Faculty of Education and Society
Department of Science, Environment, Society

Thesis
15 ECTS, Advanced Level

Sustainable Recycling Systems: A Global Responsibility
A Case Study on Egyptian Citizens’ Attitudes towards Waste Collectors and a Sustainable Recycling System in Cairo, Egypt

Ett hållbart återvinningssystem: ett globalt ansvar
En fältstudie om egyptiska medborgares attityder gentemot sophämtare och ett hållbart återvinningssystem i Kairo, Egypten.

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A Minor Field Study

Teacher Education, 270/300 ECTS
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Foreword

In the land of one of the earliest human civilizations, just a five-hour flight away from home, a land with magnificent history, lies Egypt. In 2012, I spent an eight-week period from the end of the summer into the autumn conducting a case study on Egyptian citizens’ attitudes towards the minority group ‘Zabaleen’ and towards a sustainable recycling system.

I would like to thank the Swedish International Development Agency (Sida) for giving me the opportunity to travel to Cairo to write my Bachelor thesis. This is an opportunity I will always be very grateful for. As promised, I will pass this information on to my future students as a return of Sida’s very generous sponsorship.

I would also like to show my appreciation to everyone who participated in this study. I would like to give special thanks to the community of ‘Garbage City’ for welcoming me into their houses with open arms, gladly showing me around their community. Last but not least, I would like to thank my supervisor Per Hillbur for the amount of patience and guidance throughout the completion of this thesis.
Abstract

In the world today, thousands of humans in developing countries live in metropolises and depend on garbage for their livelihoods. In Cairo, waste has been taken care of by a Christian minority group called the ‘Zabaleen’.

This Bachelor thesis was conducted in Cairo and financed by a Minor Field Study scholarship in August-October 2012. It focuses on Egyptian citizens’ attitudes towards a sustainable recycling system and their attitudes towards the traditional garbage collector ‘Zabaleen’. I used focus groups as the main source for collecting data and the technique of showing photographs to create a dialog among the participants. The focus groups have led to dynamic and useful discussions that this study is based upon. In conclusion, one common attitude that was met in the study indicates the frustration of how dirty the streets of Cairo are. People all said they wanted a clean Egypt but they felt that no one from the government wanted to put their finger on the solution to this problem.

Key words: Cairo, Egypt, citizen, attitudes, sustainability, recycling, waste management, Zabaleen, quality education
# List of abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>CCBA</td>
<td>Cairo Cleansing and Beautification Authority</td>
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<td>CID</td>
<td>Community and Institutional Development</td>
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<td>EE</td>
<td>Environmental Education</td>
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<td>EEAA</td>
<td>Egyptian Environmental Affairs Agency</td>
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<td>EHDR</td>
<td>Egypt Human Development Report</td>
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<td>ESD</td>
<td>Education for Sustainable Development</td>
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<tr>
<td>FCC</td>
<td>Federal Communication Commission</td>
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<tr>
<td>GCR</td>
<td>Greater Cairo Region</td>
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<td>GoE</td>
<td>Government of Egypt</td>
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<td>ISWM</td>
<td>Integrated Solid Waste Management</td>
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<tr>
<td>NGO</td>
<td>Non-Governmental Organization</td>
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<td>SD</td>
<td>Sustainable Development</td>
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<td>SWM</td>
<td>Solid Waste Management</td>
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<td>UN</td>
<td>United Nations</td>
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# Glossary of Egyptian Arabic terms

<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
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<tbody>
<tr>
<td>Fuul medammas</td>
<td>Egyptian national dish, usually eaten for breakfast and based on fava beans</td>
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<tr>
<td>Waahis</td>
<td>Oasis migrants to Cairo</td>
</tr>
<tr>
<td>Zabaleen</td>
<td>Traditional Egyptian waste collector</td>
</tr>
</tbody>
</table>
Table of Contents

1. Background ..................................................................................................................... 6
   1.1 Introduction .................................................................................................................. 6
   1.2 The Arab Republic of Egypt: Geography, Religion and Health Situation .............. 7
2 Aims and Purpose .............................................................................................................. 9
3 Theoretical framework .................................................................................................... 9
   3.1 Sustainable Development, a Global Awareness? ..................................................... 9
      3.1.1 The “Chair of Sustainable Development” ......................................................... 11
      3.1.2 Action ability ....................................................................................................... 12
   3.2 A Sustainable Recycling System ............................................................................. 13
   3.3 General Waste Management in Cairo ..................................................................... 14
      3.3.1 The Informal Sector of Traditional Waste Management: The Zabaleen .......... 17
      3.3.2 The Formal Sector of Waste Management ....................................................... 19
   3.4 Education policies regarding sustainability in Egypt .............................................. 20
   3.5 Religion and environmental ethics .......................................................................... 20
4 Methodology .................................................................................................................. 22
   4.1 Sample and Limitation .............................................................................................. 22
   4.2 Why Focus Groups? ................................................................................................. 23
   4.3 Photographs that awaken attitudes ......................................................................... 24
5 Results ............................................................................................................................ 26
   5.1 Results on the attitudes towards a sustainable recycling system ........................... 27
   5.2 Results on attitudes towards the Zabaleen ............................................................... 30
6. Discussion ....................................................................................................................... 33
   6.1 Egypt for Sustainability ............................................................................................. 34
      6.1.1 Discussing Education on Environmental issues ................................................ 34
   6.2 Discussing the Results .............................................................................................. 35
      6.2.1 Discussing the Attitudes to a Sustainable Recycling System .......................... 40
      6.2.2 Discussing Attitudes to the Zabaleen ............................................................... 42
   6.3 Discussing the methodology .................................................................................... 45
      6.3.1 Sample and generalizability ............................................................................. 45
      6.3.2 Reliability of the interview and analysis technique .......................................... 46
   6.4 Conclusion .................................................................................................................. 46
   6.5 Future research ......................................................................................................... 48
Bibliography ....................................................................................................................... 49
Appendix 1 ........................................................................................................................ 53
Appendix 2 ........................................................................................................................ 55
1. Background

“Sustainable urban forms will only be achievable if they are underpinned by a policy background which commits to global sustainability goals, but leaves room for local formation and implementation of solutions.” (Williams et al., 2000)

1.1 Introduction

An awareness of environmental issues has recently developed, as well as of the role of human on the ecosystem. People have started to realize that the way they treat the environment is not sustainable, or not sustainable enough for generations coming after them to live on a safe and healthy Earth. The resources that people have been dependent on for centuries are not renewable and nor are they sustainable. According to the World Health Organization (2019), more humans become physical and mental victims of the pollution. More diseases and allergic reactions are the results of how poorly people treat the environment.

In Egypt, an understanding of consumption in relation to waste is still not a common concept in a lot of households. People have little awareness of the amount of litter they produce and of the need to control it. There has never been any form of education regarding recycling in the household, nor is there a well-functioning recycling system. Most garbage gets dumped in the outskirts of Cairo, it piles up and it is set on fire. The awareness on this environmental issue is growing, but is still not enough to make a radical change in the whole city. For many years now, the Zabaleen have collected waste in the streets of Cairo. Most of them are Coptic Christians. They are usually seen on chariots and donkeys roaming the streets. This image upsets a lot of Egyptian citizens, as they compare it to foreign countries, where waste collection is an organized profession, with regular working hours and resources. The Egyptian government wants change but they are not willing to take the Zabaleen into account. They have invited foreign companies to clean the streets of Cairo, but most of them have failed, as their tools and resources were not suited to the Egyptian context.
1.2 The Arab Republic of Egypt: Geography, Religion and Health Situation

![Map of Egypt](image)

*Figure 1, Map of Egypt. (Lonelyplanet 2019)*

Egypt is located in North Africa neighboring Israel, Sudan and Libya. Egypt is called ‘Um el Dunia’ (Mother of the world) by Egyptians and it has a history that reaches back to the beginning of human civilizations. Until the independence in 1953, Egypt had been of great interest for many countries for decades – much for its geographical advantages. Greeks, Persians, Ottomans, French and the British Empire have all ruled Egypt and influenced it in terms of language, religion, ethics, etc. In addition, Egypt has until recently had wars with mainly Israel, such as the Arab-Israeli war in 1973. This has affected Egyptians to the core of their values and ethics. It has also affected many Egyptian households with a great deal of anger and grief, regarding the family members they have lost in war. Moreover, in 1979, Egypt’s president Sadat and Israel’s president Menachem Begin signed a peace contract. Since then, Egypt has not been at war externally.

In 2011, Egypt was indicated as having a Human Development Index (HDI) of 0.6444, being ranked the 113th country out of 147 included. That same year, Egypt wrote history again – this time with the Egyptian revolution on January 25th. In contemporary Egypt, environmental awareness and responsibility is a rising issue in Egyptian citizens’ minds. The world media viewed the Egyptian nation as freedom fighters, which laid the responsibility in their own hands to fight for democracy. In this process, Egyptian citizens from all social classes and religious affiliations took the initiative and gathered in the streets of Cairo sharing the aim to clean their country.
In June 2012, the first presidential election in Egypt had two final candidates. One representative from former president Mubarak’s old regime – Ahmed Shafiq, and the other representative from the Muslim Brotherhood – Mohammed Morsy. Both representatives presented their priorities for the “100 days plan” which were priorities the new elected president would develop in the first 100 days in power. Mohammed Morsy stood as the winner of the election with one of his priorities that waste management would be sorted out. In his campaign speeches, he stressed with full power on environmental issues, especially on waste management as being one of Egypt’s most important environmental issues, and that action had to be taken immediately. However, he was unable to achieve most of his promises and on 12th October 2012 the famous Tahrir Square was once again filled with protesters showing their discontent to what was happening in the country so far.

