012) claimed that “the campaign received excellent responses from the public and more than 10,000 people have joined it on Facebook and engaged in debates around this important environmental issue” (para, 1). The campaign was built on a popular Jordanian cartoon character to draw the public’s attention to the issue. However, the planners introduced the campaign to the public via radio ads and social media (Facebook and Twitter) as well as sought support from participating supermarkets, The Ministry of Environment (MOE), Umniah mobile and Royal Society for the Conservation of Nature (United Nations Educational Scientific and Cultural Organization Office in Amman, 2012).

*Social marketing.*

Currently, one of the strategies used for communicating sustainability is Community-Based Social Marketing (CBSM). According to Robinson (2006), *social marketing* is “a way of planning communication programs that aim to influence human behaviour” (p. 2). That definition was also accepted by Corner and Randall (2011) who defined it as “systematic application of marketing concepts and techniques to achieve specific behavioural goals relevant to the social good” (p. 1005). McKenzie-Mohr (2011) offers guidelines that serve as a good set of rules for fostering sustainability behaviour through CBSM. According to McKenzie-Mohr (2000, 2011) and Oepen and Willner (2006), CBSM is an attractive approach to use as a vehicle for those trying to engage with communities trying to adopt sustainable practices. McKenzie-Mohr (2011) also explained that environmental education focuses on providing information on environmental issues, assuming that it will increase awareness and motivate individuals to adopt more environmentally-friendly behaviour. Unfortunately, changing attitudes or providing information alone does not necessarily result in behaviour change because there are other factors,

such as proposing good messages and offering strong financial incentives that can influence individuals' abilities and desires to engage in behaviour change (McKenzie-Mohr, 2011).

According to McKenzie-Mohr (2000, 2011), in order for CBSM to successfully communicate for behaviour change, communicators should understand what motivates someone (the benefits) and what prevents them from adopting that specific activity in the first place (the barriers). Communicators must then design a strategy to overcome these barriers and explain the power of the new more-beneficial behaviour to encourage individuals to adopt it. It is important to first pilot the new strategy at a small scale to assess the effectiveness of the approach. Finally, communicators must evaluate their strategy to enhance future marketing plans as well as provide useful insight for individuals and organizations. The guidelines developed by McKenzie-Mohr (2011) were discussed by Oepen and Willner (2006) when they explained that the social change goes through awareness, interest, evaluation, trial, adoption or rejection phases. They indicated that different communication techniques need to be used within different phases. Mass media usually used through the awareness and interest phases, while interpersonal communications are utilized in the evaluation, trial, adoption or rejection phases.

As a result, CBSM has been shown to have a great impact on promoting sustainable behaviour (McKenzie-Mohr, 2000). McKenzie-Mohr (2000) proposed two common perspectives about behaviour change. The first perspective is that providing information and increasing public knowledge brings about behaviour change through increasing public participation (McKenzie-Mohr, 2000) - a view also supported by Oepen and Willner (2006). However, studies show that reinforcing knowledge and encouraging certain attitudes often has little or no impact on behaviour. Thus, moving people to actions need to be taken into consideration (Robinson, 2009). The second perspective is that individuals question their choices and then act upon their

economic self-interest (McKenzie-Mohr, 2000). Programs that depend on providing information on the financial benefits have also been considered unsuccessful (McKenzie-Mohr, 2000).

Although McKenzie-Mohr (2000, 2011) considers CBSM a beneficial approach for fostering sustainability, it also has its critiques. Robinson (2009) explains that CBSM is important to bring about change, but it is not the primary driver; communication campaigns alone are not enough. Corner and Randall (2011) also added that “In some circumstances, social marketing approaches may even be counterproductive” (p. 1005). For example, if the values, beliefs and preferences held by the target group contradict the campaign goals, then these could restrict how the message can be tailored and “At some point, the designer of the campaign would need to confront the conflict between the existing beliefs of the audience and the overriding goal of the campaign” (p. 1008). If social marketers are looking for good ways to change human behaviour, then they must work concurrently with a multi-disciplinary team (e.g., engineers, planners, politicians and regulators), as well as build relationships between interested parties and lay out new related-practices and institutions to carry out intensive and professional research and come up with new ideas to motivate behaviour change (Robinson, 2009). Combining a CBSM approach alongside a multi-professional team can enhance the effectiveness of CBSM (Robinson, 2009).

In Jordan, *Royal Scientific Society (RSS)*, has conducted a changing behaviour, social marketing and advocacy study that targeted four local communities in Jordan to advocate and change the locals’ behaviours regarding water and energy consumption. According to the study, it was because of social marketing tools that “the youth and other targeted groups in the targeted areas were able to reach 5635 households and encourage them to adopt water saving devices and energy saving bulbs” (Qotaish, Assayed, Bani Hani & Ardah, 2015, par, 1). The study stressed

the importance of engaging the private sectors in mitigating environmental problems facing Jordan. However, it was obvious that the private sector in Jordan has insufficient skills to run any communication or social marketing experience. Thus, it is clear that improving the communication tools within the private sectors is crucial to achieve behavioural change in urban communities in Jordan (Qotaish et al., 2015, par, 29).

*Social media.*

Social media, as defined by Kaplan and Haenlein (2010), “is a group of internet-based applications that build on the ideological and technological foundation of Web 2.0, and that allow the creation and exchange of user-generated content” (p. 60). Maggiani (2009) claimed that using multidimensional interactive communication such as social media has strongly changed how we communicate. Kietzmann, Hermkens, McCarthy and Silvestre (2011) presented a framework that define social media, which includes; identity, conversations, sharing, presence, relationships, reputation, and groups. This framework was also supported by Maggiani (2009), as he referred to five Cs to understand social media characteristics and its importance in communication. These five Cs are conversation, contribution, collaboration, connection and community. Conversation refers to social media’s capacity to engage everyone in conversation, while contribution highlights social media as being easy to contribute to. Social media creates a quick and simple collaborative platform, making collaboration a key characteristic and because social media facilitates access to information with a simple ‘click’, connection is another important characteristic. The final ‘C’, community, refers to social media’s ability to foster relationships amongst those who share common interests and goals as an interactive social hub.

Guzman and Vis (2016) wrote about social media’s influence on changing the world stating that “it is estimated that by 2018, 2.44 billion people will be using social networks” (para,

1). This makes social media potentially an important tool in helping tackle some of the world's biggest challenges. For instance, Guzman and Vis (2016) also stated that "the capacity of social media to bring together disparate but like-minded people is also helping fight another enormous challenge: climate change" (para, 16).

Social media can create a way for people to connect local environmental challenges with previously implemented solutions worldwide, which might have a positive impact on the global community (Guzman & Vis, 2016). An example of social media being used for sustainable communication is the UNEP's use of social media as the primary communication technique in big world events, such as the World Cup: the UNEP used social media to promote its *green passport* campaign, which encouraged tourists to use sustainable facilities (UNEP, 2014). Social media contains interactive platforms on which users can build, participate, explore and adjust user-generated content (Kietzmann et al., 2011). These interactive platforms, or Social Network Sites (SNS) (Boyd & Ellison, 2007), are defined as "social network sites that allowed individuals to construct a public or semi-public profile within a bounded system, articulate a list of other users with whom they share a connection and view and traverse their list of connections and those made by others within the system" (p. 211). SNS include but are not limited to, Facebook, Twitter, LinkedIn and Instagram (Campbell, Lambright & Wells, 2014; Hwang & Kim, 2015), which are among the most used in the world nowadays (Kietzmann et al., 2011).

Individuals who are involved in any social media platform are more likely to participate in social movements, by taking advantage of the power of people with similar perceptions and spreads their ideas quickly and widely through different platforms on one hand, and on the other hand, by working as a mediator to facilitate and accelerate the engagement in social movements (Hwang & Kim, 2015). However, people should not be blind to social media shortcomings when

it comes to the social movements. Van Laer and Van Aelst (2010) noted that there are common disadvantages to the use of social media regarding social movements; they noted that a *keyboard activism* may substitute for genuine activities that require broad and serious commitment. Other concerns relate to using web-based social networking without feeling real responsibility, which could create passive users instead of active members in any social movements (Van Laer & Van Aelst, 2010). There is additionally a worry that social movements based on social media may encourage certain activities that require little effort, creating shallow and aimless *click-tivism* (Van Laer & Van Aelst, 2010). In spite of the fact that individuals can now take part in social movements more than before, by means of a 'click' (Hwang & Kim, 2015; Van Laer & Van Aelst, 2010), individuals may, by increasing the dependence on social media, become less inspired to participate in more valuable social actions (Van Laer & Van Aelst, 2010).

As energy demand and resources are one of the greatest challenges facing Jordan (Al-Zou'bi & Majali, 2015), it was important to build a communication plan to achieve attitudinal and behavioural shifts in energy consumption. *Jordan Atomic Energy Commission* suggested a three-phase communication plan that starts with building awareness, then informing and educating Jordanians to adopt more sustainable behaviours (Al-Zou'bi & Majali, 2015). For the awareness phase, several communication channels were chosen. Communicators at the Atomic Energy Commission suggested using social media as major communication technique to encourage behaviour change. That suggestion is predicated on the fact that, in 2015, Jordan had 6 million Internet users and Internet penetration stood at 76% of the population, of which 71% were Facebook users (Al-Zou'bi & Majali, 2015). However, no results have been published to document the effectiveness of using social media to increase the awareness about energy consumption through this campaign.

*Identifying champions.*

Identifying champions is one of the communication techniques that is used in community-based communication. Champions, policy entrepreneurs, opinion leaders or change agents are different names for the same emergent environmental leaders that choose to engage in the behaviour-change process (Taylor, Cocklin & Brown, 2011; Valente & Pumpuang, 2007). Howell and Higgins (1990), Taylor et al., (2011) and Johnson, Hays, Center & Daley (2004) explained that the emergence of leaders results from the harmony between what the champions believe in and the issues that require leadership. Johnson et al. (2004) identified some individual qualities of champions, including extremely self-confident, determined, dynamic and risk-takers. Moreover, they also identified some fundamental skills which champions should have, including the capacity to focus their dedication on the environmental issues in need of attention, and having the ability to engage others, overcome boundaries, think and learn reflectively, educate for sustainability and build organizational capacity to widely spread sustainability messages

Bringing environmental initiatives to life requires careful choosing of environmental champions, mainly by the project staff, based on their own community observations during a project's preparations (Valente & Pumpuang, 2007). Champions take the ideas that need to be focused on, make crucial contributions to that idea and promote it passionately (Howell & Higgins, 1990). In doing so, they build support for that particular idea, attempt to master resistance and make sure the idea is adopted, which may eventually transform unsustainable behaviours into ones that are more sustainable, and to make this new behaviour accepted and adopted by the target audience (Howell & Higgins, 1990). Parker (2003) also suggested that it is beneficial to recruit people to become knowledgeable yet efficient communicators after they have become informed and persuaded to take action themselves. If members of the target

audience have been reached to become communicators themselves, then the behaviour change messages that they are communicating will have a much more far reaching and widespread impact. Champions can also be involved in actively recirculating environmental messages to friends, family and their communities after they themselves have taken in the information, adopted desired values and translated the information and values into action (Parker, 2003).

Although championship is important in supporting innovation and seeking out opportunities, champions should be energized and supported by the managers of the organization that they are working with. Howell & Higgins (1990) stated that in the context of formal organization:

[w]ithout champions organizations may have a lot of ideas but few tangible innovations.

The challenge facing management is to identify and effectively manage existing champions and to nurture potential champions. By providing conditions that support champions, managers can actively contribute to innovation success. (p. 55)

*Offering incentives.*

Offering incentives is a communication strategy that has been used to encourage embracing behaviour change. An *incentive* refers to one particular form of payment that is offered to achieve some specific change in behaviour (Adams & Hicks, 2000). Hutton and Merkley (1991) stressed the importance of offering incentives to encourage social change, especially environmentally-friendly behaviour. They stated that “one of the ways that has shown some promise in encouraging behaviour change is the use of incentives” (p. 697). Hutton and Merkley (1991) categorized any incentive program into two different types. The first type was financial (economic), including cash incentives, subsidies and price increases. There are also

incentives that are not financial in nature, such as expanding some environmentally-friendly programs including car or van pooling.

Steg and Vlek (2009) suggested that rewards are mostly linked with positive attitudes that support behaviour change. However, when rewards are tangible, people can ascribe their behaviour change to the reward itself as opposed to their conviction (Steg & Vlek, 2009). As a result, “rewards often only have a short-term impact because the behaviour change only lasts as long as the reward is in place” (Steg & Vlek, 2009, p. 314). Deci (1971) and Deci et al., (2001) also criticized using incentives as a stimulant to behaviour change. Deci et al., (2001) defined incentive as “an inducement offered to people to engage in a behaviour in which they might not otherwise engage” (p. 4), and noted that offering incentives strongly contribute to decreasing the intrinsic motivation of individuals as once the incentives were not offered, people would stop acting the same way as when the incentives were presented. They claimed that offering verbal rewards such as positive feedback, could substantially increase the same motivations when presented, in an effort to prompt behaviour change. Deci (1971) added that when using money as incentive to trigger behaviour change, intrinsic motivations drastically decreased.

In Jordan, the Government started applying economic incentives towards sustainability. Specifically, it offered a property tax reduction for individuals who installed solar panels and also offered an option for those individuals to sell power to the grid in an effort to decrease energy consumption (“Jordan Leads”, 2013). Environmental organizations in Jordan considered this step a success because it shows that the Government is responding to their calls to adopt sustainable methods to face current environmental challenges.

