The Plastic Bag Ban in Rwanda:
Local Procedures and Successful Outcomes

-   *A Case Study on how Rwanda Implemented a Nation-wide*

Ban on Plastic Bags

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Abstract

This paper studies the implementation process behind Rwanda's plastic bag ban introduced in 2008. More specifically, this study seeks to describe which policy instruments have been applied and how these have been combined. Further, other policy alternatives considered, but not chosen, are presented. Finally, the interaction between the most central actors involved, as well as the potential significance of contextual factors, is explored. This case study is based on 16 interviews - and a number of documents as a complimentary source - performed in Rwanda during a two-month field study.

In summary, Rwanda chose a large number of policy instruments, such as information campaigns, the promotion of environmental-friendly alternatives and penalties in the form of fines and imprisonment. The findings point to that a relatively repressive approach was applied. In terms of combinations of policy instruments, none of the two established ones presented in this study seem to well describe this implementation process. With regards to actors' involvement, the results indicate that the local industry did not have much input in this process. Other policy alternatives - such as recycling - were considered but in the end, contextual factors in terms of time and resources made the government decide on a nation-wide ban.

Yet, the findings of the study recognise that there are relevant gaps to fill in the implementation research, especially in terms of *explaining* which aspects may account for the final choices of policy tools, and which of these choices may generate successful outcomes, or in contrast, if the key to a greater understanding is to start by focusing on the specific context at hand.

Acknowledgements

Abbreviations

REMA = Rwanda Environmental Management Authority

MINIRENA = Ministry of Natural Resources

MINICOM = Ministry of Trade and Industry

EPU = Environmental Protection Unit

PSF = Private Sector Federation

NGO = Non-governmental organisation

UN = United Nations

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1. Introduction

Although environmental protection is highly relevant for today's low-income countries[1], research on environmental policy design for these types of countries has up till now been limited. Yet, environmental issues often restrict development, making low-income countries struggle even harder. Several researchers now call for more studies on how to implement environmental policy in those countries.

A low-income economy in which environmental protection has been on top of the agenda over the last decade is Rwanda - a country that has not yet completely recovered from the genocide in 1994, with almost 45 percent of its population living under what is commonly referred to as the poverty line (Höglund, 2015a). Similar to several other African countries, Rwanda has faced wide-spread problems of plastic bag pollution. In 2004, the government started to raise awareness about this issue, partially through a nation-wide campaign in the media. In 2008, a total ban of non-biodegradable plastic bags became reality (Kohls, 2011).

1.1 Background: Rwanda and the plastic bag ban

Rwanda has in many aspects been successful in re-building the country after the genocide. Höglund describes how Rwanda is commonly popular among the aid donors as the economy is well-managed, with low levels of corruption compared to many other countries in the region (Höglund, 2015b). What is more, the government has developed an ambitious plan on how the country is to become a middle-income economy in a few years time, known as the Vision 2020 (Sida, 2015).

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[1] 'Low-income country' (used interchangeably with 'low-income economy') is in this paper defined as those with a GNI per capita of $1,025 or less in 2015 (The World Bank).

Environmental protection has become one of the government's priorities and it is stated in the Rwandan Constitution that: 'Everyone has the right to live in a clean and healthy environment' (The Constitution of the Republic of Rwanda, 2015, Article 22). In 2008, Kigali - the capital of Rwanda - received one of the United Nations Human Settlement Programs (UN Habitat) Scroll of Honour Awards for its innovative way of having re-built the city into a modern, but above all clean and beautiful, capital. In the motivation to the award, the ban on plastic bags is mentioned as one of several important measures taken (UN Habitat).

Nonetheless, politically Rwanda has become more and more authoritarian during the last 15 years. The country is officially a democracy with a multi-party system but in reality, the opposition has a hard time gaining influence or even raising its voice. The freedom of speech and freedom of assembly are limited. The political climate in Rwanda is much dominated by the President and the ruling party, Rwanda Patriotic Front (RPF). One of the government's primary goals has been, and still is, to build up a national unity in order to delimit the risk of future genocide. However, the aim of national unity and lack of discrimination is often being used by the government as a way to prevent parties, associations and organisations to gather in meetings, although the Constitution allows a free party system. In terms of the judicial system, there is some political involvement, although the situation has changed through the strengthening of the legal system contra the political. What is more, in Rwanda, women are guaranteed at least 30 percent in the lower chamber of Parliament. As many women are also elected by popular vote, this has resulted in Rwanda being the country in the world with the highest share of women in the Parliament (Höglund, 2015b).

Rwanda functions as an interesting, and somewhat puzzling, case as the country despite wide-spread poverty has managed to introduce an ambitious environmental law that most high-income countries[2] are not even close to reaching. The law is strict in the sense that

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[2] 'High-income country' (used interchangeably with 'high-income economy') is in this paper defined as those with a GNI per capita of $12,476 or more in 2015 (The World Bank).

it prohibits all manufacturing, importation, use and sale of polythene bags (the ordinary type of plastic bag, commonly used for packaging of various products), hereafter referred to as 'plastic bags' (REMA, 2009, pp. 81-86). The government of Rwanda has applied numerous policy instruments in this innovative implementation process; information campaigns, economic means in the form of fines, as well as strict regulation in the form of imprisonment of up to one year. The law has proved itself to be efficient in many ways, partially by making Rwanda a cleaner country (Kardish, 2014; Dundas et al, 2013).

1.2 Objective

The aim of this study is to describe how Rwanda's plastic bag ban has been implemented. The study is designed as an intensive case study and it results in a few hypotheses towards the end which confirm the importance of continuing exploring the still – to some extent – undeveloped and contradicting theories that this study are based on. Thus, these hypotheses use what has been indicated – however, not proved – in this study and they are to be understood as suggestions for future research.

In order to achieve the aim of this study, a number of research questions are formulated, to facilitate the task of answering the more general question of how Rwanda's plastic bag ban has been implemented. These research questions are stated as follows:

- *Which policy instruments have been applied and how have they been combined?*
- *Which actors have been involved and how have they interacted?*
- *Which alternatives were considered but not chosen?*
- *Have contextual factors mattered?*

As further developed in the Prior research section, academic research on environmental policy design has generally been based on Western conditions and opportunities in the sense of it presupposing a certain level of development in terms of infrastructure, expertise and financial resources, among other things. Yet, environmental protection is increasingly important not only in high-income but also in low-income countries, of which many currently face a rapid

economic growth, putting severe pressure on the environment. As has been raised by several researchers, it is of great importance that environmental policy design – in academia as well as in reality – increasingly acknowledges the conditions that low-income countries face when it comes to introducing and implementing policies for pollution control. A number of researchers have called for more empirical studies, on policy design in general to develop the discourse, but also more specifically on environmental policy design for low-income economies as this is much unexplored as well as highly topical (see e.g. Howlett, 2005; Bernstein, 1991).

Rwanda's plastic bag ban has been mentioned in several scholarly articles on the policy implementation of reduction of plastic bags' consumption (see Sharp et al, 2010; Clapp and Swanston, 2009), but there does not seem to be any research specifically studying this case. Although Rwanda is one of few countries in the world that has introduced a complete, national ban on plastic bags, there is a lack of knowledge on how the policy has been implemented and how it functions in practice. Miller is one of several who call for future research on this (Miller, 2012, pp. 33, 36). Eight years have passed since the policy was introduced and full effects could now potentially be seen.

Rwanda's plastic bag ban could be understood as a unique empirical example in terms of being an ambitious, comprehensive environmental policy although the country itself still struggles on many areas, being a low-income economy. Furthermore, it could be perceived as a critical case, having applied soft combined with extremely hard environmental policy design, with an overall successful outcome. As will be further introduced in the Prior research section, environmental policy design today tends to be portrayed as soft and inclusive, which does not correspond to Rwanda's way of implementing the plastic bag ban, a further circumstance that makes it an interesting selection of case study.

Moreover, plastic waste management is on the agenda – in both low-income and high-income countries – as most cities grow and with that comes increasing amounts of waste and garbage. For this reason, it is of significance to study the few examples that currently exist of countries – Rwanda being one of them – that have taken serious measures in order to solve this issue.

To summarise, except for being an interesting case in an empirical sense as Rwanda's plastic bag ban is both unique and - at least from the outside - unexplored, learning more about the implementation strategy behind it could be understood as a contribution to the general discourse on policy instruments. More specifically, it is also a contribution to the important field of environmental policy design by adding an example of a low-income country that has succeeded in implementing a comprehensive waste management policy.

1.3 Delimitations

The first delimitation regards which kinds of policy instruments that is of relevance. Policy instruments can be of internal or external kind. Instruments of internal policies focus on the social conduct of different administrative levels within the public sector. They can be personnel policies, budget policies or organisational reform, to mention a few. Instruments of external policies, on the other hand, are directed towards the behaviour of citizens, being mechanisms of social influence in society (Bemelmans-Videc, 1998, pp. 3-4). Due to lack of time, as well as a lack of opportunities to gain insight in the course of events within the Rwandan bureaucracy, this paper focuses exclusively on the instruments of external policies.

Secondly, research on the harmful effects that plastic waste may cause often focus on two main branches: effects on the environment (including animals) and effects on human health. Therefore, in a long-term perspective, it can be assumed that the plastic bag ban in Rwanda has been beneficial for human health in the country. However, there seems to be neither any data nor any visible effects on how human health in the specific case of Rwanda has been potentially positively affected by the ban, which is why this paper primarily focuses on environmental effects.

2. Prior research

In order to answer the research questions formulated in the introductory section, this study will rely on several theories – which function as tools to answer the questions - about how policies are, and preferably should be, implemented. As the research questions are related to several different aspects of implementation research, this section includes the literature behind these aspects, divided into different sub-sections.

More specifically, this section presents theories on policy instrument selection and the potential importance – in the implementation of a policy – of the actors involved and the contextual factors (parts 2.1-2.3). The theoretical foundation for this study further draws upon prior research in the area of environmental policy design, an area in which there is a significant knowledge gap. Thus, a part focusing on environmental policy design (part 2.4) is also included. Lastly, the operationalisation which will be applied on the material collected is presented (part 2.5).

2.1 Implementation research: Policy instruments and how they can be combined

The research field of governance – sorted under the literature on comparative public policy – is the study of governments' specific actions or non-actions, the reasons behind these choices, and the effects of them. There are several more specific discourses within this research field, one of them being the discourse on policy instruments or policy tools (hereafter also referred to as 'policy design' and 'policy implementation'). The general aim of this discourse is to improve the understanding of how to design successful policies (Bemelmans-Videc, 1998, pp. 2-3).