Religiously, 90% of Egypt’s inhabitants are Muslims and the remaining 10% are Christians (Nationalencyklopedin, 2019). The situation for Christians in Egypt, which has been shown in world media, is not easy. During the Egyptian revolution in 2011, all social groups, independently of their religions, Christians and Muslims, stood side by side to fight for democracy. At Tahrir Square, where demonstrators gathered, Muslims stood against the army to protect Christians while they had their religious ceremonies, and Christians did the same defending Muslims while having their Friday prayers (Alexander, 2011). After the fall of Mubarak’s regime, the conflict between Christians and Muslims in Egypt has continued to escalate, leading to internal conflicts (SVT, 2014).

According to UNFPA (2018), Egypt had in 1957 a child mortality of 327 (0-5 years old dying per 1,000 born), and it had an average income of 1,459 US dollars per person. Until 1986, Egypt had a fast financial growth and an improved health. The Egyptian health policy of the 1980s prioritized reduction of mortality and fertility. In 2010, this number changed radically to an infant mortality of 22 and a GDP on 6,097 US dollars per person. This fast economic growth and vastly improved health has been a result of Egypt’s financial obligations from the Suez Canal, tourism, economic aid and the Egyptian cotton, which have been significant to Egypt’s development (Nationalencyklopedin, 2019).
2 Aims and Purpose

The study aims to focus mainly on waste management in Cairo and describe Egyptian citizens’ attitudes towards a sustainable recycling system and towards the current waste collectors ‘Zabaleen’ in Cairo. In order to conduct this, the following research questions will be addressed in this study:

2.1 What are the attitudes of the Egyptian citizens in Cairo towards a sustainable recycling system?

2.2 What attitudes are permanently held among Egyptians towards the waste collectors ‘Zabaleen’?

3 Theoretical framework

In the theoretical framework, relevant terms addressed in the study and previous studies concerning attitudes towards a recycling system and towards waste collectors will be presented.

3.1 Sustainable Development, a Global Awareness?

Human beings have basic needs, such as food, shelter, health, education, etc. However, the circle of life has to be able to function without over-using its natural resources, being overloaded or exposed to an overflow of waste and pollution. Humans are complex and therefore aspects such as emotions and culture also play a big role in the equation of how they contribute to life’s support system. Sustainability, moreover, works as an umbrella that protects, covers and support society and nature.

The Earth is being over-burdened; there is an imbalance in how humans live in symbiosis with nature (Falck, 2013). All nations agree that there has to be a change, yet not all parties are in alignment with what needs to be made. There is no questioning the fact that a change in human awareness and action need to happen. Problem areas such as waste management and pollution are issues that among others have been seen as alarming and necessary to change. Instead of concentrating on these issues single-mindedly, nations need to implement new principles for consumption, production and distribution. Sustainable
development is furthermore a concept that looks at an issue with all aspects of life taken in consideration.

The expression “Sustainable Development” is interpreted in many different ways. It therefore becomes problematic to give one clear definition of what sustainable development is, and how to measure development. There is some confusion as to what it is to be sustained, what criteria of “sustainability” should be applied, what sectors it applies to; ecological, social or economical, and, what scale; local projects, cities, nations or in a global planning (Hardoy et al., 1992).

The most common definition of sustainable development, which will be the definition this study impregnates, comes from Our Common Future (1987), also known as the Bruntland Report after former Norwegian Prime Minister Gro Harlem Bruntland, which defined the concept as follows:

"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Bruntland, 1987).

This means that economic, social, cultural and ecological issues interact and depend on each other for the well-being of humans today and tomorrow.

However, sustainable development as a concept got its kick-off in the 1990s after the 1992 United Nations environmental conference in Rio, in which the Agenda 21 policy was released to strive towards a sustainable development that fights against poverty and for the environment. This created awareness on the way people use resources and how humans do not live in harmony with nature.

Thirteen years later, in 2005, the United Nations declared the years 2005-2015 a decade for Education and Sustainable Development. As followed, the UN identified eight millennium goals for the world’s countries to strive towards 2015: the seventh goal aims to ensure environmental sustainability.

Waste management is a well-discussed environmental issue in the world and in order to have an influence on people’s attitudes and values, structural conditions have been created in a relatively simple way in order to protect the environment. Already in 1992, the United Nations conference in Rio released the Agenda 21 policy, to strive towards a sustainable development to fight for poverty and the environment (Regeringskansliet, 2019). Thirteen
years later, in 2005, the UN identified eight millennium goals for the world’s countries to strive towards 2015: the seventh goal aims to ensure environmental sustainability. 2019, the UN developed Agenda 30, 17 new goals were set, referred to as the Sustainable Development Goals, which aims to be a continuation of the millennium goals (Regeringskansliet, 2019).

When looking from a global point of view, there are numerous areas that have not yet implemented awareness for the environment, not even within the educational system. Still, environmental issues cannot only be considered a private matter for either the individuals or the nations.

3.1.1 The “Chair of Sustainable Development”

According to Macer (2004), “The Chair of Sustainable Development” is a figure that helps to grasp the concept of sustainable development. Previously, sustainable development has mainly been described through three aspects: social, economic and ecological. The Chair of Sustainable Development add the aspect of Culture as it argues that culture and heritage are all factors that play an important role as to humans’ attitude to the environment. However, all four aspects are equally needed to be taken into consideration.

![Chair of Sustainable Development Diagram](image)

*Figure 2, “The chair of sustainable development” (Macer, 2004).*

“Ecological sustainability” means that recognition by the society is vital to questions regarding survival and the well-being of other species and natural processes. To care for
living organisms should be concepts of moral action and therefore responsibility becomes an essential aspect in ecological sustainability. Responsibility in this context would require that every human understands basic ecosystem models, to understand that all systems on Earth are linked.

“Economic sustainability” means that development projects or processes are invested in such a way, with a great output, that it creates benefits. Sustainable economic management depends on sustainable policies or actions that are constructed in a way that takes into account renewable resources and technologies such as a recycling system. These innovations should be beneficial today and in the future for generations to come.

“Social sustainability” means that development should increase people’s impact in society. It should encourage them in their decision-making regarding questions that look at the development of society as a whole as to understand the human role. This aspect can only work if ecological ethics, quality of life, well-being, culture and care for future generations are taken into consideration.

“Cultural responsibility” means that diversity of cultural groups should be preserved. Moreover, the value of heritage and traditions should be encouraged and recognized to every human’s unique contribution to the world.

However, to be able to put any of the four principles of sustainable development into actual practice requires an expansion in promoting, fostering and developing our society’s environmental awareness through public participation and environmentally friendly lifestyles.

3.1.2 Action ability

Humans have always created waste, as a byproduct of consuming. The more advanced societies have developed, the more people have consumed. The more money people have, the more they buy. The more they buy, the more environmental issues arise (Flack, 2013). As a part of eco-friendly lifestyles, humans need to develop personal sustainable development skills. According to several researchers who produced the pedagogical handbook Education for Change (BUP, 2009), these skills include our willingness and ability to influence lifestyles and living conditions, assume a global responsibility and have respect for and confidence in future generations.
There are three factors that influence people’s ability to act: increased knowledge, a choice of possibilities, and a personal driving force (also known as an outer and inner motivation).

![Diagram showing the factors influencing people's ability to act](image)

*Figure 3, Action Ability (BUP, 2009).*

### 3.2 A Sustainable Recycling System

When being used, the term ‘sustainable’ is referring to the above-mentioned Bruntland Report definition: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Bruntland, 1987).

As mentioned in the introduction, waste management is one of the most important environmental issues. To put things into perspective, Sweden is a country that serves the world with new effective and efficient methods on a well-functioning and sustainable recycling system. In context where recycling is used, people usually talk about a zero-waste hierarchy containing five steps, where the lowest level is called ‘disposal’, the second ‘recovery’, the third ‘recycling’ and the fourth ‘re-use’. At the top is ‘prevention’, in which waste production is prevented by reducing the amount of solid waste that would need to be produced and recycled.

![Diagram showing the zero waste hierarchy](image)

*Figure 4, The Zero Waste Hierarchy, (European commission 2017).*
When a product is recycled, it is manufactured into a similar product again, for example, a can becomes a new can or a newspaper becomes a new newspaper (Flack, 2013). As an example, used soda and beer cans used to contribute to waste in the Swedish environment, however, today they are no longer waste items. Instead, they are being recycled with the help of a sustainable recycling system, which makes them be infinitely recycled as new cans.

![Figure 5, Bins to sort waste with color-coding. (Vectorstock 2019).](image)

Figure 5 shows a theoretical general waste-managing system for ordinary households, which has been promoted in the United States. Bins in different colors show people which waste type goes where. It helps them to sort their garbage. At times, bins of the same kind are displayed; with a text on it indicating what type of waste should be thrown in each bin.