**Evaluating the effectiveness of sustainability communication programs.**

Determining the effectiveness of communication techniques plays a key role in identifying effective mechanisms for active engagement and adaptation of sustainable behaviour. Steg and Vlek (2009) claimed that evaluations are usually costly and time-consuming. However, systemic evaluation reveals to what extent the communication approach has been successful in changing behaviour and reducing environmental impact and may also reveal why the communications utilized were (un)successful and how the approach could be adopted to maximize the effectiveness.

Assessing communication process used in any sustainability-related project is a valuable thing to carry out. Kassing, Johnson, Kloeber and Wentzel, (2010) have developed a self-reporting instrument, the *Environmental Communication Scale (ECS)* (Appendix D), which measures the degree to which target audiences actually engage in environmental communication. The ESC is a 20-item measure that assesses environmental communication according to the degree to which people engage or avoid conversation or media reports about environmental issues, as well as the attitudes regarding how important and necessary it is for people to engage in environmental communication. According to Kassing et al. (2010), “this instrument would reveal how much or how little environmental communication is occurring” (p. 2). Therefore, implementing such an assessment tool prior to any communication program could give a good idea whether the messages that were communicated were beneficial in terms of encouraging behavioural change.

Parker (2003) also explained several means of helping to determine the effectiveness of any communication for sustainability. Parker (2003) stated that communication for environmental sustainability is only good if the goals are achieved. Therefore, the evaluation of

these communication methods should be part of the communication strategy. A good approach for evaluation is including the method of evaluation in the planning stage and implementing it at the end of the communication process (Parker, 2003). Parker (2003) noted that the evaluation methods and tools depends on the communication channels used, the message imparted and the target audience. If the campaign involved mostly interpersonal contact, then direct and face-to-face evaluation procedures offer a good form of evaluation. This could happen by engaging in direct discussion or having individuals fill out responses in writing. If the communication techniques used were mostly media-delivered, then a good form of evaluation might be telephone interviews, surveys or questionnaires (Parker, 2003). Gamble (2008), on the other hand, discussed developmental evaluation which focused on the importance of integrating evaluation in to the change process that matches the principles and objectives of the organization. Meaning that the evaluation process should be undertaken in parallel with planning the process as well as acting towards achieving the goals of the organization or change process. Evaluation should also be supportive to the ongoing learning by producing context-specific understanding of the challenges facing the organization.

### **Conclusion**

In this review of sustainability communication literature, I identified major concepts which are directly related to my thesis to provide a forum for the discussion of the theory and practice of effective communication techniques adopted worldwide. Table 1, below, summarizes the process of planning an effective communication program by indicating pre, during and post communication.

Table 1

*Summary of 'how to plan an effective sustainability communication program'.*

Effective Sustainability Communication Program		Effective Elsewhere Literature review	Citation
Pre-Communication	Targeting the right audience	✓	UNEP (2005)
	Develop appropriate messages	✓	Johnson (2012)
During-Communication	Plan Communication Techniques and activities		
	Education	✓	Godemann & Michelsen (2011)
	Empowerment	✓	Bandura (1997)
	Public communication campaigns	✓	Rice & Atkin (2013)
	Social marketing	✓	McKenzie-Mohr (2011)
	Social media	✓	Guzman & Vis (2016)
	Identifying champions	✓	Johnson et al., (2004)
	Offering incentives	✓	Adams & Hicks (2000)
Post Communication	Overall sustainability plan's evaluation	✓	Kassing et al., (2010)

Note. ✓ = present

### **Chapter Three: Research Methods**

Chapter three describes the methodology used in this study. After a brief introduction, I explain the methods used for data collection, data analysis and how I ensured validity and reliability.

#### **Research Design and Rationale**

The goal of this study was to explore the approaches used by JoGBC to communicate for sustainability and to explore how JoGBC's communication approaches compare with those used elsewhere. To achieve this, I used a qualitative approach with a focus on a single case study. My rationale for using a qualitative approach was that qualitative research provides a realistic feel of the world, flexible ways of collecting data and a descriptive capability through the use of unstructured data (Boodhoo & Purmassur, 2009). I opted to use a case study because it collects this descriptive data using intensive examination (Boodhoo & Purmassur, 2009) to understand a real-life phenomenon in depth (Yin, 2009). According to Yin (2009), a case study is an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident. I chose a case study research methodology for this research for two reasons. The first reason is the power that a case study has to fill in the gaps in an existing theory (Boodhoo & Purmassur, 2009). The second reason is that sustainability and communication are contemporary issues and I felt it was important to explore them in a particular context.

#### **Data Collection**

The data for this study was collected in three ways. First, I reviewed several regional organizations similar to JoGBC. I then reviewed communication materials used by the JoGBC to help identify the approaches used by the JoGBC and/or under its supervision, to communicate

sustainability programs. Finally, I conducted in-depth interviews with selected individuals who manage JoGBC sustainability projects.

### **Review of organizations similar to JoGBC.**

I chose six regional non-governmental organizations to explore in my study, reviewing their Internet-based communication materials to provide a background to compare these organization's communication techniques to the effective communication techniques utilized and discussed previously in the literature (see Table 1). The data for each organization was collected from its main website and Facebook page. Collecting data from the Internet was useful for this study because it provided a broad range of information and offered a deep understanding of the issue I was exploring. As Robson (2011), and Benfield and Szlemko (2006) noted, finding resources and getting support from the Internet is popular and extremely valuable. Reviewing these organizations' data helped me identify the types of sustainability communication techniques used in different countries in the MENA region. I choose these organizations as being the most active and familiar to the public in the region. These organizations are;

- EDAMA-Jordan: (<http://www.edama.jo>)
- Emirates Green Building Council-United Arab Emirates: (<http://emiratesgbc.org>)
- Friend of Environment and Development Association (FEDA)-Egypt:  
(<http://www.fedaeg.com>)
- Palestinian Environmental NGO's Network (PENGON)-Palestine:  
(<http://www.pengon.org>)
- Amwaj of the Environment-Lebanon: (<http://www.amwajenvt.com.lb>)
- Qatar Green Building Council (QGBC)-Qatar: (<http://www.qatargbc.org>)

**Review of JoGBC materials.**

The first means of collecting data was a review of the JoGBC's internet-based communication materials, as done for the other organizations. My intention was to make myself familiar with the organization, its vision, goals and dedication, as well as to look closely at what it was doing to communicate its sustainability messages in Jordan. I used JoGBC's website <http://jordangbc.org> , and Facebook page <https://www.facebook.com/Jordan.Green.Building.Council/>, and searched for articles that recognized JoGBC's sustainability initiatives.

**Interviews with JoGBC staff.*****Interview structure.***

When conducting interviews with the JoGBC staff, I used open-ended questions in a semi-structured interview (focused interview) format, which provided structure and yet offered flexibility of responses (Galletta, 2012; Robson, 2011). The interviews were primarily guided by my research questions and were conducted in Arabic. Before starting each interview, I had the participant sign a consent form, which was available in Arabic as well as English (Appendix A). The interview questions were pre-determined (Appendix B). However, my main focus was to try to let the participants speak freely and openly in more narrative-like discussion, as suggested by Galletta (2012) and Robson (2011). Although I posed some direct questions to ensure participants explored the research questions, additional unplanned questions were also asked to follow up with what the interviewees said. The questions posed covered the communication techniques and messages used by JoGBC in the environmental programs, as well as questions tailored to mark the degree of success for these programs. Other questions focused on the issues

dealt with while conducting the programs, which helped in determining effective communication practices that fit certain communities (audiences) and brought about change.

### ***Interview participants.***

I planned the interviews and started contacting JoGBC in early October 2015, interviewing JoGBC's planners, decision makers and co-founders. Each interview lasted approximately one hour. I sent several emails through JoGBC's online directory to staff in an effort to recruit them as participants for my research. Days later, I received an email from Bushra Hattab, JoGBC Green Academy Officer, showing her interest in my study. I informed Bushra that I would be in Jordan to conduct the interviews face-to face on May 22 and 23, 2016. Bushra suggested I conduct the interviews in JoGBC's office in Amman. When I went to conduct the interview, Bushra introduced me to all of the other staff that were interested in being interviewed. Each sustainability project is usually carried out by 4-5 staff, and if needed, JoGBC hires temporarily, skilled, project-related personnel.

All of the participants were females with a university degree in engineering, marketing or an environmental field and I will be referring to them as participants #1 to 9. My aim was to interview a minimum of 10 participants, with the intention of increasing participants until data saturation was reached. Guest, Bunce and Johnson (2006) noted that data saturation is "the point at which no information or themes are observed in the data" (p. 59). Although I believe data saturation was achieved after the fifth interview, nine participants were interviewed in total.

### ***Securing the data collected.***

All interviews were audio recorded, using the Olympus VN7200 digital voice recorder as well as a voice recorder app associated with Samsung Galaxy 5 smartphone as a backup. The data was manually transcribed, using pen and paper. However, to ensure the participants'

confidentiality, the transcripts were appropriately stored in my private locker. The audio files were stored on my personal computer and backed up on an external drive. Nobody else has access to the transcripts or the audio files.

### **Data Analysis**

The data from all sources (interviews transcribed in the original language, Arabic, and internet-based texts) was carefully translated into English. Once the data was translated, I manually started the data analysis. I used many different coloured highlighters and sticky notes to make it easier to identify different codes that emerged from the interviews and to analyze them via thematic coding (Robson, 2011), an approach which aims to break the data into smaller parts to determine themes. This process identified several themes of sustainability communication adopted by JoGBC, which formed the basis of codes within my interview data. These codes were then grouped into a smaller number of themes that captured something of interest or something significant about my research questions, or that reflected theoretical concepts derived from the literature (Robson, 2011).

Using a thematic approach, I coded each interview separately, identifying several ideas and thoughts that came up a number of times in the data and giving each of these ideas and thoughts a representative name and a unique colour. For example, for language such as ‘we can’t afford’ or ‘was expensive’, I coded the theme ‘financial challenges’ or ‘financial limitations’ and wrote it on a sticky note along with the number of times it was repeated. To reduce the overwhelming number of codes, I followed Robson’s (2011) method of constant comparison analysis, which aims to compare the codes from one interview with the codes formed from analyzing the previous one and combine the codes with same idea together. This ultimately decreased the number of codes in the final group. The codes were formed after reading and

rereading each transcript several times. I reread the transcripts a minimum of 10 times to ensure I did not miss any idea and to increase my data reliability. Once the codes and sub-codes were generated, I rearranged them to formulate several themes with similar connections or patterns.

### **Validity & Reliability**

To ensure the validity of the data, I used several methods of data collection, also known as cross validation or data triangulation (Robson, 2011). This was mainly used to find consistency in my data, which ultimately increases the confidence in the findings. I also reviewed the recordings and the transcripts many times to ensure that they were consistent and that I was not accidentally missing any small details. Creswell and Miller (2000) suggested using member checking to increase reliability, which entails handing in a full transcript of each interview to the respective participant for his/her review. The participant can then identify any errors or suggest revisions. I adopted this method and sent the transcripts to the participants via email, asking them to send it back to me if they had any corrections or suggestions. I did not receive any emails back from the participants.

To increase confidence in my translated data, I followed the recommendation put out by Nes, et al (2010). They suggested delaying “the use of fixed, one word, translations. Instead, using fluid descriptions of meanings using various English formulations” (p. 315). In doing this, it was essential to check the interpretations by reading and re-reading the codes that emerged in the original language, as well as keeping records of the interviews conducted to “make the development of the interpretations transparent when in later phases the translations need to be adapted” (Nes et al., 2010, p. 315). I was extremely keen on translating the data to reflect what interviewees really wanted to say. Polkinghorne (2007) also noted that qualitative research is

viewed as legitimate and valid when the meanings expressed by the participants and the meanings interpreted by the researcher are as close as possible.

### **Achieving the Research Objectives**

I identified the communications techniques used by JoGBC's planners, and compared them with the communication practices illustrated and discussed in the literature (Table 1). Then, I determined how the effectiveness of the communication practices used by JoGBC supports or contrasts with previous work carried out by other similar environmental organizations in the region.

The first objective of my study was achieved by reviewing the existing literature about sustainability communication as well as exploring the data discussing the communication techniques used by other regional organizations. The second objective was met by conducting interviews with JoGBC planners, decision makers and co-founders, and explaining how their work has shaped the behaviour of stakeholders and community members involved in the JoGBC programs, and supporting these interviews with data collected from materials issued by JoGBC that were publically published. The last step in this research was to formulate recommendations as per the third objective. These recommendations were designed to help decision makers, planners, developers and scholars with an interest in sustainability communication, specifically at JoGBC. The recommendations could also potentially be used at a general level locally and/or regionally, to adopt or identify good practices in this field.

## Chapter Four: Case Study Background and Findings

### Background

This chapter will provide a brief overview of the organization I have chosen to focus on for the purposes of this case study, the Jordan Green Building Council (JoGBC). JoGBC is a cross-sector, non-governmental, not-for-profit organization founded in 2009 in Amman. JoGBC is one of 74 other councils around the world that is recognized by the World Green Building Council (WGBC) (World Green Building Council, n.d.). JoGBC has chaired the Middle East and North Africa (MENA) region green building council for two years in a row—all the information below describing the Jordan Green Building Council comes from their official English language website <http://jordangbc.org>.

The primary role of the organization, as a general sustainability group, is to raise awareness and advocacy about environmental challenges with the public as well as other organizations and institutions. This means that the JoGBC not only works to spread the word about green building-related issues but also goes beyond that to organize and administer environmental activities to enhance sustainability, such as recycling programs, environmental competitions, community-based environmental movements and much more.

JoGBC has taken the responsibility for building up environmental initiatives and developing as well as delivering training and certification courses in Jordan (Table 2). Its staff believes they have a generally high standard of excellence in practice in the region. Every program at JoGBC starts with education. For example, JoGBC is the only recognized environmental organization in the MENA region which partners with the International Solid Waste Association (ISWA). Together, they deliver waste management programs to support and encourage meeting solid waste management needs for the public and private sectors, as well as to

promote and develop professional waste management as a contribution to sustainable development.