When policies are to be implemented, specific combinations of policy instruments are generally applied. Policy instruments are in this paper defined as '…the set of techniques by which governmental authorities wield their power in attempting to ensure support and effect or prevent social change' (Vedung, 1998, p. 21). For policymakers, the choice of policy instruments in the implementation of a policy is vital for the desired outcome. These instruments can vary in terms of being promoting or restraining, and in terms

of being more or less coercive (Vedung, 1998, pp. 21-31). To concretise, with the relatively broad definition stated above, there are innumerable examples of policy instruments that governments can choose to apply in different situations. For instance, a small piece of unbiased information in a brochure or a folder distributed by the government is a policy instrument and a tax exemption for a certain kind of investment is another type of instrument. Negative sanctions in the form of fines or imprisonment are also policy instruments, although with a more repressive approach (Vedung, 1998).

Scholars have engaged in a long and still on-going debate about which combinations of policy instruments are the most preferable ones. There are diverse ideas about how different combinations of policy instruments can create legitimacy and effectiveness, something that is also of relevance for this study. Van der Doelen, one of the scholars who have been studying different ways of combining policy instruments, advocates a combination of stimulative and repressive ones, also called the *give-and-take strategy*, in order for the implementation of a policy to gain legitimacy among the population. He claims the effectiveness of a state intervention to be dependent on its legitimacy. Legitimacy is here understood broadly as the degree to which a certain policy is accepted by the citizens (Van der Doelen, 1998, pp. 129-135).

One alternative to the give-and-take strategy is the *three E's strategy*: Education, Engineering, and Enforcement. This strategy implies increasing degrees of coercion, the idea behind it being to gradually reduce the resistance of the groups of citizens that are against a specific policy. However, van der Doelen argues that a balance between effectiveness and legitimacy is needed; authoritative orders and prohibitions may seem effective in theory, but often prove to be unsuccessful in practice due to the resistance that these kinds of regulations commonly meet from individuals and the industry (van der Doelen, 1998, pp. 129-135). Bemelmans-Videc and Vedung also question the rationale behind applying policy instruments in the specific order of increasing coercion. They claim that the prevalence of this suggested pattern is uncertain and that more research on the adoption of policy tools is needed (Bemelmans-Videc and Vedung, 1998, p. 264).

To sum up, among academic researchers, there are several different views on how policy instruments should be applied and combined in order to produce the most ideal

outcome. Thus, in line with Bemelmans-Videc and Vedung, I argue that more research on this topic is needed.

2.2 The potential importance of the actors involved and how they interact

Several implementation researchers study how the characteristics of the central actors involved in specific implementation processes may influence the selection of policy instruments. One of them is Macdonald who suggests that the interaction between different actors in the policy network[3] of interest - in particular the interaction between the state actors and the societal actors involved - may account for the selection of instruments in a specific implementation process (Macdonald, 2001). Macdonald argues – using different cases of environmental policy design as examples - that we should seek to understand the balance of power between the state and the polluter. The varying balance of relative power between these two main actors in different cases can help us understand why some implementation processes involve more coercive instruments and why others do not (Macdonald, 2001, p. 163). This theory is highly relevant for Rwanda's plastic bag ban as this similarly involves two main actors: the state – seeking to decrease and control pollution – and the polluter, who is asked to adjust his/her behaviour.

More specifically, Macdonald suggests that the varying degree of coerciveness applied by different governments in various cases has its explanation in each government's *ability to coerce* in each specific situation, something highly dependent on the balance of power in the policy network in which it finds itself (Macdonald, 2001, p. 181). The author has chosen to look at three so-called sets that are assumed to affect relative power: 1) *Actors' characteristics* in terms of resources, organisation, and motivation, 2) *Ideas* in terms of scientific knowledge, technical knowledge, and state legitimacy, and 3) *Institutional context*

[3] 'Network' is in this paper defined as 'informal rules governing interactions between the state and organised interests' (Kjær, 2004, p. 16).

(Macdonald, 2001, pp. 167-168). However, Macdonald emphasises that his work does not provide a complete analysis and he calls for more studies on how policy networks may influence choices of policy instruments (Macdonald, 2001, pp. 184-185).

Similarly, Bressers and O'Toole connect the concepts of policy networks and policy instrument selection, two concepts that commonly have been treated separately by academia. The article focuses on how the characteristics of the network of actors involved may influence the selection of policy instruments (Bressers and O'Toole, 1998, pp. 213-214). The authors draw the fairly careful conclusion that looking at the social setting - in the aim of finding optimal implementation processes - may be more useful than solely focusing on the policy instruments. Yet, in line with Macdonald (2001), Bressers and O'Toole insist on more research being needed on this topic (Bressers and O'Toole, 1998, pp. 236-237).

The idea of actors' influence is repeated by Clapp and Swanston, although with less of a general approach as they specifically discuss the anti-plastic bag norm that is increasingly spread across the world. They discuss how come the translation of this norm into concrete policies has largely differed between different countries (some have introduced bans, whereas others only have introduced voluntary measures). According to the authors, industrial actors have been of significance in this case. It is suggested that in states with a weak plastic industry, plastic bag legislation tends to become strong - in other words coercive - for example in the form of bans. In states with a strong industry on the other hand, plastic bag legislation tends instead to become weak – or less coercive, for instance in the form of taxes or voluntary measures - as industrial actors then have enough influence to hinder strong legislations (Clapp and Swanston, 2009, pp. 323-324).

In summary, Macdonald (2001), as well as Bressers and O'Toole (1998) – referred to above, suggests that the actors' characteristics – especially in terms of relative power to the other actor(s) in a specific policy network – may influence which policy tools the government choose to apply. Yet, these researchers emphasise that more studies are needed to increase the knowledge on this relatively unexplored topic.

2.3 The potential importance of contextual factors

Several authors within the discourse of policy design argue that optimal policy instrument choices may never be found and standardised as their potential to succeed is heavily dependent on factors like timing and context (see e.g. Rist, 1998). Consequently, many researchers have recognised context as an important determinant for whether a specific reform functions well or not in a specific country. Yet, to define and understand what context really is about is challenging as the concept of context could entail several things; constitutions, culture, political systems, etc. taking place at many different contextual levels; local, regional, national, and global. The definitions and typologies of context as a term are innumerable. To narrow the concept down to something possible to analyse, Pollitt suggests context to be thought of as 'a missing link'. In other words, context is something that can help us understand why the same policy ends up with completely different results in one state compared to another (Pollitt, 2013, Preface).

Virtanen distinguishes between 'conceptual context' and 'factual context' in public administration. *Conceptual context* has its roots in ideas of epistemological and methodological contextualism, being about frameworks, theories and models, but also about approaches and methods. *Factual context*, on the other hand, is about entities or dimensions of social reality such as place (the question of where: countries, public organisations, levels of administration – local, regional, national, etc.), time (the question of when), actors (the question of who: public managers, officials, politicians, etc.), and substances (the question of what: different sectors of public administration – environment, health care, education and so on or the nature of tasks within these different sectors). On the question of which kind of definition or understanding of context one should apply for analysis in different situations, there is no clear-cut answer (Virtanen, 2013, pp. 8-13). Fox suggests a pragmatic approach to this challenge; let the goal of analysis decide which parts of the wide concept of context to include. This could be done by simply asking which features of context should be present to be able to describe a course of events in a good manner (Fox, 2008).

Howlett calls for increased knowledge on the potential significance of context in the selection of policy instruments. In order to achieve this, more empirical research is

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required for scholars to test their ideas and develop their ability to advise policymakers on tool selection (Howlett, 2005, p. 33). I believe this to further motivate the inclusion of contextual factors in my study, even if there seems to be some ambiguity in the research community regarding how the concept of context should be defined and understood.

2.4 Environmental policy design

A more specific research area within the implementation research that receives more and more attention is the one of environmental policy design. (Within the implementation research, there are more general areas such as policy instruments combinations and actors' involvement – as described in previous sub-sections – but there are also more specific areas, such as environmental policy design which specifically focuses on how to implement environmental policy).

Gunningham discusses how governments have had a hard time implementing environmental regulations due to considerable pressure from the industry related to their desire to stay globally competitive. In response to this, non-governmental organisations (NGO:s) have been increasingly active in lobbying and shaping public opinion, as well as in putting pressure on the industry, something that has resulted in new kinds of partnerships between NGO:s and the industry (Gunningham, 2005).

Furthermore, the so-called new environmental policy instruments (NEPI) – often based on voluntarism, for example eco-labels informing customers on the environmental impact of a purchase by moral suasion - are modern forms of carrying out environmental policies where regulation was for long the only instrument (Jordan et al, 2005). Thus, environmental policy design of today supposedly has an inclusive and non-coercive approach. However, in the case of Rwanda's plastic bag ban, the opposite seems to be true, a fact that again makes it an interesting case.

Some scholars call for an even more evidence-based as well as risk-informed knowledge on policy design. Taylor, together with other scholars, argues that to achieve this within the important area of environmental policy design, more ethnographic studies are required in order to get away from the bad habit of using standard approaches for specific

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sectors on different kinds of problems (Taylor et al, 2012). In this sense, this study on Rwanda's ban on plastic bags makes an important contribution in terms of being a new type of case in a discourse in which more empirics are needed.

A large share of the academic research on environmental policy design analyses it from a Western perspective, taking a relatively high level of development for granted when presenting advice on the most preferable strategy to apply. However, with the increasing influence of environmental policy design, the research community has started to raise the question of how – if at all – policy instruments for environmental protection in low-income countries should learn from the experiences of these instruments applied in high-income countries. Yet, academic literature within environmental policy design having the perspective of low-income economies is still conspicuous by its absence.

One of few exceptions is the work 'Policy instruments for pollution control in developing countries', by Eskeland and Jimenez who try to take into account the different economic conditions that less developed countries – compared to more developed countries – encounter. More specifically, they point out that the basic conditions taken for granted in the more developed countries, such as competitive markets and full information, generally not function in the same way or to the same extent in countries that are less developed. The authors argue that for this reason, government interventions commonly recommended for highly developed countries may not be as applicable on less developed countries (Eskeland and Jimenez, 1992). Likewise, Bell and Russell discuss how less developed countries – due to limitations in both resources and expertise - may not be ready for the many times sophisticated, market-based environmental policy instruments that the international development banks often encourage them to introduce (Bell and Russell, 2002).

Turnbull – referring to the Fiji Islands as an example – claims that development assistance agencies many times have been too quick on criticising less developed countries for lacking in capacity and well-functioning institutions when it comes to environmental policy design. Instead, socio-political as well as economic conditions - often being dependent on the level of development - are highly significant for the initial choices made within national environmental management. Therefore, these conditions should be taken into consideration early in the choice of policy design (Turnbull, 2004).

Bernstein aims at giving an overview of the policy instruments most commonly applied in more developed and less developed countries to protect the environment. One of the conclusions drawn is that further research on environmental policy design, and especially on what works in less developed countries, is needed (Bernstein, 1991). This is again one of the most important arguments for my study as it makes a contribution to a part of academic research that is still relatively unexplored. The question of what works well in less developed countries - regardless of what works in the more developed ones – has simply not been much explored in academic research, a fact that largely motivates this type of intensive case study in a low-income country such as Rwanda.