Furthermore, stakeholders in developed societies have come together to make recycling more efficient. Innovations that require the newest techniques have been developed, such as using waste to generate energy for individual households. Scandinavian countries have been leading in this development (BBC, 2012).

### 3.3 General Waste Management in Cairo

“Waste is a concern that knows no race, no group area, no ethnicity, no language. No person chooses trash and pollution as the ideal living environment… We need to create the
conditions for all citizens to be collectively and individually responsible for the state of environment” (Rasool, 1993)

Figure 6, Map of Cairo, Egypt. (Frändberg and Gardillon 1998)

The current actors in Egypt’s Solid Waste Management System are many, as everyone thinks they have the right solution to this complex issue. In Cairo, the very first organized waste management service was designed and constructed by the informal sector.

To confirm that local governments are effective and efficient regarding SWM (Solid Waste Management), the central government is held responsible for forming the institutional and legal frameworks that suit the SWM. Moreover, it also offers guidelines to environmental protection, technical systems and financial management to distribute donor aid, the equipment and infrastructure that is needed on a local scale. (El Araby, 2002)

The local government is responsible for facilitating solid waste collection and disposal services. Regarding collection and transferring services, the private sector has invested in formal foreign private companies and licensing the informal traditional waste workers (Iskandar, 2008).

Within the private sector, micro-enterprises to medium businesses exist, and they collect and transfer but do not manage final disposal sites. Non-Governmental Organizations control collection and transport services in few neighborhoods around Cairo. The informal
sector execute recycling, however, composting is fulfilled by the formal sector. The local authorities operate with formal private companies’ compost plants. (El Araby, 2002)

The removal of waste from dumpsites in the outskirts of Cairo is monitored by the formal private sector, which is controlled by the government (see number 2 on map). Some NGOs also perform some limited solid waste services. These also sponsor the Zabbaleen (Iskandar, 2008).

The Ministry for Housing utilizes waste management in new urban communities, and Urban Communities partake in selecting disposal waste and supervise waste management operations in Cairo. The Egyptian Environmental Affairs Agency (EEAA) is responsible for the environmental implementation of waste management systems and facilities. The Ministry of Finance, Ministry of Investment, and the National Centre for State Land-use Planning The National Strategy for Integrated Municipal Solid Waste Management of 2000 are other authorities that have become essential in planning, investing and contracting. They identify within this framework as a key section of which offers the privatization of waste management service as they involve the citizens in paying the costs of cleaning services. Former to multi-nationalization of waste services, it was collected and transferred as follows: One third by the Cairo Cleansing and Beautification Authority (CCBA), which is a waste pooling site in low-income neighborhoods, and local formal private companies that provide with door-to-door services. One-third by the traditional collectors, also providing door-to-door services and lastly, one third was left uncollected, abandoned on the streets (Iskandar, 2008).

The Governorates in Cairo as a mega-city have contracted private international companies to manage their solid waste. The formation of sanitary landfills is the main change, which has been added to the system. However, the informal and traditional systems have not been totally eliminated as the need for a large collection force has meant that the multinationals have had to keep the unpaid and moderately paid labor of the traditional Zabaleen. Through formal waged labor relationships with established traditional collectors, the Zabaleen have been allowed to service their same clients, door-to-door. Meanwhile, the waste collected by the formal service is compacted and transferred to transfer stations then to composting plans where the non-organics are sold for recycling to the benefit of the multinationals. The organic portion is converted to compost for soil. However, since the traditional sector still controls much of the non-organic, it does not arrive at the
multinational transfer stations or composting plants. It still finds its way to the Zabaleen and other recyclers who have long established knowledge and capability in that sector. An addition, to these two legislations, Law 38 of 1967 and Law 4 of 1994 have established Executive Regulations to the matterf (Salah, 2008 and El Araby, 2002).

In addition, municipalities did not know how to work with the issue, and therefore, were never charged with any of the provision from cleaning services. Furthermore, environmental agencies and ministry did not exist, which resulted in no regulations nor laws created to control the service (Iskandar, 2008)

3.3.1 The Informal Sector of Traditional Waste Management: The Zabaleen

The ‘Waahis’ were the first oasis migrants to the city of Cairo. In the forties, they became the first in organizing a collective door-to-door daily collection service for paper only from Egyptian households (Fahmi, 2005), which they sold to public baths. The public baths, which heated water for long periods, also aimed to provide the local inhabitants with Egypt’s national breakfast fuaa medammes (fava beans). At that time the population of Cairo was around 2 million. The awareness of organic waste had not yet been imprinted in Cairo; however, other cities around Egypt used organic waste to feed their farm animals. (Iskandar, 2008)

In the 1930s and 1940s, the Waahis began to collaborate with another group of migrants that had urbanized to the city for work, the Zabaleen (Arabic for ‘garbage collectors’). The Zabaleen survived on the recycling of organic waste which they fed to pigs and goats. (Salah, 2008)

They lived on the edge of the city in what became known as garbage villages (Fahmi, 2005). The Zabaleen had migrated from a rural region in southern Egypt, mainly from the area of Assiut. With the Waahis (from the oasis area), they agreed to take over the collection and transport of household waste to their own homes. Eventually, as the Zabaleen became more involved in waste collection, they started to receive a small fee from the Waahis. The general understanding was that the garbage collectors would continue to deliver non-organic waste such as paper to the Waahis, while keeping the organic waste to feed animals. In the meantime, non-organic waste as metals and plastic started appearing in Cairo’s household waste. They then started to trade with these items as well (Salah, 2008).
The *Waahis* used the paper collected by the *Zabaleen* to fuel public baths to feed most of the population with Egypt’s traditional breakfast *fuul medammes* (fava beans). However, as the introduction of fuel oil became more common to Cairo’s inhabitants in the 1940s, they chose to produce *fuul medammes* at home. Thus the *Waahis* customers became less involved with the public baths (Iskandar, 2008).

The city of Cairo grew from a city to a mega-city, with inhabitants from all over the country urbanizing in search for work in the capital city. As the population grew, so did waste collection. It blossomed in relation to the growth of the city and the informal sector adapted to this change. Yet nobody formally organized the system (Iskandar, 2008, Salah, 2008 and Frändberg, 1998).

Until today, garbage collectors’ image is their roaming the streets of Cairo on donkey-pulled carts. Cairo Cleansing and Beautification Authority (CCBA), began to replace these carts with mechanized trucks to improve their image. CCBA is an agency that was founded in 1986 to improve and license new Egyptian private collection companies. Following the footsteps of CCBA, another agency sharing the same goal was formed in the second largest province – Giza. Giza is known to the rest of the world for the Great Pyramids, which are located there. It is furthermore considered as part of the Cairo area. This agency aimed to help Egyptian private companies which were established in the late 1980s to service commercial waste generators and/or neighborhoods which were not serviced by the traditional collectors. The *Zabaleen* were given permission and a license by CCBA to collect waste from designated areas. As they signed a contract, they had to pay an insurance fee in advance. This gave them the right to collect garbage from a specific amount of apartment blocks. The *Zabaleen* collected fees directly from individual households that they provided their services to. The CCBA provided direct services in the area of street sweeping, street lighting, maintenance of public parks, etc. The garbage collectors were illiterate, did not know how to drive motorized vehicles, and were unable to access credit to purchase their own trucks. The traditional waste collectors themselves invested in the development of their own community when they obtained some land and ownership security in the mid-eighties (Iskanadar, 2008 and Salah, 2008).

In modern Egypt, the *Zabaleen* have created their community called Garbage City. This community is know to have one of the world’s most effective organic recycling. Approximately 80 percent of the collected household waste is being recycled (SVT, 2014).
3.3.2 The Formal Sector of Waste Management

Collection

The Cairo Cleansing and Beautification Authority (CCBA) contracted two multinational companies: FCC, which is Spanish and AMA, which is Italian. Additionally, one Egyptian private company was also involved. The CCBA were in charge of three fourths of the garbage collection in Cairo. The fourth quarter was initially contracted to the Spanish multinational Enser, but they left and AMA took over. The CCBA established official contacts in some parts of the city, and from the traditional collectors, middlemen were placed to link official contractors to the traditional ones. The middlemen had the right to force the payment among the households that refused to pay a door-to-door fee. The traditional collectors, however, continued to service their customers door-to-door as they were in need and survived on the recyclables. The formal sector started placing big green containers that worked as waste pooling stations for each neighborhood. Trucks collected the waste in the containers, with some trucks being more advanced depending on the accessibility. In the next step, the waste was transported to the landfills or the sorting and composting areas (Iskandar, 2008 and Frändberg, 1998).

Transfer and Transportation

There are nine transfer stations in Cairo for formal waste collection. Waste collected by the formal sector is transferred to large trucks at the stations, then transported to the landfills or to sorting and composting areas. Waste collected by sub-contracted waste collectors is transported by small open trucks or donkey-pulled chats. The waste is then transported to their homes in Garbage City to be recycled without passing through transfer stations (Iskanadar, 2008 and Frändberg, 1998).