JoGBC runs environmental competitions for youth as a way of communicating sustainability. *Fekretna Khadra*, which means *Our Idea is Green* is a competition that aims to increase environmental awareness by encouraging participants to create projects that promote environmental and economic development. The projects created need to have sustainable benefits for the community and must seek to integrate green practices into city life. Beyond that, the projects also have to encourage people to participate in environmental activities that support the health of the community impacted by the project.

JoGBC has used social media, including the creation of web pages related to the environmental projects adopted by JoGBC and official Facebook pages to keep connected with people of all ages and groups who are interested in green causes. JoGBC has also created and distributed many environmental publications to public and private agencies and individuals through exhibitions and workshops.

JoGBC has many environmental initiatives that provide hands-on environmental experiences for students and any other interested parties and works to engage citizens in several sustainability practices throughout the region by offering well-planned strategies such as: education and awareness sessions, workshops and advocacy campaigns. The organization believes that good communication will lead to better knowledge and therefore, desired sustainable actions. Table 2 summarizes JoGBC's initiatives according to target audience and techniques implemented.

Table 2

*Summary of JoGBC's Target Groups, Communication Techniques Used and Initiatives*

Audience/Target Group(s)	Communication Technique(s)	Name of Initiative(s)
Public	Radio ads, TV ads, social media, press release, branding campaigns and graffiti	Ahl Al-balad
Neighbourhood communities	Door-to-door, social media, mass email, morning gathering, mosque announcements, graffiti, champions, flyers and talk shows, presentations	Dawerha
Consultant, businesses owners and professionals (working in private sector)	Training courses, certification, business opportunities, networking events (workshops, conferences, meetings, exhibitions, seminars), membership benefits, newspaper ads and billboards	Green Academy Green Podium Green Job Fair LEED Certificate ISWA Certificate
Consultant and professionals (working in government sector)	Formal communication (fax, phone, formal visits) exhibitions, workshops, conferences, training courses and certification	Green Academy Green Podium Green Job Fair LEED Certificate ISWA Certificate
University students	Training courses, workshops, seminars, conferences, advocacy sessions, training courses, volunteer opportunities, social media, volunteering, subsidized memberships, JoGBC library access	Green Academy Green Podium Green Job Fair
School students	Hands-on programs, themed days, festivals, advocacy sessions, green school competitions, school trips, green school days and school morning broadcast	Tafinee, Green Apple Day Water day, Earth Day, Environment Day, Fekretna Khadra, Tafinee

### **Introduction to Findings**

This section represents the findings of this study, which have been structured by the methods in which the data was collected. Seven Internet-based reviews have been used; an Internet-based review of communication materials issued by JoGBC, and six reviews containing data collected from environmental-oriented, regional organizations to broadly showcase other organizations' work that is similar to JoGBC. The internet-based reviews for both JoGBC and the six regional organization's communication materials were intended to simply introduce sustainability communication's endeavors in Jordan and the region and compare them with what is actually being communicated through my Interviews, and demonstrated to be effective by the literature. Table 3 summarizes the communication techniques used by JoGBC as well as the six other organizations in the MENA region to allow for a distinction as to what the different organizations do or don't,

I also report on my in-depth interviews with JoGBC's planners, decision makers and co-founders, which contributed to a deeper understanding of JoGBC's work in sustainability communication. Throughout this study, I explored the following questions: *How do the proponent and planners of JoGBC, as a (NGO), communicate the nature and importance of sustainable urban development to the residents of Jordan? How do these communication practices compare to other techniques that have been shown as effective elsewhere?*

Table 3

*Summary of Communication Techniques Used by JoGBC and Other Organizations in the MENA Region.*

<b>Organizations/ Communication Techniques</b>	<b>JoGBC</b>	<b>EDAMA</b>	<b>EGBC</b>	<b>FEDA</b>	<b>PENGON</b>	<b>Amwaj</b>	<b>QGBC</b>
<b>Education and Awareness Raising</b> Networking Events	✓	✓	✓	✓	✓	✓	✓
<b>Empowerment and Capacity Building</b> Training Courses Workshops	✓	✓	✓	✓	✓	✓	✓
<b>Public Communication Campaigns</b> Outreach Materials Posters and Leaflets	✓	✓	✓	✓	✓	✓	✓
<b>Social Marketing</b>	✗	✗	✗	✗	✗	✗	✗
<b>Social/Mass Media</b> Social Media Campaigns Facebook Twitter LinkedIn Press Releases Websites	✓	✓	✓	✓	✓	✓	✓
<b>Identifying Champions</b>	✓	✗	✗	✗	✗	✗	✗
<b>Offering Incentives</b> Membership Awards	✓	✓	✓	✗	✗	✗	✓

Note. ✓ = present; ✗ = absent

**Review of Materials Issued by JoGBC**

The JoGBC website contained detailed information about the programs and events managed and run by JoGBC, while the Facebook page shared events, information and success stories, and celebrated milestones. It was not necessary for me to review other JoGBC communication channels, such as Twitter, because these other channels contained the same data that was available on the Facebook page.

JoGBC designed its website to showcase its sustainability projects. For each project, JoGBC described the nature of the project, its main goals and how that specific project was communicated to different target audiences. However, I will describe the communication techniques in general, not in relation to specific projects.

**JoGBC communication approaches based on Internet sources.**

For a summary of JoGBC communication techniques, see Table 3. According to JoGBC's website, the organization stresses the importance of effective public participation through its communication for sustainability. This is because one of its goals is to actively engage stakeholders and civic society in their communities. JoGBC uses its website to attempt to engage the local community and raised awareness about sustainability via training programs aimed at reducing negative environmental impacts. As JoGBC explained on its website, empower the public will contribute to building active and inspired citizens. To maximize public engagement related to the environment, JoGBC offers the public an opportunity to participate in the sustainability movement in Jordan by becoming a member, a sponsor or a volunteer.

JoGBC organized meetings, round table sessions, conferences, awareness sessions/symposiums, workshops and environmental exhibitions that showcase the latest services and products provided by service and technology suppliers, and conducted environmental

forums. Distribution outreach materials communicating sustainability to individuals and stakeholders were also among the methods used for communication. All outreach materials including posters and leaflets, were designed to be attractive and present representative themes to show that raising awareness about shifting to sustainable alternatives may in return enhance the quality of people's life.

Training residents and providing them with the appropriate knowledge required to serve as community champions was also a technique used to empower and engage communities. JoGBC provided the necessary sustainability information to residents to step up as champions and to encourage them to adopt favourable sustainable practices. JoGBC chose these champions from residents that showed an interest in sustainability issues and were willing to help spread sustainability messages. This strategy may not only help in motivating individuals to take responsibility but also bringing together all members of civic society to raise awareness and prompt positive behaviour change.

Social media campaigns were another communication technique used to ensure maximum outreach. Using social media platforms such as Facebook, Twitter and LinkedIn was crucial when it came to sending messages about sustainability and spreading awareness to as many people as possible. As part of the social media plan, JoGBC worked with the champions to prepare social interactivity posters that were then shared on its social media platforms. The main purpose of these posters was to create a model that represented good sustainability behaviours for the public to follow. JoGBC also created a new and separate website and Facebook page for each sustainability project as a way to stay connected with those of all ages and groups that were interested in the specific project. For example, <https://www.facebook.com/ahelalbaladJO/>, is a Facebook page which was created by JoGBC to demonstrate Ahl Al-balad initiative.

In an effort to promote sustainability in the country, JoGBC organized a green hub to connect employers and job seekers in the environmental sustainability sector. The primary goal for the green hub was to initiate policies to create green jobs and encourage the transition to green workplaces. The idea was that creating these kinds of green business opportunities may contribute in increasing the overall understanding of sustainability.

For students, JoGBC created environmental competitions to spread green awareness regarding the operational, financial and environmental performance of green building and green lifestyle choices. For example, one competition promoted environmental and economic development by encouraging students to create objects with sustainable benefits for the community. Some of the students were given the opportunity to present the objects they created at regional forums to support students' contributions to the green economy.

Finally, JoGBC used community-based environmental movements to spread awareness and create positive behaviour change towards safer and healthier communities. As part of these movements, JoGBC issued press releases to inform and explain the nature of the movements. JoGBC also delivered engaging and stimulating short media videos, such as <https://www.facebook.com/ahelalbaladJO/videos/2044711579088636/>, to spread their messages widely and hopefully, effectively capture public attention and participation.

### **Review of Organizations Similar to JoGBC in the MENA Region**

For a summary of the MENA region organizations work, see Table 3.

#### **EDAMA-Jordan.**

EDAMA is a Jordanian-based nonprofit, non-governmental organization focused on energy, water and environmental conservation. The organization strives to spread sustainability nation-wide. To achieve this, EDAMA works to raise sustainability awareness by education,

public advocacy, training and capacity building, networking events, membership benefits and social platforms (EDAMA, n.d.).

EDAMA believes that sustainable development and the transition towards a green economy are possible through formal and informal education and raising public awareness in an effort to achieve behavioural change. They have organized internationally accredited training courses and supported local awareness campaigns to stress the importance of natural resources and the environment (EDAMA, n.d.). EDAMA also advocated for energy, water and the environment as a means of bringing about change to policy, legislation and practices, with the ultimate goal of creating a more efficient and effective sustainable business community. They organized round table discussions and meetings between the private sector and the government to discuss the importance of creating environmental legislation in Jordan. To maximize their outreach capacity, EDAMA used social media and launched a quarterly newsletter as communication platforms to engage a wider audience and raise awareness from economic, social and environmental perspectives (EDAMA, n.d.).

#### **Emirates Green Building Council (EGBC)-United Arab Emirates.**

EGBC was initiated in 2006 in the United Arab Emirates (UAE), after significant needs to address changes in demands and actions related to sustainability development in the MENA region and in the UAE specifically, were noted by the UAE government. EGBC is a nonprofit, independent organization that was founded to encourage adaptation and implementation of green building policies and increase awareness and knowledge about sustainability and sustainability-driven initiatives. EGBC used several methods to encourage adopting sustainable practices in communities all over the UAE including training and enhancing capacity building, establishing

green schools, membership, partnership, outreach communications and campaigns and social media platforms (Emirates Green Building Council, n.d.).

EGBC offered training programs to support the green market in the UAE with capacity building and training needs. They organized conferences, exhibitions, networking events, monthly technical workshops, forums and offered awards. EGBC also offered memberships and membership benefits to corporations and individuals to engage them in the environmental cause and sustainable development. EGBC seeks partnerships with organizations within the UAE, to develop and ensure the growth of the green building industry as well as strengthen the relationship between the EGBC and communities. Additionally, they made use of monthly newsletters, press releases and social environmental campaigns to help advocate and inform public communities about the sustainability issues facing the region, as well as discuss successful ways for mitigation. EGBC used social media platforms (email, website, Facebook, Twitter, YouTube and Instagram) to circulate sustainability messages nationwide (Emirates Green Building Council, n.d.).

#### **Friends of Environment and Development Association (FEDA)-Egypt.**

FEDA is an NGO that was established in 1992 in Cairo, Egypt. FEDA is committed to accomplishing sustainable development in Egypt by implementing sustainable projects to replace the non-sustainable ones, and aiming to enhance the quality of life of the residents (Friends of Environment and Development Association, n.d.).

FEDA organized sustainable development conferences, workshops, visits and forums. They enhanced public participation and a sense of belonging by encouraging participation in community organizations and social networking events. FEDA also promoted capacity building, community leaders and support members of specialized committees. In addition, FEDA worked

on improving social aspects of people's lives and education of community members, and encouraged them to adopt environmentally-friendly behaviours. They also provided vocational training to support the green economy, which contributed to the improvement of the quality of life of citizens. Alongside providing environmental education, FEDA organized advocacy campaigns to raise awareness about the environment across the country. They promoted environmental-related activities between both the public and school age children (Friends of Environment and Development Association, n.d.).

#### **Palestinian Environmental NGO's Network (PENGON)-Palestine.**

PENGON is a coalition of all 16 environmental, non-governmental organizations in Palestine. Their main goal is to serve environmental issues in Palestine. PENGON strives to participate in many local conferences across the country in an effort to enhance awareness about sustainable issues and environmental challenges (Palestinian Environmental NGO's Network, n.d.).

PENGON launched many initiatives aiming to strengthen the relationship between the public and municipalities. They used social media as a main communication platform to connect residents with decision makers to help prevent or solve many environmental problems. PENGON also organized monthly meetings to discuss current environmental problems, such as random solid wastes dump sites and the use of excessive fertilizers. PENGON also hosted workshops, environmental education activities/sessions, environmental clubs and distributed posters and flyers to help spread environmental awareness through the general population of Palestine. They also worked to empower all citizens in Palestine to become effective participants in establishing a sustainable future in Palestine (Palestinian Environmental NGO's Network, n.d.).

**Amwaj of the Environment-Lebanon.**

Amwaj is a non-governmental organization that was established in 1995 in Beirut. The main goals of Amwaj are to protect and conserve natural resources and biodiversity, spread environmental awareness and work collaboratively with local government associations on environment-related issues (Amwaj of the Environment, n.d.).

Amwaj used several techniques to achieve their environmental goals. They strive to improve capacity building for different associations and stakeholders and provide the necessary financial and technical support in the environmental field. Amwaj also participated in domestic and international conferences, workshops and seminars aimed at spreading sustainability awareness across Lebanon, and published newsletters and distributed posters and brochures to enhance environmental understanding amongst the general public. Additionally, they organized camps, training sessions, meetings, campaigns, presentations, visits, activities and environmental days in an effort to raise awareness and encourage behavioural change in the country (Amwaj of the Environment, n.d.).