Moreover, what is unique for the so-called anti-plastic bag norm and the policies following is the fact that it saw its birth in some low-income countries of the global South, to gradually spread to the North. More specifically, the anti-plastic bag policies emerged simultaneously in several less developed countries, heavily due to – as well as adapted to - local and regional concerns. This has taken the unusual form of ad hoc bottom-up initiatives instead of the more common coordinated, networked international campaigns. However, the policy instruments applied have largely differed between different countries (Clapp and Swanston, 2009, pp. 318-322). This form of ad hoc bottom up initiatives is also highly relevant in the case of Rwanda since the country much formulated and developed the policy of interest based on own ideas and national conditions, something that will be further developed in the following sections.

To conclude, the discourse on environmental policy design – although being a highly relevant topic – entails knowledge gaps important to fill, especially in terms of how low-income countries should implement policies for environmental protection.

2.5 Theoretical and operational definitions

As described in sub-section 2.1, policy instruments can be categorised into numerous classifications or typologies as they can vary in terms of being more or less coercive, but also in terms of being either stimulative or repressive. One of the more common ones is the threefold typology with the categories of information, economic means, and regulations.
This typology is based on the degree of power or authoritative force applied, in which information is seen as the least coercive way of steering, whereas regulations are seen as the most coercive one (Vedung, 1998).

Van der Doelen suggests a refinement of this three-fold typology based on the degree of power as he argues that this way of categorising ignores the fact that each of the three categories may include stimulative as well as repressive elements depending on to which degree the individual is *free to choose* a specific policy tool, or to what extent this is more or less forced upon the individual. An example of this is a government's application of propaganda; a rather coercive way of trying to change someone's behaviour through undermining the individual's ability to make a well-informed choice based on his or her own thoughts and values. Information, on the other hand, could be a genuine will – from the government's side – to solely raise the knowledge of an individual and thereby strengthen his or her capacity to make an independent, well-informed choice. According to the three-fold typology based on the degree of force used, information and propaganda would however end up in the same 'soft' category of information. The same principle goes for the category of economic means; even if individuals are free to choose their own behaviour, meaning whether or not to follow a certain course of conduct, it is in fact not completely optional as there is a risk of losing money from e.g. a levy, which is repressive (rather than stimulative) in itself. In contrast, a subsidy is stimulative as this can be applied for, but the individual can also choose not to apply. For the category of regulations, orders and prohibitions are repressive as there is no space for voluntarism for individuals. Contracts, on the other hand, are in fact optional and thereby stimulative policy tools, as these instead are based on reciprocity (van der Doelen, 1998, pp. 132-134).

Due to the great variety among policy instruments within each category – in terms of freedom of choice - van der Doelen argues that each category should be divided into two - a stimulative and a repressive form. This argument is also what van der Doelen's *give-and-take strategy* (introduced in part 2.1) - in which stimulative instruments are considered to legitimise a policy whereas repressive ones effectuate it - is based upon (van der Doelen, 1998, pp. 132-134).

Similarly, Macdonald – with a focus on coerciveness with regards to policy tools – questions several researchers' habit of using the degree of coerciveness for categorising policy instruments. Macdonald claims that there can be a lot of variety within each instrument category. One example is the category of economic means since an affirmative – or in other words stimulative - financial incentive, such as a tax reduction on a purchase of a specific product, is not coercive as the citizen can choose whether or not to buy the product, whereas a negative financial incentive in the form of a fine in fact is (Macdonald, 2001, p. 168).

The choice between stimulative and repressive instruments seems to be most relevant in the study of the implementation process behind Rwanda's plastic bag ban. This is due to that all three categories of information, economic means and regulation have – in this case - involved mainly repressive instruments, which should be emphasised in order to provide an accurate description of this implementation process. *Stimulative policy instruments* are, theoretically defined, optional for individuals to use. *Repressive policy instruments*, on the other hand, do not include individuals' freedom of choice (van der Doelen, 1998, pp. 132-134).

To be able to sort the policy instruments used into either stimulative or repressive ones, it must be determined how these two concepts should be measured, or in other words operationalised. From van der Doelen's reasoning about these concepts and how they differ from one another, he suggests stimulative policy instruments to be thought of as instruments that encourage citizens to change behaviour by own choice, such as *information* (for the category of information), *subsidies* (for the category of economic means), and *contracts/covenants* (for the category of regulations). Repressive instruments, on the other hand, are thought of as instruments that push or force citizens to change behaviour. With

regards to policy instruments, these are *propaganda* (for the category of information), *levies* (for the category of economic means), and *orders/prohibitions* (for the category of regulations) (van der Doelen, 1998, pp. 132-134). This operationalisation can be summarised in the form of a table, originally from van der Doelen who uses this one to clarify his argument.

Table 1. Policy instruments categorised into stimulative or repressive

	Stimulative	Repressive
Information	Information	Propaganda
Economic means	Subsidy	Levy
Regulations	Contract/covenant	Order/Prohibition

(van der Doelen, 1998, p. 133)

As the discourse on policy instruments is the one most developed and established of the ones presented in this literature section, I have decided to focus my operationalisation to this part of the implementation research. Placing the applied policy instruments into either stimulative or repressive, while at the same time dividing them into the categories of information, economic means and regulations, is especially useful for the later discussion about policy instruments combinations, or more specifically the *three E's strategy* and the *give-and-take strategy*, (as these two are based on increasing degrees of coercion, and the balance of effectiveness and legitimacy). In other words, the operationalisation will primarily contribute in answering the research question regarding the combinations of policy instruments. However, dividing the applied policy tools into stimulative or repressive (rather than simply listing them) also gives an additional, interesting dimension in the answering of the overall question for this paper – how Rwanda implemented the plastic bag ban.

The aspects of actors' involvement and contextual factors are not operationalised since both of them are relatively undeveloped as theories, as has been mentioned in their respective presentation (sub-sections 2.2. and 2.3), a fact that makes it difficult to produce fruitful operationalisations. Therefore, I will instead basically describe the interaction between the actors involved in the implementation process, as well as whether contextual factors mattered in this process, with the hope of being able to provide some ideas for future research, as there seems to be much potential for increased knowledge.

To sum up, policy instruments have in this section been defined, and theories about how these can be applied in different combinations have been presented. Also, the significance of the actors involved, as well as the concept of context, has been discussed. A part specifically focusing on environmental policy design – which further motivates the study's potential to fill a theoretical gap – is also included. Lastly, the operationalisation has been presented. The theories described in this section will be used as a base for the Case study section, in which these are applied on the material collected.

3. Methods

In order to achieve the aim of this study, I will apply the theories previously introduced on the material collected, something that will be presented in the next-coming section. This section serves as an introduction to the Case study section that follows, as methodological choices - as well as difficulties associated with the performance of the study – are here presented. More specifically, the research design is described (part 3.1), the case selection is motivated (part 3.2), the processes of data collection and interviewing are presented (part 3.3), ethical considerations are made (part 3.4), and finally, it is discussed to what extent the study succeeds in providing an accurate description of the course of events (part 3.5).

3.1 Research design

As mentioned in the introductory section, the aim of this study is to intensively investigate how Rwanda implemented its ban on plastic bags, introduced in 2008. More specifically, the study seeks to find out which policy tools were applied, how these were combined, as well as which actors were involved, which other alternatives were considered, and if any contextual factors mattered.

For this reason, the paper has a descriptive approach, aiming at closely describing the implementation process. Three general hypotheses are presented towards the end. Based on indications from the results of this study, these hypotheses should mainly be understood as suggestions and potential topics for future research. There are also normative questions of relevance, especially in terms of democracy and legitimacy, which is why this is touched upon in the conclusive section. However, the paper does not aim at drawing any normative conclusions as it primarily has a descriptive approach, with some further thoughts and suggestions proved relevant for the case studied.

In order to gain the knowledge required to answer my research questions, I conducted a number of qualitative semi-structured interviews with open-ended questions. I chose this format to give my interviewees the opportunity to develop their answers according to their own views, memories and experiences, which I found preferable to structured

interviews, a format which would risk being influenced by my own potentially biased or incorrect ideas of the course of events.

3.2 Case study selection

Rwanda was one of the first countries in the world to introduce a comprehensive ban on plastic bags. Eight years have now passed, making potential effects discernable, and Rwanda an interesting case for this type of study. As mentioned in the introductory section, the case in itself is highly fascinating as there is a real puzzle; Rwanda is a low-income country, struggling to feed its population but still highly progressive when it comes to environmental politics. Also, Rwanda has much ignored dominant Western academic ideas on how to implement environmental policy, and has succeeded in the sense that the plastic bag ban has generated the desired results. Thus, Rwanda could be perceived as a critical case, or in other words a unique case, which makes it interesting as a study object.

In addition, as mentioned in the introductory section, Rwanda's plastic bag ban has not been extensively studied, despite having received worldwide attention. At the same time, academia is demanding more empirical studies in order to continue developing theories on policy implementation in general, and environmental policy design in particular. The management of waste and non-biodegradable plastics is high on the agenda, and both high-income and low-income countries - some in the same region as Rwanda - are currently discussing how to decrease the usage of these bags. For this reason, Rwanda is interesting as a predecessor, being among the first countries to realise such a ban, as well as among the first to solve the serious problem of plastic bag littering. Thus, Rwanda could in many ways be perceived as a role model for other countries aiming at restraining or eliminating plastic bag usage. Yet, Rwanda's plastic bag ban as a source of inspiration is supposedly most relevant for the countries in the same region, as these largely face the same challenges and conditions as Rwanda.

Although a highly interesting and relevant case, the selection of Rwanda does bring some challenges. These are largely connected to Rwanda's politically authoritarian features, which were described in the introductory section, with limited political rights and

freedom of speech. The political climate has naturally posed some difficulties, in terms of data gathering as well as in the process of drawing trustworthy conclusions, which will be further discussed under the following sub-headings.

3.3 Material

3.3.1 Data gathering

The material that this study relies on is based on a two-month field study in Kigali, conducted between mid-August and mid-October 2016. In total, 16 interviews were performed. I have also received numerous documents from people that I have interviewed, and some have been found online. Journal articles and press releases have occasionally been added as a complement to the other sources. The access to a variety of sources has made it possible for me to triangulate the information collected. This has been important given the difficulties related to the occasional uncertainty surrounding the reliability – and hence, scientific value – of the sources, as will be discussed below.

Apart from the official data collection mentioned above, some informal meetings also took place, mostly with representatives from the private sector who preferred these settings rather than official interviews. In these meetings, my understandings were either confirmed or slightly changed, and new ideas about aspects to include in coming interviews came forward. In addition, I have during my two months in Rwanda been attentive to the presence, collection and control of plastic bags, in shops and streets in Kigali, as well as at the airport and at borders to neighbouring countries, the latter being something I was recommended to visit by one of my respondents in order to see the effect of the ban. These meetings and observations are not included in the Case study section as I did not obtain permission to do so from the persons in the meetings. In terms of the observations, these are not systematically made but rather based on selected memories and experiences that I have had. Yet, I believe that these observations to some extent strengthen and confirm the knowledge gained from interviews and documents, as they largely corresponded to this information.