Processing and Recycling

Only a minimum part of the waste collected by the formal sector is recovered and recycled into compost. These composts are operated by the private sector. Three sorting and composting facilities serve Cairo with a total operating capacity of 1650 tons per day, which accounts for 17% of the daily-generated waste. Non-organic recyclables sorted at such facilities (estimated at 2% of the total waste generated) are mostly sold to waste traders (Iskandar, 2008 and Frändberg, 1998).
3.4 Education policies regarding sustainability in Egypt

EE or ESD, as it is known and implemented in Western countries, does not exist in the Egyptian national curriculum, although some international schools such as American, German or British strive to start local school projects on environmental issues (such as organizing recycling systems, cleanup days, etc. which are often supported by the UN or embassies). Nevertheless, it can be argued that the fundamental values of sustainable development in education can still be found in Egyptian schools through the teaching of Religion (Rice, 2006). In these lessons, certain teachers will promote environmental ethics and relate them to religious practices, thus implementing a form of ESD. However, this aspect is not explicitly part of the national curriculum and different teachers might stress on its importance and deliver it with different degrees of success.

3.5 Religion and environmental ethics

As previously mentioned, Egypt’s population consist of 90% Muslims and 10% Coptic Christians. A large majority of the minority group work in waste management, a field which has been passed on from generation to generation. According to Gomaa (1997), the primary reason to why environmental protection became a topic on governmental level was due to the support from foreign donors, who were willing to provide financial support for environmentally sound projects. The main donors are Christian associations worldwide that have made sure to help their fellow Christians in Egypt by helping to create a community known as Garbage City. On the contrary, it has been easy to say that since the situation of Christians in Egypt has been difficult, some Egyptians lack environmental ethics, as they do not want to support this community. Previous studies have been conducted on Muslims’ attitudes to pro-environmental issues. It has been clear that religion has no significant influence on people’s support for pro-environmental issues. This has more to do with personal responsibility.
In many less wealthy countries, a sense of devotion to following laws is lacking, and particularly to environmental laws. Behavior changes are therefore effective in the topic of ethics (Izzi, 2000). Egypt is a very religious country, meaning that religion controls the society (Rice, 2006). Since Egypt is a country that has hosted many prophets, such as Moses and Jesus, it falls naturally that the high spirit of religion has influenced the inhabitants of the country. Any religion suggests how people should treat one another and how people should live in balance with nature. Therefore, these ethical orientations of a society have mainly been influenced by this advice. As any advice can cause discrepancy between the real and the ideal Muslim societies (Rice, 2006), one cannot particularly put the blame on a religion for the lack of support regarding environmental and ecological projects (Tucker and Grim, 2003). According to the table above it is clearly stated that teachings regarding pro-environmental behavior exist within the Islamic religion. It therefore comes down on an individual level as religious teachings could provide with a sense of responsibility. Each individual is held responsible for protecting humans, plants and animals in their communities (Chishti, 2003).
4 Methodology

This section will present the sample and limitations of the study, with an overview of the participants. The choice of qualitative interviews will be explained, as well as the use of photography as an interview technique to create a dialogue between the participants. Finally, possible methodological issues will be clarified.

4.1 Sample and Limitation

The data collection of this minor field study was held in 2012 in Cairo. The writer of this study was born and raised in Sweden, with Egyptian parents. The researcher is fluent in Egyptian Arabic and was able to find participants for the focus groups through friends and relatives in Cairo. A classical linear snowball sampling was carried out. The researcher introduced the study to family and friends, who in turn asked their friends to participate, until focus groups were formed (see figure 7 below).

![Figure 7, “Snowballing”, (QuestionPro 2019).]

The qualitative interview was held five times with different participants each time. The groups were mainly homogeneous, based on social-economic status and religion, all born and raised in Egypt, but the participants differed in age (Lövgren, 2002). I strived to have a more free-flowing conversation among the participants within the group, and homogeneity groups therefore led to an open dialogue between the contributors. “It is not the actual different that determines their willingness to discuss a topic together.” (Morgan, 1997)
The choice to use a qualitative interview technique is based on the aim of the study, which is to understand Egyptian citizens’ attitudes towards a recycling system and the traditional waste collectors ‘Zabaleen’. Thus, using focus groups as to understand attitudes seemed to be the best possible option. In addition, self-taken pictures were used and showed to each focus group in order to create a dialogue to reveal the attitude of the participants towards a sustainable recycling system and towards the waste collectors ‘Zabaleen’.

The final step in the data collection was to analyze the data focusing on different themes. This is called a thematic analysis (Clarke & Braun, 2013) and it aims to see patterns in the data that are relevant or of importance. These themes will be referred to in the result section, when analyzing the results that came up after the study.

### 4.2 Why Focus Groups?

As previously mentioned, the empirical study was carried out through focus groups. Although genders, professions and age groups differed, participants in each meeting already knew one another from before. Some lived together or in the same buildings; they mainly had the same socio-economic status.

Morgan (1996) defines focus groups as a research technique that collects data through group integration on a topic determined by the researcher’s interest that provides the focus. The data itself comes from the group or the interaction. In essence, focus groups function through gathering people together to interact about a given topic (Halkier, 2008).

<table>
<thead>
<tr>
<th>Interview number:</th>
<th>Participant’s name, gender, religion and age:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interview #1</td>
<td>1. Ingy, Woman, Muslim, 23</td>
</tr>
<tr>
<td></td>
<td>2. Ali, Man, Muslim, 68</td>
</tr>
<tr>
<td></td>
<td>3. Helmi, Man, Muslim, 45</td>
</tr>
<tr>
<td></td>
<td>4. Ahmed, Man, Muslim, 29</td>
</tr>
<tr>
<td></td>
<td>5. Amr, Man, Muslim, 24</td>
</tr>
<tr>
<td>Interview #2</td>
<td>1. Nehal, Woman, Muslim, 45</td>
</tr>
<tr>
<td></td>
<td>2. Ahmed, Man, Muslim, 56</td>
</tr>
</tbody>
</table>
4.3 Photographs that awaken attitudes

Research on the topic of attitudes has been popular for decades. It falls under the category of social psychology. In the educational context, attitudes have been of interest to measure the impact of learning regardless of academic achievement (Thomas & Znaniecki, 1918). Attitude has its own discourse, the earliest definition of attitudes according to Thomas & Znaniecki (1918) is defined as the following:

“A mental and neural state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual’s response to all objects and situations with which it is related.”

Another definition stated by Zimbardo and Leippe (1991) is:

“An evaluative disposition toward some object based upon cognitions, affective reactions, behavioral intentions, and past behaviors… that can influence cognitions, affective responses, and future intentions and behaviors.”
Any situations in which people find themselves are, to an extent, related to attitudes. Therefore, researchers Zimbardo & Leippe (1991) have stated and categorized four pillars on which attitudes stand:

**Affective responses:** refer to feelings that could be positive or negative towards a situation, person or object.

**Cognitions:** indicates the actual knowledge a person beholds towards a specific topic, person or object.

**Behaviors:** imply people’s actual behaviors towards a situation, object or person.

**Behavioral intentions:** refer to a person’s will to act in a certain way.

Attitudes are observed in numerous situations and environments, in which people can observe positive and negative actions. However, observing only actions would not give a full picture. Verbal interactions also have an impact on behavior and forming attitudes (Zimbardo & Leippe, 1991).

Due to the fact that photos were used to create a dialogue between participants in the focus groups settings, it is important for us to understand how representation works in correlation to culture. Culture is said to embody the ‘best that has been thought and said’ in a society. In recent years, and in a more ‘social sciences’ context, the word ‘culture’ is used to refer to whatever is distinctive about people’s way of life, communities, nations or social groups. Attitudes would then for sure be a contribution created along the way (Louw, 2003)

“Many of our attitudes to life and the future reflect fundamental values that are often based on our particular culture and experiences from childhood, adolescence and growing up. We are not always aware of the attitudes and values we have, how they control our actions or where they originate.” (BUP, 2009)

Using photographs would create a certain discourse that could help to get a deeper understanding of Egyptian citizens’ attitudes towards the Zabaleen and a sustainable recycling system.

Stuart Hall (1997), examines representation, meaning and language. He talks about key processes in the ‘cultural circuit’. His study will be of use in analyzing Egyptian citizens’
attitudes on a sustainable recycling system and the garbage collectors ‘Zabaleen’. When talking about cultural studies, representation connects meaning and language to culture, meaning that the attitudes of the participants could be understandable in an easier way. Stuart Hall mainly introduces the analysis that makes up his theory by using pictures/photographs. He looks at each picture with different levels: denotations (what people actually see) and connotations (their thoughts on what they see). Describing a picture according to their cultural background will influence how they talk about the picture to create a meaningful discussion. In this case, the photograph is the actual representation, and the participants’ language used shows us the meaning or thoughts behind, which can be translated as an attitude towards a certain topic (in this case, garbage collectors or a recycling system).

The data I have gathered will be analyzed in the “Results” section and a thematic grouping of my results will be displayed.

**Research photographs used in the study on the connotation level:**

Photograph 1 (see appendix 1). Two parked cars, a big green container, and a boy on a chariot driven by a donkey in the street. The street is filled with garbage on the ground, there is a grey box by a beige gate, and a grey building and trees in the background.

Photograph 2 (see appendix 1). A car park, cars, a pile of black tires, a cat walking on top, a cat eating from plastic bags filled with food and one cat sitting by a green container. Grey buildings in the background.