**Qatar Green Building Council (QGBC)-Qatar.**

QGBC is a nonprofit organization that was established in 2009 in Doha, and provides leadership in sustainable practices for green building while supporting the healthy environment and green economy in Qatar. They aim to involve all sectors, stakeholders and communities in the green cause and encourages them to participate in green development in Qatar (Qatar Green Building Council, n.d.).

QGBC organized initiatives encouraging communities to learn about and participate in sustainable development in the country. They offered training courses, awareness sessions, conferences, workshops, meetings and networking events to bring together all parties that were

interested in the environment to discuss, commit and act to create more healthy and sustainable environment locally and regionally. QGBC also provided several outreach programs to promote sustainable behaviour. In 2017, QGBC is organizing *Qatar 2017 Sustainable Week*, which aims to engage communities nationwide in a wide range of sustainability-oriented activities. The *Qatar Sustainability Awards 2017* aims to recognize individual and organizations' efforts in sustainable development in Qatar. QGBC was aware that using social media as a communication platform might help engage large numbers of the public in the green cause. As a result, QGBC partnered with many media organizations to spread sustainability messages at a large-scale (Qatar Green Building Council, n.d.).

### **Interviews**

In this section, I focus on the data collected through in-depth interviews with JoGBC's planners, decision makers and co-founders. After reading the interview transcripts many times, I realized that the interviews were mainly shaped around the communication techniques for different target audiences. As a result, I connected each target group, as identified by JoGBC's interviewees, to the techniques used to communicate sustainability messages. JoGBC's participants described their target audiences as belonging to six main groups and they repeatedly mentioned these groups throughout the interviews. These groups were:

- The general public (residents of Jordan);
- Neighbourhood communities (residents in various neighbourhoods);
- Consultants, business owners and professionals working in the private sector;
- Consultants and professionals working in the government sector;
- Current university students (undergraduates and post-graduates, 18+ years old); and

- School students (elementary (ages 6-12), secondary (ages 12-16) and high school (ages 16-18)).

### **Communication to the general public.**

Since the general public is such a diverse group of people, JoGBC used several communication techniques to reach them. For example, radio and television advertisements were used to publicize a variety of volunteer initiatives that JoGBC launched all over Jordan. The most popular initiative was *Ahl Al-balad*, (Appendix C: 1), which means “the people of the country”.

The main purpose of the Ahl Al-balad initiative was to build a constructive public movement to raise awareness about littering and encourage the public to keep the country clean. Although the majority of the participants considered using radio and television advertisements to be successful in engaging a large number of people, JoGBC does not usually use such advertisements as a communication technique because they are expensive. In this instance, a partnership with the Greater Amman Municipality (GAM) was very helpful because GAM provided JoGBC with financial support as well as a chance to use its communication channels to promote JoGBC’s initiatives on a large scale.

In addition to radio and television advertisements, JoGBC has also used mass email, Facebook pages, Twitter, the JoGBC website and press releases. JoGBC has obtained almost 42,000 email addresses since it was established, comprised of people who have shown interest in JoGBC and signed up for updates, and includes people from different backgrounds and different ages. Social media, such as JoGBC’s Facebook page and GAM's communication channels, were also used.

Another effort to reach the general public included branding campaigns. For example, JoGBC used orange coloured t-shirts to support the municipal cleaning workers. Orange is well-known to the public all over the country because it is the municipal cleaning workers' uniform colour. JoGBC also used billboards and large-scale graffiti (Figure 1) with orange backgrounds painted on the main street in Amman and near the Amman municipality's headquarters, as a way to raise awareness and help put a stop to littering. Participant #3 stated that "Since 2014, JoGBC has been using these different communication techniques to reach the public through 35 initiatives all over Jordan" (Translated from Arabic).



*Figure 1.* Ahl Al-bald graffiti. In English "Ahl Al-balad, the country is clean with its people. Leave it Clean". Image copyright JoGBC, used with permission

There have been no studies carried out by JoGBC or any of its partners to indicate if the techniques used to communicate sustainability to the general public have been effective or not. JoGBC has no evidence to indicate if continued use of these techniques will contribute in shifting in behaviour to be more environmentally-friendly.

**Communication to neighbourhood communities.**

In order to spread awareness about sustainability in different neighbourhoods in Jordan, JoGBC used a variety of communication techniques. JoGBC targeted several neighbourhoods by using community schools, specifically teachers and students, as a starting point. JoGBC organized school open days, information sessions, business meetings and prayer time announcements; communicated directly with parents through school-parent meetings; chose champions from each building in the neighbourhood to share information related to certain sustainability practices; used graffiti (Figure 2); and shared information via websites and social media.

JoGBC also targeted women separately to communicate for sustainability. JoGBC identified Abdun's (one of Amman's neighborhood) housewives as one of the most important groups to target because of their role in parenting and their direct influence in any behaviour change in children. As a result, JoGBC conducted morning pre-scheduled, face-to-face gatherings with these housewives together in their homes. At these gatherings, they talked about the importance of embracing good sustainability practices, such as recycling, to enhance quality of life. Participant #6 said "we [JoGBC staff] borrowed this 'morning gatherings' idea from the Tupperware Party, where some neighbourhoods' housewives used to get together to talk and bring their own Tupperware to share food" (Translated from Arabic).

An example of the involvement and communication through neighbourhood communities is targeting the schools in that neighbourhood, such as one of JoGBC's program called *Dawerha*, (Appendix C: 2), which means 'recycle it'. *Dawerha*, has currently reached over 6,000 participants and has been focused on one of Amman's neighbourhoods, Abdun. JoGBC chose the Abdun area to implement this program because the residents are relatively rich, which

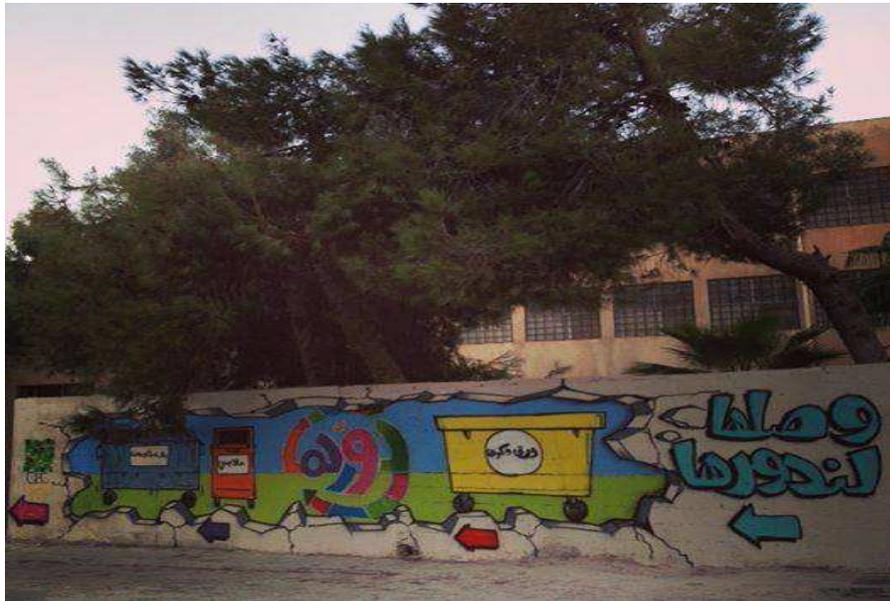
according to participant #1 means that “they are more likely to accept and adopt changes and more likely to produce waste than a poorer community” (Translated from Arabic). Dowerha encouraged recycling through sorting and sourcing activities in homes, businesses and schools. JoGBC worked with Queen Rania Al-Abdallah public school in Abdun, using the school as a primary collection point for recyclable materials. JoGBC installed one 770 L bin at the school and 10 240 L bins in the area around the school, taking advantage of the school’s location, which was in close proximity to businesses in the area that were also encouraged to take part in the program.

JoGBC then recruited a champion from each building (as most people live in apartment buildings) in the Abdun neighbourhood to act as a facilitator and motivator, ultimately helping JoGBC reach the people living in the community. JoGBC worked with the parents as a task force to actively engage them in the recycling process. From within this task force, they chose the champions to facilitate the process, in an effort to spread the word to the locals and encourage residents to participate.

JoGBC also took advantage of the religious commitments of the residents. JoGBC made daily announcements in the community masjids after each prayer time to inform the neighbourhood about current sustainability projects. JoGBC used these announcements as opportunities to encourage people to switch to environmentally-friendly practices, such as recycling. They were aware that prayer times brought large groups of people together, which was beneficial to spreading sustainability messages widely.

JoGBC also conducted face-to-face meetings with shop owners in the same community. The main reason was to encourage them to work collaboratively with each other to attain more sustainable actions. JoGBC was also determined to stimulate greater numbers of people to

participate in its sustainability projects. Therefore, it offered some of the participant members' benefits (e.g., website ads) as motivation to participate. JoGBC also used social media (Facebook, Twitter, LinkedIn), its website, press releases, graffiti and guest slots on Jordan public television to talk about its sustainability-oriented projects and the related benefits to society, individuals and businesses.



*Figure 2.* Dawerha graffiti; Rania Al-abdallah Public School Image copyright JoGBC, used with permission

### **Communication to consultants, business owners and professionals (private sector).**

In order to reach privately-owned organizations and individuals working in the private sector, JoGBC used communication techniques based on the characteristics of each specific target group and profession, their connection to the environment and the professional communication norms used by each respective group. For instance, JoGBC developed specific programs with a main focus to improve residential insulation using sustainable and durable materials and environmentally-friendly installation techniques, in order to attract contractors and construction material suppliers and encourage them to contribute to the green economy.

Communication techniques used included: certification (rewards), business opportunities, networking, workshops, conferences, meetings, exhibitions, green promotion seminars, membership benefits and job fairs.

International training courses, awareness sessions, workshops and technical support were offered to this sector through the *Green Academy* (Appendix C, 3), to help individuals transition to a more sustainable role in their organizations. Through the Green Academy project, JoGBC modified the Leadership in Environment and Energy Design (LEED) rating tool, “an international rating tool for green building” (Canada Green Building Council, n.d.), to create a Jordan-based rating tool that they then named Checklist. JoGBC uses Checklist “to address environment-related building problems using solution-based criteria” (participant #9) (Translated from Arabic). As participant #9 articulated:

[LEED] advises the owners to reduce the amount of water used in a building by a certain percentage, while Checklist gives advice and suggestions on how to reduce water usage, such as changing shower heads through carrying out such training courses (Translated from Arabic).

JoGBC has carried out many professional training courses like the ones participant #9 referred to. In fact, “as of May 2016, JoGBC trained more than 3,600 professionals interested in sustainability” (participant #9) (Translated from Arabic) and “registered nine projects under the Checklist rating tool in the same period” (Translated from Arabic).

Many communication techniques were used to attract business owners and professionals to adopt sustainable practices. These included green promotional seminars, general seminars and networking events. JoGBC’s planners considered green promotional seminars one of the most effective communication tools for engineers, contractors and business owners. Monthly green

promotional seminars called, *Green Podium* (Appendix C: 4), connect business owners who have green products to promote, with other interested parties such as other business owners, contractors and engineers. JoGBC sends invitations by email to connect these parties so that they can discuss new green products, which could reach the market through these businesses. Other seminars were also organized by JoGBC for “promoting any business’ green internal process in an effort to shed light on any small transitions towards sustainability” (research participant #5) (Translated from Arabic).

Membership benefits are one of the main services/rewards JoGBC provides to professionals and business owners. With the payment of membership fees, JoGBC provides members with promotions, discounts, free or low-cost training and business opportunities by circulating their logos and promoting their work on the JoGBC website, Facebook page and at related events. At no additional cost, members receive assistance in making their businesses more sustainable. Members are the most likely to be aware of sustainability challenges in Jordan, which, according to participant #5, “makes them the group most likely to adopt positive behaviour change related to sustainability” (Translated from Arabic).

Through its training programs, JoGBC provides awards and certificates, which are recognized by the World Green Building Council. An example of certification is the Solid Waste Management Certificate, the first of its kind in Jordan. Through this certification, JoGBC encourages individuals and organizations to embrace new sustainability practices in their work. At the time this study was conducted, JoGBC had provided training for 40 people in solid waste management, which at the time was a new profession in Jordan. Seven of the participants became international trainees (qualified to work internationally), while 14 have become advanced trainees (qualified to work locally) in the solid waste management industry. Having

these qualified individuals in Jordan should help diffuse sustainability practices to a wider audience as they themselves develop skills through these training and education courses.

Another networking event that JoGBC used to bring professionals together for the purpose of growing the environmental movement in Jordan is the Green Job Fairs. These are events hosted by JoGBC to connect the right people with the right green job opportunity. Specifically, these fairs help JoGBC connect members, business owners, professionals and other interested groups such as banks, with interested job seekers from different backgrounds who have a desire to become part of the environmental movement in Jordan. JoGBC provides a place and support to make this happen on regular basis. JoGBC used social media platforms, newspapers advertisements (for targeting professionals) and billboards (for targeting job seekers) to communicate these events. Participant #5 stated “in an effort to engage as many people in the environmental sector as possible, billboards are the most used technique to advertise these events for job seekers” (Translated from Arabic).

None of these communication techniques were evaluated by JoGBC, with the exception of an evaluation that was undertaken by JoGBC’s project coordinators to assess the effectiveness of the training courses and the networking events provided to this target group. According to participants #3 “asking for feedback by filling out questionnaires at the end of the training courses and some networking events, such as meetings and workshops, is a valid approach used in JoGBC to examine the success of our communication” (Translated from Arabic). Participant #5 also noted “JoGBC often uses follow up questions to assess some of its communication techniques offered to the target groups” (Translated from Arabic). The research participants generally consider training courses ‘successful’ based on numbers of people who show up for these courses.