My data gathering has mostly been selective, something that was necessary with regards to the research questions and the descriptive approach of the study. It was primarily those working within this policy area that had enough knowledge to answer my questions. For this reason, I have contacted relevant ministries and agencies in Rwanda – as well as representatives of the private sector potentially affected by the ban on plastic bags, such as the Chamber of Industry – in order to obtain interviews. I have much relied on Snowball sampling as a sampling method, meaning that I was at several occasions directed to an interview person by a previous respondent (Teorell and Svensson, 2007, pp. 86-87), something that occurred both through professional and private contacts between the interviewees.

Although selectively chosen interviewees and the Snowball sampling risk creating biased material, I nonetheless believe that I have been able to present a relatively accurate portrait of the process and its following effects, given that I have interviewed many different persons with varied interests and experiences from the ban. In addition, the political climate in Rwanda discussed above contributed to the fact that many persons were hesitant to be interviewed or share documents, even when I showed them my Research Clearance. (A Research Clearance is, in most cases, mandatory to be allowed to perform research in Rwanda - these are provided by the Rwandan Ministry of Education after having been approved in their application process). Some seemed anxious about being interviewed, whereas others mostly seemed sceptical. I also perceived several civil servants that I contacted as very busy due to heavy workloads. For these reasons, I had to adapt to the circumstances and make the best out of the material I was able to collect, although even more interviews would have been ideal for the drawing of conclusions.

3.3.2 Interviews and validity

I consider the interviews performed to be a good measurement of how Rwanda's plastic bag ban was implemented, and which effects the policy has generated. In other words, I believe the validity of the study to be relatively high. It is clear from the interview records that my interviewees and I understood each other well.

However, more problematic could be Rwanda's political context, which implies a risk that both the civil servants and the entrepreneurs interviewed may have understated the authoritarian elements in the implementation process, as well as the negative effects that the policy may have generated. This suggestion was strengthened by the fact that several interviewees preferred to be anonymous, did not wish to be recorded, and felt more uncomfortable discussing alternatives to the policy chosen by the government than answering other questions. A couple of interviewees hardly seemed to understand the question about potential alternatives to a ban, and I perceived it not only as discomfort, but also as a general unfamiliarity with discussing political alternatives. However, as my study does not focus on attitudes toward the plastic bag ban, but rather aims at describing the implementation process, I do not believe this to be a sufficient reason to question the validity of the study in general, as long as one takes Rwanda's political climate into account, as well as how this may affect citizens' willingness to speak freely.

The same reasoning can be relevant for the operationalisation developed. More specifically, there is a risk that policy tools which seem to be stimulative – as, for instance, government recommendations - are in fact not, or at least not perceived as stimulative (in other words, optional) from the Rwandan citizens' point of view. However, I think my study shows that within the implementation process of the plastic bag ban, the degree of authoritative force employed varies greatly among the different tools applied, something I assume that the citizens also apprehend, despite living in a political context that is relatively authoritarian.

The majority of interviews were performed in English, and although neither I nor my interviewees are native English speakers, we had no trouble understanding each other. In Rwanda, English is the second most widely spoken language after the local language Kinyarwanda. All civil servants, as well as the majority of entrepreneurs, spoke English well, and seemed used to speak English in professional situations. Two of the entrepreneurs interviewed were more comfortable speaking French than English (French is the third most important language in the country). Therefore, I held these two interviews in French even though I am less fluent in French than in English. To ensure that we understood each other, I

used many more follow-up questions than usual, and repeated a lot of the answers to make sure that I had understood them correctly.

In order to gain a comprehensive picture, I have asked questions about the implementation process of the plastic bag ban from the stage of agenda setting until the stage of policy evaluation. In the interviews with private sector representatives, the focus has been on their experience of the process, especially regarding their opportunities to influence the policy formulation, and the effects that the policy has had for their businesses.

Particularly one of the interviewees, the Rwanda Environmental Management Authority (REMA) representative - Respondent 1 - will be referred to more frequently than the others in the coming Case study section. This is again due to the limited number of persons able to describe in detail how the implementation process of the plastic bag ban occurred. For this purpose, the REMA representatives could be seen as most knowledgeable as they were responsible for the implementation. The ministry representatives – Respondent 2 and 3 – are also referred to multiple times in the study. This is for the very same reason; these representatives are in fact able to describe the process in more detail than the average Rwandan. Yet, the interviews less (or not at all) referred to were still helpful in giving me a greater understanding and new perspectives on the topic.

3.4 Ethical considerations

As a relatively young, fair-skinned woman from Sweden, my own position and attributes may have affected how I was perceived by the interview persons, and consequently, the answers they were able or willing to give. As mentioned above, some persons I asked to interview responded with anxiety and disbelief. Although I made sure to begin each interview with an open-minded approach in order to communicate that I was there to learn rather than to evaluate and criticise, I had the impression that this did not entirely convince the interviewees, in some interviews more than others. Among other things, Rwanda has often been questioned by Western journalists and researchers for the lack of democratic processes. I believe this may have caused a certain level of scepticism and hesitation towards Westerners who reside Rwanda while trying to get insight into internal affairs. In several interviews, the respondents

emphasised the importance of Rwanda following its own ideas about what is best for Rwanda, and how highly successful this has proved. For this reason, I decided to include this aspect in the analysis, referred to as contextual factors.

3.5 Critical discussion of sources

In describing a course of events, there is often a difficulty in determining the extent to which the collected data can be trusted as accurate and unbiased. For this reason, five critical criteria will be used as guidance in judging the usefulness of my sources in terms of describing the case studied. These criteria are the following: *Authenticity* (is the source authentic and not counterfeit in any way?)*, Concurrency* (how much time has passed since the course of events?)*, Central agency* (is – or was - the source central enough to the course of events to give an accurate picture?)*, Trend* (is there a risk that the source will emphasise some parts of the course of events whereas other parts are left out, creating a biased description?)*,* and *Independence* (are there a number of signs that point to the same thing, or is there in reality only one source of origin?) (Teorell and Svensson, 2007, pp. 104-106).

Regarding *authenticity,* a political context such as the Rwandese, with certain authoritarian features and limited freedom of the press, generally makes it harder to verify the authenticity of the collected material, such as official documents of various kinds. However, most of the material in this study consists of interviews. Since documents and journal articles are rather used as complimentary sources, I do not believe fabricated sources to be a major issue for this study.

In terms of *concurrency*, the eight years that have passed naturally generate some difficulties, as neither the government representatives nor the private sector representatives remember the details at all times. Yet, my impression was that my sources were largely certain of their answers. In addition, performing this type of study without a certain lapse of time in between could instead lose out in terms of the studying of effects.

The majority of interviewees – representatives for ministries and agencies, as well as industrial actors - were present when the law was introduced. Thus, when it comes to *central agency*, this is achieved by both parts, although the government representatives could

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be thought of as closer to the course of events, as the civil servants were working directly with the implementation of the ban. The private sector representatives, while not as close to the process, were still significantly affected by it.

With regards to *trend,* there is certainly a risk that government representatives will have tried to paint a rosier picture of the implementation and the results of the policy than what was actually the case. However, the same principle goes for the industrial representatives, as it could be in their interest to describe the obstacles generated by the ban as more severe than in practice. Yet despite some disagreements, especially with regards to how much stakeholder consultation occurred prior to the ban, the representatives of the government and the representatives of industry generally tell the same story; the ban has proved to be successful, and while the industry has suffered - initially causing some resistance - much of this has now turned into support, or at least acceptance, of the ban.

This is closely connected to the criteria of *independence,* as it is unlikely that the government representatives and the private sector representatives (which can be viewed as two competing actors in this case) in reality derive their stories from the same source of origin, even if much of their respective information correspond.

4. The case study

In this section, the operationalisation presented in the Prior research section (see sub-section 2.5), is applied on the material consisting of interview responses, official documents, press releases and a journal article. To begin with, the outcome of the policy is presented (part 4.1), followed by another part which presents the background to the introduction of the policy (part 4.2). These two parts do not directly answer any of my research questions but they do contribute in providing a more comprehensive and interesting description of the process around the implementation of Rwanda's plastic bag ban. I consider this useful in order to gain a deeper understanding of Rwanda's situation and the challenges that the country faced at the time of interest. After these two parts, the research questions of the study are reviewed, one by one (parts 4.3-4.6). The section ends with a summary of the results and the presentation of three hypotheses followed by a short discussion explaining the logic behind them (part 4.7).

The material used is presented in the form of citing quotes and in my own words. A list of respondents and the interview questionnaire are found as Appendices.

4.1 Outcome of policy

Although mapping out the results of the policy is not the primary aim of this study, I had the opportunity to take part of several of the outcomes that the ban on plastic bags has generated, from interviews as well as documents. Eight years have now passed since the introduction of the ban and therefore, the discussion in Rwanda is naturally much centred on the results that have followed the ban. This sub-section will describe the outcome of the policy from two different points of view: Results in terms of plastic bag management (4.1.1) and Other results (4.1.2).

Rwanda's plastic bag ban has many times been internationally portrayed as a success story, as was described in the introductory section. However, much of this commendation has taken the form of either awards or shorter news stories. Therefore, this section becomes a contribution as it is one of few academic – as well as more extensive -

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studies on the effects of the ban. Also, the second aspect, here referred to as Other results, takes one step further as it - instead of just describing the concrete result in terms of plastic bag management - discusses how the policy has affected Rwandan industry and to what extent the policy has gained public acceptance. As mentioned in the Prior research section, public acceptance, or the legitimacy of a policy, could be of significance for the final result. The aim of this paper is neither to describe nor to explain to what extent the policy is perceived as legitimate. However, as this aspect became an important part of the interviews, the second part of this sub-section will present the indications that my interviews gave me regarding this (with a focus on industrial actors rather than ordinary citizens, as the former are the ones directly affected by the ban).

4.1.1 Results in terms of plastic bag management

When it comes to evaluating how the policy functions today, the answer from REMA is that it largely works according to the government's initial expectations; streets are clean and the difference is highly visible. The main changes mentioned are cleanliness, healthier cattle and clean waterways. Furthermore, Kigali is often described as being the cleanest city in Africa and delegations from other countries have visited to learn how Rwanda realised the ban on plastic bags (Respondent 1). The success is also mentioned in an assessment study about plastics in Kigali, in which it is stated that the polythene plastics found today are mainly in known sectors, sheeting and tubing for instance. Although a high demand for improvement, there is now also recycling technology in function in Kigali, something that further decreases shopping bags litter in the streets (Mugabo and Uwamahoro, 2011, p. 62).