Photograph 3 (see appendix 1). A red bin saying ‘paper’, vegetation with pink flowers, weed and trees, red building with white pillars and a dome, a path made of cobblestones.

**5 Results**

The results of this research are a continuum of answers from the focus group interviews, based on the participants’ previous knowledge on the topic. In the previous part, Stuart Hall’s theory on how people interpret photographs was explained. In this part, the focus will be on the connotation level, which means further analyzing the photographs and focusing more on background knowledge and cultural context from each interview. The results will be presented and grouped in a thematic analysis.
The following thematic analyses were made from the most common answers that were given to the research questions. They are based on the positive and negative attitudes that have been the most noticeable during the focus-group interviews. The chart below gives a visual representation of the different thematic groupings.

5.1 Results on the attitudes towards a sustainable recycling system

Model 1. Thematic analysis on attitudes towards a sustainable recycling system (El Radaf, 2019)

1. Government failure

All focus groups agree to a certain extent that the Egyptian government has failed to develop a sustainable recycling system in Egypt. Although citizens have to pay monthly taxes for waste collection on their electricity bills, some interviewees argue that the money is not used because of the greediness and corruption practices among people in power. Others argue that people in power do not have any knowledge on how to implement efficient eco-friendly policies.

Ahmed 55, - “They get money from our electricity bills for garbage collection, but no one sees any kind of progress.”
Ahmed 29, - “I think the problem is not about recycling, if people learn in the first place to throw the garbage in a basket, they will become accustomed to recycling. In Egypt, we don’t have enough garbage trucks to collect our garbage, we have too much garbage accumulated on the streets.”

1. **Lack of education and awareness**

In addition, the Egyptian national curriculum does not provide young people with knowledge regarding environmental education. Very few eco-friendly actions are therefore being taken, and no awareness is developing. Some people suggest that this should be taught in Religion lessons in schools, since cleanliness is an important concept in religion. Some state that international schools are spreading awareness on this issue by promoting campaigns in the form of green days at specific schools.

Inggy 23, - “I just want to reassure you on the information regarding this photo, 90% of Egyptians don’t know what happens after the scene that we have in this picture. This is one of the important things, if we had awareness on how our own society could benefit from delivering this garbage to its proper place, it would be good.”

Nawal 45, - “They teach students in schools about religion for example; a very important part of religion is cleanliness. Before the prayer, people should even be clean and clean themselves.”

Ahmed 55, - “But you know that sometimes you even find a huge heap of garbage outside a mosque. In religion for me, cleanliness is more important than the appearance of what you wear.”

Khaled 28, - “But I am afraid the culture is still not here, like in the company where I work, and this is supposed to be educated people. The company bought different garbage bins but people still throw whatever they want wherever they want.”

2. **Individual role**

Some participants are unable to consider their personal actions in a broader perspective and therefore see individual actions such as separating garbage in their households as an issue that is not their role. On the other hand, other participants are very aware of their potential to promote change, and one even expresses intentions of starting his own recycling company.
Nehal 45, - “Talking on a general level, there’s also the issue of bad habits from the Egyptians. This is a reality. Egyptians don’t treat the streets as they would treat their homes. For example, I can clean my home and throw my garbage on the street.”

Noha 25, - “I once saw a guy sitting in a Mercedes eating an orange and he threw the peel outside of the car. Everything is about attitude and mentality. It doesn’t matter if he is rich, but it’s the attitude.”

Ingay 23, - “I don’t think that it is my responsibility to separate my garbage items at home. This is not my job. That’s my opinion. And I think the problem is from top down. If we had a recycling system, if we had signs to tell us where to throw items and what to do with our items, we would have a good recycling system. So there is a difference between the streets and at home.”

Ali 68, - “I am convinced that my house is my own property and I’m not obliged to do this. What I am obliged to do is to place my garbage in the garbage bin, and pass it on to the garbage man who has the responsibility of taking it to the recycling station. But since the street is not my own, it is natural that I try to keep the system that they have set for us. But at home I can place my garbage items in any particular way. I don’t have to follow any system. That’s all I’m saying, I’m not saying that I should throw my garbage on the street.”

Ingay 23, - “Well, if there is a law that says I should separate my garbage items at home, then it’s a completely different story. They could place three different garbage bins for every item in front of the apartment door and if anyone wants to throw away anything, they can go outside the apartment and throw it. Every item in its own garbage basket.”

Ahmed 26 - “My cousins and I actually were thinking of making a factory for recycling.”

3. **Language**

The promotion of garbage separation through recycling systems is visible in hotels and foreigner-friendly neighborhoods only. It is displayed in English and most participants argue that the target groups are non-Arabic speakers.
Ingy 23, - “You cannot possibly put only one garbage box and write ‘paper’ on it in English, without writing it in Arabic. Or without placing another box next to it and indicating what these two boxes are for. If I want to separate garbage, I should clearly indicate what each box is for, but if I want to have only one garbage box for all garbage items, then I should not try anything on it. And by the way, these kinds of garbage boxes already exist all around Egypt, in many places.”

4. **Image**

An argument on image has arisen. Some participants argue that these recycling systems are incomplete and displayed in order to show off to rich and educated Egyptians, as well as tourists and expatriates. They are directed to a certain status group in the Egyptian society that does not include all the inhabitants.

Khaled 28, - “But as in this picture, it’s more commercial, just to show off.”

Mohamed Mohsen 23, - “But this you can find in Egypt… Like in touristic places, because they want the tourists to see that there are nice areas.”

Amr 24, - “I think these kinds of garbage boxes only exist in hotels or tourist resorts. But they certainly don’t exist in ordinary Egyptian streets.”

Mohamed Mohsen 23, - “However, in an area like Zamalek, I have seen on the streets that the government has put up different garbage bins in various colors so that people can throw away their waste. But let’s keep in mind that the population in this area is mainly foreigners and they are used to this system.”

5.2 **Results on attitudes towards the Zabaleen**

Here again, the following thematic analyses were made from the most common answers that were given to the research questions. They are based on the positive and negative attitudes that have been the most noticeable during the focus-group interviews. The chart below gives a visual representation of the different thematic groupings.
Model 2. Thematic analysis on attitudes towards the Zabaleen (El Radaf, 2019)

1. Government failure

An argument on the failure of the government arises when referring to the Zabaleen. No suitable resources are given to people working in the recycling field. The Zabaleen are often seen as a sideline, since the government do not want to involve them in handling waste on the streets of Cairo.

Ahmed 56, - “I think that the problem with garbage is 50% the responsibility of the government, 50% the responsibility of society. The government is not developing any programs or any system for garbage. They get money from our electricity bills for garbage collection, but no one sees any kind of progress. Can you imagine a country where people until now are sweeping the streets with large brooms and they have nothing to collect the garbage with?”

Mohamed 27, - “The government, as they didn’t like the image of these people collecting garbage, they forbid them to go down with their donkeys to collect garbage and they invested in foreign companies, instead of giving them the right tools to work with or making them a part of their investments."
2. **Garbage collection as a criminal act**

A discussion arises as to whom the garbage on the streets of Cairo should belong to. This is a heated discussion between the participants, as some argue that the Zabaleen are thieves for taking the garbage on the streets in order to make a profit out of it.

3. **Image**

Image seems very important to a lot of participants. They feel sympathy for the Zabaleen when seeing them roaming the streets with chariots and donkeys, in order to collect garbage with their bare hands.

   Nawal 45, - “Here he dresses scruffy. I want to explain that he is not really part of society because of this particular reason.”

   Dahlia 22, - “The guy in the picture I feel very sorry for. It looks like he has a disease or something. This guy should be in school. I’m talking about every single thing in this picture. This guy should be at home, he should have access to education. And better clothes. The garbage is just everywhere.”

4. **Religion**

The influence of religion on the (Muslim) participants’ attitudes towards the Christian Zabaleen is not visible in the results of the focus groups. However, aspects of religion have been referred to, such as the fact that the Zabaleen are a Christian minority group and they use organic waste to feed their pigs.

   Ahmed 55, - “But not all garbage collectors are bad and dressed dirty, like the garbage collector that comes to this building every morning. The majority of them are Christians, and they collect the garbage mainly to feed their pigs.”

5. **Cleaning the country**

Most participants argue that the Zabaleen are the most efficient sector in cleaning the country. They are the ones with the most experience in this field and the government should start treating them as professional and respect their rights.

   Dahlia 22, - “Give them their human rights and then we can talk about cutting this profession.”
Mohamed 27, - “These people that go around with their donkeys are actually the experts in the field.”

Aya 24, - “The word ‘Zabal’ in a social context is looked upon as something very negative. What he needs is a better social status in the society, to do an even greater job.”

Research photographs used in the study on the denotation level:

Photograph 1 (see appendix 1)

Ahmed 55, - “Oh, this is not in Cairo, no this does not exist.”

Ahmed 55, - “I associate a garbage collector with someone in very bad clothes, he is not well-educated and his attitude is not of someone that you want to have a conversation with. That’s what I see.”

Photograph 2. (see appendix 1)

Noha, 25 - “I think that this affects passers-by in a psychological way, because of the terrible view and all the flies. Flies can spread diseases, so naturally they come in contact with the garbage, and then cats also do so, and it becomes so filthy. And the scene is simply terrible...”