**Communication to consultants and professionals (government sector).**

According to Participant #2 “JoGBC is making tremendous efforts to reach as many government employees as possible” (Translated from Arabic). This is a view shared by participants #4, 6, 7 and 8. Although according to participant #8, “the government in Jordan does not strongly support environmental issues” (Translated from Arabic), JoGBC tries to connect with the government sector to “emphasize the needs of sustainability in Jordan and educate future decision makers about these needs” (Translated from Arabic). To achieve this, JoGBC offers to host special workshops, conferences and training courses specifically for government employees. This proposal is in line with the existing demand for certification from government participants, so offering certification would facilitate the engagement of government workers in any event.

Participant #8 also indicated that “formal, or personal, communication is the most effective way of connecting with the government sector” (Translated from Arabic). This includes using fax and phone as well as face-to-face visits, which are among JoGBC’s most-used communication techniques for this group. Formal communication is especially important when it comes to convincing government employees as “most of the time government employees do not reply for emails or voice messages” (participants #1) (Translated from Arabic), to participate in any event aimed at supporting the environment and/or discuss effective ways to make the government of Jordan an effective partner in the environmental movement. Participants #2 also claimed that “government employees are less likely to respond to any emails or other types of written communications” (Translated from Arabic)- this claim also supported by participants #3, 7 and 9.

**Communication to university students.**

According to participant #2, JoGBC gives special attention to university students in an effort to build a new generation aware of Jordan's environmental problems from the beginning of their careers. JoGBC offers university students discounts on memberships, using members' benefits to attract students to green causes. JoGBC has also signed agreements with university student councils to offer interested students low-cost training courses and workshops, discounted conference fees and access to seminars and volunteer opportunities, to guide them towards the green economy.

JoGBC used social media to communicate to these students and since JoGBC started to target this group, the organization noticed increasing numbers of "likes" on Facebook. According to participants #1 "this increase in "likes" indicated that students aged 18 and up had become more aware of sustainability in Jordan" (Translated from Arabic). Participants #2 explained, and participants #4 and 5 supported, that "age 18 and up students show awareness about sustainability as their 'likes' on JoGBC's Facebook page increase" (Translated from Arabic) JoGBC also found it reassuring that most of its current volunteers are university students; the organization considered this an indication that a considerable number of university students care about environmental issues JoGBC also offered university students access to its library anytime in the year as part of their environmental education efforts.

**Communication to school students.**

JoGBC also showed an interest in school-age students (aged 6-18 years) as a target group and tried to educate students about the environment at a young age. JoGBC used different communication techniques to suit the differences between these ages. As a result, they organized festival days in schools to engage young students, focusing on fun games, creative puzzles and

hands-on activities. Through the green school competitions, JoGBC introduced sustainability concepts to students. The organization also set up sessions in schools to raise awareness about sustainability and organized school trips to some established green buildings in Jordan, including the Dutch Embassy and World Health Organization (WHO) headquarters. The goal of these trips, according to participant #2, “was to mark the need for and demonstrate the value of such buildings in Jordan” (Translated from Arabic).

JoGBC promotes ‘green school days’ in Jordan. The aim of these school days is to communicate environmental challenges faced by Jordan to school aged students in fun and educational ways. JoGBC celebrates Green Apple Day, which is recognized by the World Green Building Council. On Green Apple Day, some of JoGBC members and volunteers visit schools to create awareness about the environment. “Annually, on the last Saturday of September, JoGBC visits schools to educate students about sustainability by conducting related games and giving informative tips to the students” (participant #2) (Translated from Arabic). Participant #6 articulated that “green school days are important in educating young students about sustainability” (Translated from Arabic).

Tafinee, Figure 3, which means ‘turn me off’ was created by JoGBC to encourage young kids to turn off the lights when they leave the room. Informative stickers are distributed to the students and the students were told to stick one beside each light switch as a reminder.



*Figure 3.* Tafinee sticker; JoGBC's headquarter-Amman

As part of JoGBC's continuous efforts to work alongside students, the organization celebrates three more days in the year: water day, earth day and environment day. On these days, JoGBC introduces fun and creative games aimed at communicating messages to the students that support the goals of the specific day being celebrated. For example, on water day, JoGBC focused on reducing water consumption by creating water games and engaging the students in water activities that encouraged water conservation and sustainability.

JoGBC has also used a school morning broadcast to send messages to educate younger students about sustainable practices. JoGBC staff met students in scheduled classes to talk with them and encourage them to speak with their parents about what they had learned regarding the environment. JoGBC also conducted school-wide competitions that offered an award to the class that committed to the most sustainable behaviours.

By targeting school-aged children, JoGBC aimed to spread the word about sustainability to young people as well as educate their parents. Engaging the students in sustainability

challenges could help promote positive behavioural change because the students may take what they have learned home and model it for their parents. Consequently, engaging the students in these kinds of environmental activities may lead their parents to learn, and potentially adopt, positive behaviour changes as well. According to participant #8, “JoGBC was aware that teaching kids about sustainability challenges could lead to behaviour change in their parents” (Translated from Arabic).

As noted previously, JoGBC evaluated all their training courses and many organized networking events (workshops, conferences) by providing participants with a questionnaire for feedback on the effectiveness of the activity. No other evaluation was undertaken for any JoGBC activity. JoGBC did not make the results of these questionnaires available to me.

## Chapter Five: Data Analysis

In this chapter, I will analyze the data collected from the interviews conducted with JoGBC's planners, decision makers and co-founders. Using a thematic coding approach, several themes have identified, including: budget limits, targeting the right audience, education and awareness raising, networking activities, effective participation and incentives.

### **Budget Limits**

'Limited budgets' was often the first response when participants were questioned about choosing a specific communication technique or strategy. The majority of the participants agreed with Participant #7, who stated that "they formulate their communication strategy according to the budget available as well as the target audience, JoGBC does not receive government financial support or have any permanent funds available" (Translated from Arabic).

JoGBC's funding comes primarily from foreign donors, including the Dutch Embassy in Jordan and the United States Aid for International Development (USAID). This funding is received as grants, which are usually paid to support a single sustainability project. Donors work closely with JoGBC throughout the period of the grant, to ensure that the sustainability project or program the funds are used for are aligned with what was pre-approved in the initial proposal. JoGBC has to stretch grant funding to cover all expenses, including the communication techniques used, materials and supplies, salaries and office space for that grant period.

Scarce resources also prevent JoGBC from assessing the effectiveness of its communication techniques and limit what techniques can be used. For example, participants #1 stated that "due to budget constraints, JoGBC could not afford to print information pamphlets about green products to provide as a take-home gift for participants in the green promotions hubs" (Translated from Arabic)- a claim also supported by participant #4. As Parker (2003)

stated “before communication channels are selected, a budget will need to be determined because different methods of information distribution will entail various costs” (p. 305). These costs include advertising and printing costs and advertising using mass media, which JoGBC considers an expensive yet effective part of any campaign. JoGBC is unable to adequately cover these various costs and JoGBC has not been able to obtain any funding sources to support them. JoGBC believes that using the most suitable communication techniques requires finding additional financial resources to help create effective messages to promote sustainability.

### **Targeting the Right Audience**

The importance of targeting the right audience was the second major theme identified throughout the interviews. As explained by the interviewees, identifying the ‘right’ audience is an important step in starting a campaign. Parker (2003) stressed the importance of careful audience targeting when communicating for sustainability. According to the participant #6 “communication techniques were delivered by JoGBC to fit the characteristics of individuals or groups of people in many ways, such as the level of education, age, level of environmental awareness and gender” (Translated from Arabic). Participants felt it was important to frame their messages and the techniques used to deliver these messages on these criteria. For instance, JoGBC used interactive communication activities appropriate for young school students. Participants #1 and 4 agreed with participant #5, who referred to these types of activities as “joyful and entertaining” (Translated from Arabic). JoGBC aimed to educate young students about sustainability and good environmental practices and encourage them to embrace these practices to bring about change. They also used other communication techniques that they believed to be appropriate for students, such as school morning broadcasts and school environmental competitions. In doing so, they noted that school age groups require physical and

social engagement to enhance the interaction with the content. According to participant #1 “dealing with 18 year olds and older requires more technologically-advanced communication techniques including social media platforms and mass email” (Translated from Arabic).

Participants #2, 4 and 7 shared the same point of view as well.

JoGBC is also keen to publicize emergent environmental challenges to gain people’s support for embracing sustainable behaviours. Thus JoGBC, in some cases, relied on radio and television advertisements, press releases and newspaper advertisements to advertise its sustainability-related projects and/or educate people about environmental challenges. Parker (2003) suggested that using mass media for communicating environmental messages is very powerful and extremely motivating and persuasive, yet mass media is the most expensive tool in any communication campaign. Hansen (2011) noted “the mass media have been a central public arena for publicizing environmental issues and for contesting claims, arguments and opinions about our use and abuse of the environment” (p. 8).

JoGBC also took the level of sustainability awareness of any target group into consideration. As Parker (2003) stated “audience members are perceived as customers of knowledge, and the communicators role is to enlighten, inform or entertain the audience with the content of the message” (p. 304). As a result, JoGBC participants and volunteers framed messages to suit the level of knowledge a target group had about the environmental problem being tackled. Parker (2003) explained that “the audience’s knowledge level will determine the type of messages that need to be devised” (p. 305). After identifying the public’s level of environmental knowledge of the project, mostly by using some indication of their environmental behaviour (in this case, how they dispose of litter in public areas), JoGBC adopted an existing, well-known cultural phenomenon (orange shirts worn by municipality cleaning worker) to

publicize its message through a branding campaign. JoGBC claimed that the residents in Jordan were aware and unhappy about the litter issue and would be receptive to campaigns that addressed it. JoGBC capitalized on this knowledge by using existing branding to build upon the public's level of knowledge and ultimately persuade people to take action. Participant #3 stated that "the public contributed effectively, and in significant numbers, in cleaning up the public areas around Jordan, which we describe as a success to our campaign" (Translated from Arabic)

The development of environmental communication techniques that pay special attention to the role of women is important as they are active members in the local communities and the main contributors to healthy, knowledgeable and responsible childhoods. Recognizing this perspective, JoGBC has formulated communication strategies specifically for women, such as "morning gatherings where JoGBC staff can meet women face-to-face and have a conversation" (Participant #1) (Translated from Arabic). Participants #2, 3 and 7 supported that claim as well.

### **Education and Awareness Raising**

JoGBC has included education programming as an approach to introducing sustainability and offers messages regarding what to do about sustainability issues. This was the reason behind participants #2, 3, 4, 5, & 9 consistently stressing the importance of education and awareness-raising to achieve sustainable development. Defining an appropriate message is important when it comes to inspiring people to achieve sustainability. Given that the term 'sustainability' is relatively new to Jordan, JoGBC decided to take a leadership role and invest broadly in education and raising awareness to establish a foundation for sustainability in Jordan.

Through its programs, JoGBC has paid special attention to education as a first step in informing citizens about the environmental challenges Jordan faces. With all groups that were targeted, including the public, neighbourhood communities, consultants and professionals

(private sector), consultants and professionals (government sector), university students and school students aged 6 to 18, JoGBC conducted training courses and organized awareness sessions as a first step in its communication strategy. JoGBC was determined to engage all of its target groups in educational sessions of appropriate types, organizing training courses, conferences and workshops to educate professionals, consultants and university students about sustainability and guide them towards environmentally-friendly behaviours with the intention of engaging them in the green cause as decision makers or future influential voices.

JoGBC used short, informative morning broadcasts that take place every morning in every school, and purposeful environmental classes as an educational approach to introduce sustainability to school students 18 and under. They also organized themed days in public schools, “which work as a vehicle to deliver sustainability messages that promote good environmental practices and raise sustainability awareness amongst young students” as noted by participants #2 and agreed by participants #3, 6 and 8. (Translated from Arabic)

All of these communication techniques were implemented in an effort to educate various communities in Jordan about good environmental practices with the aim of leading behaviour in a more sustainable direction. JoGBC emphasizes education as a communication technique to reach different audiences of all ages. Participants #1, 2, 3, 4, 5, 7 and 8 shared the same point of view as participant #9, who stated that “providing education is an effective strategy to meet a variety of environmental challenges, not only in the present but also for the future” (Translated from Arabic).

## **Networking Activities**

### **Networking events.**

Many of the programs and events undertaken by JoGBC could be characterized as networking events, which the organization considers to be an important, efficient and effective communication strategy. Events include conferences and green promotional events as well as gatherings, face-to-face meetings and visits. JoGBC found it effective to meet with any target group through these networking events as part of an interactive communication strategy (two-way or usually multiple communication), which according to participants #3, and supported by participants #4 and 6, “could increase the level of engagement in any sustainability project” (Translated from Arabic). Parker (2003) indicated that interaction that takes place physically is, in general, one of the best strategies for communicating for sustainability. Parker (2003) also explained that the physical interaction allows for both communication mechanisms to happen, verbal and non-verbal. However, non-verbal communication, such as facial expressions, could have greater impact on messages than verbal communication alone. As participants #3 indicated: “using formal/ personal communication, such as face-to-face visits, would’ve been a great help to convince government employees to participate in our programs, as it opens the doors for more productive conversations due to using appropriate communication skills such as tone voice” (Translated from Arabic)-a point of view shared also by participants #5, 6, 8 and 9.

### **Networking online.**

Participant #1 claimed, and contended by participants #2, 3, 4 and 5, that “they use social networking as a way to propagate sustainable behaviour and/or change existing behaviours to more sustainable ones” (Translated from Arabic) As all participants articulated, social networking was appealing to JoGBC because it is easy to use, accessible and an affordable tool

for communication. Using social networking, JoGBC can not only update the public about the latest events and news, but also aims to educate the public and make sure people acknowledge important environmental challenges, including environmental problems that need to be addressed. Participant #3 claimed that “in order for them to perform consistently, they hired a full-time environmental coordinator to document all environment-related issues and post them on all JoGBC’s social media channels” (Translated from Arabic)- This claim supported by participant #4 as well.