However, REMA admits that the full potential of the policy is not yet reached, there is still a black market and there are those being arrested by the police for possessing and/or selling the forbidden bags. For this reason, REMA continues sensitisation and inspections. On the question of if the ban has generated any unexpected outcomes, the answer from REMA is that it at large has not; there was some resistance in the beginning - mainly from the plastic manufacturers - but this was expected. The policy has also met resistance

from bakeries, of which some still use them and are occasionally arrested by the police for this (Respondent 1).

Yet, in a talk with the Director of the Environmental Protection Unit (EPU) of the Rwandan National Police, of whom I was directed to from REMA, I am told that as people now are more aware of the law and the reasons behind it, the plastic bag possession and/or trading as environmental crime is almost a non-existing issue today. The plastic bag ban was challenging in the beginning as plastic bags were in peoples' daily life. However, today the black market of plastic bags is relatively small and it is not one of the priorities for the work of EPU. There is no statistics available on how many fines and imprisonments that have been issued for manufacturing, possessing, and/or selling plastic bags, but the EPU claims that these are not commonly investigated crimes anymore, only around one case a year (Respondent 5).

4.1.2 Other results: Effects for the industry and acceptance of the policy

Something mentioned in the majority of interviews is the fact that Rwandans do not want the plastics back as they do not want to return to the situation before the ban, with plastic bags littering large areas of the country. However, what they do want – industrial actors more than ordinary citizens in reality – is cheap and functional alternatives to the banned plastics, which is also what the discussion is much centred on in Rwanda today.

In the interview with the representative for the Chamber of Rwanda Farmers, one of the chambers sorted under the Private Sector Federation (PSF) in Rwanda, it was described how farmers who process food face difficulties due to the plastic bag ban, partially because of the fact that bio-degradable packaging is more expensive than plastics. Furthermore, regional integration involves another challenge as other countries in the region which have not banned these plastics may still use them for food packaging. This results in unfair competition (Respondent 8). The difficulties due to the withdrawn possibility to pack in plastics are further confirmed by the bread-bakers interviewed. All three of them explain that paper packaging is more expensive as well as less functional as it does not keep the bread fresh for as long as plastic packaging does (Respondents 10 and 13-14). One bread-baker

further explains that to increase prices on bread due to higher packaging costs is not an option because of purchasing power in Rwanda being low. What would happen is simply that the majority of people would buy significantly less bread (Respondent 13).

The search for alternatives to the banned plastics is highly relevant for the Ministry of Trade and Industry (MINICOM). Alex Ruzibukira, the Director General of Industry & SME Development at MINICOM, summarises the plastic bag ban as a good policy, however with a huge price to be paid by the Rwandan manufacturers, which is why MINICOM currently work on how to improve the situation (Respondent 3).

In an article in the New Times – one of the main newspapers in Rwanda – it is portrayed how industrial actors demand government support to companies that produce packaging materials (Tumwebaze, 2015). Similarly, several of the entrepreneurs interviewed argue that the responsibility is mainly that of the government, claiming that it should seek – or should have sought even before the ban – other alternatives for food packaging. James Munanura, a food science researcher, expresses his general support for the plastic bag ban as he perceives it as a long-term solution which has brought about positive effects for the whole country. Nonetheless, he believes that more research and critical studies prior to the ban could have been performed, especially studies on alternatives. This could have been beneficial for the agro-processors but also for Rwanda as a whole since the agricultural sector accounts for a large share of the country's export (Respondent 11). This is a view that also has been expressed by some representatives for the private sector who claim that the government started to consider the effects first after the law was already in place.

Except for the agro-processing industry, plastics production was heavily affected by the ban. Soimex Plastics is one of three main companies in Rwanda that used to manufacture plastic bags. When more than half of the business became illegal due to the ban, Soimex Plastics changed direction into the recycling of plastics. They bought recycling machines from China and learned by themselves how to do plastics recycling. Gilbert Ndagijimana, the Managing Director of Soimex Plastics, says that he today is glad for the change of direction that his company has taken as recycling is both more interesting and more profitable, but something he had never thought about before the ban was realised (Respondent 16).

In summary, the aim in terms of plastic bag management seems to have been achieved. However, many local manufacturers have struggled due to higher production costs that followed the ban on plastics. Yet, the discussions today are focused on the search for alternatives to the banned plastics. The non-state actors' perspective will be further treated in part 4.4 where their opportunities for input and influence prior to the ban will be discussed.

4.2 Background: The problem

In a study performed by the National University of Rwanda in 2003 on a mission by the Ministry in charge of environmental protection – a study that became much of the starting signal for the government's decision to act – it is described how Kigali had experienced a massive population growth during the 1990's. Except for many positive effects, there had also been a significant increase in the amount of waste. Despite this, the harmful effects of the plastic bags – on human health as well as on the environment – had not received much attention in Rwanda before 2003, and no other studies in Rwanda about this issue seemed to have been performed (Kabenga and Musabe, 2003, pp. 5-6).

One of my very first interviews was performed with a civil servant in the environmental agency, REMA. To begin with, I learned about the background behind Rwanda's anti-plastic bag policy. The fact that plastic bags were commonly not being recycled and instead ended up in the nature generated some severe effects. REMA describes the former bad effects which became the main reasons for the government's desire to forbid plastic bag usage in the country: 'They affected the cleanliness of the city; they blocked water ways, cattle and cows were affected. Cows that ate plastic bags would die. Blocked water ways caused flooding' (Respondent 1).

The seriousness of the issue is further confirmed by the Rwandan study from 2003 leading up to the government's decision to act. In the study, it is described how the plastics were 'irresponsibly thrown in the streets, at the pavements, in the channelling, in the markets, and in the public gardens' (Kabenga and Musabe, 2003, p. 11). Further in the study, it is claimed that concepts like eco-consumption and living environmental-friendly, that there is much focus on many of the more developed countries, are things that Rwanda needs to

learn from and start applying. In fact, most Rwandans who throw away their waste in the nature do not realise how this affects both human health and the environment (Kabenga and Musabe, 2003, p. 17).

The representative of the Rwanda Farmers describes how even farmers themselves used to contribute in littering their own farming lands: 'You [the farmer] bring fertilizer in plastic bags, for instance, they remain there. Some spread by the wind as well'. The same representative believes the primary reason for this was lack of ways to recycle (Respondent 8).

The study from 2003, referred to above, also includes a smaller inquiry on public opinion, based on a random sample of 50 Rwandans in the cities of Kigali and Butare, regarding the waste from plastics. The large majority of respondents answered that the littering of streets – rather than for instance harms to human health - was the significant problem that the plastic bags caused. However, a large majority also answered that they do like plastic bags in the everyday life as they are cheap, light and easy to clear out. Yet, the large majority of the sample also responded that they would approve of a ban on some plastic bags in their city as long as there is a functional alternative available (Kabenga and Musabe, 2003, pp. 27-29).

The study concludes by emphasising the need for immediate solutions, but also the need for seeking long-term and sustainable solutions. A number of proposed strategies and recommendations are presented, such as a comprehensive awareness campaign - for instance through a monthly day of physical collection of plastic bags combined with educational features - to make citizens aware of the importance to behave and consume in environmental-friendly ways. Furthermore, the study recommends the government to promote increased usage of alternatives to plastic bags, such as shopping baskets, and to support private and community-based efforts at recycling and controlling plastic waste. Finally, the study recommends the development of a legal framework – with sanctions for the ones not following it - stating how the plastic waste should be controlled (Kabenga and Musabe, 2003, pp. 34-38).

As will be described in sub-section 4.3, some of these recommendations – such as the awareness campaigns and the promotion of alternatives to plastics - have actually been

realised, whereas others have not. The largest difference from the recommendations in the study and the actual course of events seems to be the time-frame. More specifically, the study referred to above also suggested an additional study on potential effects of a ban to be conducted and negative economic incentives - such as surtaxes for the importing of plastics – to be tried out before a complete ban (Kabenga and Musabe, 2003, pp. 34-38).

Nonetheless, the government started to prepare for a nation-wide ban only within a year's time from that these recommendations were published. In 2004 – four years prior to the introduction of the official law – there was a Cabinet Decision in place which prohibited the importation and manufacturing of some plastic bags. Later in the same year, a Ministerial instruction on the use and manufacturing of plastic bags was signed by the Minister of Land, Environment, Forestry, Water, and Natural Resources. (The Ministerial instruction can be thought of as a preparatory document prior to the law). In contrast to the law which targets all Rwandans, the instruction is primarily directed at manufacturers, distributors and traders who use these bags somewhere in their value-chain. The instruction also explains the background to these measures being taken, which are here summarised: Studies have showed the harmful effects of these bags on human health as well as on the environment, the plastic bags that are not bio-degradable remain in the soil for long where they hinder water infiltration, plastic bags also cause pollution in the streets, and finally, Rwanda has no modern technologies and systems for sustainable reuse and recycling of plastic waste (Ministerial instruction, 2004).

4.3 Which policy instruments have been applied and how have they been combined?

The two categories of stimulative and repressive policy instruments have previously in this study been defined as well as operationalised (see sub-section 2.5). As indicated in the Prior research section, modern and comprehensive implementation processes often include more than one instrument. Thus, several combinations of policy instruments are commonly involved in the very same process, something that is also true for Rwanda's plastic bag ban. Therefore, it is here analysed whether or not the different individual instruments applied follow the pattern of any of the two established combinations presented in the Prior research

section (the *three E's strategy* and the *give-and-take strategy*). As described in sub-section 2.1, the three E's strategy is about increasing degrees of coercion (education, engineering, and enforcement), and the give-and-take strategy is about mixing stimulative and repressive instruments to find a policy that has the ideal combination of legitimacy (in terms of being accepted by the public) and effectiveness (in terms of achieving the goals set out in the formulation of the policy).

4.3.1 Policy instruments applied

The REMA representative explains how the proposal of the ban was made public already in 2004 [four years before the introduction of the plastic bag ban], by sensitisation in the form of information through for instance TV and radio programs. REMA also explains how companies were given adequate time in order to finish off their stocks of the plastics that soon were to become forbidden. Information and knowledge about the up-coming plastic bag ban was also spread through the Rwandan monthly community work, the so-called Umuganda (Respondent 1).

Umuganda is one of the Rwandan government's initiatives in order to reconstruct the country and build up a shared, national identity. Umuganda is one of the so-called home-grown solutions that have its roots way back in Rwandan culture and tradition in which community members helped each other out in different ways. More specifically, it occurs the last Saturday of every month from 8:00 am to 11:00 am. At this time, businesses close and public transport is restricted as it is stated in the Rwandan law that citizens between the age of 18 and 64 years, that are physically able to do so, shall participate in the community service that usually involves tasks like cleaning streets, cutting grass and mending of public facilities in one's own neighbourhood. Furthermore, Umuganda is also about community involvement as it becomes an opportunity for citizens to meet, with their fellow community members as well as with the local authorities (Rwanda Governance Board).