Photograph 3. (see appendix 1)

Ingy 23, - “We don’t have garbage boxes on the streets in Egypt, so people end up throwing garbage on the street. If we had designated garbage bins with particular colors, people would become accustomed to throwing different garbage items into different boxes. But the problem is that we don’t have regular garbage boxes to begin with. So it is the problem of a non-existing system.”

6. Discussion

This section identifies and discusses attitudes of some Egyptian citizens to a sustainable recycling system and towards the minority group Zabaleen. Problems and solutions to the matter will be discussed. In addition, a discussion on the methodology will also be provided, as well as on the correlation between education and environmental issues.
6.1 Egypt for Sustainability

In 1996, Egypt signed the Agenda 21 policy on environmental reduction. In addition, in 2005 Egypt joined the Millennium Goals declared by the United Nations. It is therefore evident that Egypt wants a revolutionary change in the matter of environmental sustainability. However, it is failing in applying a system to eliminate the problem on a national level. Too many organizations are involved in the matter, and some of them depend on international aid in order to work on a local level. Most Egyptians probably have no awareness of these global policies and therefore they are not acting towards this collective goal.

6.1.1 Discussing Education on Environmental issues

Amna 39, - “It needs to start with education, children should learn about these things.”

Egypt is a country that has a very critical educational gap. The differences between international schools and national schools are not just in financial terms, but also in terms of the knowledge and quality of education students are guaranteed. Environmental Education (or Education for Sustainable Development) is a concept that has not yet been established in the country’s national curriculum. In addition, Egypt has signed the sustainable development goals. Goal number 4, wants to ensure quality education (United Nation Development Programme SDG 4, 2020) and some international schools have encouraged their staff to prioritize topics which are related to environmental sciences.

Ahmed 29, - “I think that there are certain schools that do recycling, perhaps most of these don’t do this but we cannot say that the problem is with education. From what I know, there are a lot of schools that practice recycling in Egypt. A lot of schools have green days, and life skills, they teach all these ideas, how to make a green society. There are a lot of such campaigns. And I have personally participated in such events.”

It could be argued that environmental sciences projects in Egypt are strictly related to social-economic status. It seems that only richer students, who can afford going to international schools, are developing an environmental awareness. Yet the rest of the student population is left without this knowledge. One suggestion raised in one of the focus groups was to teach environmental awareness as part of religious education lessons,
especially since religion is such an important subject in all Egyptian schools, whether national or international.

Khaled 28, - “In religion, we have something that says cleanliness is part of your religion. This should be taught to children as a part of their religion classes.”

As previously mentioned, pro-environmental issues are supported by the Islamic religion (Rice, 2006). This previous suggestion could therefore be a possible solution for Egypt, if it could be accepted and implemented on a national level. However, it seems that although environmental awareness is rising in Egypt, any knowledge on how to take action is still lacking. There is little motivation for citizens, mainly because no governmental policies are put in place. It therefore becomes problematic to work on solving this issue since so many people are not collaborating and collectively working on achieving one common goal. Besides, sustainable development should be looked at in terms of any aspects of life. It should not be focusing on a single subject, hence the need for all efforts to be coordinated on a higher level.

According to Education for Change, being able to put any of the four principles (social, cultural, economic and environmental) of sustainable development into practice requires an expansion in promoting, fostering and developing our society’s environmental awareness through public participation, awareness and action competence.

Ingý 23, - “If you teach your kids to throw garbage in its proper place, they are simply going to do that. But I also think that this issue will take a long time to be achieved. It’s not even within the next 20 years.”

In a similar way as sowing a seed and watching it grow, such a long-term project will require patience, knowledge and timely action. Implementing awareness on environmental issues into the Egyptian education system needs to be done, even if it will probably take years to be in alignment with countries such as Sweden.

6.2 Discussing the Results

The regular Egyptian citizen recognizes that there is a problem regarding waste management, mainly because of the image of waste on the streets and the way it is collected. On the one hand, the average Egyptian citizen lacks awareness on the waste that he/she produces and therefore blames the government for not having proper resources to
collect, transfer and recycle it. On the other hand, it is true that the government fails in these areas. People in powerful positions in the government lack knowledge and might, to some extent, divert the money flow from this business. It is a fact that the streets in most districts in and around Cairo are dirty and smelly. It upsets and frustrates the inhabitants, but it has also become normalized to see heaps of garbage at the end of each street, garbage being dumped into the river Nile and to inhale the fumes from garbage being burned in the streets, since people do not know what to do with it.

Noha, 25 - “I think that this affects passers-by in a psychological way, because of the terrible view and all the flies. Flies can spread diseases, so naturally they come in contact with the garbage, and then cats also do so, and it becomes so filthy. And the scene is simply terrible...”

The general Egyptian mentality is focused on survival, especially because Egypt as a nation has been through a lot, in terms of occupation and wars. Understanding that pollution has hideous effects on human lives, water, soils and the air seems to be an issue of a less important concern. Moreover, the consumption cycle is never being taught in Egyptian homes or schools. When people buy something, it will eventually become waste, but this issue has not been considered as a main concern and priority among Egyptians. A more important priority is to make money, and when they have money, they can buy everything and anything they want.

Ahmed 55, - “After the 6th October 1973 war, a big attitude shift happened with the Egyptian people. They just have the mentality of ‘let’s get rich’ but they are not thinking about the country or the environment.”

Setting garbage on fire or throwing it into the river Nile has been seen as a quick and easy solution. Although it is not a sustainable solution for the dirty and smelly streets, people are pleased when the garbage is gone. If they cannot see it, then it does not exist. However, the garbage is not gone, but it accumulates somewhere else that is not in front of their doorstep or in their cars.

Noha 25, - “I once saw a guy sitting in a Mercedes eating an orange and he threw the peel outside of the car. Everything is about attitude and mentality. It doesn’t matter if he is rich, but it’s the attitude.”
Nawal 45, - “Some people I work with have told me that their neighbors take their garbage outside and dump it by their front doors, so that they don’t have to smell it.”

Cleanliness and overall personal hygiene are highly valued by many Egyptians. They believe that people must have a good image, dress properly and be clean. Having a clean house or car is also significant in order to show wealth. In Islam, personal hygiene and cleanliness is essential. A good Muslim should pray five times a day, and before each prayer a ritual of cleanliness called *wudhu* must be performed. This is how far the awareness of cleanliness reaches. Concerning waste according to Islam, it is said that people should not indulge themselves in water consumption when they preform *wudhu*, as God will hold them responsible for every drop of water that goes to waste. Religion does not explicitly refer to garbage as a form of waste, nor does it mention any consumption patterns to be aware of. However, since it says that water should not be overused, it is commonly generalized in ethical terms that people should balance their use of any resources around them. Muslims are told to never consume more than what they can handle, in terms of food, clothes, shoes, water, electronics, etc. It does not differ if they are cleaners or doctors, nevertheless this religious awareness is not of a high concern in Egypt.

Nawal 45, - “They teach students in schools about religion for example; a very important part of religion is cleanliness. Before the prayer, people should even be clean and clean themselves.”

Ahmed 55, - “But you know that sometimes you even find a huge heap of garbage outside a mosque. In religion for me, cleanliness is more important than the appearance of what you wear.”

However, personal hygiene and waste management are often viewed as two distinct notions. Even though both are related to cleanliness, they are two separate topics for most people. Religion in Egypt is utterly important, and only topics that are explicitly discussed in religion are important. Thus, environmental issues are not an important topic, since it is not specifically expressed in the Quran that a good Muslim should take care of waste management. It is therefore noted that heaps of garbage can even be found outside religious buildings. As long as there is no garbage inside a mosque, people will accept that it can be displayed anywhere outside, and some Egyptians will say that it is not an issue to be solved on an individual level, but rather on a national level.
All focus groups have stated in a way that waste management is an issue to be handled firstly by the government.

Ahmed 56, - “I think that the problem with garbage is 50% the responsibility of the government, 50% the responsibility of society. The government is not developing any programs or any system for garbage. They get money from our electricity bills for garbage collection, but no one sees any kind of progress. Can you imagine a country where people until now are sweeping the streets with large brooms and they have nothing to collect the garbage with?”

Nehal 45, - “Talking on a general level, there’s also the issue of bad habits from the Egyptians. This is a reality. Egyptians don’t treat the streets as they would treat their homes. For example, I can clean my home and throw my garbage on the street.”

Williams et al. (2000) stated that “sustainable urban forms will only be achievable if they are underpinned by a policy background which commits to global sustainability goals, but leaves room for local formation and implementation of solutions.”

William et al. emphasizes on the government’s responsibility regarding this question. There needs to be a clear structured policy. Egypt has signed Agenda 21 and the Millennium goals and Agenda 30, which is a positive start for Egypt yet not enough. There is a need for more actions to be taken regarding the issue. Besides, there is concern on how public money is being used, and whether it is actually invested in developing sustainable policies or diverted somewhere else.

Ahmed 55, - “They get money from our electricity bills for garbage collection, but no one sees any kind of progress.”