### **Effective Participation**

JoGBC has strongly encouraged all target groups to be effective participants, for whom sharing environmental responsibilities and contributing to minimizing negative environmental impacts, in its effort to implement a sustainable lifestyle. To achieve that, participants #1, 2 and 3 agreed with participant #4, who noted that “JoGBC consistently worked with all targeted groups to increase the level of participation and opportunities while communicating for sustainability” (Translated from Arabic). Participant #4 also indicated that “effective participation or active public engagement represents a dividing line between embracing or ignoring the call for adopting sustainable practices” (Translated from Arabic).

Participant #6 noted that JoGBC believes that “the effectiveness of any communication technique is measured by the number of people that actively enrolled and/or participated in its sustainability projects” (Translated from Arabic). All participants agreed with participant #4, who indicated that “exposing more participants to sustainability-related information will likely shift their behaviours and actions to be more sustainable” (Translated from Arabic). For example, JoGBC sets a goal to have a certain number of participants registered in each of its training courses. In this way, JoGBC equates success with participation. As participant #4 stated:

for any training course, we aimed to have 20-30 participants. If we got these numbers or more participants, it meant that the training course was successful. If we couldn't get the minimum number, then that meant the program was not effective enough. As a result, the program would not be offered in the short-term. It could be re-offered if the need of it in Jordan market arose. (Translated from Arabic)

Moreover, JoGBC applied this indicator of success to many other communication techniques including workshops, awareness sessions, conferences, campaigns and initiatives, school open days and other activities.

### **Incentives**

JoGBC was determined to attract as many people as it could to take part in Jordan's sustainability movement and considered providing incentives to reach those interested yet hesitant to participate. Incentives, from the perspective of JoGBC, are mostly perks offered to its members, such as:

- Free memberships: According to participants #1, who also supported by participants #2, 3, 4 & 6, JoGBC "offered professionals, consultants and business owners a free membership to encourage them to be partners in the green cause" (Translated from Arabic). On many occasions, and while communicating for sustainability, they granted a free membership to what it calls 'potential clients' to motivate them to participate in JoGBC's events and to get them involved in sustainability.
- Low-cost training courses to university students: These courses were provided to enhance university students' engagement in green causes and to educate them about sustainability issues in Jordan.

- Rewards (in the form of certificates): offered by JoGBC to recognize the participation in training courses, especially those for government workers.

Renn, Mink and Kastenholz (1997) stated that sustainable practices can be encouraged by economic incentives. However, participant #4 stated that “since JoGBC has a limited budget, the organization is not in the position to provide direct financial incentives” (Translated from Arabic). That being said, JoGBC agrees that giving incentives has a great impact on encouraging people to embrace new sustainable behaviours and consequently adopted alternative types of incentives that were meaningful to program participants, but that also fit within the budget. For example, government employees requested some kind of certificate be given at the end of any training course, awareness session and/or any sustainability-related event. JoGBC explained that this request stems from the fact that it is important for any government employee to get recognized for work-related training so that they can mention it in their resumes and gain more credits towards a future promotion.

JoGBC also used incentives as a communication technique for school students to encourage them to participate in the events that JoGBC organized for them. By giving students incentives such as reusable bags and colouring books illustrating good environmental practices, JoGBC hoped that they would engage more effectively in the events. JoGBC also wished that the incentives would make the sustainable messages introduced at the events more understandable and easy to remember. However, there is no indication about the outcomes of offering these types of incentives to school students in the absence of any program evaluation.

This analysis of the interview data has helped me uncover the main themes as they relate to my research questions and objectives. These themes include: budget limits, targeting the right audience, education and awareness raising, networking events, effective participation and

incentives. The next chapter describes whether these themes pertain to the communication literature explored previously in this study.

## **Chapter Six: Discussion**

In this chapter, I will discuss the findings as they relate to the different themes that were identified in my study in the context of JoGBC and explore some of the theoretical underpinnings of these themes.

### **Budget Limits**

The interviews suggested that the main challenge that faces JoGBC, when communicating for sustainability, is its limited budget. On several occasions, the interviewees drew attention to financial constraints and how these constraints directly affect the type of communication techniques used. The lack of secure funds has been identified as an important influence in communications for sustainable development. LeMenager (1999) noted that any reduction in the assets assigned to communication will reduce several activities and responsibilities of the communication role, and consequently, the organization's performance and persistence of the offered messages will be affected. Parker (2003) suggested that before identifying the proper communication techniques, a fixed budget needs to be determined. Due to the need to cover several costs such as advertising, mass media and printing expenses, any monetary aspects should be settled as a first step (Parker, 2003).

However, limited budget is not considered an important issue by UNEP when discussing communicating for sustainability (United Nations Environment Program, 2005). UNEP claimed that it is not essential to have big budget to create a successful communication campaign as organizations can make the most of whatever money they have with good planning and wise partnering with other organizations (2005). As an example, UNEP noted that when Brazilian Ministry of Health communicated one of its campaigns, they partnered with the private sector to reach out to 8 million people through mobile phone text messages and information on utility

bills. It cost only \$40,000, compared with a \$4 million advertising budget (2005). Based on the evidence revealed from the interviews, JoGBC clearly thinks that budget is a significant barrier to its sustainability communication, which is in contrast with UNEP's perspective. Mostashari (2005) noted, in the context of Iran, that good financial management in any NGO requires the mobilization of sufficient resources to support their projects and activities.

### **Targeting the Right Audience**

JoGBC carefully chose its audiences to whom it communicated sustainability messages and encouragement to embrace behaviour change, tailoring the messages to suit the audience. Targeting the right audience was the first thing they planned for. Parker (2003) noted that "in order to make the environmental issues have relevance to the audience, careful audience targeting must be achieved" (p. 304). To achieve this, participants #1 claimed, and supported by participants #4 and 5, that "they chose their target groups depending on many criteria to make sure that the communication techniques used would have been as suitable as possible to the target group preferences" (Translated from Arabic)

JoGBC was aware of the need and advantages of using the appropriate communication techniques that fit target groups comprised of people with different ages and different levels of education. Kolucki and Lemish (2011) supported the idea of using specific communication techniques for different school ages and suggested that combining entertainment with education for children is an effective way to promote social change. Maggiani (2009), on the other hand, stressed the need to use communication channels that suit the target group's education and age. He also identified that those in their 20s and younger (Gen Y), "grew up with computers constantly connected to the internet, cell phones and digital media and is inherently more comfortable using the tools of social media to communicate, because they have lived it their

entire life” (para, 3). Targeting the public according to their awareness level is also consistent with Parker (2003) who stated that “the audience’s knowledge level will determine the type of messages that need to be devised” (p. 305).

Targeting the audience based on gender was a tactic commonly used by JoGBC’s planners. For them, reaching women was equally as important as reaching men, and a lot of effort has been taken to do so. Participant #2 stated that “JoGBC believes that targeting women requires different approaches than targeting men” (Translated from Arabic). Asteria, Suyanti, Utari and Wisnu (2014) approved this perspective and noted that “women can act as agents of change that can respond to environmental changes better than men” (p. 554). Nilson and Vilela (2009) also noted that women may show more favourable attitudes towards the green cause than men do.

### **Education and Awareness Raising**

JoGBC aimed to inspire individuals to modify their behaviour to become good examples for the future generations by providing high quality environmental learning and awareness sessions. JoGBC hoped that people would not only be informed about and aware of environmental challenges, but also feel responsible for the environment (Godemann & Michelsen, 2011; Parker, 2003). JoGBC’s training courses, themed days and hands-on activities educated children and youth, university students and professionals. Kopnina (2012) noted that “in the case of vocational or higher education students, the goal of Sustainability Development is more akin to developing knowledge and skills necessary for participation in the green economy” (p. 700), thus stressing the importance of education in delivering effective knowledge and adeptness to individuals or societies about sustainability. Kloet and Morgan (2007) also stated that enhancing awareness by providing proper communication impacts individuals understanding

and behaviour, which could consequently impact their actions towards sustainability. Thus, defining an appropriate message aiming to increase environmental awareness is important to inspire people to achieve sustainability.

Using visuals is considered one effective means of catching people's attention about sustainability challenges and may contribute to awareness-raising for specific sustainability issues. Hansen and Machin (2013) indicated that visual environmental communication is an effective approach because it is easily interpreted by the audience, which may in turn trigger behaviour change. JoGBC found that using visuals was convenient when communicating to the public in the Ahl Al-balad campaign because it helped spread the message about stop littering, nationwide. JoGBC used visuals as a communication technique to increase public awareness about sustainability-related issues. Although using such a technique is not widely adopted in Jordan, it is still a valid approach for JoGBC to enhance environmental awareness that may encourage behaviour change.

### **Networking Activities (Events and Online)**

Networking events were considered by JoGBC as a successful sustainability communication technique because they reach large groups of people, which may be considered as one of the major indications of success to JoGBC. JoGBC conducted workshops, conferences and monthly green events to promote the concept of sustainability as well as informal gatherings, visits and face-to-face meetings to spread sustainability messages. Networking events designed to reach out and connect professionals and citizens, such as those organized by JoGBC, are considered valuable and effective tools in many instances (Parker, 2003; Sobnosky, 2001). Engaging target groups in networking events is very common both globally and regionally. For

example, QGBC is including conferences and formal meetings in its sustainability week agenda for 2017 (Qatar Green Building Council, n.d.).

UNEP (2011) noted that informal networking gatherings to communicate sustainability messages are particularly effective for women. JoGBC reached out to women, face-to-face, at morning gatherings to encourage the adoption of environmentally-friendly practices. Asteria et al. (2014) stated that face-to-face interactions can be an effective strategy to address environmental challenges, especially when engaging with women. Parker (2003) indicated that interaction that takes place physically between the message sender(s) and receiver(s), is one of the best strategies for communicating for sustainability. Parker (2003) also agreed and explained that physical interaction allows for verbal, along with non-verbal, communication to take place.

Despite the clear value of personal, face-to-face networking, demonstrated by both the literature and by JoGBC's approaches, JoGBC also sees value in online networking. The capacity of social media to bring people together is incredibly valuable in bringing about change (Hwang & Kim, 2015; Kietzmann et al., 2011; Parker, 2003). Social media is a good platform for public engagement and can get individuals involved in any contemporary issue (Hansen, 2011; Parker, 2003). It can also help people with similar ideas circulate information quickly and widely (Hansen, 2011; Parker, 2003). The simplicity and accessibility of this kind of communication approach makes it a good medium for communicating for change (Parker, 2003). These features can be used to spread information about sustainability at a large scale and in a timely fashion. Social networking was among the communication techniques which generally is considered an effective tool (Hwang & Kim, 2015) and is used by JoGBC to increase participation in green causes through offering a medium to discuss, engage and act for a better environment.

JoGBC uses all social media channels known to them including Facebook, Twitter and LinkedIn because they are the most used among the people of Jordan and the main three online platforms that cover all of JoGBC's target audiences sufficiently. Mangold and Faulds (2009) explained that using different social media platforms is effective in supporting causes that are important to different groups. For instance, organizations could use social media platforms to influence emotional connections by adopting emerged causes to promoting social and environmental concerns. Hwang and Kim (2015) and Hansen and Machin (2013) stressed the significant effect of social media on engaging and empowering people, as well as facilitating the interactions between like-minded individuals, which could help fight environmental challenges, such as climate change.

Campbell et al. (2014) stressed the significant contribution social media has on engagement advocacy in nonprofit organizations, including on stakeholder engagement when organizing fundraising events. JoGBC primarily used social media platforms to introduce and inform individuals about sustainability messages, environmental challenges and issues (Participant #2). Participant #2 believed that "introducing individuals to the environmental challenges could have a positive impact by encouraging them to adopt more environmentally-friendly behaviours" (Translated from Arabic). As Campbell et al. (2014) noted "researchers have found that most nonprofit organizations use Facebook and Twitter as one-way communication tools to share key information about the organization with key constituents" (p. 656), a view also supported by Mangold and Faulds (2009). However, JoGBC found that using social media as an informative tool is not enough. As a result, they used social media as an interactive, two-ways platform to enhance individuals' engagement in the green cause to communicate with stakeholders. Mangold and Faulds (2009) indicated that two-way

communication increases the effectiveness and efficiency of any communication process, which helps improve organizational performance in the short and long term. Campbell et al. (2014) found that the key reasons for using social media in nonprofit organizations should not be limited to marketing activities, raising awareness in the community and keeping the organization's members updated, but also for engaging constituents in sustainability discussions and acknowledging that they truly understand and contribute in any related challenges.

JoGBC was concerned about reframing sustainability messages based on the attributes of the targeted groups. JoGBC was aware that to get stakeholders to pay attention to sustainability, it is obligatory to choose well-defined messages that encouraged engagement and were accessible and easily understood. Campbell et al. (2014) and Mangold and Faulds (2009) noted that many researchers have identified social media's broad potential to increase and stimulate communication and engagement with various stakeholders either by using these platforms as a vehicle to disseminate specific messages or using social media as an affordable and easy to access medium to share sustainability concerns. Hwang and Kim (2015) noted that "young people such as college students use social media more frequently and heavily" (p. 486). JoGBC's approach when communicating to youth was to mainly use simple and easy to understand social media messages due to the prevalence of smart phones usage in this age group.