The REMA representative describes how plastic bags were collected in Umuganda and afterwards, there was a meeting where citizens were taught about plastic bags and their harmful effects. On the question of if this happened one single time or many times at

Umuganda, the answer is: 'No, many. For years. If you want to change peoples' everyday habits, that's necessary' (Respondent 1).

Marshall Banamwana, Environmental Protection Specialist at the Ministry of Natural Resources (MINIRENA), explains that informing the public regarding the plastic bag ban is an ongoing process. Banamwana confirms how collection of plastic bags was taking place at Umuganda, how manufacturers were informed and given some time to finish their stocks of the plastics that were to become banned, and how there is a comprehensive awareness campaign – in social media as well as in radio and TV shows. Finally, Banamwana mentions the law in place with penalty measures to make sure that there are effects for those who do not comply with the ban. Banamwana further describes that the initiative also has been about promoting alternatives to the plastic bags, alternatives that are environmental-friendly and take the kaki handbags sold in the Rwandan supermarkets as example (Respondent 2).

There have also been other types of information campaigns taking place, for instance the REMA press releases reminding the public of the importance of the ban, one of them being:

Last Saturday community works focused on the elimination of plastic bags in the country as many institutions including REMA recommended the population (REMA, 2013-02-19).

The short notice further informs about up-coming inspections across the whole country but especially focused to entry points. In addition, the National Police advocates citizens to always report when they see someone importing or selling plastic bags so that the legal authorities can take hold of these bags and store them for future recycling. In the short notice from the agency in charge of environmental protection in Rwanda, the polythene bags are at times referred to as 'these deadly bags'. Another press release by REMA, published in the very same year, is stated as follows:

REMA urges the Rwandan population to actively participate in the fight against the use and sale of plastic bags in Rwanda (REMA, 2013-01-20).

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The aim in this one is to make citizens more actively take part in the struggle to eliminate the banned plastic bags throughout the country: 'Sensitization must be emphasized and local authorities have to put more efforts in this, so that citizens could understand the need to take action in fighting against the use of plastic bags' (REMA, 2013-01-20).

The different forms of informing and educating the Rwandan citizens that are described above vary in terms of being either more stimulative or more repressive. Unfortunately, I have not been able to get access to any of the information campaigns presented in TV, radio or social media, neither have I seen any documentation on how information in Umuganda was spread in more detail, at the occasions that it occurred. Also, as these campaigns commonly are performed in the local language, Kinyarwanda, it was not as easily accessible to me as the interviews and the official documents in English and French were. For this reason, it is difficult to estimate whether these messages from the government has been spread with the aim of solely providing citizens with information to give them the capacity to make well-informed judgments of their own, or whether it has been in the form of propaganda.

As the TV and radio shows are concerned, it could be assumed that citizens at most times – at least in their own homes – have the choice of switching channel or turning the TV or radio completely off. In Umuganda, on the other hand, attendance is mandatory and citizens are expected to be there and actively participate.

Yet, according to the theories that this study relies upon, for the category of information - described in more detail in the Prior research section, part 2.5 - the most important condition determining if an instrument is to be understood as optional or not, is whether it has been presented to the public in the form of information or propaganda (and not whether citizens could have ignored the information communicated). This is due to that the opportunity for the citizen to make an individual judgment about something is assumed to be dependent on how the information is presented. This can be compared to the other two categories – economic means and regulations – for which the essential is whether the citizen simply can choose to use the policy instruments, e.g. to apply for a subsidy or sign a contract, or whether the citizen is economically discouraged through levies or forced/hindered through orders/prohibitions (van der Doelen, 1998, p. 133). Consequently, it is here difficult to

categorise the sensitisation in TV and radio, the awareness campaigns in social media, and the information campaigns at Umuganda into either stimulative or repressive policy instruments.

What seems more certain, though, is the collection of plastic bags at Umuganda being categorised as a repressive instrument. This is due to the fact that Umuganda is mandatory, which makes the collection of bags at the community work more or less an order.

The promotion of alternatives to plastic bags, on the other hand, can be categorised as a stimulative policy tool, providing citizens with information about different options. However, it is hard to get an understanding of to what extent promotion of alternatives to plastic bags, such as the kaki handbags, have taken place as I neither gained access to any documentation about this, nor was given any more examples of this in other interviews.

The press releases from REMA insisting on citizens' participation to uphold the ban and even assist the police could be understood as a repressive policy tool, propaganda in some sense. These press releases explicitly push citizens to participate, rather than encourage them to change behaviour by their own choice through just providing information without any demands from the government's side. In summary, it seems like some stimulative as well as some repressive information campaigns have been applied, although the repressive approach seems to have been predominant.

In an effort to get a clearer picture of the significance of different tools, one of the questions to REMA regarded if any of the policy instruments applied have been more important than others in terms of generating a successful implementation of the policy. According to REMA, the information campaigns have worked better than the fines. However, for people coming from abroad, fines have been an efficient instrument. The REMA representative adds after some reflection that the campaigns as well as the fines have been important, or simply the combination of instruments (Respondent 1).

In the very same interview, I asked which potential assistance the government has provided to support the actors that have experienced difficulties due to the ban, whereupon REMA explains that the government has solely advised them on environmental-friendly alternatives (Respondent 1). Although I was not able to find out more about these pieces of advice from the government, I believe that this measure could be perceived as a

stimulative policy instrument as it was described as only providing companies with information. Also, when industrial actors were asked about any potential assistance received from the government, several of them confirmed the fact that they had been, and still are, encouraged to change their production into becoming more environmental-friendly.

Yet, what seems to have been most problematic for the entrepreneurs are the difficulties, mainly financial ones, involved in actually re-directing their businesses into becoming more environmental-friendly. In an assessment study of waste in Rwanda, it is claimed that several representatives of private companies expressed a desire for incentives for companies working within plastic waste management, such as tax exemptions for recycling machines and chemical additives for recyclers, but also facilitation in terms of getting access to loans (Mugabo and Uwamahoro, 2011, p. 47).

4.3.2 Combinations of the policy instruments applied

REMA explains how the implementation of the plastic bag ban was realised in several steps: 'In the beginning, it was awareness, then after a few years the information was more about the penalties, the fines for instance. After that, there were more inspections.' Furthermore, it is described how the plastic bag ban now is put into people's habit. (Respondent 1) This is an example of increasing degrees of force, starting with awareness as a stimulative form of informing, continuing by informing about the penalties to prepare the public, and ending by focusing more on inspections which could be understood as quite a repressive way of making sure that the law - the prohibition - is being complied with. In other words, this could be perceived as an example of the *three E's strategy*.

To summarise, the combination of stimulative and repressive information campaigns previously described gives some indications of the *give-and-take strategy*. However, this strategy does in fact not describe the implementation process very well as most of the instruments introduced have been more repressive than stimulative, or to be more precise, repressive without stimulative counterparts. For instance, economic means are used in a repressive way with levies in the form of fines and there are no economic interventions that are more stimulative, such as subsidies for plastic bags recycling or financial support to

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companies that like to search for and produce environmental-friendly alternatives. Also for the category of regulation, there is a nation-wide ban – a strict prohibition, in other words – with a penalty in the form of imprisonment for up to one year, but no more stimulative counterparts such as voluntary contracts or covenants. It seems to be primarily for the category of information that more stimulative instruments have been combined with more repressive ones, although there are a few examples of information campaigns that are more uncertain as has been previously discussed (see part 4.3.1).

Despite REMA's description of the increasing degrees of force applied presented above, the *three E's strategy* does not either describe the implementation process well as some other interview responses point to that industrial actors started to accept and understand the ban first after its introduction when they began to realise the reasons behind it and get used to the new conditions for business, (as is discussed in part 4.4 about actors' involvement). This is not in line with the three E's strategy as this combination of instruments presupposes that enforcement (in this case, the ban) is the last measure taken when the citizens already have gained acceptance for a policy through the prior applications of education and engineering. In addition, the repetitive collection of bags at Umuganda and the awareness campaigns performed over time do not either give indications of the stepwise process that signifies the three E's strategy.

The government representatives interviewed many times pointed to the fact that Rwanda was in an extraordinary situation and that there was a need for action from the government's side. For this reason – combined with the weak prospects of quickly succeeding with the set-up of taxing and/or recycling systems, as will be further discussed below – the most reasonable choice for Rwanda 2008 was a nation-wide ban of these bags, at least according to the majority of civil servants interviewed. This is closely related to the idea of how contextual factors matter for the choice of policy tools, rather than indications of a specific policy instruments combination such as the *three E's* or the *give-and-take strategy*. This reasoning will be further developed in sub-sections 4.5 and 4.6 about alternatives considered and contextual factors.

4.3.3 A short summary of the policy instruments applied

In Table 2, the results – in terms of the applied policy instrument - are summarised according to the operationalisation presented in the Prior research section (see part 2.5).

Table 2. Case study results: Policy instruments applied

	Stimulative	**Repressive**	**Uncertain**
Information	Promotion of environmental-friendly alternatives, e.g. kaki handbags	REMA Press releases	Sensitisation through TV/radio programs
	Advice to industry: environmental-friendly alternatives		Awareness campaign in TV/radio/social media
			Information spread at Umuganda
Economic means		Penalty: Fines	
Regulations		Ban	
		Physical collection of bags at Umuganda	
		Penalty: Imprisonment	
		Inspections	

In summary, it seems like Rwanda has chosen a more repressive than stimulative approach in the implementation of the plastic bag ban. This is most obvious for the categories of economic means and regulations in which there have been no examples of stimulative instruments. For the category of information, there is more of a mixture, with a couple of clear examples of stimulative information campaigns.

Even if there are a few more uncertain examples, I believe that even if I would have found out more details about these three instruments and actually had placed all three of them in the category of stimulative instruments, it would still not change the idea of that Rwanda generally applied a repressive – rather than stimulative – approach. I base this conclusion on the theories that this study relies on, more specifically the theory of van der Doelen (1998), presented in the Prior research section (part 2.5) about instruments being either stimulative or repressive. Van der Doelen does not develop what weighs heavier; the number of instruments being repressive (compared to the number of stimulative ones), or whether the repressive ones are more dominant – in other words, more coercive – than the stimulative ones are. Yet, as was presented in the Prior research section, the author discusses both of these two dimensions; both if the policy instrument is stimulative or repressive, and how coercive (in terms of force used) the policy instrument is. If we are to return to the theories, van der Doelen's basic idea is that there must be balance between the repressive and the stimulative (van der Doelen, 1998, pp. 129-135). In Rwanda's case (see Table 2), the repressive instruments are almost exclusively of the two most coercive forms – economic means and regulations - whereas the stimulative ones are exclusively informational instruments. For this reason, I argue that even with the uncertain instruments placed as stimulative, there would still be an unequal balance of repressive and stimulative, with the repressive approach weighing heavier.