Why is waste collection being charged on an electricity bill? Can one ask oneself, but there is no clear answer. Governmental policies matter but generally speaking, as long as citizens cannot see the importance of their own role in society, it is hard for them to work as a united team. On an individual level, people as citizens have a responsibility to be global citizens and take care of the environment that we live in and to strive for a sustainable development. Taking responsibility means that people should act accordingly in all issues they face. Among them, waste management is an issue for which they can help by recycling at home. Nevertheless, most Egyptians feel that when they separate garbage at
home, they are becoming unclean. They think in this way because of the image they see with garbage collectors in the streets. However, what they see in the streets is due to the fact that all garbage is dumped in the same plastic bag and that garbage collectors lack proper equipment (such as recycling bins) to handle the situation better. To contribute to a better image for garbage collectors, as well as for the country, enforcements such as recycling at home are necessary.

Ing 23, - “I don’t think that it is my responsibility to separate my garbage items at home. This is not my job. That’s my opinion. And I think the problem is from top down. If we had a recycling system, if we had signs to tell us where to throw items and what to do with our items, we would have a good recycling system. So there is a difference between the streets and at home.”

Ali 68, - “I am convinced that my house is my own property and I’m not obliged to do this. What I am obliged to do is to place my garbage in the garbage bin, and pass it on to the garbage man who has the responsibility of taking it to the recycling station. But since the street is not my own, it is natural that I try to keep the system that they have set for us. But at home I can place my garbage items in any particular way. I don’t have to follow any system. That’s all I’m saying, I’m not saying that I should throw my garbage on the street.”

Ing 23, - “Well, if there is a law that says I should separate my garbage items at home, then it’s a completely different story. They could place three different garbage bins for every item in front of the apartment door and if anyone wants to throw away anything, they can go outside the apartment and throw it. Every item in its own garbage basket.”

Ahmed 29, - “I think the problem is not about recycling, if people learn in the first place to throw the garbage in a basket, they will become accustomed to recycling. In Egypt, we don’t have enough garbage trucks to collect our garbage, we have too much garbage accumulated on the streets.”

The younger generations in Egypt, due to traveling abroad, have been exposed to different things and have a different awareness. They especially have a more positive attitude towards waste management and on what their role in society is.
6.2.1 Discussing the Attitudes to a Sustainable Recycling System

As previously mentioned, the Egyptian society has been through a lot of change and it has been occupied or at war for the longest part of its history. After having experienced difficult situations for generations, people are now enjoying more stability and their main priority is to make money and become richer. One of the best ways is to start their own business and certain young Egyptians are intending to set up recycling companies.

Ahmed 26 - “My cousins and I actually were thinking of making a factory for recycling.”

The Egyptian economy is also very dependent on the money that comes in through the Suez Canal and tourism. Without these two components, it would be affected very negatively. Tourism is a big source of income for cities like Sharm el Sheikh, Hurghada, El Gouna, etc. They attract a lot of national and foreign tourists who usually stay in compounds (gated areas), where hotels do their best to make their customers feel as comfortable as possible. It is therefore argued that the conditions tourists experience in holiday resorts are unrepresentative of the Egyptian living standards. Hotels will try to implement any developments from abroad, as a way to display an overly positive image to tourists.

Khaled 28, - “But as in this picture, it’s more commercial, just to show off.”

Attempts at recreating recycling systems can therefore be seen in hotels, as a way to make their foreign customers believe that Egypt meets the same standards of hygiene as abroad, and to minimize any cultural shock.

Mohamed Mohsen 23, - “But this you can find in Egypt… Like in touristic places, because they want the tourists to see that there are nice areas.”

Amr 24, - “I think these kinds of garbage boxes only exist in hotels or tourist resorts. But they certainly don’t exist in ordinary Egyptian streets.”

It is argued that hotels should first get appropriate knowledge on how recycling systems work before implementing them, rather than trying to copy them in order to show off with customers. This will ensure that systems are correctly applied. The picture used in the study shows a single red bin labeled with the word ‘paper’ in English. Discussions about this picture in the focus groups could be categorized in two sub-topics:
1) It was pointed out that this recycling system is limited for practical and linguistic reasons. Firstly, the bin stands on its own, although there should have been other bins to receive other materials. One can therefore assume that some users will ignore its purpose of separating waste. Secondly, the label is not meant to be read by speakers of Arabic only. It is targeting a limited group of potential users: Egyptians with a higher social status (who can usually speak English) and foreigners.

Ingy 23, - “You cannot possibly put only one garbage box and write ‘paper’ on it in English, without writing it in Arabic. Or without placing another box next to it and indicating what these two boxes are for. If I want to separate garbage, I should clearly indicate what each box is for, but if I want to have only one garbage box for all garbage items, then I should not try anything on it. And by the way, these kinds of garbage boxes already exist all around Egypt, in many places.”

Ingy 23, - “We don’t have garbage boxes on the streets in Egypt, so people end up throwing garbage on the street. If we had designated garbage bins with particular colors, people would become accustomed to throwing different garbage items into different boxes. But the problem is that we don’t have regular garbage boxes to begin with. So it is the problem of a non-existing system.”

However, there are districts in Cairo where attempts at reproducing a recycling system can be seen. These areas tend to have a large foreign population, and these bins could have been be placed there in order to minimize any cultural shock in terms of recycling awareness. Yet, as mentioned previously, such an image would be very uncommon in ordinary streets in Cairo.

Mohamed Mohsen 23, - “However, in an area like Zamalek, I have seen on the streets that the government has put up different garbage bins in various colors so that people can throw away their waste. But let’s keep in mind that the population in this area is mainly foreigners and they are used to this system.”

2) There is very limited knowledge or awareness on the benefits of having an efficient recycling system. This lack of knowledge affects the majority of the Egyptian population, including people owning powerful businesses or people in government.

Ingy 23, - “I just want to reassure you on the information regarding this photo, 90% of Egyptians don’t know what happens after the scene that we have in this picture.
This is one of the important things, if we had awareness on how our own society could benefit from delivering this garbage to its proper place, it would be good.”

Aya 24, - “There was a collective responsibility during the revolution almost 2 years ago now, that everyone went down and helped out in the process of cleaning their streets. But now, we cannot say that it is our responsibility. As a doctor I cannot be standing and cleaning the street because someone is not doing their job. That’s not my role in society, my role is to take care of what I throw.”

Khaled 28, - “But I am afraid the culture is still not here, like in the company where I work, and this is supposed to be educated people. The company bought different garbage bins but people still throw whatever they want wherever they want.”

6.2.2 Discussing Attitudes to the Zabaleen

‘Zabaleen’ has its root in the Arabic word ‘zebala’, which means ‘garbage’. Working with garbage makes someone become a ‘garbage man’, and they are literally seen as being part of the garbage. Most Egyptians are ashamed of the image that the Zabaleen give to the country as they roam the streets of Cairo, poorly dressed and driving donkey carts.

Ahmed 55, - “Oh, this is not in Cairo, no this does not exist.”

Some Egyptians would never invite someone working in the field of garbage to their homes. They have specific social standards, almost similar to the caste system in India.

Ahmed 55, - “I associate a garbage collector with someone in very bad clothes, he is not well-educated and his attitude is not of someone that you want to have a conversation with. That’s what I see.”

Ali 68, - “My opinion is that these people live in emptiness and they cannot find something to do so they’re trying to make use of the garbage, so they’re trying to make the best out of this garbage and collect the items that they can use. This way they can support themselves and make a living.”

Dahlia 22, - “The guy in the picture I feel very sorry for. It looks like he has a disease or something. This guy should be in school. I’m talking about every single thing in this picture. This guy should be at home, he should have access to education. And better clothes. The garbage is just everywhere.”
As previously mentioned, most people in the Egyptian society behold an attitude that they have to succeed, and by succeeding is often meant to get as much money as possible. However, many people fight hard every day in order to receive a necessary income to survive the day. A person working in the recycling field should therefore be looked at on the human level, not with disgust or arrogance.

Helmi 45, - “I see that this person is doing his job, he’s looking through garbage because this is his job.”

In addition, there are people who look at the Zabaleen and appreciate the work they do. They believe that the government should also be acknowledging their work on a local level and support them. But instead of this, the government is eliminating this local scale business, which is the most effective, and investing in foreign companies which they think will have the best solutions to clean the streets of Cairo.

Mohamed 27, - “The government, as they didn’t like the image of these people collecting garbage, they forbid them to go down with their donkeys to collect garbage and they invested in foreign companies, instead of giving them the right tools to work with or making them a part of their investments. These people that go around with their donkeys are actually the experts in the field.”

More and more people have started to work in collecting garbage. People living in extreme poverty have realized that some of the waste can be sold to several companies. Therefore, they only collect metals, cardboard or plastic to sell it to these companies. What happens as a result is that garbage collectors open the closed plastic bags from each household in the streets, they only take what they are looking for and they leave all the rest (such as organic waste) on the street. Many Egyptians strongly disapprove this way of collecting garbage.

Ahmed 26, “The Zabal would in this case be a thief for taking it, they would not know what to do with it. So for me the Zabal is a thief.”

Ella 23, - “No, no, no, they are not.”

Dahlia 22, - “He is not a thief guys, I mean there is no law that he is even breaking.”

Mohamed 27, - “The garbage waste belongs to no one. This is unwanted waste. If they want it why would they not be allowed to take it?”
Ahmed 26, - “The garbage belongs to Egypt, he is not allowed to take it and sell it abroad to make a profit. This is the law!”