### **Effective Participation**

Participating effectively and positively is a key indicator of how individuals and communities relate to the environment (Parker, 2003). Effective engagement can foster behaviour change, which contributes to individuals embracing sustainable practices efficiently and effectively (Few, et. al, 2007; Steg & Vlek, 2009). Few et al. (2007) suggested that government and other organizations should focus on effective public participation that

contributes to making government sustainability-oriented decisions. One means of doing this is explicitly calling for champions and change agents, to promote and facilitate public participation. JoGBC was committed to ensuring that people from all walks of life are involved in the sustainability movement; for example, JoGBC made regular attempts to engage government and private sectors as well as young people of all ages in the green movement in Jordan

JoGBC intended to expand its messages by creating a powerful and engaging communication environment that encouraged target groups to adopt sustainability effectively in their lives. Brulle (2010) suggested that rather than just informing the public of any environmental challenge, environmental communicators should develop messaging strategies that get citizens directly involved in sustainability development. Brulle (2010) also explained that citizens are much more likely to take action if there is something they can participate in rather than acting on their own as a result of advice or information they have received. JoGBC was aware that engaging target groups in well-planned environmental activities is a more effective way to communicate for sustainability compared to just providing guidelines or informing them about the subject matter itself.

Through all of the projects JoGBC has planned, the organization committed to proactively engage all segments of society to drive them towards positive change for sustainability. For instance, rather than mainly relying on formal education to communicate sustainability for students, JoGBC organized physical and hands-on activities to effectively engage the students in sustainability-related issues. Brulle (2010) and Parker (2003) explained that citizens should be involved in action through initiating joint conversations if communities wish for social change. Luke (2005) urged organizations to engage the public in a collective effort to support any social behaviour change. This was adopted by JoGBC when they initiated a

social environmental campaign to address littering. Few et al., (2007) had the same point of view, noting the importance of active participation when it comes to attracting and supporting effective dialog with various stakeholders to engage the public proactively in adoption of sustainable behaviours.

### **Incentives**

Incentives, either financial or non-financial, are a widely-used approach in sustainability communication. Post and Altma (1994) noted that “a great discovery of the 1980s was the power of market incentives to induce and encourage behaviours that are ecologically beneficial” (p. 65). Although most of the incentives adopted in the world are financial incentives, non-financial incentives have also been frequently used; for example, High-occupancy Vehicle (HOV) lanes or green lanes offer an incentive for carpoolers who travel with more than one person in the vehicle (Grling & Schuitema, 2007; Hutton & Merkley, 1991).

Renn et al. (1997) and Hutton and Markley (1991) noted that using financial incentives is a successful way of bringing about change, while Hutton and Markley (1991) indicated that the use of incentives to encourage behaviour change among target audiences has proved successful. JoGBC has used incentives, such as offering low-cost or free membership for interested parties or rewarding certifications for training courses, throughout its sustainability communication plans. For example, JoGBC granted a free, one year JoGBC memberships and free website advertisements and logo circulation to some businesses in Amman to encourage them to join the recycling campaign. These businesses installed recycling bins in their properties to facilitate and promote recycling practices in the neighborhood. As a result, JoGBC planners also considered offering incentives to motivate other target groups to successfully encourage environmentally-friendly practices. But again, JoGBC’s lack of evaluation means that there is little possibility to

assess the impact these have had on the sustainability. Steg and Vlek (2009) and Grling and Schuitema (2007) stated that despite the importance rewards have on encouraging behaviour change, their effect is only on the short-term, “for as long as reward is in place” (Grling & Schuitema, 2007, p. 314).

What is also worth mentioning in this chapter is that JoGBC has little involvement in some of the key sustainability issues face Jordan. Although JoGBC is a Green Building Council they present themselves as having a broader mission for improving the sustainability of Jordan. JoGBC has focused on waste and energy management, as well as green building. However, transportation and urban sprawl are also seen to be major challenges for sustainable development in Jordan. JoGBC has had no involvement in campaigns related to sustainable transportation and urban sprawl.

### **Discussion Conclusion**

Throughout this chapter, I have illustrated the relationship between the communication practices adopted by JoGBC and the theory represented by the sustainability communication literature. My research generally suggests that JoGBC has implemented sustainability communications approaches that have proven successful globally. However, JoGBC adopted a more localized perspective that led to different strategies than the ones most commonly seen elsewhere. JoGBC would not agree with UNEP’s position regarding the importance of securing financial funds to create effective communications. While UNEP suggests that budget constraints should not impact the communications utilized and seeking partnerships would be helpful in overcoming any financial issues, JoGBC considers monetary constraints a direct limitation on their communication. However, seeking partnerships as a way of increasing financial resources

could be very important because it would provide the funds JoGBC sees as necessary to adopt the most effective communication techniques.

Incentives have been successfully used by JoGBC to encourage behaviour change. The literature, however, suggests that offering incentives is limited to short term value. Offering incentives could encourage change in behaviour as long as the incentives offered remain in place. Unfortunately, my research cannot assess that perspective because JoGBC does not have any solid approach to examine the effectiveness and validity of its communication methods. As per communication techniques used somewhere else in the region, Table 3 showcases the differences between adopting communication techniques that proved effective in the literature and the techniques that were adopted by JoGBC and other nonprofit organizations in the MENA region.

Table 4 provides a summary and synthesis of the effective communication techniques demonstrated in the literature and adopted by JoGBC and elsewhere in the MENA region, and indicates whether these organizations carried out any evaluation for their communications. However, reviewing communication materials for the MENA region organizations does not give any solid information about the evaluation process.

Table 4

*Summary of Adopting Effective Communication Techniques by JoGBC and Other Organizations in the MENA Region and Indicating the Presence or Absence of any Evaluation Process.*

Effective Communication Techniques/Literature	JoGBC	Evaluation	Elsewhere in MENA	Evaluation
Education	✓	Limited to; Training courses and Networking Events	All	?
Empowerment	✓	Limited to; Networking Events	Some	?
Public Communication Campaigns	✓	✗	All	?
Social Marketing	✗	✗	None	?
Social Media	✓	✗	All	?
Identifying Champions	✓	✗	Some	?
Offering Incentives	✓	✗	Some	?

Note. ✓ = present; ✗ = absent; ? = no information available

## Chapter Seven: Conclusion and Recommendations

### Conclusion

Throughout this study, I have explored the questions: *how do the proponents and planners of JoGBC, as a (NGO), communicate the nature and importance of sustainable urban development to the residents of Jordan? How do these communication practices compare to other techniques shown to be effective elsewhere?*. Through the case study of Jordan Green Building Council (JoGBC), as well as reviewing organizations similar to it, I have examined a variety of techniques that have been used to communicate sustainability programs nationwide. My research shows that to communicate sustainability in Jordan, JoGBC followed a wide range of communication techniques commonly used globally.

JoGBC also used communication techniques that were used elsewhere in the region, as illustrated by EDAMA, EGBC, FEDA, PENGON, Amwaj for Environment and QGBC.

Globally, communication techniques adopted by JoGBC were also consistent with examples from the literature. Table 3 showed the degree to which communication techniques explored in the literature were similar to or different from the techniques used in the region. The objectives of this study were:

- To ascertain what techniques have been shown to be effective elsewhere in the field of sustainability and environmental communication that leads to action and behaviour change.
- To understand what communication techniques JoGBC used; and
- To provide recommendations on how JoGBC could improve its communications.

JoGBC's initial plan for sustainability communications was based on choosing a target group and framing sustainability messages accordingly. JoGBC then tried to tailor its communication technique(s) to deliver the messages effectively and efficiently.

Table 3 also showed that JoGBC used almost all of the communication techniques proven to be effective in the literature, whereas the case was different with the other organizations elsewhere in the region. For instance, all organizations in the MENA region, including JoGBC, used education, public communication campaigns and social media strategies. However, only some organizations shared JoGBC's use of incentives, identifying champions and empowerment techniques. Whereas none of the organization used social marketing as a communication technique. I can't identify the reasons for that in the other six organization as related information in the internet sources reviewed are not available, but I can infer that for JoGBC the lack of social marketing is due to the lack of evaluation. JoGBC followed all the guides for social marketing – benefits, barriers and design- but evaluations. Therefore, evaluating the communication techniques is important not only as it gives indications about the effectiveness of these techniques, but also gives JoGBC broader and effective options of communication techniques to choose from when communicating for sustainability. My research demonstrates that JoGBC uses a wide variety of communication approaches in communicating sustainability than other similar nonprofits in the MENA region. However, lack of monitoring makes it difficult to state that the communication techniques adopted by JOGBC are truly effective.

Although JoGBC followed effective communication techniques in an effort to strengthen the sustainability movement in Jordan, their mandate doesn't allow them to address some main sustainability challenges facing Jordan, such as transportation and urban sprawl. However, JoGBC addressed the waste management issue when organizing and implementing waste

management project such as Dawerha. Addressing the main challenges facing Jordan is important and should be taken in consideration when planning for future sustainability projects.

JoGBC has generally utilized communication techniques which were shown to be effective somewhere else in the world. Some of these techniques, however, were adapted and modified to fit local cultural preferences in Jordan. Overall, JoGBC used several communication techniques to communicate for sustainability. These techniques included education and awareness raising, encouraging public participation and empowerment, organizing environmental campaigns, identifying champions, offering incentives and using social media. It is not clear how effective these techniques have been as JoGBC does not have any tool to evaluate effectiveness. However, JoGBC has used techniques for which there is evidence in the literature that shows that they are effective. Therefore, I can conclude that JoGBC uses effective techniques to communicate sustainability to the residents of Jordan.

The only communication techniques that JoGBC evaluates are its training courses by distributing questionnaires, and networking events by asking for the attendee's feedback at the end of each event. The questionnaires and feedback sheets contain questions to indicate the usefulness of the training courses and the events regarding the contents and market needs as well as to provide suggestions for further improvement. In addition, JoGBC makes sure they know if the level of attendance is in the expected range. If fewer people show up than hoped for the event is not seen as a success. Parker (2003) partially supports this approach by noting that distributing questionnaires is considered a valid tool for evaluating training courses to determine how effective they are.

The major limitation JoGBC felt that they faced when planning for communication was budgetary constraint. Most of JoGBC's planners and decision makers believed that they could

implement better communication tactics if they had more funds available. However, evidence suggests that effective communication should not be limited by funding. The literature shows that it is viable to perform inexpensive yet effective communication techniques.

### **Recommendations**

Based on my research, I have included some recommendations that will hopefully help improve sustainability communication practices in Jordan and the MENA region:

1. JoGBC should invest most of its communication funding into education. Sustainability is a fairly recent concept in Jordan and introducing the concept to young people through schools and post-secondary education would have a significant impact on future generations. Through this approach, JoGBC and other NGOs based in Jordan could maximize their long-term effect by growing the roots of sustainability and establishing a healthy environment to prompt behaviour change.
2. I encourage further studies that could enhance sustainability in general and sustainability communication, particularly in the Middle East. I faced an exhausting and long research period trying to find literature about this topic in Jordan. I also looked for resources about the Middle East in general and found little literature, most of which was twenty years old or more. I also tried to reach out to some well-known environmentalists based in Amman, asking them for references that could be of help for this study. Many of them replied back explaining that there were not enough studies available in the Arab region. I would recommend that more academic research about environmental communication be conducted in the Middle East. Developing countries in the Middle East are in desperate need of concrete and defined knowledge about sustainability.

3. To reach a goal of more sustainable communities, I believe that JoGBC needs to set communication as a priority when planning for any project. It is important for JoGBC to assign a certain amount of funds from each budget to be used to improve and implement effective communication techniques. On the other hand, JoGBC also needs to create new sources of financial support. For instance, JoGBC could host fundraising events or build more strategic partnerships to help cover expenses.
4. Posters and billboards in public places could also help change behaviour. As a resident of Amman, I am not exposed to visual communication or introduced to any favourable messages relating to sustainable behaviour. I would recommend using visuals in public places more often as a mean of influencing daily and long-term behaviour change.
5. Membership offered by JoGBC needs to be expanded to offer more personal benefit(s) to the members. I recommend that JoGBC provides support through its membership program by offering some personal privileges, such as affordable energy saving products and helping its members purchase hybrid and electric cars.
6. Finally, introducing assessments for any communication techniques used would make a difference in improving communication in the future. Kassing et al.'s (2010) self-reporting assessment (Appendix D) could be a good starting tool to help in examining the effectiveness of these communication techniques. Using evaluations such as summative, systematic or developmental (Cox, 2013), are also an important as a means of monitoring and/or developing JoGBC's current communication techniques.

## **Study Limitations and Delimitations**

### **Lack of literature.**

The first limitation I faced in this study was the lack of literature focused on sustainability communication techniques in Jordan, which would have helped in developing a solid theoretical foundation for this study. To address this limitation, I applied theoretical concepts adopted from sustainability communication literature worldwide, which later formed a framework for my research.

### **Participants were unwilling to speak in the beginning.**

It was not easy for myself (researcher) and the participants engage in an open discussion about the nature of the participants' work without previous trust to build upon. It was clear to me that some of the participants were not willing to express their experiences and thoughts with a stranger, whereas some of them were shy to do so. In response to this limitation, I tried to talk about my personal life, regarding my study, to allow the participants to get to know me better and make them feel more comfortable sharing their work freely. I also realized during the interviews that participants with higher job titles were more comfortable speaking up than participants with lower job titles. I believe was because the participants with higher positions had more confidence in their job security and therefore felt they had more space to speak freely.

### **Language barriers.**

As in my case and since I am fully fluent in Arabic, I was able to conduct the interviews in the native language. However, language limitations arose when I started transcribing my interview data because there are a lot of words in Arabic that I am not familiar with the English meaning of. I strived to translate these Arabic words into English as accurately as possible. I reread the transcripts several times to ensure I truly translated exactly what was said. Nes,

Abama, Jonsson and Deeg (2010) explained that qualitative researchers who formulated findings in English, while the data were originally collected in their native non-English language, as in my case, face more complicated challenges in the representations of meanings with different cultural contexts. In qualitative research, it is expected that data translated represents the original data source as accurately as possible, as well as explicitly debriefs all meanings that contribute to a broader understanding (Lopez, Figueroa, Connor and Maliski, 2008).