4.4 Which actors have been involved and how have they interacted?

Both the REMA and the MINIRENA representatives describe the initial process as an initiative all the way up from the top government as even the President was much engaged (Respondent 1-2). Banamwana at MINIRENA also describes it as a national and inter-

ministerial commitment; several ministries - with MINIRENA as the leading one - were involved as this touched upon many different areas: not only environmental health and human health, but also health security as enforcement in this case partially falls under the National Police's responsibilities. Furthermore, MINICOM – as regulator for plastic bags factories - was affected. REMA was involved as regulating entity, responsible for the implementation in terms of managing plans and policies (Respondent 2).

What become more and more apparent during the interviews are the different views regarding to what extent input and consultation was performed prior to the ban and whether the industrial actors were given enough time to finish off their stocks and adapt to the new circumstances.

In terms of consultation with different stakeholders, Ruzibukira at MINICOM explains that the process of Rwandan law-drafting always involves consultation with all relevant stakeholders (Respondent 3). When I ask Tharcisse Ngabonziza (a representative for the import and wholesale association of the Chamber of Commerce), about this in the case of the anti-plastic bag policy, Ngabonziza confirms what some other private sector representatives also have said: opportunities for input and discussion prior to the law were limited and the members of his organisation did not well understand the reasons behind the policy. However, after the realisation of the ban, the discussions between the government and the private sector became more intensified and the entrepreneurs started to better understand and agree on the importance of the plastic bag ban (Respondent 9).

Ndagijimana at Soimex Plastics describes how they received the information about the ban that was to come with a relatively short notice (Respondent 16). The relatively short notice of the ban that was to be introduced is confirmed by the PSF in a Position Paper where they describe how there was no adjustment period as the manufacturers had to end their operations within weeks, which made some of them close down (PSF, 2014, p. 3).

On the question regarding what kind of support Ndagijimana would have needed at that time, he answers that more of a transition period as well as financial compensation due to the economic losses would have been helpful. He takes France, but also Kenya and Uganda, as examples of countries in which the industry has been given more time to adapt when plastics have become restricted or even forbidden. However, he also sees the fact that

Rwanda did not have a well-established Chamber of Industry at the time as an important difference as it becomes difficult for industry to gain influence if there is no strong association where they can gather and share their opinions. Yet, Ndagijimana is on the whole positive towards the plastic bag ban as it has been good for Rwanda as a country (Respondent 16).

Ruzibukira at MINICOM emphasises that at the time of the preparations to the ban, the number of Rwandan industries was limited compared to today, which means that the effects of the now implemented ban still comes with lessons as the industry grows (Respondent 3). This is also confirmed by some private sector representatives of whom I later asked specifically about this, who told me that some of the Chambers of the PSF had had a hard time becoming established and stabile as organisations. Thus, the conditions for the local industry were significantly different before the introduction of the ban compared to today.

Something noteworthy is the fact that none of the interviewees mentioned anything about any international actors, neither in the East African region nor at the global level. My complementary sources in the form of documents do not either bring up any influence from outside of Rwanda. Rwanda was one of the first countries in the world to introduce such a comprehensive ban on plastic bags, meaning that there were not many prior examples to look at. I believe this to be a further indication of Rwanda's procedure of doing this by itself, locally, with the measures considered best suited for Rwanda. This also confirms the idea that Clapp and Swanston (2009) presents about the anti-plastic bag norm seeing its birth in the global South, as was referred to in the Prior research section (see part 2.4).

To go back to the theories regarding the potential importance of the actors involved (see part 2.2), it seems like – judging from the material collected in this study - at least two aspects of the ones studied by Macdonald (2001) are relevant in Rwanda's case. Organisation was one of three factors identified to describe *actors' characteristics*. For the Rwandan industrial actors, the most engaged actor among the non-state actors, organisation was difficult as they were limited in number compared to today and they struggled to organise themselves into associations. Furthermore, regarding *ideas*, scientific knowledge is assumed to be one of three important factors. In Rwanda's case, the government had research – both internationally and specifically regarding Rwanda - clearly stating the seriousness of the

situation with increasing plastic bag waste and the need for immediate solutions (see e.g. Kabenga and Musabe, 2003). These two aspects point to the state's relative advantage in power in relation to the local industry. According to Macdonald (2001), this type of power balance could account for governments' choices of relatively coercive policy tools.

Similarly, Clapp and Swanston (2009) discuss how industry's opportunities to input largely may determine the final policy introduced. As mentioned above, the results from this study indicate that the industrial actors in Rwanda did not have much power relative to the state, a factor that according to the authors could generate strong anti-plastic bag legislation, or coercive policy tools to be more precise.

In summary, it seems like the state and the local industry – in particular manufacturers – have been the main actors involved in this process. Furthermore, the interview responses point to that the local industry was weak in relation to the state and that the former did not have much opportunity to influence the implementation process. Yet, after the ban had been realised, the interaction between the state and the local industry became more communicative. The literature referred to above indicates that a weak industry gives the state larger opportunities to apply coercive policy tools. However, this study is neither able to, nor has had the aim to, explain how – if so – the interaction between the actors involved accounted for the selection of policy tools in this case.

4.5 Which alternatives were considered but not chosen?

This research question is the only one that is not based on any theories previously presented, as it has a more practical approach. Yet, it is useful in terms of contributing in providing a comprehensive picture of the process. I decided to include this aspect as one of my research questions as I believe it to increase the overall understanding of this implementation process, especially as it develops into the next sub-section (part 4.6) about contextual factors.

On the question of which other alternatives were considered but not chosen, the REMA representative answers that collecting all bags was one alternative considered. Recycling was another option being discussed. However, there were no industries in the

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country that could recycle at that time and the government did not want to wait for months or perhaps even years for recycling industries to set up and become established (Respondent 1).

The same question was asked to Banamwana at MINIRENA, with the option of taxing plastic bags as an example. Banamwana argues that although it could have led to less people possessing and using these bags it would still not reach the core of the problem – how to take care of the bags after usage in order to protect the environment: 'Increasing tax doesn't necessarily mean that the environment you are meant to protect will be protected … Because for us, the collection was still difficult. Collection is still difficult.' Furthermore, Banamwana claims: 'Maybe for you [Sweden], you are a bit developed, people are well-educated and it's easy to tell them that for recycling purposes – if you are using you have to put it there - 100 percent successful. But for us, you might end up taxing, but again, the environmental consequences are still there…The environmental effects you wanted to manage are still there' (Respondent 2).

The Rwandan study about the plastic bag waste does to some extent confirm what Banamwana claims; Rwanda's problem with waste from plastics did not primarily lie in the quantity, but rather in the lack of managing the waste. The study that was released a few years prior to the ban states that as there are no ways to collect and treat the plastics, and no legal framework for this, plastic bags are just thrown away in the streets (Kabenga and Musabe, 2003, p. 11).

To sum up, it seems like government representatives perceive the repressive approach to have been the most reasonable option in this case, in the view of the severe situation and the national conditions at the time. This will be further discussed in the following section regarding how – if so – context has been of significance.

4.6 Have contextual factors mattered?

As previously mentioned, several of the interviewees emphasised that Rwanda found itself in a severe situation caused by the littering of plastic bags, a challenge that demanded intervention in the form of drastic measures. Several of the interview responses – as well as the study from 2003 previously referred to - pointed to that contextual factors in fact mattered

for the selection of policy tools. This is especially relevant in terms of the time frame as Rwanda was pressed due to increasing amounts of plastic waste across the country, combined with the lack of both recycling techniques and a recycling mindset among the citizens. Yet, as further discussed in part 4.7 and in the conclusive section, it is difficult to draw more comprehensive conclusions as a more systematic study on this aspect is needed for that. Therefore, I leave it to future research to continue developing the concept of context and to continue studying this concept within the implementation research.

Additionally, the political context in terms of Rwanda being ruled in an authoritarian way – although officially a democracy – could be thought of as an additional contextual factor of importance. Yet, nothing in the material collected – neither interviews, nor documents – indicate that this accounts for Rwanda's choices in this implementation process. This could be an example of what was suggested in the Methods section; Rwanda's political context may in some ways delimit the opportunities of drawing comprehensive conclusions. Yet, since the material does not give any support for the authoritarian steering being of significance in this case, I have decided not to include this aspect in the analysis. Also, in the conclusive section – in which Rwanda's political context is again brought up – the discussion consciously takes a normative (rather than descriptive or explanatory) approach as it is not clear how – if so – this aspect has mattered in this implementation process.

4.7 Summary of results and three hypotheses for future research

A large number of policy instruments - for example information campaigns, physical collection of bags at Umuganda, inspections, and penalties in the form of fines and imprisonment – have been applied. Rwanda has chosen to implement its anti-plastic bag policy in a mostly repressive way, although a couple of more stimulative policy instruments have been used as well. Established combinations of policy instruments, such as the *three E's strategy* and the *give-and-take strategy,* do not seem to well describe this specific implementation process. Prior to the ban, the local manufacturers (viewed as the most important actor aside from the Rwandan government) were relatively small in number, and not well organised, a fact that made them a weak – yet central - actor. The manufacturers also

claim to only have had limited input in the political discussions prior to the ban. The pressing time-frame and the fact that other alternatives considered - such as taxing and recycling – were not perceived as optimal for Rwanda seem to have been the most important contextual factors taken into consideration in the selection of the policy tools.

For this paper, the primary aim has been to describe the course of events. However, there are also explanatory questions of interest, questions necessary to pose in order to find out which aspects may account for the choice of policy tools, as well as which of these potential choices may produce successful implementation processes. Moreover - as presented in the Prior research section - in much of the academic literature within this research field, there are still significant knowledge gaps to fill. As I believe the results of this study to show that there is still much potential for increased knowledge within the implementation research, the most important results are here summarised in the form of three more general hypotheses, to be further tested in future research:

H1) A repressive implementation process commonly generates the desired results of the policy implemented, even if it is not fully accepted by the public.

H2) The power balance between the state and the industry (in the policy area of interest) significantly affects the final selection of policy instruments.

H3) In order to achieve the desired results of a policy, contextual factors in terms of time and resources must be taken into consideration in the implementation process.

With regards to H1, this statement is to some extent opposite to the *give-and-take strategy* previously presented. Yet, a repressive implementation process with a highly successful result, despite initial resistance, seems to have been the case for Rwanda's ban on plastic bags. For this reason, it would be interesting to further test this hypothesis in future empirical case studies. It can be assumed that this hypothesis is more relevant for authoritarian states - in which the citizens are more used to a repressive steering – than for democratic states. Yet

again, it is not clear to what extent – if so – Rwanda's authoritarian features have been of importance for the outcome of the plastic bag ban.