Mohamed 27, - “Which law?”

Dahlia 22, - “Give them their human rights and then we can talk about cutting this profession.”

Nevertheless, there are other Egyptian citizens who are very supportive of the Zabaleen and recognize the importance of their profession. They want to give them a more neutral image.

Aya 24, - “When I hear the word ‘Zabal’, I think of a person that does something positive. I would prefer not calling him a Zabal, I would like to call him a ‘Ragel nedafa’. Because the word ‘Zabal’ is a very negative cliché. But what he does is something positive. If there is any rubbish, he cleans it up, so I would call him a ‘Ragel nedafa’.”

Mohsen 59, - “He does a service for us. So he deserves to have a nicer word to be described with.”

Aya 24, - “The word ‘Zabal’ in a social context is looked upon as something very negative. What he needs is a better social status in the society, to do an even greater job.”

Aya 24, - “I see this as a collective failure, even in us. We throw garbage outside and expect the Zabal to collect it anyhow. But what we should do is that we should think of how we throw the garbage in our households; in this case we would also prevent the Zabal from feeling disgusted picking up the garbage that we throw away. We should pack it differently and there should be a system that everyone should follow of how to wrap up garbage from each household. Why I am saying that it should be wrapped up tightly is because he is a human like all of us and he deserves to work in a clean environment even though he is dealing with garbage. He should not feel less worth or disgusted. All the illnesses that get spread through garbage come back to us, as we need to be more aware of how we throw things away, or it will come back to us.”
It is a matter of image, when Egyptians do not care about their looks and how they are dressed or keep themselves clean, they will be seen by other Egyptians as being of a lower status. Besides, the majority of the Zabaleen communities are Christian, and as Christians in Egypt, some of them raise and eat pigs. Pigs in Islam are seen as unclean animals that eat leftovers and garbage. Therefore, the attitude towards this minority group can sometimes be understood as a religious discrimination issue, as seen in the very negative way some Muslim Egyptians speak about them. The Zabaleen community has also grown and people in the waste business can be wealthy in terms of money. This is something that can irritate some Egyptians: “how can they be successful in such a dirty business?” is a question a lot of Egyptians ask themselves. Moreover, they do not understand how the Zabaleen can possibly have any ambitions in this field, and they cannot feel happy for them when they see their success.

Nawal 45, - “Here he dresses scruffy. I want to explain that he is not really part of society because of this particular reason.”

Ahmed 55, - “But not all garbage collectors are bad and dressed dirty, like the garbage collector that comes to this building every morning. The majority of them are Christians, and they collect the garbage mainly to feed their pigs.”

Amna 39, - “The Zabal that used to come to my building was studying medicine. They earn a lot of money. They are very rich people.”

6.3 Discussing the methodology

6.3.1 Sample and generalizability

Using focus groups that were of different ages, genders and statuses brought credibility into the study as to look at society from different angles. Moreover, having these differences but still selecting a homogeneous group in terms of nationality, religion and culture helped to look at the aspect of culture and tradition into attitudes to environmental issues. Attitudes are often connected to the previous knowledge and experiences that people carry. It is of importance to keep in mind that even though this study was carefully framed, it is not a representation of all Egyptian citizens but rather some of them. If the timeframe had been longer, it would have been possible to even change the focus to different areas within the city of Cairo, or within two different cities. On the other hand,
interviewing only pure homogeneous groups in all aspects such as religion, culture, gender and age would not have given the study the right representation. Therefore, this study is of relevance as to the mix of homogeneity and heterogeneity.

6.3.2 Reliability of the interview and analysis technique

A qualitative technique, as used in the study, gives a different outcome than a quantitative one. Some people would argue that it is more systematic and easier to organize quantitative methods as to the responses, however others would argue that the findings would be impersonal or even at times irrelevant, which could lead to a misleading message that would not bring the focus groups attitude or perspective to the surface.

To keep up with a qualitative technique, high attention from the interviewer both during and after the data collection is of great importance. To moderate in terms of side topic tracks opening up takes great attention and communication skills. These interviews could have been examined without using pictures, for example using instead the interviewees’ empathy on an actual scenario in the Egyptian society that they can have a positive or negative attitude towards. However, not using the pictures would have not given the study the great depth of attitudes that came up by choosing to use them.

Also affecting the reliability of the interview technique is whether the photographs influenced the stories and maneuvered them in a certain direction, or if they helped opening up for thoughts that may have been hidden otherwise.

6.4 Conclusion

It lies in the human nature to have responded to certain topics. Responding positively or responding negatively are all attitudes that are firstly based on knowledge of a certain topic. Using photographs that show a scenario that is related to the issue can make the findings of attitudes to a topic of greater depth. Someone’s opinion on a specific issue is rooted from his/her early childhood, from the setting or culture they grew up in. It can also form how they approach the concept of taking action.

There are both positive and negative attitudes towards the garbage collectors, the Zabaleen. The negative attitudes are mainly based on the image of the country and the Zabal itself. Nowadays, the Zabaleen, who have created an operating recycling system, are not well integrated in the Egyptian society. Ordinary Egyptian citizens do not generally agree on the
connotations related to waste collectors. Some compare them with very different situations abroad, some see them as thieves for only collecting certain garbage items and making a profit. For Egyptians, appearing as clean is very important, and when the Zabaleen roam around the streets of Cairo looking scruffy, and sort garbage with their bare hands, they necessarily lower their statuses as humans. They are therefore expected to be treated very poorly. Furthermore, the Zabaleen is known as being part of a Christian minority and since it is forbidden for Muslims to eat pigs, the question of raising pigs and feeding them will make them appear even less clean, especially as pigs are being fed with garbage. On the other hand, the younger generation in Egypt seems to understand better the importance of a garbage collector and does not care as much on what religion they belong too. They see it as a collective failure that a garbage collector is not being given basic human rights. Many want to discuss “how to make his status in society more positive and how he should be getting paid accordingly”, as stated by the interviewee Aya, 24 years old.

The general awareness on sustainable recycling systems is almost non-existent in all levels of the Egyptian society. However, all participants in the several focus groups in this study saw the importance of recycling. All agreed that effort needs to be made on a national and local level. With certain people frequently travelling abroad and a high number of tourists visiting Egypt, some attempts at copying foreign waste recycling systems are sometimes visible. However, there is a high contrast between, on one side, tourist resorts and residential districts which high population of foreigners, and on the other side, ordinary streets that make up most of the country’s urban reality. Environmental awareness seems to be a focus for certain high-level status groups only, and it is not yet reaching the entire population. To ensure that the entire population receives the same information regarding recycling, education is essential. For the future, an opportunity to address these questions in schools needs to be established to ensure that the United Nations Development Programme focusing on Sustainable development goal 4 “Quality Education” is being reached. This will give all Egyptians the chance to create and develop innovative and awareness raising projects that support environmental issues.

The role of a teacher of Geography and Environmental Sciences is to increase the students’ knowledge on development issues, social justice and different perspectives of solidarity. Conducting this study has increased my understanding of the above mentioned, as well as my knowledge on the complexity of attitudes to environmental issues and education quality, in the
context of a developing country which differs from the Swedish context. This will most likely be very useful in future classes.

Sustainable development is a global responsibility. It is every human’s responsibility to be aware of his or her role on Earth. When awareness has been rooted, knowledge has been formed in every individual’s mind. Moreover, when knowledge about sustainable development has been grasped, such as consumption behaviors as one example, actions can be taken by individuals, societies, nations and lastly globally.

“Waste is a concern that knows no race, no group area, no ethnicity, no language. No person chooses trash and pollution as the ideal living environment… We need to create the conditions for all citizens to be collectively and individually responsible for the state of environment.” (Rasool, 1993)

6.5 Future research

The topic of Egyptian citizens’ attitudes towards a sustainable recycling system and towards the minority group Zabaleen is one that demands further research. A wide array of approaches could be used to better understand attitudes of a specific nation such as Egypt. Methods, depending on the researcher’s perspective can be both quantitative and qualitative. All focus groups and background literature in this research can be used to conduct a whole new research. Exploring environmental awareness in national and international schools among students and teachers is a topic that could be of great importance as to motivate Egyptian citizens to act in eco-friendly behaviors. Furthermore, another research could explore the eco-friendly businesses that are rising on the entrepreneurial front and how Egyptians are perceiving them. Investigations could be carried out at the governmental level on how new sustainable waste management methods are being implemented. These researches will bring light on how the development of Egypt in pro-environmental issues is going. Finally, investigating a specific status group or different religious affiliations could also be found of interest as to look at the attitudes of a wider range of the Egyptian society.
Bibliography

Published and unpublished resources:


**Online resources:**


Appendix 1

Photograph 1

Photograph 2
Appendix 2

Questions asked to each focus group regarding the research topic:

What are the attitudes of the Egyptian citizen in Cairo towards a sustainable recycling system?

What do you see in this picture?

What comes to mind when you see this picture?

What would you like to change?

What attitudes are permanently held among Egyptians towards the waste collectors ‘Zabaleen’?

What do you see in this picture?

What comes to mind when you see this picture?

What does the word ‘Zabal’ mean to you?