### **Future Research**

This study shows that JoGBC has generally followed well-known, effective communication techniques to communicate for sustainability in Jordan. However, it would be interesting to conduct more research in the context of this study over a longer period of time, to capture the most effective and efficient methods of communicating the messages of sustainability based on recommendation six. Future research could also be conducted, focusing on one communication technique at a time to gather detailed information on the communication techniques used or planned to be used, and to understand how to implement them to maximize communication efficiency. Given that sustainability is a fairly new concept for the Middle East, any research that is sustainability-related would be of help to scholars, planners and decision makers.

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## Appendix A: Consent Letter and Form (English & Arabic)

**Project Title:** Communicating Sustainability

**Researcher:** Feda'a Said Musa

**Affiliation:** Royal Roads University

**Supervisor:** Dr. Chris Ling

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### A. Project Information

- This research will be conducted in partial fulfilment of my thesis in the Master of Arts in Environmental Education and Communication program at Royal Roads University. I am conducting a study of Sustainability Communication by undertaking on-line interviews with [~10] participants.

### B. Details of Participants

- If you agree to participate, I will interview you in an on-line session last for 15-30 minutes, or as convenient. During the interview, I will discuss with you, your experience, thoughts and opinion about sustainability communication techniques that you [used/found] while [working/participating] with JoGBC.
- Involvement is completely voluntary, and you are free to withdraw from the project any time you wish. Using your personal Information such as [name, job position and/or any other information is voluntary as well. I will accommodate your wish to stay anonymous. If you choose to withdraw, any data or information collected will be deleted from my files immediately.
- If you are interested in being involved, please complete and submit the consent form at the end of this document.

### C. Collected Data and Information

- Interview recordings, transcripts and any other information will be treated with great care. I will be using a secure and/or a private external hard drive to store all files and data. Upon completion of my thesis, all the data collected will be destroyed.

### D. Risk

- There are no potential risks associated from participation in this project.

**E. Benefits**

- The benefits of this research are that it will contribute in recognizing the best practices in sustainability communication. Participants also could gain better understanding of their own experiences. Neither the researcher nor the participants will collect any financial benefits from this project.

**F. Further Information and Verification**

- If you require any further information about this research project, please feel free to e-mail me at (X) or call me at (X)
- If you would like to verify the authenticity of this study, you are welcome to contact:
  - Dr. Chris Ling, my thesis supervisor, Assistant Professor at Royal Roads University at (X) or call him at (X), ext: (X)
  - Dr. Rick Kool, thesis coordinator, Associate professor at Royal Roads University at (X) or call him at (X)

**If you are interested in taking part in this project, please proceed to the consent form in the**

**next page.**

### Consent Form

- **Project Title:** Communicating Sustainability
- **Researcher:** Feda'a Musa
- **Affiliation:** Royal Roads University
- **Supervisor:** Dr.Chris Ling
- **Instructions:** 1) please read through the following consent form
  - 2) In section A and B, select the right option(Y/N)
  - 3) Fill in section C, If you would like to participate
  - 4) Save your changes, keep a copy for your record, send to  
(X)

**A. Project Information**

- I have read the information about this research project in the invitation E-Mail as well as in this letter. (Y/N)
- I do understand what my involvement, as a participant, would entail (Y/N)

**B. Consent**

- I agree to participate in this in this research project (Y/N)
- I consent to use of my name, job position and/or any other personal information (Y/N)
- I consent to taking part in an on-line interview with the researcher (Y/N)
- I understand that I am free to withdraw from participation at any time, and that any information and collected, will be destroyed (Y/N)

**-OR-**

- I have decided not to participate in this project (Y/N)

**C. Personal Information**

- In order to participate, please provide the following information;
- **Given Name:**
- **Sir Name:**
- **Today's Date (dd/mm/yyyy):**

## رسالة للاشتراك في بحث اكايمي

عنوان مشروع : طرق ايصال الاستدامة

اسم الباحث: فداء سعيد موسى

المؤسسة التعليمية: Royal Roads University

المشرف: Dr. Chris Ling

### ١. معلومات المشروع

هذه الدراسة هي لتحقيق جزء من أطروحتي لدرجة الماجستير في البيئة و Royal Roads University  
 • الدراسة عن اتصالات الاستدامة ستحتاج الى عقد بعض المقابلات على الإنترنت مع ما يقارب الاتصالات من جامعة  
 هذه عشرة مشتركين •

### ٢. تفاصيل المشاركين

إذا وافقت على المشاركة، سوف نحتاج لعمل مقابلة على الانترنت لمدة ١٥-٣٠ دقيقة، . خلال المقابلة سنناقش  
 معا مواضيع مثل، خبرتكم، أفكاركم وبعض الآراء حول تقنيات الاتصال للتنمية لمستدامة التي اكتسبت خلال [العمل /  
 المشاركة] مع المركز الاردني للابنيه الخضراء  
 المشاركة طوعية تماما، ولك مطلق الحريه في الانسحاب من المشروع في أي وقت. استخدام المعلومات ;  
 الاسم، الوظيفة أو أية معلومات أخرى هي طوعيه كذلك. وسوف نقف عند رغبتك في البقاء الشخصية الخاصة بك مثل  
 كمجهول في هذه الدراسه. إذا اخترت الانسحاب، سيتم حذف أي بيانات أو معلومات تم جمعها على الفور

إذا اردت ان تكون من المشتركين، يرجى ملء وتقديم نموذج الموافقة المرفق مع هذه الرساله

### ٣. طرق جمع البيانات والمعلومات

سيتم التعامل مع التسجيلات و النصوص وأية معلومات أخرى في عناية شديدة. وسوف تستخدم وسائل آمنة لتخزين جميع الملفات والبيانات. عند الانتهاء من أطروحتي، سيتم حذف جميع البيانات التي تم جمعها

#### ٤. المخاطر

لا توجد اي مخاطر محتملة مرتبطة في المشاركة في هذا المشروع

#### ٥. الفوائد

فوائد هذا البحث تتلخص في أن يسهم في التعرف على أفضل الممارسات في مجال الاتصالات للتنمية المستدامة. كما يمكن للمشاركين اكتساب فهم أفضل لتجاربيهم الخاصة في هذا المجال. لن يكون هناك اي عوائد مادية للباحث أو للمشاركين من هذا المشروع

#### ٦. للمزيد من المعلومات

مزيد من المعلومات حول هذا المشروع البحثي، لا تتردد في مراسلتي عبر البريد الإلكتروني إذا كنت بحاجة إلى أو الاتصال بي

إذا كنت ترغب في التحقق من صحة هذه الدراسة، الرجاء الاتصال ب

الدكتور كريس لينغ، مشرف الأطروحة، أستاذ مساعد

الدكتور ريتشارد كول، منسق الأطروحة، أستاذ مشارك

إذا كنت ترغب في المشاركة في هذا المشروع، الرجاء تعبئة النموذج المرفق في الصفحة التالية

## نموذج موافقة

عنوان مشروع: طرق إيصال الاستدامة

اسم الباحث: فداء موسى

المؤسسة التعليمية:

المشرف: Dr. Chris Ling

التعليمات: (١) يرجى قراءة نموذج الاشتراك المرفق

(٢) في الفرع ١ و٢، حدد الخيار الصحيح ( Y / N )

(٣) تعبئة القسم رقم ٣، إذا كنت ترغب في المشاركة

(٤) حفظ التغييرات، الاحتفاظ بنسخه من هذا النموذج وإرساله الى

١. معلومات المشروع

لقد قرأت المعلومات حول هذا المشروع البحثي في الدعوة المرسله سابقا في البريد الإلكتروني وكذلك في هذه

( Y / N ) .الرسالة

( Y / N ) أنا أفهم جيدا طبيعة المشاركة في هذا المشروع .

٢. الموافقة

( Y / N ) أوافق على المشاركة في هذا في هذا المشروع البحثي .

( Y / N ) أوافق على استخدام اسمي، الوظيفة أو أية معلومات شخصية أخرى .

( Y / N ) أوافق على المشاركة في مقابلة على شبكة الإنترنت مع الباحث .

( Y / N ) أدرك أنني قادر على الانسحاب من المشاركة في أي وقت، وأن أي المعلومات تم جمعها سيتم حذفها .

-أو-

( Y / N ) لقد قررت عدم المشاركة في هذا المشروع .

٣. المعلومات الشخصية

من أجل المشاركة، يرجى تقديم المعلومات التالية

الاسم المشترك:

اسم العائلة:

تاريخ اليوم (يوم / شهر / سنة)

**Appendix B: Interview Questions for JoGBC Planners and Decision Makers**

1. What is the history of sustainability in the community you worked with?
2. Could you tell me a little about the history of your sustainability plan or program?
3. Tell me about the range of issues dealt with in the plan or program?
4. Which issues have been dealt with most successfully? Why?
5. Which issues have been dealt with the least successfully? Why?
6. What are the different ways that the plan or program has been communicated to the public?
7. What are your audiences?
8. What different techniques have been used?
9. What have the messages been?
10. Did you use any marketing techniques?
11. What has been successful? Why?
12. What has been least successful? Why?

### Appendix C: JoGBC's Main Sustainability Projects

(1) Ahl Al-balad campaign, which means; the people of the city

Ahl Al-balad, a non-political, community-based movement, aims to spread awareness and create positive change towards building safer and healthier communities in Jordan, it aims for:

- A change in behaviour
- Awareness to residents of Amman and Jordan
- Shocking statistics to help create change
- Clean up campaigns to help educate people, create awareness and put an end to littering.

Ahl Al-balad is a public movement that emphasizes spreading a positive influence between to the public all over Jordan. JoGBC organized its first initiative under this campaign called “The country is clean with its people” aimed to end the practice of littering. The campaign also cooperated with Greater Amman Municipality (GAM) to start an awareness campaign by using Radio and TV advertisements as well as billboards and graffiti. The campaign used the colour orange because it represents the colour of sanitation workers’ uniforms in Jordan (Jordan Green Building Council, n.d.).

(2) Dawerha; which means recycle it

This is an initiative launched by JoGBC to raise awareness, educate and implement a recycling project in one of Amman’s neighbourhoods named Abdun. JoGBC increased Abdun’s residents’ awareness about sorting solid waste and recycling. This project encourages the local community to contribute to the environment. The project started from Queen Rania Al-Abdallah Public School, where the main recycling bins were installed. Other bins were also installed in front of many small businesses in the same neighbourhood, after JoGBC’s outreach department invited them to participate in this project. Dawerha was the first of its kind in Jordan and that is one of the main reasons it was implemented on a small scale. It was an effort to start introducing the recycling practice to one community at a time and to make the citizens familiar and receptive to the change it entails (Jordan Green Building Council, n.d.). (<http://www.facebook.com/Jordan.Green.Building.Council> )

(3) Green Academy:

Green Academy is the technical and educational department of Jordan Green Building Council. It is committed to preparing and positioning the Jordanian clean-tech sector, as part of the global green movement, with a high degree of competence, by providing specialists with training courses, field visits and networking opportunities with green materials, suppliers and experts. Its vision is “[e]mbedding sustainable development, green concepts and technologies in the experience of both students and professionals” (Jordan Green Building Council, n.d.).

The Green Academy is also committed to providing high quality education in green practices in order to train professionals and students to develop, manage and successfully execute green projects. The Green Academy builds these capacities through professional workshops and training sessions related to Green Building. Since 2009, they have trained more than 3,600 professionals with different backgrounds across the MENA region (Jordan Green Building Council, n.d.).

(4) Green Podium

JoGBC organizes a monthly hub to create a green bridge between sustainability skilled workers, engineers, technicians and green sector’s skilled personnel and employers in the environmental domain. It also introduces new green products to the Jordanian market. JoGBC wrote about its green podium’s mission “to catalyze the need to form policies and create green jobs and green workplace and promote understanding and awareness to green jobs and the job nature” (Jordan Green Building Council, n.d.).

The main goals for Green Podium are:

- Provide employers with the opportunity to fill job vacancies from a field of hundreds of job seekers with broad qualifications.
- Promote awareness of environmentally-friendly practices and introduce new job opportunities.
- Offer participant companies and organizations a venue to exhibit and present their green products and services.
- Facilitate job placements for experienced professionals and new graduates seeking employment in environmental sustainability jobs.

The Green Podium attendees are employers who are suppliers of building components related to sustainability, engineering design offices and contractors looking to place students and job seekers (on the job experienced professionals, new graduates seeking employment in environmental sustainability positions and students) (Jordan Green Building Council, n.d.).

**Appendix D: Environmental Communication Scale (ECS)**

Below is a series of statements designed to assess how often people think and talk about environmental issues. Some of the items may sound similar, but they relate to slightly different issues. Please respond to each item by indicating how much you agree or disagree with the statement.

1. I enjoy listening to discussions about the environment.
2. I ignore people who talk about the environment.
3. Discussing the environment is important.
4. Listening to discussions about environmental issues energizes me.
5. I skip over news stories about the environment.
6. It is necessary to discuss environmental issues.
7. I make it a point to discuss environmental concerns.
8. It bores me to hear others discuss environmental issues.
9. Conversations about environmental issues can make a difference.
10. I change the channel when a story about the environment airs.
11. I find myself regularly discussing the environment.
12. I usually learn something when I listen to others talking about the environment.
13. I ignore online stories about environmental issues.
14. I enjoy discussing the environment.
15. Talking about environmental concerns is important to our future.
16. I attend to televised news reports about environmental issues.
17. Talking about the environment is unimportant.
18. I like to get people talking about environmental concerns.
19. I disregard news reports about environmental concerns.
20. I start discussions about environmental issues.