The second hypothesis suggests that the power balance between the state and the industry is of significance for the selection of policy instruments that the government in the end makes. This is a relatively undeveloped topic in academic research. However, as presented in the Prior research section (part 2.2), there are researchers who claim that the characteristics of the actors involved and the power balance that exists between those, are crucial factors for which policy instruments that are applied in the end. This paper has neither had the ability, nor the purpose, to explain the potential effects of the interaction between the actors involved. Yet, the fact that the Rwandan manufacturing sector was relatively weak in terms of being small and unorganised, and that the state chose a repressive implementation approach, gives some interesting indications in the view of the literature. Therefore, I believe that it could be motivated for future research to further study this aspect of implementation research, with a focus on industry's role in line with the suggestions of Clapp and Swanston (2009), as were presented in the Prior research section.

When it comes to H3, according to many of the respondents in this study, the contextual factors were significant for Rwanda's choice of policy tools in this case. The importance of context - and in particular how low-income countries face conditions that are different from the ones that commonly face high-income countries - has started to gain more importance in the implementation research, although it is still relatively unexplored. Furthermore, in academia there is still a debate regarding whether it is possible to determine a specific combination of policy tools as the most ideal one, or whether one should instead start at the other end, asking which conditions and challenges that are present in each specific case, and how the implementation process should adapt to this in order to obtain a successful outcome. Several researchers call for more empirical research to try and better understand how – if so – context is important. In this study, the time aspect - as well as the lack of financial and technical resources - seems to have been the essential contextual factors. I believe the aspects of time and resources to be of potential relevance for more countries, low-income countries as well as high-income ones. Therefore, I argue that also the third and final hypothesis presented would be interesting to test more in future research, combined with

continuing developing and specifying the concept of context, in order to make more systematic studies possible.

5. Conclusions and discussion

The aim of this paper has been to describe how Rwanda implemented its plastic bag ban, introduced in 2008. The management of waste and non-biodegradable plastics is high on the agenda in both low-income and high-income countries. Rwanda was one of the first countries in the world to introduce such a comprehensive ban on plastic bags and the policy has largely achieved the expected results. For this reason, the studying of this case is of significance as Rwanda could be perceived as a role model. This is especially true for other low-income countries – in particular the ones located in the same region as Rwanda – that face similar conditions and challenges, of which several seek to take control over the plastic waste littering the cities. What is more, no more extensive academic studies of Rwanda's ban on plastic bags seem to have been conducted. At the same time, academia is demanding more empirical studies, on policy design in general, and on environmental policy design in particular, with a focus on low-income countries.

Thus, this study contributes with important empirical evidence, being an extensive description of a hitherto academically unexplored case of environmental policy design, performed by a low-income country that largely followed its own ideas on how to best take control over the plastic waste. Therefore, Rwanda is an essential case to study, especially as it could function as a source of inspiration for other low-income countries that currently discuss how to manage the waste caused by plastics.

The more general question of how Rwanda's ban on plastic bags was implemented has been treated with the help of a number of narrower research questions, asking which policy instruments have been applied and how they have been combined. Furthermore, it has been asked which actors were involved and how these have interacted, as well as alternatives considered but not chosen. The last research question focused on if there has been any contextual factors of significance. The answers are summarised below.

With regards to the policy instruments applied and how they have been combined, it seems as if Rwanda has chosen a repressive rather than stimulative approach. A

large number of policy instruments – ranging from information campaigns to inspections and penalties in the form of fines and imprisonment – were applied. There are some features of both the *three E's strategy* and the *give-and-take strategy*, but generally speaking, Rwanda has in this case applied an implementation process too fast and repressive for any of these strategies to be an accurate description of the process. Aside from the government, the most important actor has been the local industry, in particular manufacturers. However, the local industry was weak at the time of the ban being introduced and the manufacturers did not have much opportunity to influence the process. Alternatives such as collection, recycling, and taxing were considered, but in the end not chosen mainly due to lack of technical and financial resources, as well as an inadequate environmental consciousness among Rwandan citizens. The seriousness of the situation at hand, risking further harm to human health as well as the environment if drastic measures were not taken, was a further reason behind the selection of the repressive policy tools. Thus, contextual factors – in terms of time and resources - seem to have played an important role in this implementation process.

This paper has achieved its aim in describing the implementation process behind Rwanda's plastic bag ban. However, there are explanatory questions of interest that arise with the results of this study. These questions emphasise the importance of continuing studying various aspects of implementation research as there are knowledge gaps to fill. For this reason, the answers to the research questions posed have developed into three hypotheses with a more explanatory approach. These have the purpose of emphasising the importance of continuing studying these aspects in order to increase the knowledge and improve the understanding of implementation processes, why they differ from each other and what different results the varying options can produce.

Although Rwanda – at least according to the results in terms of plastic bag management - could be understood as a highly successful case, it can be discussed whether this repressive approach applied by the government is applicable – or even desirable – for other countries. Rwanda already had an authoritarian political climate, together with local, well-functioning procedures such as the mandatory community work Umuganda. For this reason, it may have been beneficial for the country to use these already existing procedures to effectuate and realise the plastic bag ban. Yet, there are normative issues that arise with this

form of practices; is it desirable that other countries become inspired by Rwanda's success in this case, and introduce authoritative measures, if they are not already in place? Furthermore, are effective results of a policy more important than legitimacy and public acceptance?

Even if this is not a normative paper, there are clearly normative aspects of relevance. These aspects are related to the wider discussion about Western countries' influence and democracy promotion in other parts of the world. This is also closely connected to what many civil servants interviewed in this study emphasised, which is that Rwanda did not have the same pre-conditions that more developed countries generally have, but there was a problem and they had to solve it. Hence, Rwanda applied policy tools well-suited for the country. As with most policies, there have been some positive and some negative effects. Yet, as a whole, Rwanda has been successful in achieving the most important aim of the policy – to significantly reduce the plastic bag waste in the country, something that in the long run is believed to be beneficial for all Rwandans.

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7. Appendix 1: List of respondents

Representatives of Ministries and agencies

1. (Anonymous) Civil servant at REMA (Kigali, 2016-08-26)

2. Marshall Banamwana, Environmental Protection Specialist at MINIRENA (Kigali, 2016-09-05)

3. Alex Ruzibukira, Director General of Industry & SME Development, MINICOM (Kigali, 2016-09-15)

4. (Anonymous) Civil servant at Rwanda Development Board, (Kigali, 2016-10-04)

5. Director of the EPU, Rwanda National Police (Kigali, 2016-10-11)

6. Epimaque Nsanzabaganwa, Horticulture Division Manager, National Agricultural Export Development Board, (Kigali, 2016-09-23)

Representatives of the PSF and other industrial organisations/associations

7. (Anonymous) Representative of Rwanda Association of Manufacturers, Chamber of Industry, PSF. (Kigali, 2016-08-25)

8. (Anonymous) Representative of Chamber of Rwanda Farmers, PSF (Kigali, 2016-09-06)

9. Tharcisse Ngabonziza, Director of the Association of Import and Wholesale, Chamber of Commerce, PSF (Kigali, 2016-10-10)

10. Jean Bosco Maniriho, Coordinator of Rwanda Bread Bakers Association (Kigali, 2016-09-13)

Others:

11. James Munanura, Assistant Lecturer at the Department of Food Science and Technology, College of Agriculture, Animal Sciences and Veterinary Medicine, University of Rwanda. Current work: Food security and nutrition technical adviser. (Kigali, 2016-08-31)

12. Germain Niyogisubito, Shop assistant, Twistiblendz Smoothies (Kigali, 2016-08-24)

13. (Anonymous) Bread Baker (Kigali, 2016-09-15)

14. Frank Kamuhangire, Bread Baker and owner of TopBread LTD (Kigali, 2016-09-16)

15. (Anonymous) Agro-processor and exporter within Horticulture (Kigali, 2016-09-21)

16. Gilbert Ndagijimana, Managing Director of Soimex Plastics – Film, Extrusion, Packaging & Recycling, (Kigali, 2016-09-21)

8. Appendix 2: Questionnaire

1) Questions to representatives of Ministries and agencies:

Introduction:

What is your present position?
For how long have you had this position?
Which are your main working tasks/responsibilities?
Which are the main challenges in your work?

Agenda setting:

Which were the main effects of plastic bag usage in Rwanda before the ban was introduced?
How did the proposal of eliminating plastic bags in Rwanda first emerge?
Which ministries and government agencies were engaged in the initial stage?
Were there any politicians or civil servants particularly engaged?
Were there any other actors – e.g. industry, civil society or private persons - particularly engaged?

Policy formulation:

How did the government expect the plastic bag ban to work? Which were the most important policy goals?
At what time was the proposal of the plastic bag ban made public? How was the proposal of the ban made public?
How – if so - did the government take industrial actors into consideration?
How – if so - did the government take different citizen groups into consideration?

Decision-making and tool-choice:

How were the specific policy instruments decided on?
Which were the reasons for choosing this specific combination of policy instruments? Which were the reasons for the adoption of a ban of plastic bags?
Which other alternatives were considered?

Policy implementation:

How were citizens informed of the effects of plastic bag usage?
Were there any other information campaigns performed?

How has the authorities worked to remind the public/maintain knowledge of the effects of plastic bag usage?
How do the authorities make sure that the law is being complied with?

Policy Evaluation:

How has the plastic bag ban been functioning since it was introduced in 2008?
To what extent has the ban functioned according to the expectations?
Which responses from industrial actors have the ban generated?
Which citizens' responses have the ban generated?

Which main changes in Rwanda has the ban generated?
Is there any available data on prosecutions/outcomes/final end results?
To what extent has pollution of plastic bags reduced since the ban was introduced?
Which are the current challenges for Rwanda in terms of plastic bag usage?
Has the ban generated any unexpected outcomes?

Which policy instrument has been the most important one? (in terms of achieving the end of reducing plastic bag usage in Rwanda)
Is there any policy instrument applied that was less important?

Which actors or citizen groups in Rwanda have gained most from the ban?
Which actors or citizen groups have encountered difficulties due to the ban?
Are there any actors or citizens groups that are particularly supportive towards the ban?
Are there any actors or citizens groups that are particularly critical towards the ban?
Which actions – if any - have been taken by the government to support the actors that have experienced difficulties due to the ban?

2) Questions to industrial actors

What is your present position?
What are the areas of work for you/your organisation?
Can you describe the main challenges for Rwandan farmers/bakers/small-entrepreneurs, etc. (depending on the respondent's areas of work)?

Has pollution ever been a problem for you/your members?
What kind of pollution?
How much do you know of the reasons behind the plastic bag ban?
How do you perceive the effects of the ban for Rwanda as a country?
How much information and preparation (in order to adapt your business) did you receive prior to the ban?
Have you received any kind of assistance from government's side?

What – if any – assistance would have been helpful?
How has the ban affected the work of you/your members? Positive/negative experiences?
In your opinion, were there any alternatives to a ban?
Do you have any thoughts on how plastic bag usage could have been reduced in Rwanda without causing difficulties for the industry?